CADS RC 3D



CADS RC3D for Revit®

User Manual

CADS

AUTODESK Authorised Developer

Microsoft Partner

CADS RC3D for Revit®, including all software and documentation, contains proprietary information belonging to Computer and Design Services Limited (herein referred to as “The Company”). They are provided under a license agreement containing restrictions on use and disclosure and are also protected by copyright, patent and other intellectual and industrial property laws.

Reverse engineering, disassembly or de-compilation of the software, except to the extent required to obtain interoperability with other independently created software or as specified by law is prohibited.

If you find any errors in the documentation, please report them to us in writing. The company does not warrant that this document is error free. The information contained in this document is subject to change without notice.

Except as may be expressly permitted in your license agreement, no part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the express written permission of the company.

Contents

1 Introduction 1
2 Installation, Uninstalling & Licensing 3
2.1 Installation 3
2.2 Download software for Offline Installation 6
2.3 Silent Installation 10
2.3.1 Silent Installation Parameters 12
2.3.2 Running the Silent Installation 12
2.4 Uninstalling 13
2.4.1 Silent Uninstallation Script 15
2.5 Licensing 15
2.5.1 Cloud Licence Number & Account Based Activation 16
2.5.2 Proxy Server Settings 17
2.6 Cloud Licence Management 18
2.6.1 Automatic & Manual Loading of the Cloud Licence 18
2.6.2 Returning the Licence whilst Revit® is open 19
2.6.3 Deactivating the Cloud Licence 19
2.7 CADS Customer Portal 21
2.8 Checking for New Versions of the Software 21
3 Settings, Prerequisites & Exceptions 24
3.1 Prerequisites 24
3.2 Additional Settings 24
3.3 CADS RC3D / RebarCAD 3D Configuration System 24
3.3.1 Revit® Template: 25
3.3.2 External Template Files: 26
3.3.3 CADS RC3D Project Setting file: 27
3.4 Restrictions on Updating Parameters 27
4 Reinforcement Panel 28
4.1 Rebar 28
4.2 Alternative Shape Code Families 29
4.2.1 Shape Code 99's 29
4.2.2 Country Specific Shape Code Libraries 30
4.3 Changing Detailing Standards inside RC3D 30
4.4 Area 31
4.5 Path 32

Copyright © Computer and Design Services Limited

4.6 Cover 32
4.7 Rebar Coupler 33
4.8 Rebar Cover Settings 35
4.9 Revit® Reinforcement Settings 36
4.9.1 General 36
4.9.2 Reinforcement Rounding 37
4.9.3 Reinforcement Presentation 37
4.9.4 Area Reinforcement 38
4.9.5 Path Reinforcement 38
4.9.6 Varying Rebar Set 39
4.10 Reinforcement Numbers 41
4.10.1 Partitions 41
4.11 Additional Revit® Settings 42
4.11.1 Changes to the Project Units 42
5 Detailing Panel 44
5.1 Lap Line 44
5.1.1 Draw 45
5.1.2 Draw Lap 45
5.1.3 Lap Line Workflow 47
5.1.4 Convert to Normal Lap Line 48
5.1.5 Convert to Staggered Lap Line 49
5.2 Splice 50
5.2.1 Splice Straight Lap 51
5.2.2 Applying a Coupler with the Splice Straight Lap 55
5.2.3 Splice Crank Lap 57
5.3 Create Rebar 61
5.3.1 Loading CADS UK Rebar Shapes 61
5.3.2 Loading CADS SAN-282-2004 Rebar Shapes 63
5.3.3 New Rebar 66
5.3.4 Select Edge Method 66
5.3.5 Select Line Method 70
5.3.6 Select Free Form 79
5.4 Range Place 81
5.4.1 Create Range 82
5.4.2 Range Placement (using A Reference Plane) 86
5.4.3 Alternate Range 88
5.4.4 Staggered Range 90

Copyright © Computer and Design Services Limited

5.4.5 Staggered Range (L Bar Reversed) 93
5.4.6 Varying Range 97
5.4.7 Radial Range 101
5.5 Edit Range 103
5.5.1 Edit Standard Range 104
5.5.2 Edit Alternate Range 105
5.5.3 Edit Radial Range 107
5.6 Edge Bar Place 108
5.6.1 Edge Bar Slabs 2D Workflow 109
5.6.2 Edge Bar Placement Walls, Beams, Foundations etc 2D Workflow 113
5.6.3 Edge Bar Placement 3D Workflow 115
5.6.4 Edge Bar Lap 118
5.7 Circular Bar 121
5.7.1 Circular Rebar with Splicing 123
5.7.2 Circular Rebar no Splicing 125
5.8 Opening Bar 133
5.8.1 Opening Bar for a Single Opening 136
5.8.2 Opening Bar for Multiple Openings 138
5.9 Chair 141
5.9.1 Create Chair 142
5.9.2 Edit Chair 145
5.10 Smart Detailer 145
5.10.1 Placing Rebar Arrangements using Smart Detailer 146
5.10.2 Placing a Smart Detail by Host 148
5.10.3 Smart Detailer Location Configuration 152
5.10.4 Contents of Smart Detailer Folders 152
5.10.5 Creating New Categories for Smart Detailer 153
5.10.6 Creating New Details for Smart Detailer based on Align by Host 153
5.10.7 Creating New Details for Smart Detailer based on Align by Face 156
5.11 Varying Range 160
5.11.1 Varying Range Bar Mark Numbering 160
5.11.2 Select Host 161
5.11.3 Select Rebar 162
5.11.4 Select Rebar 2D View 163
5.11.5 Select Rebar 3D View 164
5.11.6 Step Taper 166
5.11.7 Applying a Step Taper 167

Copyright © Computer and Design Services Limited

5.11.8 Varying Range Rebar Visibility 170
5.11.9 Show All 170
5.11.10 Show First and Last 171
5.11.11 Show Middle 172
5.11.12 Show Selected 173
6 Modify Panel 176
6.1 Edit Rebar 176
6.2 Group 179
6.2.1 Create Group 179
6.2.2 Create Alternate Group 182
6.2.3 Create Staggered Group 185
6.2.4 Add / Remove Rebar to a Group 186
6.2.5 Show All 188
6.2.6 Show First and Last 189
6.2.7 Show Middle 190
6.2.8 Show Selected 191
6.2.9 Hints & Tips On Multiple Group Rebar Visibility 191
6.2.10 Visibility 193
6.2.11 Show Rebar/Fabric 194
6.2.12 Hide Rebar/Fabric 196
6.2.13 Show All 197
6.2.14 Hide All 198
6.2.15 By Filter 199
6.3 Convert 203
6.3.1 Free Form 204
6.3.2 Convert Free Form to Standard Bar Shape 204
6.3.3 Convert Varying Assemblies to Individual Rebar 205
6.3.4 Revit® Varying Set 208
6.3.5 Split Rebar Set 209
6.4 Freeze 211
6.4.1 Freeze Rebar 212
6.4.2 Limitations 214
6.4.3 Unfreeze Rebar 215
6.4.4 Freeze Rebar Status 216
6.5 Copy Rebar 217
6.5.1 Host to Host 219
6.5.2 Along a Path 221

Copyright © Computer and Design Services Limited

6.5.3 Copy Rebar 222
6.6 Trim/Extend 224
6.6.1 Trim Rebar 225
6.6.2 Extend Rebar 228
6.7 Join Rebar 231
6.7.1 By Moving 231
6.7.2 By Trim and Extend 233
6.8 Count Override 235
6.8.1 Count Override by Host Mark 237
6.8.2 Count Override by Partition Workflow 240
7 Assignment Panel 244
7.1 Drawing Sheet 244
7.1.1 Assign Rebar or Fabric Reinforcement to a Drawing Sheet 244
7.2 Rebar Layer 245
7.2.1 Assigning Layers to Area and Path Reinforcement 246
7.2.2 Assigning Layers to Regular Rebar 248
7.2.3 Assigning Layers to Fabric Reinforcement 250
7.3 Assigning Member Titles (Host Mark) for Scheduling 251
7.4 Partition 252
7.4.1 Assign Rebar to Partitions 252
7.5 Assign Releases 253
7.5.1 Manage Release 254
7.5.2 Assign Release 255
8 Inspect Panel 257
8.1 Audit 257
8.1.1 Scope Tab 258
8.1.2 Length Tab 259
8.1.3 Assignment Tab 259
8.1.4 Annotation Tab 260
8.1.5 Frozen Rebar Tab 260
8.1.6 Audit Example 260
8.2 Search Rebar 263
8.2.1 Setting the Search Parameters 264
8.2.2 Search 265
8.2.3 Show Advanced Option 266
8.2.4 Search Example 1 269
8.2.5 Search Example 2 271

Copyright © Computer and Design Services Limited

8.2.6 Search Example 3 273
9 Annotation Panel 276
9.1 Annotation 277
9.1.1 Select Host 280
9.1.2 Select Rebar 281
9.1.3 Select Group 282
9.1.4 Untagged Rebar 283
9.1.5 Align Tags 284
9.1.6 Edit Annotation 285
9.1.7 Annotation Hints & Tips 292
9.1.8 Rebar Ref 302
9.1.9 Place Rebar Ref 303
9.1.10 Adding a Rebar Reference Leader 305
9.1.11 Edit Rebar Ref 306
9.2 Tick Tag 306
9.2.1 Editing the Tick & Tag Display Hints & Tips 308
9.3 Bar Mark Updater 314
10 Bar Mark Panel 316
10.1 Edit 316
10.1.1 Updater 318
10.2 Match 319
11 Schedule Panel 322
11.1 Place 322
11.2 Edit 324
11.3 Refresh 324
11.4 Excel Export 325
11.5 Print 327
11.6 Classic Schedule Menu 329
11.6.1 Classic Place 329
11.6.2 Place Schedule on a Drawing Sheet 330
11.6.3 Fields Tab Explanation 331
11.6.4 Sorting Tab Explanation 332
11.6.5 Filtering Tab Explanation 333
11.6.6 Options during Placement 334
11.6.7 Editing After Placement 335
11.6.8 Header Details 335
11.6.9 Classic Rebar Diagram 336

Copyright © Computer and Design Services Limited

11.6.10 Classic Refresh 337
11.6.11 Classic Excel Output 337
11.6.12 Classic Print 339
11.6.13 Hints & Tips 341
11.7 Show Schedule Dialog 342
11.7.1 Schedule Project Settings 342
11.7.2 General Tab - Schedule Configuration 343
11.7.3 Schedule Template & Sorting Tab 344
11.7.4 Revision and Coupler Tab 351
11.8 Working with Central Models and Scheduling 355
11.8.1 Project Warning Symbols 355
11.8.2 Schedule Warning Symbols 358
11.8.3 Schedule Sheet Name Conflicts 359
11.9 View All Rebar 359
11.9.1 Column Chooser 360
11.9.2 Create Schedule, Weight Report or Weight Summary Report 361
11.9.3 Create Schedule by Drawing Sheet 361
11.9.4 Create Schedule by Partition 367
11.9.5 Create Schedule by Release 373
11.9.6 Create Weight Report 378
11.9.7 Create Weight Summary Report 379
11.9.8 Create Mesh Summary Report 380
11.10 Right Click Mouse Menus 381
11.10.1 Edit Reports 385
11.10.2 Edit Schedule 387
11.10.3 Sort Tab 388
11.10.4 Schedule Fields and Revision Tab 389
11.10.5 Template & Shape Diagram Tab 392
11.10.6 Edit Weight Report 393
11.10.7 Edit Weight Summary Report 394
11.10.8 Edit Mesh Summary Report 395
11.10.9 Delete Schedule or Weight Report/Summary 395
11.10.10 Issue Schedule 395
11.10.11 Unissue Schedule 399
11.10.12 Delete Revision History 400
11.10.13 Override Revision Mark 401
11.10.14 Place Schedule 403

Copyright © Computer and Design Services Limited

11.10.15 Place Shape Diagrams 405
11.10.16 Excel Export 406
11.10.17 Batch Schedule Manager 407
11.10.18 Manage 409
11.10.19 Export & Print 413
11.10.20 Print Schedule 416
11.10.21 Edit Template Parameters 417
11.10.22 Edit Template Sub-Tables 418
11.10.23 Refresh Shape Diagrams 425
11.10.24 Resolve Conflicts 425
12 Output Panel 428
12.1 Order Materials 428
12.1.1 BVBS Output 428
12.1.2 aSa Output 429
12.1.3 aSa RDX Output 431
12.1.4 Soulé XML Output 432
12.1.5 Soulé SLE Output 434
12.1.6 SteelPAC Output 436
13 Settings Panel 437
13.1 Project Settings 438
13.2 General Tab 440
13.2.1 Project Configuration 440
13.2.2 Annotation 441
13.2.3 Bar Mark 443
13.2.4 Freeze Rebar 449
13.2.5 Group 449
13.2.6 Rebar 450
13.2.7 Schedule Configuration 457
13.2.8 Tick and Tag 459
13.2.9 Varying Range 460
13.3 Rebar Dims Tab 461
13.3.1 Duplicating and Editing Fields 462
13.4 Rebar Leg Minimums Tab 464
13.4.1 Right Mouse Click Menu 465
13.5 Annotation Tags Tab 466
13.5.1 Annotation Family Configuration 466
13.5.2 Range Text Configuration 468

Copyright © Computer and Design Services Limited

13.5.3 Range Text Annotation Styles 469
13.5.4 Rebar Annotation Types 473
13.6 Production Output Tab 476
13.6.1 General 477
13.6.2 Soule Output (*.sle) 477
13.6.3 Soule Output (*.XML) 477
13.6.4 SteelPAC Output Format 478
13.6.5 ASA Output General 479
13.6.6 ASA Output Format 480
13.6.7 ASA RDX Export Output Format 480
13.6.8 ASA RDX Output General 481
13.7 Template and Sorting Tab 481
13.7.1 Schedule Template (RST) & Loaded Templates 482
13.7.2 Shape Diagram Template 485
13.7.3 Excel Templates 485
13.7.4 Sorting 486
13.7.5 Shape Diagram Settings 488
13.8 Revision & Coupler Tab 488
13.8.1 Revision 489
13.8.2 Coupler Symbols 490
13.9 Miscellaneous Tab 490
13.9.1 Circular Rebar 490
13.9.2 Opening Reinforcement 491
13.9.3 Smart Detailer 492
13.9.4 Import 492
14 Support Panel 493
14.1 Licensing 493
14.1.1 Activate Cloud Licence 493
14.1.2 Floating Licence 495
14.1.3 Return Licence 495
14.2 Help 496
14.3 About 496
14.3.1 Check for Updates 497
14.3.2 Manage Licence 499
14.3.3 Deactivate Cloud Licence 500
14.3.4 Proxy Server Setup 502
14.3.5 Release Notes 504

Copyright © Computer and Design Services Limited

15 Schedule on Drawing Sheet Customisation 505
15.1 Schedule appearance 505
15.1.1 Tag Label Properties 506
15.1.2 Schedule Data Cell Properties 507
15.1.3 Overlaying Cells 510
15.1.4 Family Properties 510
16 Customising the Excel Report Templates 513
16.1 Defining the Schedule Template 515
16.1.1 Reviewing an Existing Schedule Template 515
16.1.2 Create a New Excel Schedule Template 517
16.1.3 Creating the Schedule Template Graphics 518
16.1.4 Naming the Schedule Report Template Cells 520
16.1.5 Defining the Schedule Address Range Names 522
16.2 Schedule Report Configuration Tab 527
16.2.1 Schedule Cell Name Definitions 528
16.2.2 Mandatory Schedule Template Fields 531
16.3 Defining the Mesh Summary Template 533
16.3.1 Creating the Mesh Summary Template Graphics 533
16.3.2 Naming the Mesh Summary Template Cells 534
16.3.3 Defining the Mesh Summary Template Address Ranges 535
16.3.4 Mesh Summary Report Configuration Tab 537
16.3.5 Mesh Summary Cell Name Definitions 538
16.3.6 Mandatory Mesh Summary Template Fields 539
16.3.7 Defining the Weight Summary Template 540
16.3.8 Create a New Excel Weight Summary Template 541
16.3.9 Create a New Excel Weight Summary Template 542
16.4 Creating the Weight Summary Graphics Template 544
16.4.1 Naming the Weight Summary Cells 544
16.4.2 Defining the Weight Summary Address Range Names 546
16.4.3 Weight Summary Report Configuration 547
16.4.4 Weight Summary Cell Name Definitions 548
16.4.5 Mandatory Weight Summary Template Fields 549
16.5 Defining the Weight Report Template 550
16.5.1 Create a New Excel Weight Report Template 551
16.5.2 Create the Graphical Layout of the Weight Summary Template 552
16.5.3 Naming the Weight Report Cells 553
16.5.4 Defining Weight Report Address Range Definitions 554

Copyright © Computer and Design Services Limited

16.5.5 Weight Report Configuration 556
16.5.6 Weight Report Cell Name Definitions 557
16.5.7 Mandatory Weight Report Template Fields 558
16.6 Adding Custom Revit® Parameters to the Excel Template 560
17 Shape Code 99's for BS8666:2005 & BS8666:2020 562
18 Draw Rebar Shape Code 99's for BS8666:2005 & BS8666:2020 567
19 CADS Country Specific Shape Code Libraries 569
19.1 SANS 282-2004 Shape Codes 569

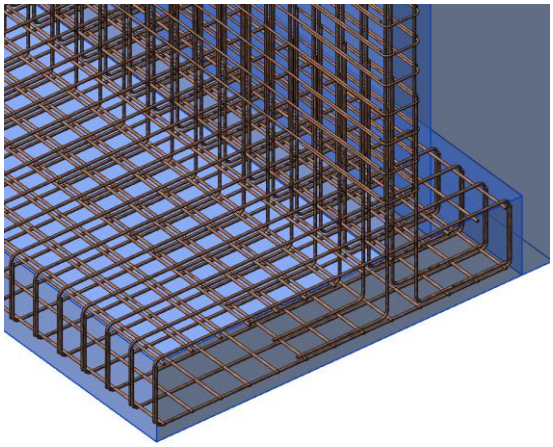
Copyright © Computer and Design Services Limited

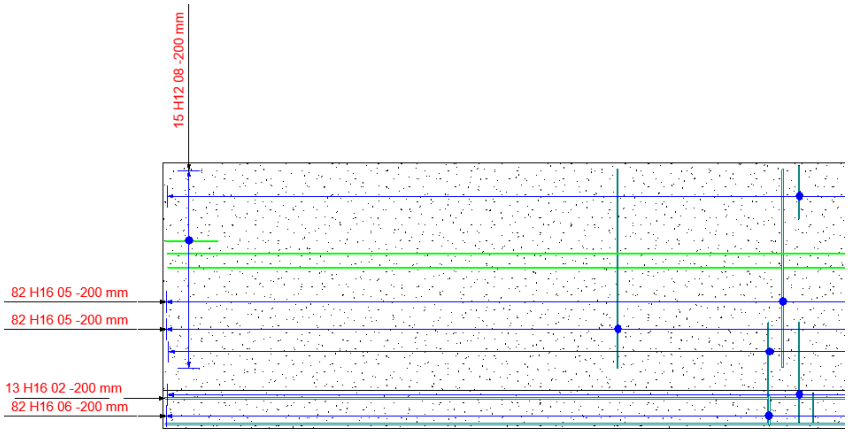
1 Introduction

CADS RC3D for Revit® has been designed to enhance the Placement, Annotation and Bar Marking of Rebar in 3D structures. The software provides functionality to create 2D Detail Drawings and Bar Bending Schedule to country specific standards. Additional annotation functions have been created to detail tapered ranges and mark rebar ends.

- Additional annotation functions have been created to detail tapered ranges and mark rebar ends.
- Enhanced layering tools allow rebar to be split into zones within a structure with visibility controlled using rebar layer assignment.
- Editing functions allow rebar to be copied from one structure to another.
- Rebar can be 'joined' together to form new bar shapes.
- Rebar can be trimmed and extended to openings, detail lines or model lines.
- Openings in the structure can be identified and trimming reinforcement added.
- Path placement functions allow the rebar to be placed parallel to other rebar in the structure.
- Circular Rebar can be placed with a detailing macro.
- Rebar and Range creation tools
- Extensive list of special 99 shape codes included.
- Additional Country specific shape codes are now available and are provided as CADS Rebar Shapes.
- Libraries of predefined reinforcement that can be dropped into similar structural elements using the Smart Detailer.
- Rebar can be assigned to a structure, partition, release and drawing sheet. Manage the Rebar according to these assignments. Currently, the release of rebar for production is manually controlled.
- The Rebar Lists can be placed on drawing sheets, printed or exported to Excel using industry standard templates. Special shapes and coupled reinforcement are supported. The bar list templates are easy to customise to company standards. Allows creation of Weight & Weight Summary Reports.
- Apply revisions to sets of schedules and keep a list of historical schedule documents.
- Freeze Rebar when Issuing Schedules to lock in place and prevent editing. Thaw rebar to edit.
- This document explains the features in CADS RC3D for Revit® Detailing software. Instructions for installing and licensing of the software are shown in the next chapter.







Project Project Name
Client Customer
Job No
By Author
Date Issue Date
Last Revised
Sheet No FB 3
Page No 3
Revn
Status

Member	Bar Mark	Type and size	No.of Mbrs	No.of bars each	Total No.	Bar length each (mm)	Shape code	A (mm)	B (mm)	C (mm)	D (mm)	E/R (mm)	Rev letter
Retaining Wall	02	H16	1	26	26	16125	00	16100					
	03	H16	1	82	82	3050	21	385	2340	385			
	04	H16	1	82	82	1550	21	700	205	695			
	05	H16	1	164	164	2625	00	2615					
	06	H16	1	164	164	1900	11	600	1320				
	07	H12	1	15	15	16050	00	16030					
	08	H12	1	30	30	1600	21	700	240	700			
	09	H12	1	15	15	16050	00	16025					
Slab 1	37	H16	1	25	25	14975	00	14970					
	38a	H16	1		1	10625	00	10600					
	38b	H16	1		1	10325	00	10310					
	38c	H16	1		1	10175	00	10155					
	38d	H16	1		1	10075	00	10060					
	38e	H16	1		1	10025	00	10015					
	38f	H16	1		1	10025	00	10010					
	38g	H16	1		1	10050	00	10045					
	38h	H16	1		1	10150	00	10125					
	38i	H16	1		1	10275	00	10260					
	38j	H16	1		1	10500	00	10495					
	39	H16	1	1	1	3525	00	3520					
	41	H16	1	1	1	3250	00	3230					
	43	H16	1	1	1	3100	00	3075					
	45	H16	1	1	1	3000	00	2980					

This Schedule conforms to BS 8666:2005
* Specified in multiples of 5 mm + Specified in multiples of 25 mm
Status: P Preliminary T Tender C Construction

Copyright © Computer and Design Services Limited

2 Installation, Uninstalling & Licensing

This chapter discusses downloading, installing and licensing CADS RC3D for Revit®. Also covered are uninstalling, deactivating the software, upgrading, silent installations and silent uninstalls.

2.1 Installation

The setup installs the CADS RC3D/RebarCAD and Markup Tools into the Autodesk application plug-ins folder, “C:\ProgramData\Autodesk\ApplicationPlugins”.

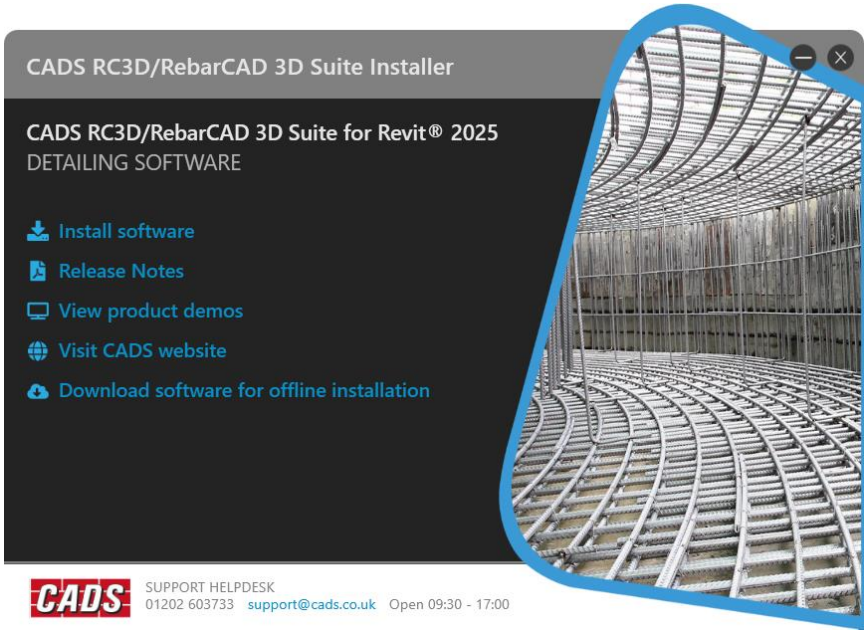
The CADS Rebar Extensions install into the “C:\Program Files\Common Files\CADS\Extensions 20xx” folder.

If additional Country Specific Shape Code Libraries are installed these will be placed in a subfolder below “C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20XX.bundle\Contents\CadsRebarShapes”.

The software installer can be downloaded from the CADS Website

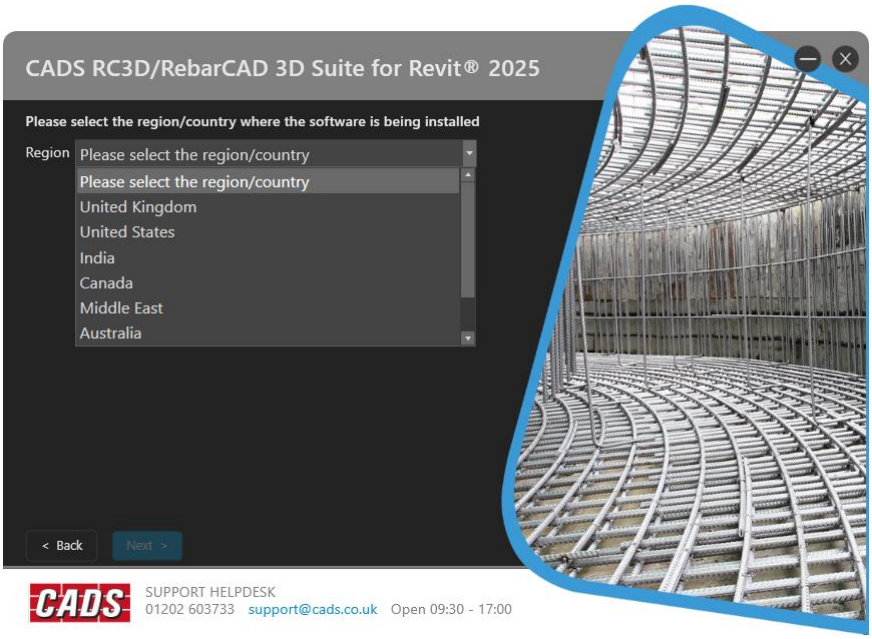
https://cads.co.uk/support-and-learning/product-downloads-updates/ or from the email sent by CADS Admin.

1. Double click the downloaded installation file “CadsRC3D_RebarCAD3D_Suite.exe”, normally located in your “Downloads” folder.

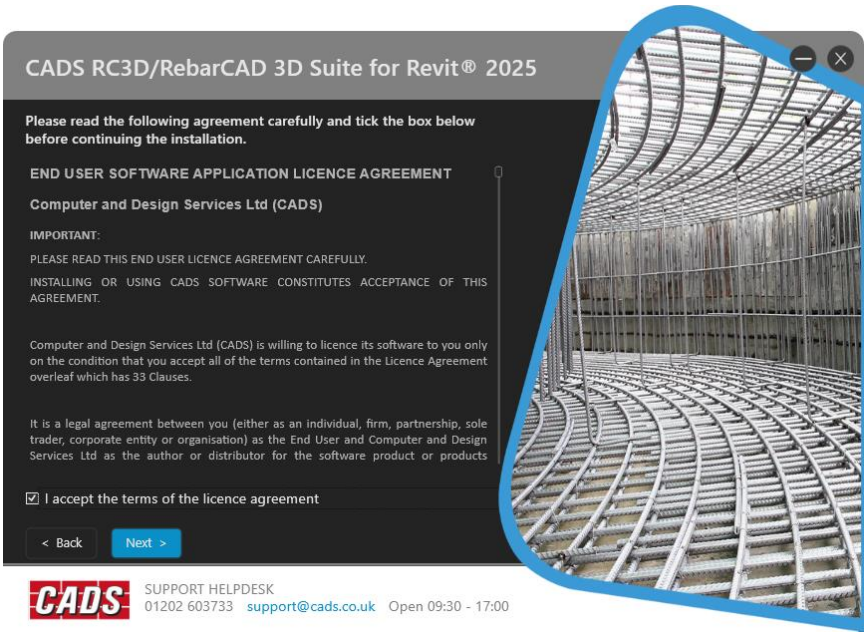


2. The Welcome dialog is displayed, please click Install Software.

Copyright © Computer and Design Services Limited

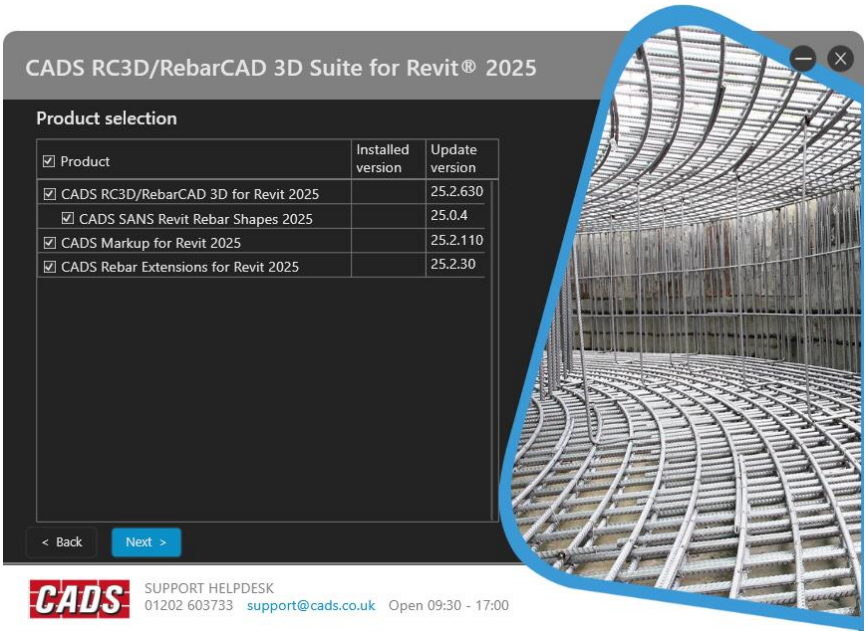


3. Select the region / country. Choose the country based on the detailing standard required. For instance, if you want to detail to BS8666:2005 or BS8666:2020 choose the United Kingdom, this will install CADS RC3D for Revit®.
4. Click Next.



5. Read the Licence Agreement, tick the option to accept the licence agreement and then click Next.

Copyright © Computer and Design Services Limited



6. Select the Additional Tools if required & any additional shape code libraries to be installed and click Next.



7. Click Install to start the installation.

Copyright © Computer and Design Services Limited





8. Click Finish to complete the installation.

2.2 Download software for Offline Installation

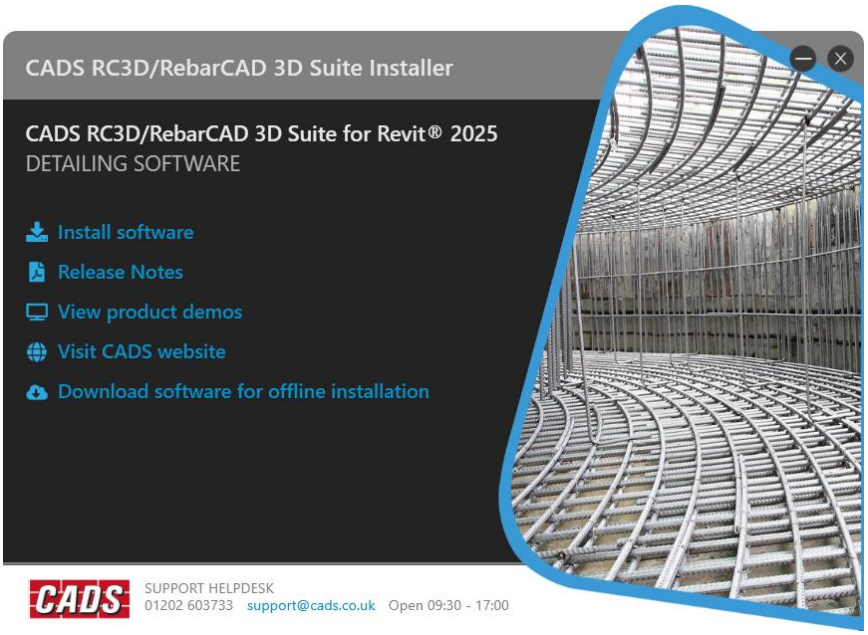
The installer includes an option to download the installation files to a nominated folder for offline installation. The setup installs the CADS RC3D/RebarCAD and Markup Tools into the Autodesk application plug-ins folder, “C:\ProgramData\Autodesk\ApplicationPlugins”.

The CADS Rebar Extensions install into the “C:\Program Files\Common Files\CADS\Extensions 20xx” folder.

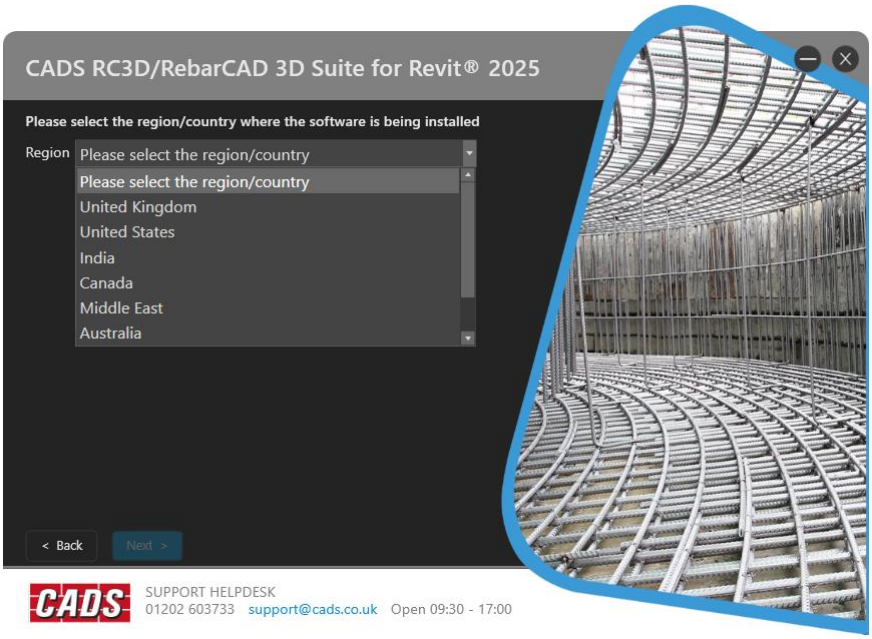
If additional Country Specific Shape Code Libraries are installed these will be placed in the a subfolder below “C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20XX.bundle\Contents\CadsRebarShapes”.

1. Double click the downloaded installation file.

Copyright © Computer and Design Services Limited



2. The Welcome dialog is displayed, please click “Download software for offline installation”.

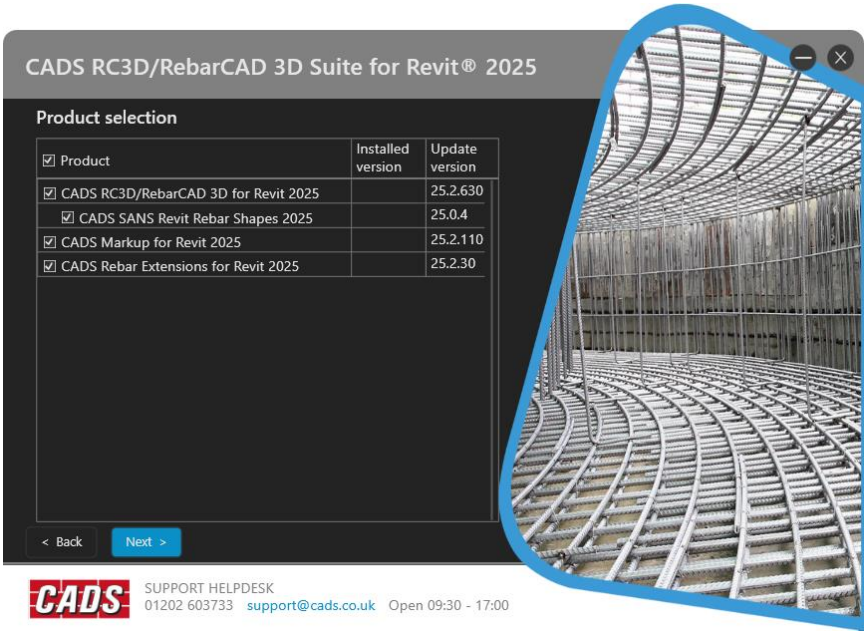


3. Select the region / country. Choose the country based on the detailing standard required. For instance, if you want to detail to BS8666:2005 or BS8666:2020 choose the United Kingdom, this will install CADS RC3D for Revit®. Click Next.

Copyright © Computer and Design Services Limited



4. Read the Licence Agreement, tick the option to accept the licence agreement and then click Next.

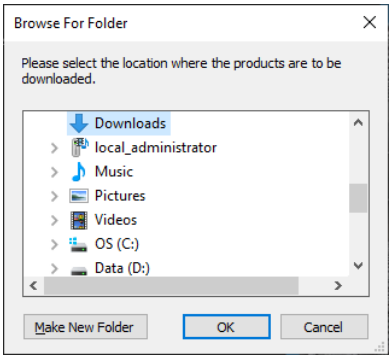


5. Select the Additional Tools if required & any additional shape code libraries to be installed and click Next.

Copyright © Computer and Design Services Limited



6. Click Download.



7. Using the Browser select the nominated download folder and click ok.



8. The software will download to the nominated folder.

Copyright © Computer and Design Services Limited



9. Click Finish to complete the download.
10. Open Windows File Explorer and navigate to the download folder.
11. Click on the “CadsRC3D_RebarCAD3D_Suite.exe” to run the installation.

2.3 Silent Installation

Please carry out the following steps to prepare the Silent Installation Deployment.

1. Download the offline installation of the CADS RC3D for Revit® Suite from the installer link, this can be accessed from https://cads.co.uk/support-and-learning/product-downloads-updates/
2. The “SilentInstallSettings.json” file will be downloaded with the installation.
3. Edit the “SilentInstallSettings.json” file with a text editor such as Notepad or WordPad
4. Change the highlighted fields to choose the region, which applications to install and the cloud licence code. Refer to the Chapter Silent Installation Parameters below for the correct parameters.
5. The highlighted fields are the only ones that should be edited, all other values must remain the same for the silent installer to work correctly.

Copyright © Computer and Design Services Limited

```
{
  "Basic": {
    "Version": "25.0.560.0",
    "RevitVersion": 2025,
    "Region": "region_uk",
    "IAcceptCADSEndUserLicenceAgreement": true
  },
  "Install": {
    "Products": [
      {
        "Id": "CadsRC3D_RebarCAD3D",
        "LicenseCode": "0"
      },
      {
        "Id": "CadsMarkup",
        "LicenseCode": "0"
      },
      {
        "Id": "CadsRebarExtensions",
        "LicenseCode": "0"
      }
    ]
  }
}
```

6. The sample JSON file illustrated below will only install CADS RC3D for Revit® and not the CADS Rebar Extensions or CADS Markup as these have been removed.

```
{
  "Basic": {
    "Version": "25.0.560.0",
    "RevitVersion": 2025,
    "Region": "region_uk",
    "IAcceptCADSEndUserLicenceAgreement": true
  },
  "Install": {
    "Products": [
      {
        "Id": "CadsRC3D_RebarCAD3D",
        "LicenseCode":"XXXXXXXXXXXXXXXXXX"
      }
    ]
  }
}
```

A batch (.bat) file can be used to run the installer

1. A batch file needs to be created to run the settings in the JSON file.
2. Open a text editor such as WordPad or Notepad
3. Type in the following commands to create the batch file

cd

cd %~dp0

CADSRC3D_RebarCAD3D_Suite.exe /silent

4. Save the file into the same folder as the “CadsRC3D_RebarCAD3D_Suite.exe” file, as “SilentInstall.txt”
5. The “SilentInstall.txt” will need the file extension changing to “SilentInstall.bat”.

Copyright © Computer and Design Services Limited

2.3.1 Silent Installation Parameters

The table below details all the parameters and their settings for the Silent Installation.

Parameter	Sample Value	Use
Version	25.0.560.0	Version details of the product
RevitVersion	2025	Revit® version the product needs to be installed
Region	region_uk	The region for the product region_uk region_us region_india region_eu region_canada region_gcc region_australia
IAcceptCADSEndUserLicence Agreement		Must be true to install the application. otherwise the installation will not be executed.
ID	CadsRC3D_RebarCAD3D	The product to be installed CadsRC3D_RebarCAD3D CadsMarkup CadsRebarExtensions
LicenseCode	9876XXXXXX4321	The licence code to activate the application

2.3.2 Running the Silent Installation

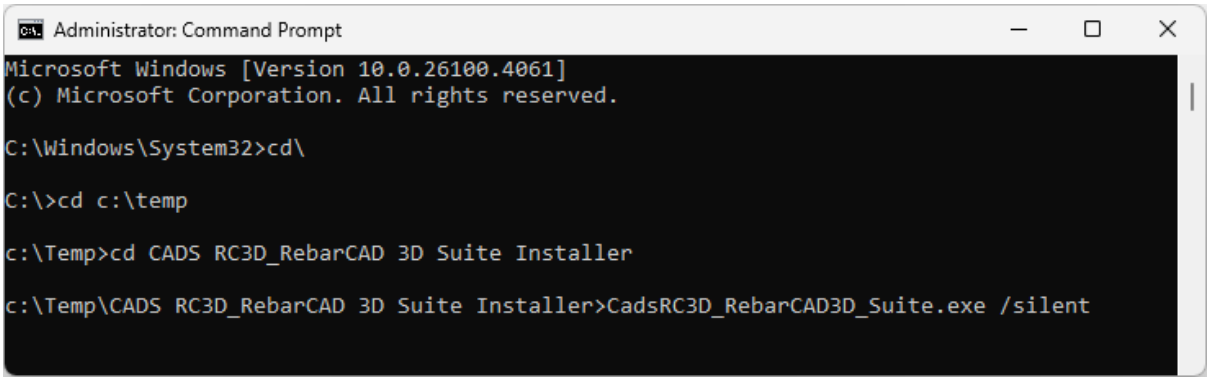
The following details the steps to install the CADS RC3D for Revit® Suite in silent mode.

Ensure that the updated “SilentInstallSettings.json” file is placed in the package installer folder.

1. **Installation using “SilentInstall.bat”** :
    a. Make sure that the “SilentInstall.bat” file is located in the same folder, refer to Creating a BAT file to run the installer.
    b. Run the “SilentInstall.bat” file in admin mode to execute the silent installation.

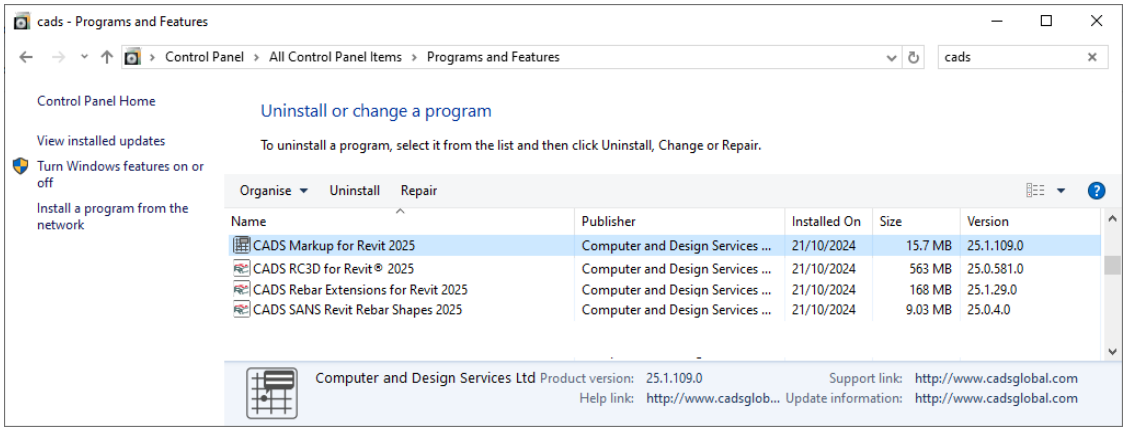
Copyright © Computer and Design Services Limited

2. **Installation using Windows command prompt:**
    a. The installation can also be run using the Windows command prompt directly.
    b. Open a Windows Command Prompt in Admin mode and navigate to the package installer folder.



    c. Call the following command to execute the silent installation

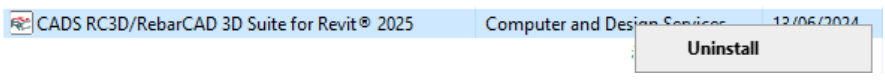
    CadsRC3D_RebarCAD3D_Suite.exe /silent



Open the Windows Control Panel – Programs & Features to check that the selected products have been installed correctly.

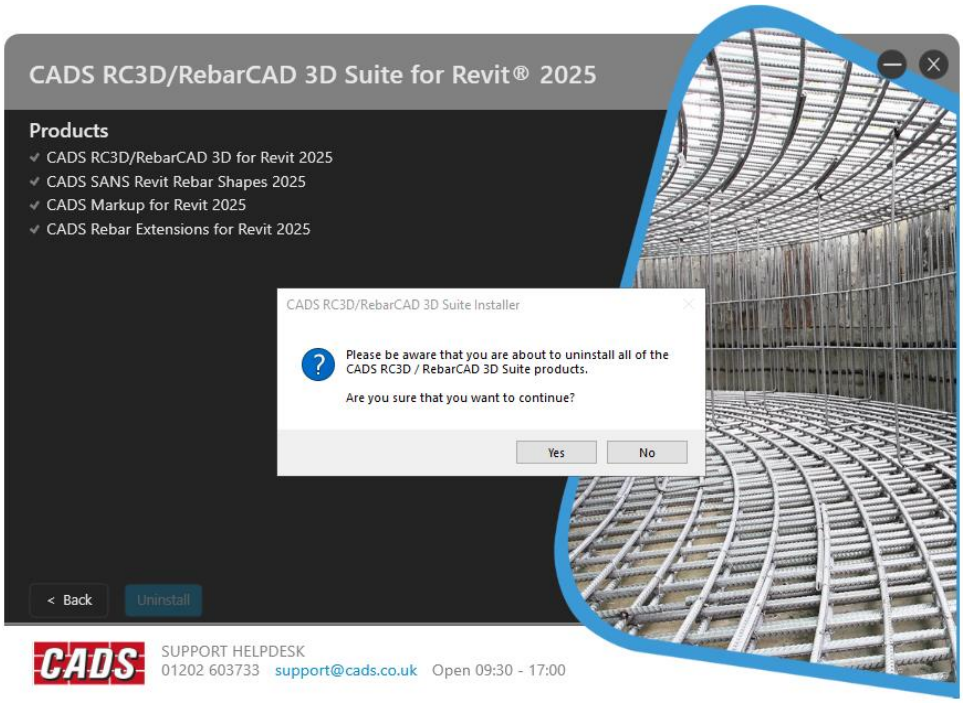
2.4 Uninstalling

1. Prior to uninstalling CADS RC3D deactivate the cloud licence, Deactivating the Cloud Licence.
2. Open the Windows Control Panel and select Programs & Features.



3. Right mouse click on “CADS RC3D/RebarCAD 3D Suite for Revit® 2025” and select Uninstall.

Copyright © Computer and Design Services Limited



4. Answer Yes to confirm uninstalling the software.
5. The utility will remove CADS RC3D and any additional modules that were installed alongside the program such as Markup and Rebar Extensions.



Copyright © Computer and Design Services Limited



6. Click Finish to complete the removal.

2.4.1 Silent Uninstallation Script

The CADS RC3D suite can be uninstalled using a silent script.

Use the following command syntax in the installation script to uninstall the suite silently.

“Msiexec.exe /x "CadsRC3D_RebarCAD3D.msi" /qn [/log "C:\Temp\Uninstall.log"]”

*The parameters in the rectangular brackets “[ ]” are optional.

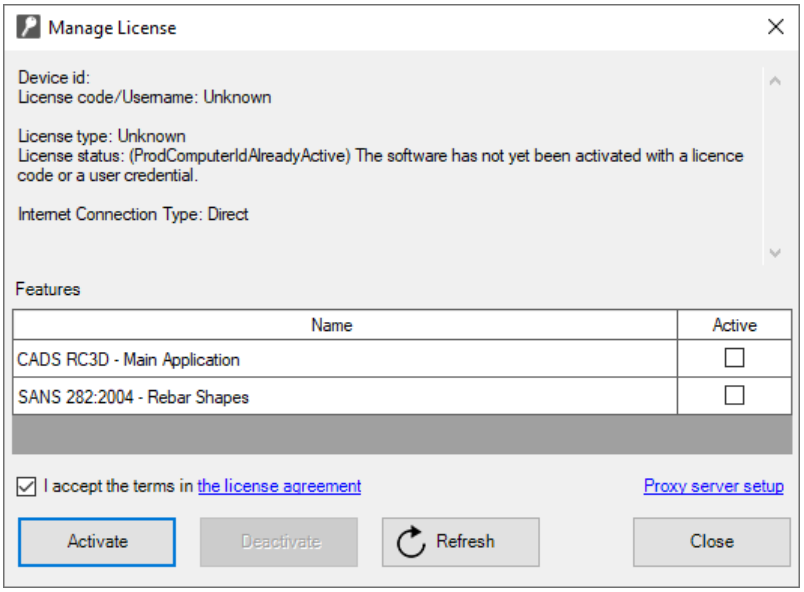
Msiexec.exe	Windows system exe installed by windows.
/x	Flag to uninstall the msi.
CADS_RC3D_RebarCAD3D.msi	The msi file used for the installation.
/qn	Flag for silent installation / uninstallation.
/log	Flag to specify the log file location.
“C:\Temp\Uninstall.log	The log file location; use along with the above flag “/log”.

The log file location; use along with the above flag “/log”.

2.5 Licensing

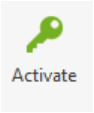
Activate the License CADS RC3D from inside Revit® using either the cloud licence number or the User Credentials. Depending on the type of subscription you choose, CADS will provide either an 18-digit license code or a combination of a username and password (in the case of Account Based Licensing - ABL) via email.

Copyright © Computer and Design Services Limited

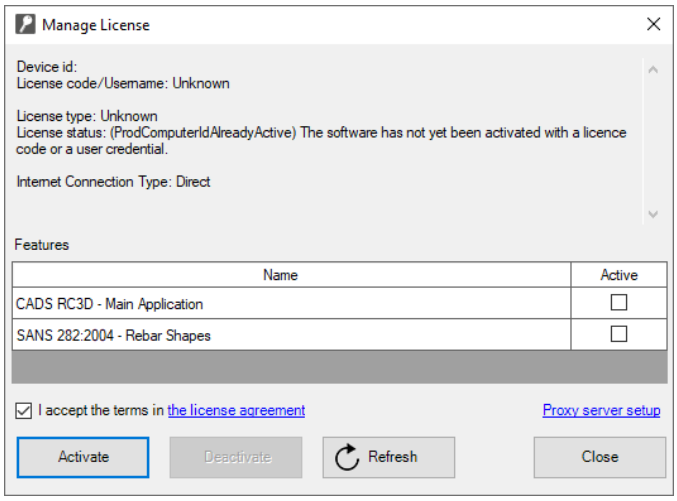


2.5.1 Cloud Licence Number & Account Based Activation

When you subscribe to CADS RC3D, CADS will supply either an 18-digit licence code or a username & password via email usually included in the download details;

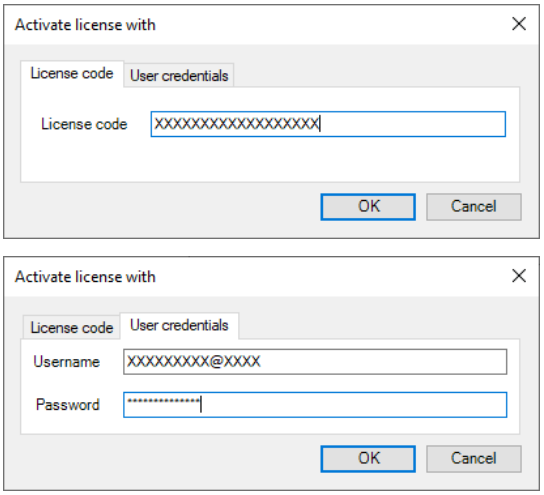
1. Open Revit® and select the CADS RC3D Tab.
2. To activate the licence, go to the Support Panel and select the Activate 

button on the far right of the CADS RC3D Tab. The Manage License dialog can also be accessed via the About dialog.

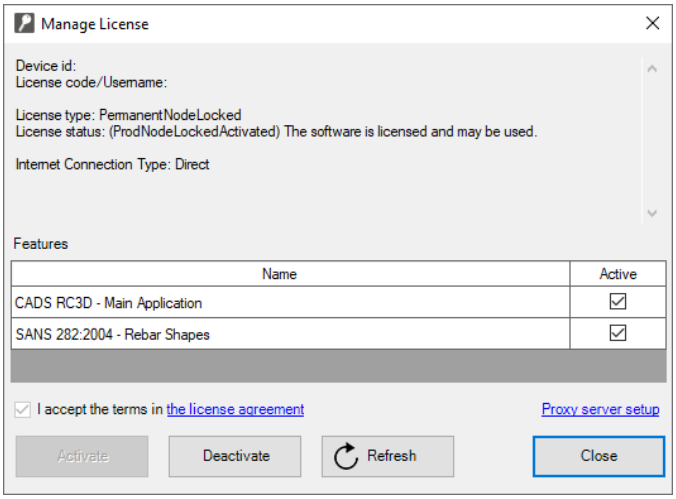


3. Tick to accept the terms of the Licence Agreement and then click the Activate button.

Copyright © Computer and Design Services Limited



4. Select the Licence Code Tab to enter the 18 digit Licence Code, or select the User Credentials Tab to enter the Username and Password for the Account Based Licensing and click ok.

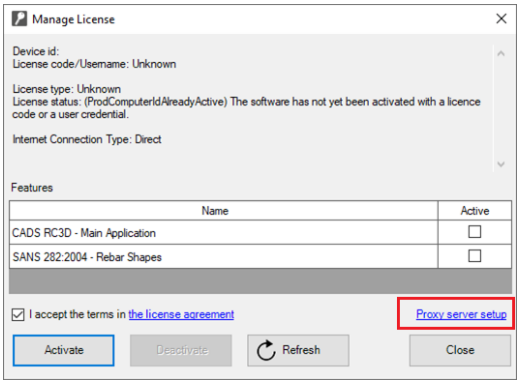


5. The Manage License dialog is then displayed showing that the License is active.
6. Close the dialog.

2.5.2 Proxy Server Settings

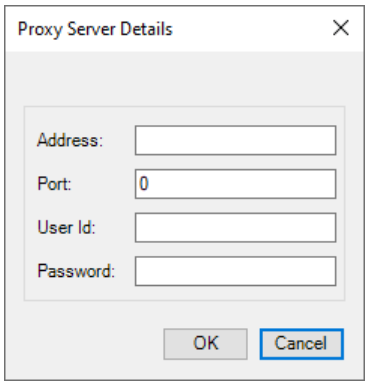
To access the Internet through a proxy server, Your IT department will need to be involved to enter the information required to give permission to access the Internet when activating the licence.

1. Select the manage Licence option and then select the Proxy Server Setup.

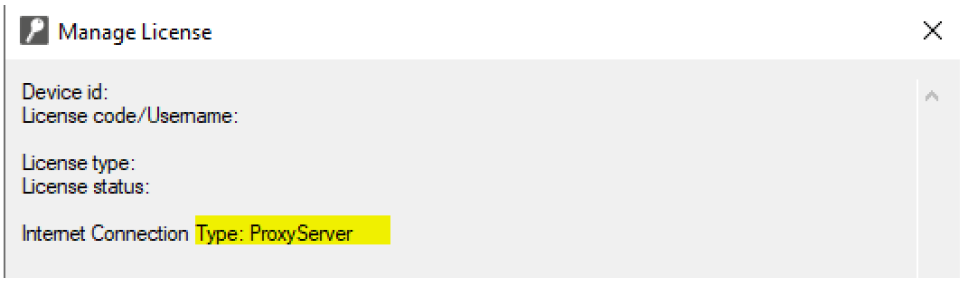


Copyright © Computer and Design Services Limited

2. Select the Proxy Settings option from the Manage Licence dialog



3. Enter the proxy address and port along with the Username and Password to allow access to the Internet, then click Ok.
4. Once setup successfully the following message is displayed.



5. Then continue to Activate the Cloud Licence.

2.6 Cloud Licence Management

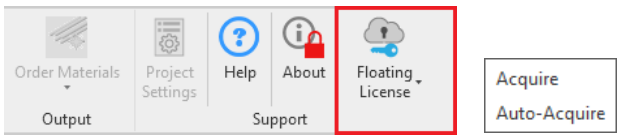
This section describes how to acquire, return and deactivate Cloud Licence.

2.6.1 Automatic & Manual Loading of the Cloud Licence

When you exit from Revit® the License will automatically be returned.

To reactivate the licence when you next open Revit® go to the CADS RC3D tab, select the Floating Licence drop down menu and click on Acquire.

An option to Auto-Acquire the licence is also available. This will activate CADS RC3D every time Revit® is opened.



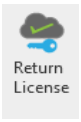
In the situation where the licence is automatically acquired, go to the Support Panel, select Return Licence.

Copyright © Computer and Design Services Limited



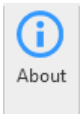
The choice to Acquire or Auto-Acquire will then be available in the Floating Licence drop down. Choose the Acquire option.

2.6.2 Returning the Licence whilst Revit® is open

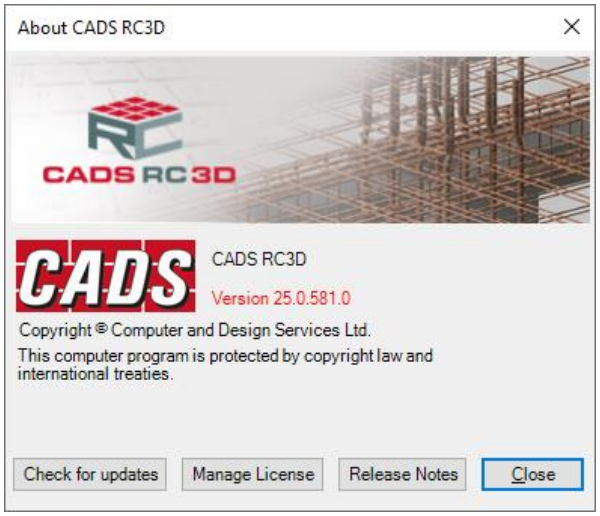
When the licence is active a Return Licence option is available in the Support Panel. 

2.6.3 Deactivating the Cloud Licence

The software is deactivated from inside Revit®.

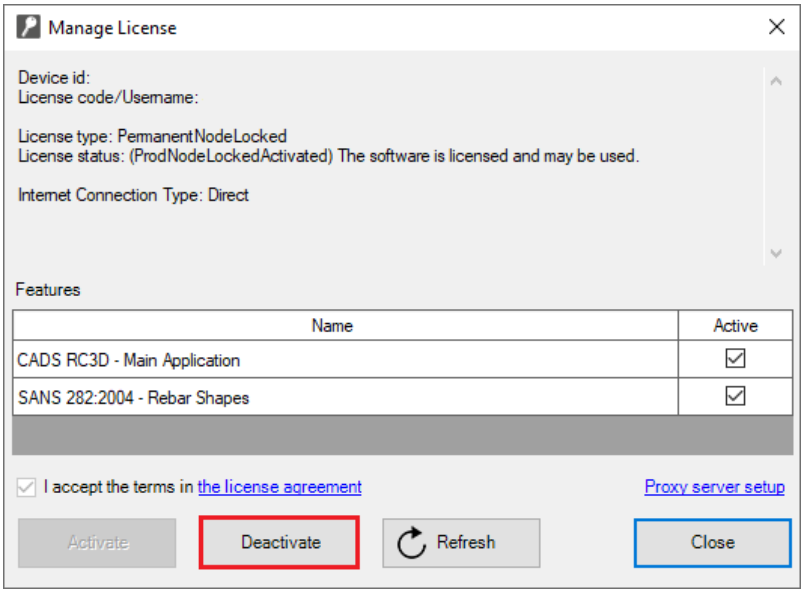
1. Open Revit® and select the CADS RC3D Tab.
2. To deactivate the licence, go to the Support Panel on the far right of the CADS RC3D Tab and select the About 

button .
3. Select the Manage License button on the About dialog.

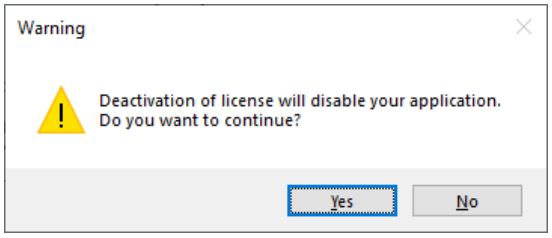


4. Click on Deactivate on the Manage License dialog.

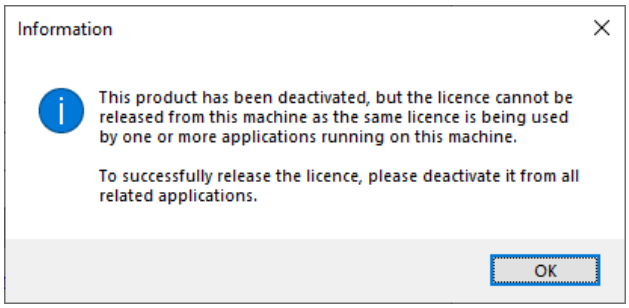
Copyright © Computer and Design Services Limited



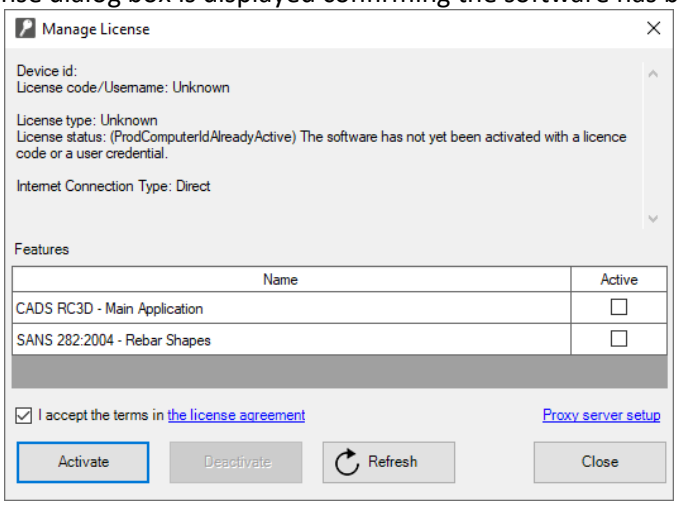
5. Answer Yes to continue.



6. As the cloud licence is being used by other open applications on the PC please deactivate them as well.



7. The Manage License dialog box is displayed confirming the software has been deactivated.



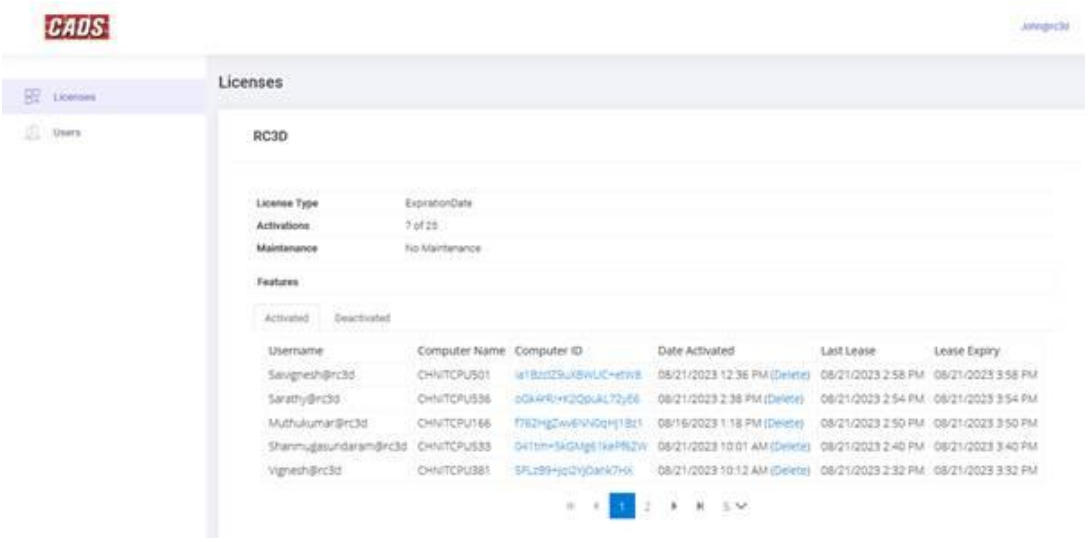
Copyright © Computer and Design Services Limited

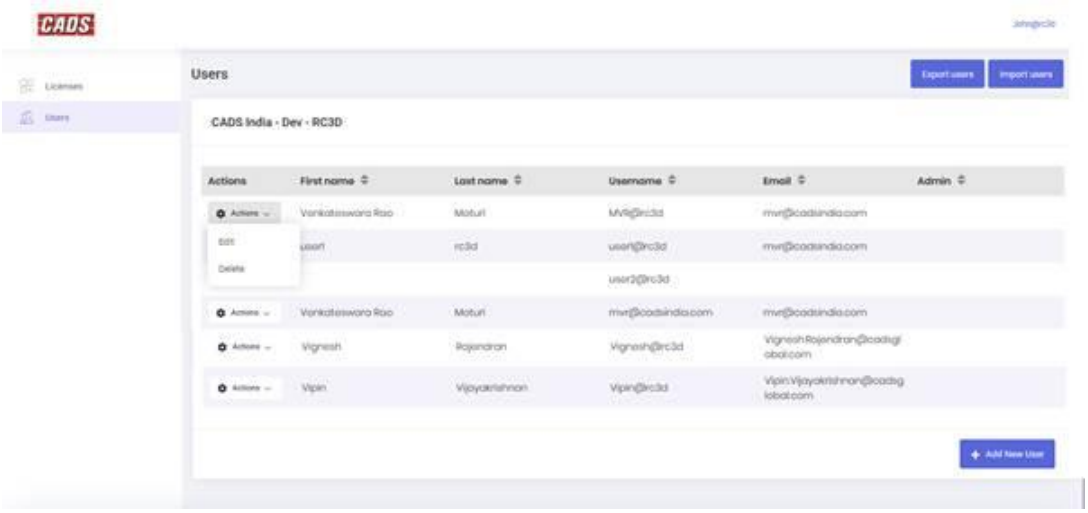
2.7 CADS Customer Portal

Users with Account Based Licenses (ABL) for CADS RC3D can also opt for the CADS Customer Portal (CCP). This portal allows the administrator user to monitor, add, edit, and delete users.

Non-administrator users can access the CCP in read-only mode to monitor the usage of the licenses.

CCP can be accessed using the URL https://eup.cadsglobal.com/





2.8 Checking for New Versions of the Software

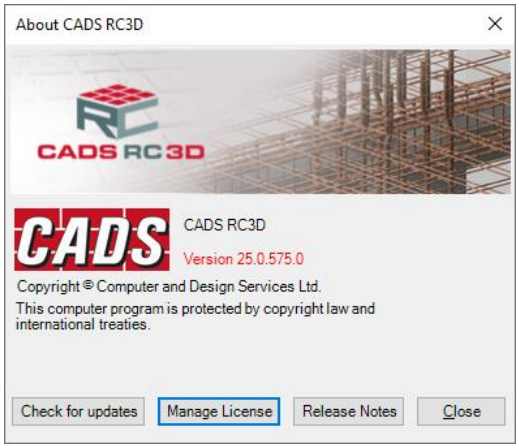
The Check for Updates option is included on the About dialog.

1. Open Revit® and select the CADS RC3D Tab.

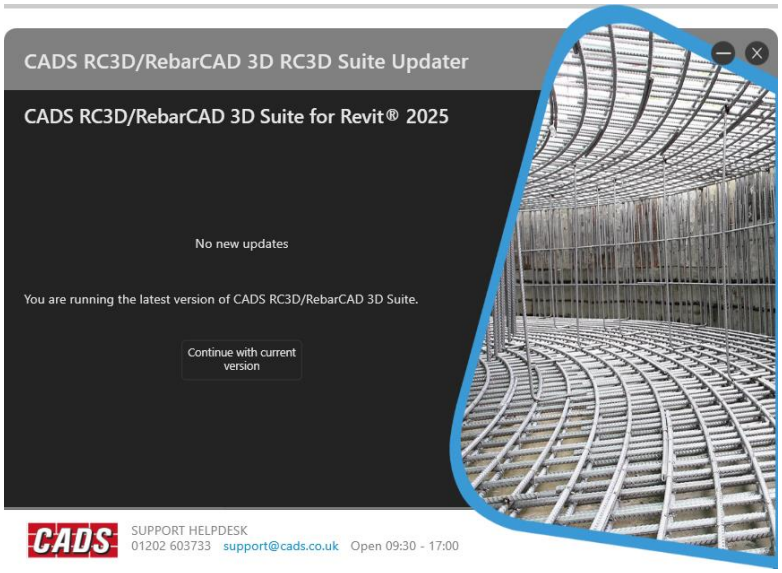
2. Go to the Support Panel on the far right of the CADS RC3D Tab and select the About button



Copyright © Computer and Design Services Limited



3. If the software is up to date the following dialog is displayed.
4. Select Continue with the current version.



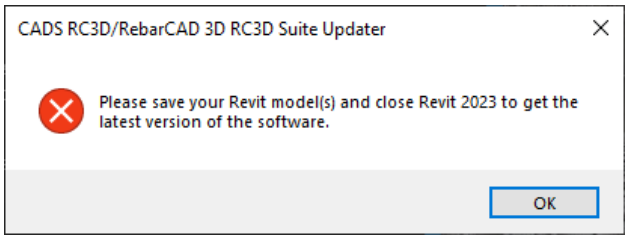
5. If an update is available the following dialog is displayed.



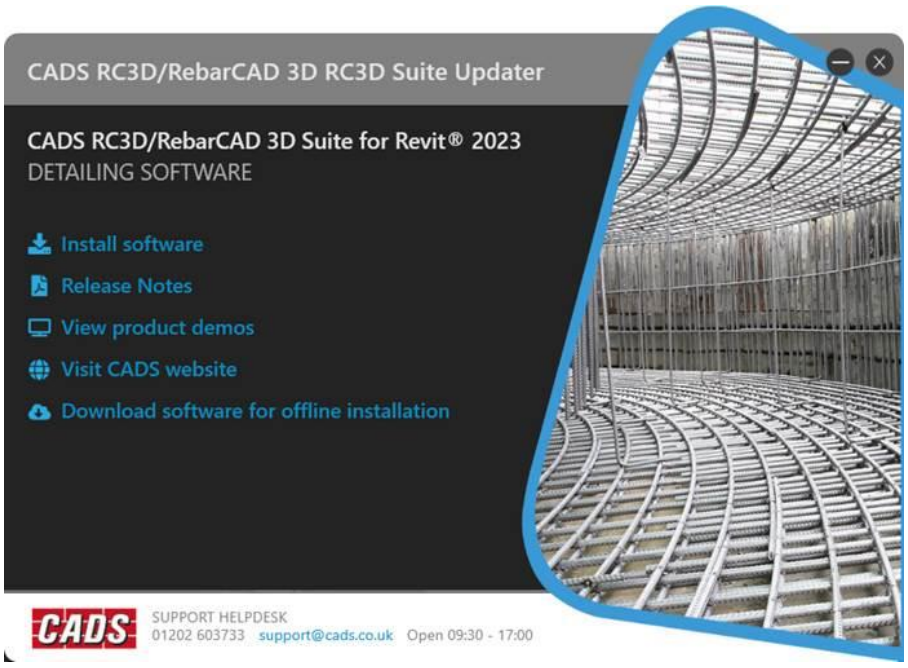
6. To upgrade CADS RC3D for Revit® click on the “Get Latest Version” button.

Copyright © Computer and Design Services Limited

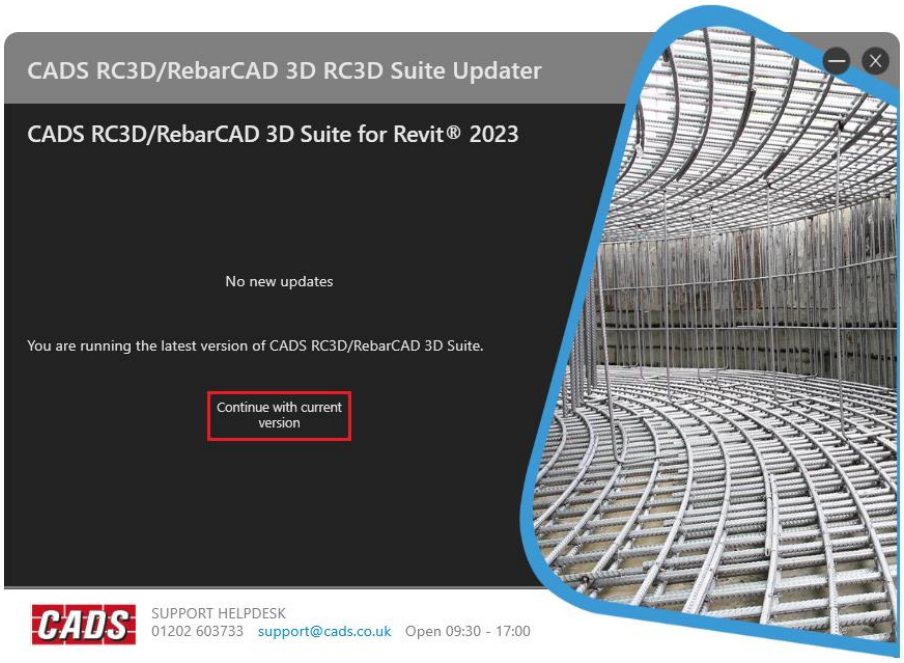
7. The following message box is shown if the Revit® is not closed.



8. After closing the message box and Revit®, click again the “Get latest version” button to install the latest version.



9. If no updates are available the following dialog is displayed.
10. Select Continue with current version.



Copyright © Computer and Design Services Limited

3 Settings, Prerequisites & Exceptions

3.1 Prerequisites

It is a prerequisite that the user of CADS RC3D / RebarCAD 3D is experienced in using Revit®, understands the methodology of constructing 3D models, and placing rebar in a structure. Use the Revit® Reinforcement Tools to place the majority of the reinforcement in the model of the concrete structure. CADS RC3D / RebarCAD 3D for Revit® includes tools to aid the placement of rebar.

3.2 Additional Settings

This section contains information on settings that can be applied to CADS RC3D / RebarCAD 3D before start-up.

Suppressing CADS RC3D Proxy Opening on copies of Revit® without CADS RC3D / RebarCAD 3D installed.

The “Usersettings.ini” contains a setting that prevents a proxy warning message being displayed when a project is opened in a copy of Revit® without CADS RC3D / RebarCAD 3D loaded.

When the set to true the proxy dialog will not display, this is the default setting.

When set to false the proxy dialog will display.

This setting is applied once per Project file and cannot be modified once the Project has been saved.

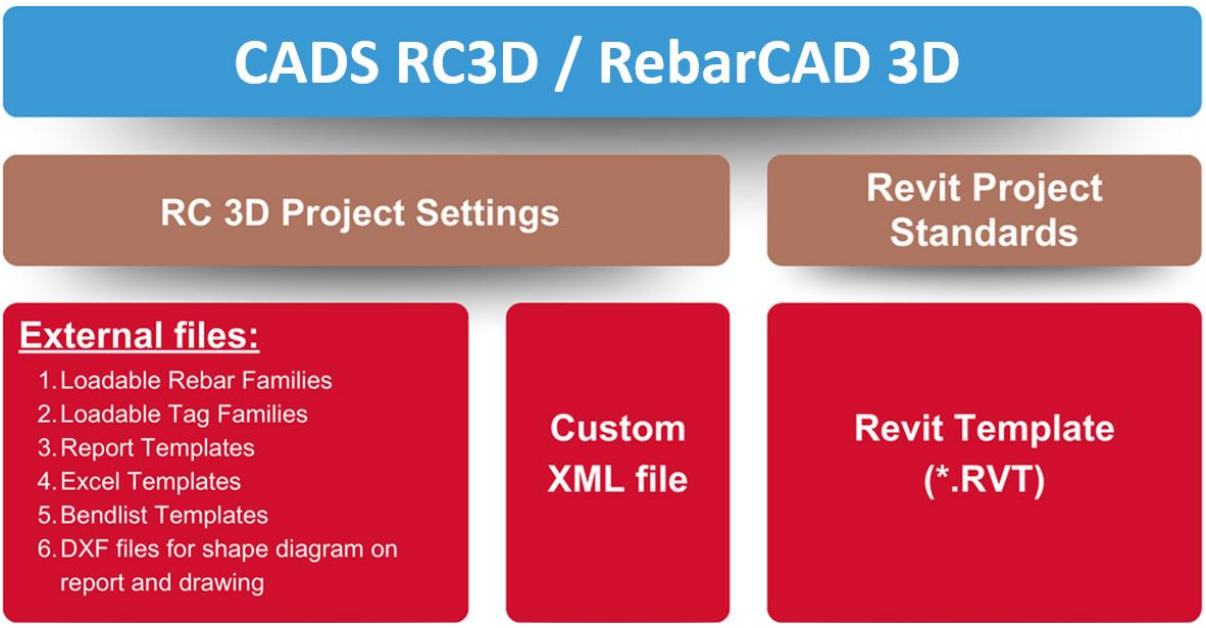
The file is located in the “C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents” folder.

3.3 CADS RC3D / RebarCAD 3D Configuration System

The configuration system in RebarCAD 3D is built on three sources:

1. Revit® Project Standard Template;
2. CADS RC3D Project Setting XML file;
3. External template files.

Copyright © Computer and Design Services Limited



A default set of all these files are deployed along with the application, these are the starting point when using the application and have been set-up with the most commonly accepted configurations.

The configuration can be amended to suit an individual company's requirements.

3.3.1 Revit® Template:

In a BIM environment, the detailer may:

Start with a fresh new Revit® Template File to create the structural model from scratch, or

Re-use and detail on an existing structural model received from an external party.

An existing structural Revit® model can be re-used only if the model is created correctly conforming to the requirements of a model fit for detailing.

Otherwise, a new model will have to be created, in this case the model can be started using the deployed Revit® Structural Template (RVT) file.

If an existing model is being used it may be necessary to transfer the Revit® Project Standards from the deployed Revit® Template file to the existing Structural Revit® Model.

The CADS RC3D / RebarCAD 3D default template is located in the following location;

"C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\Templates"

This template is configured with the default project settings and other contents. The template can be modified (or create an entirely new template created) according to the company standards / requirements.

To transfer the Revit® Projects Standards from the CADS RC3D/ RebarCAD 3D User Defined Default Template use the Revit® Transfer Project Standards command. Ensure that both the Template file and the existing Project file are open together in Revit®.

All of the Project Standards can be transferred from the Template to the Current project if required. Shown below is a list of the Project Standards required by CADS RC3D / RebarCAD 3D for rebar detailing.

- Arrowhead Styles.

Copyright © Computer and Design Services Limited

- Line patterns.
- Line styles.
- Line weight.
- Multi-rebar annotation types.
- Project Info.

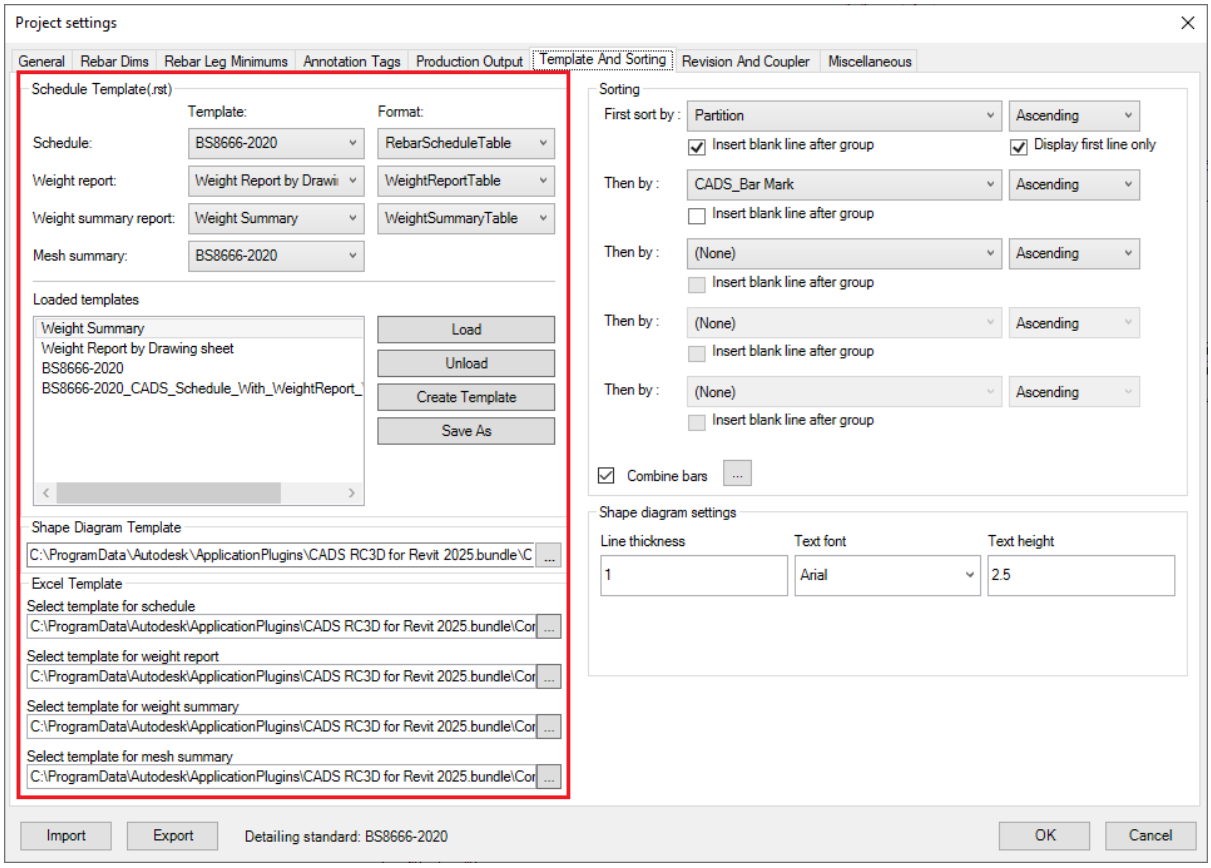
3.3.2 External Template Files:

CADS RC3D / RebarCAD 3D deploys the external family files to the following location:

"C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\Families".

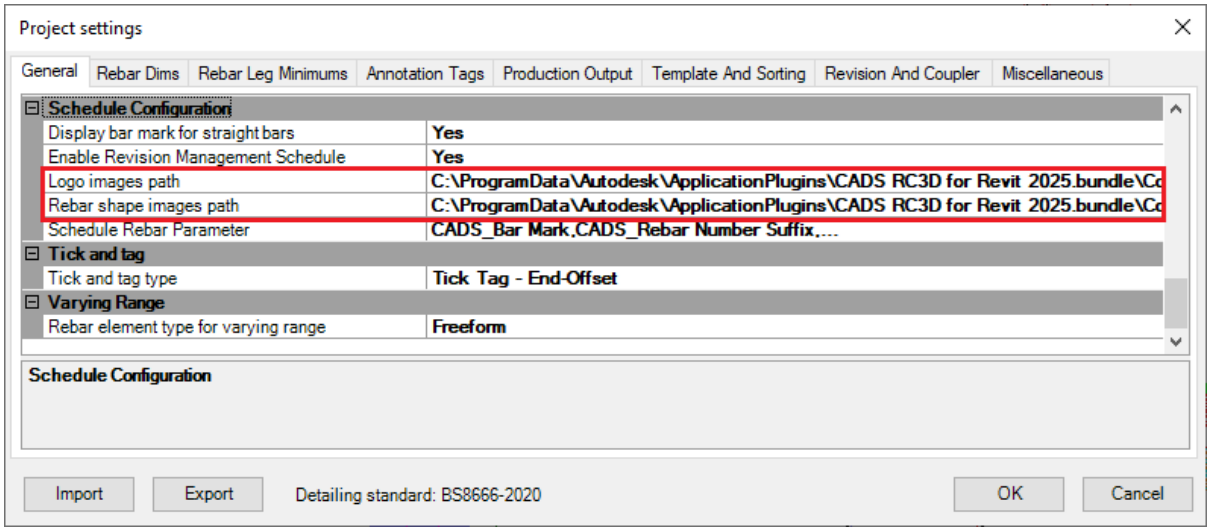
Other external template files are deployed to the following location as configured in the Project Settings dialog.

Template and Sorting Tab holds the configuration locations for the Schedule and Diagram templates.



The General Tab holds the configuration locations for the Schedule Logo images and the rebar shape images.

Copyright © Computer and Design Services Limited



3.3.3 CADS RC3D Project Setting file:

Finally, changes can be made to the RC3D / RebarCAD 3D Configuration in the Project Settings dialog and saved as *.CRS file. Full details on configuring the Project Settings, Importing and Exporting Configuration files

In a BIM environment, it is essential to set up this configuration system according to the requirement of the project/company standard as the first step before starting the detailing. Because it is not easy to re-apply these settings to any existing partially detailed models.

3.4 Restrictions on Updating Parameters

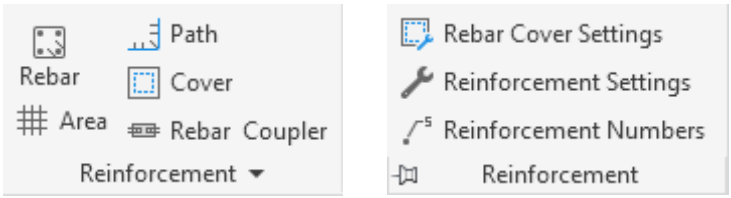
The following cases have been implemented for updating parameters in a model when opening the software;

- CADS RC3D / RebarCAD 3D should not trigger an update or add parameters if the software is installed but not licensed. This is applicable while opening a new Revit® model or an existing Revit® model which has been used in CADS RC3D / RebarCAD 3D environment earlier.
- If CADS RC3D / RebarCAD 3D is licensed, it should not trigger a software update or add parameters if it is a new Revit® model or an existing model which has not been used in the CADS RC3D / RebarCAD 3D environment earlier.
- If CADS RC3D / RebarCAD 3D is licensed, while opening an existing model which has been used in CADS RC3D / RebarCAD 3D environment, the software will run updaters and add necessary parameters which may be required for compatibility and stability requirements.

Copyright © Computer and Design Services Limited

4 Reinforcement Panel

The Revit® Reinforcement Panel is included in the CADS RC3D Tab for ease of use.

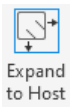


These are the standard Revit® reinforcement commands, a brief explanation of each command is given but for full detail refer to Revit's® own help pages. Where specific reinforcement configuration is required, it is explained against the relevant CADS RC3D for Revit® command.

4.1 Rebar

Place predefined rebar shapes or sketch custom rebar to reinforce your concrete modelling elements.

Reinforcement Panel (Rebar) 

- Modify | Place Rebar - Placement Methods Panel 

(Expand to Host).
- Modify | Place Rebar - Placement Methods Panel 

(By Two Points).
- Modify Place Rebar - Placement Methods panel 

(Free Form Rebar).
- Modify Place Rebar - Placement Methods panel 

(Sketch Rebar).

Use reinforcing tools to add reinforcement elements, such as rebar, reinforcing bars, or fabric, to valid hosts, such as a concrete beam, column, structural floor, or foundation.

When a valid host element is selected, the reinforcement tools are available on the Reinforcement panel on the Structure tab or the Modify tab.

A valid reinforcement host consists of a valid family which has a Material for Model Behaviour parameter of either Concrete or Precast Concrete. Walls, floors, and slab edges can be valid hosts as long as they contain a concrete layer and have their Structural Usage instance property set to something other than non-structural.

Valid hosts include the following families:

- Structural Framing
- Structural Columns
- Structural Foundations

Copyright © Computer and Design Services Limited

- Structural Connections
- Floors
- Walls
- Foundation Slab
- Wall Foundation
- Slab Edge
- Generic Models that can host rebar

Concrete parts created from surface elements such as walls and floors possess rebar cover and can host rebar, rebar sets, area reinforcement, path reinforcement, and fabric reinforcement.

Note: You can enable Generic Model elements to host reinforcement. Open the element in the Family Editor. On the Properties palette, select Can Host Rebar in the Structural section. Reload the family into your project.

4.2 Alternative Shape Code Families

CADS have updated the BS8666:2005 & BS8666:2020 Shape Codes that are shipped with Revit®.

The shapes are installed in the "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\Families\UK\Structural Rebar Shapes" folder.

- "BS 8666-2005" folder contains the shape codes for BS8666:2005.
- "BS 8666-2020" folder contains the shape codes for BS8666:2020.

Existing and or unused shape code families can be removed from your project using the Revit® Purge Unused command from the Manage Tab.

4.2.1 Shape Code 99's

A number of Shape Code 99 families and CADS Draw Rebar Shapes are shipped with the software, diagrams of these are shown at the end of this manual.

The Shape Code families can be loaded in to the project using the method below;

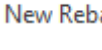
Insert Tab – Load from Library - Load Family 

commands to Load the Shape Code families.

The CADS Draw Rebar Shapes are loaded in the CADS RC3D for Revit® Project Settings dialog 

.

The Shape Codes are placed in the project using the CADS Create Rebar 

– New Rebar 

command.

Copyright © Computer and Design Services Limited

4.2.2 Country Specific Shape Code Libraries

During the installation stage Country Specific Shape Code Libraries can be selected for Installation. The Shape Code Libraries are encrypted, they will need to be activated using the cloud licence and will have been added to the licence when the software was purchased. Diagrams of the Country Specific Shape Code Libraries are shown at the end of this manual.

The Country Specific Shape Code Libraries are loaded in the CADS RC3D for Revit® Project Settings dialog 

.

The Shape Codes are placed in the project using the CADS Create Rebar 

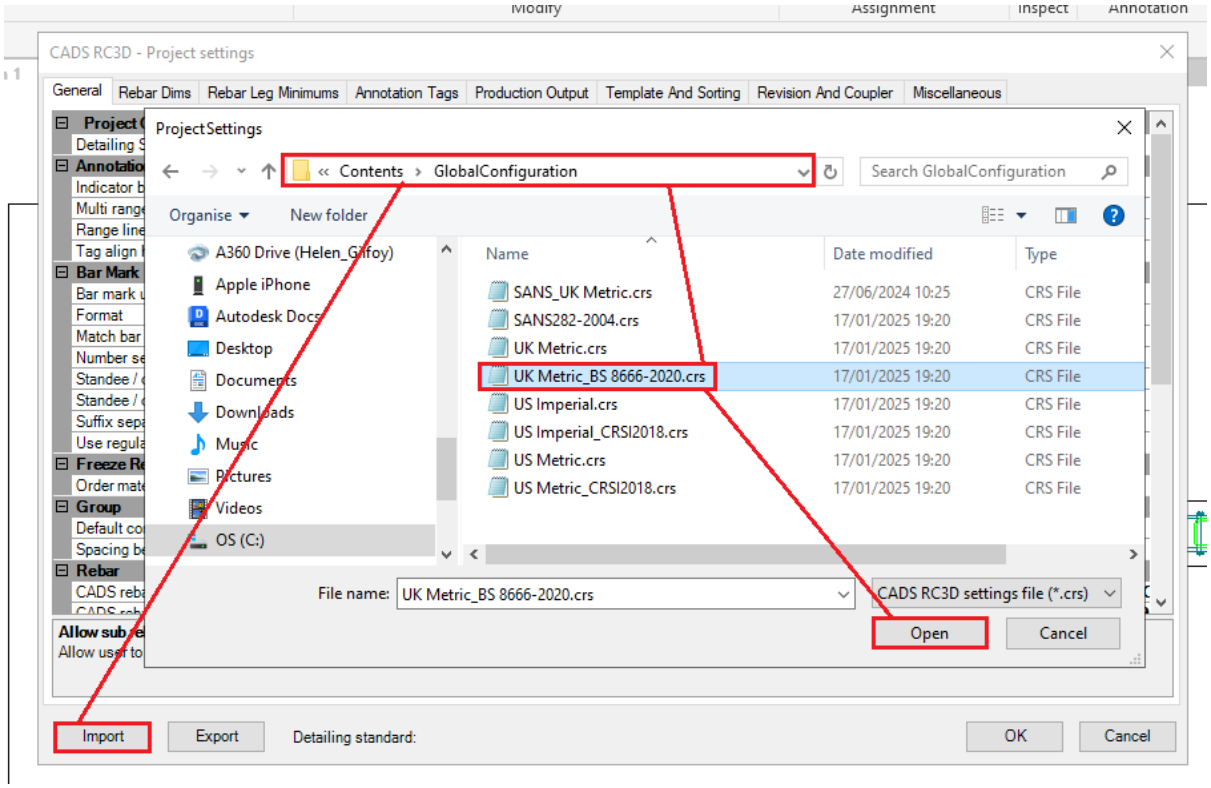
– New Rebar 

command.

The CADS Rebar Shapes are stored in the "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\CadsRebarShapes" folder. Currently the folder contains;

- **SANS** South African CADS Rebar Shapes to SANS 282-2004.
- **UK** Set of shape code 99's.

4.3 Changing Detailing Standards inside RC3D



To change the Detailing Standard inside RC3D, select the RC3D Tab and then go to the Support Panel and click on Project Settings.

Copyright © Computer and Design Services Limited

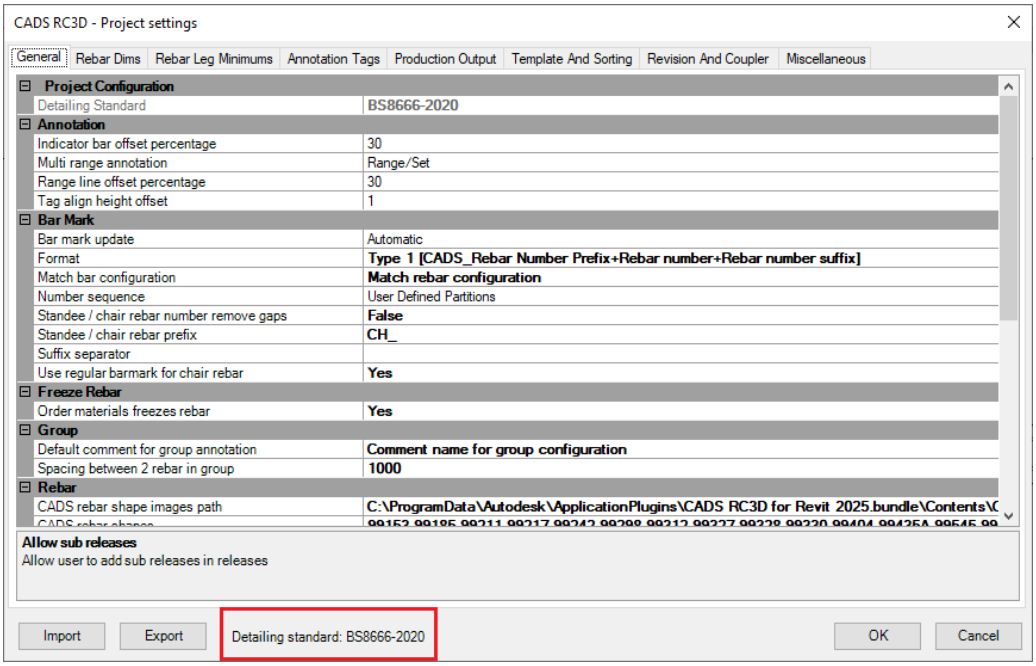
Select the Import Button, navigate to the “C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\GlobalConfiguration” folder.

Select the Detailing Standard to match your requirements from the following;

- UK Metric.CRS (BS8666:2005)
- UK Metric_BS8666-2020.CRS (BS8666:2020)
- SANS_UK Metric.crs
- SANS282-2004.crs

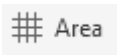
The Rebar Leg Minimums are updated to meet the requirements of the Detailing Standard selected.

Once a Detailing Standard has been selected the Projects Setting dialog displays this standard.



4.4 Area

Use area reinforcement tools to place large amounts of evenly spaced rebar in floors, walls, foundation slabs, and other concrete hosts.

Reinforcement Panel 

(Area)

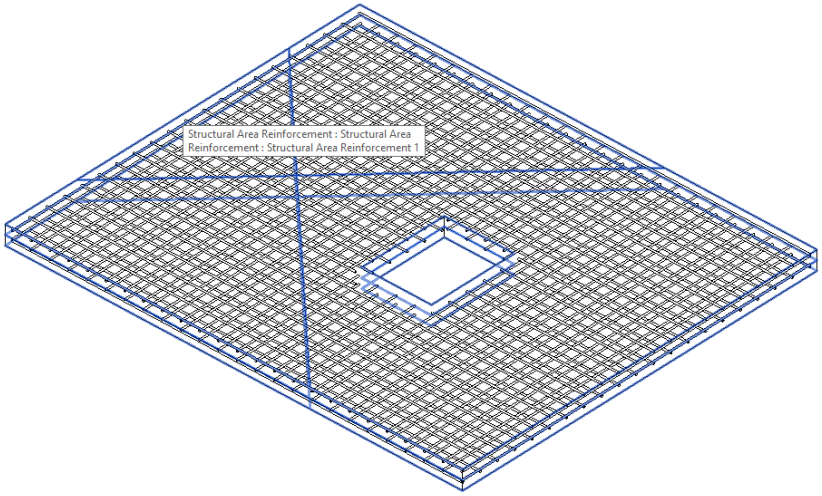
Area reinforcement creates up to four layers of reinforcing bars in the host.

You can create two layers of rebar perpendicular to each adjacent face (top and bottom faces for floors and foundation slabs, interior and exterior faces for walls). You can also define the bar size and spacing for each layer.

A sketched boundary defines the extents of the reinforcing bars. Apply rebar hook types to each layer using the Properties palette. If you edit the properties of the area reinforcement sketch line, you can use hook overrides. The instance properties of the host control the rebar cover settings (offset distance from the edge/face of the host to the rebar) for each area reinforcement instance. Different rebar types require different coverage.

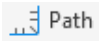
Copyright © Computer and Design Services Limited

After using the Area Reinforcement command use the RC3D Assign Reinforcement Layer command to remove the Area Boundary and assign the rebar to a Reinforcement Layer such as T1, T2 etc.



4.5 Path

Use the path reinforcement tools to layout a large amount of rebar along a path.

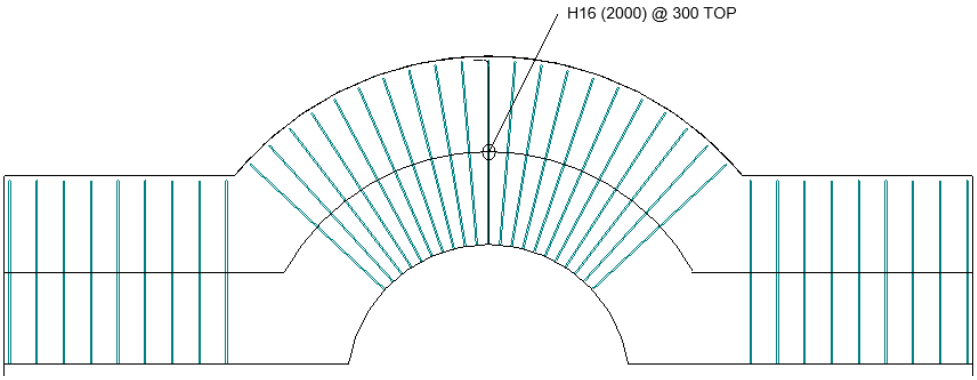
Reinforcement Panel 

(Path)

Rebar in path reinforcement have the same length, but are not all parallel to each other. The rebar is perpendicular to the boundary you specify.

The hooked end of the rebar is near the specified boundary and the bars extend to one side of the path.

The instance properties of the host control the rebar cover settings (the offset distance from the edge/face of the host to the rebar) for each path reinforcement instance. Different rebar types require different coverage. (Also refer to the CADS RC3D Edge Bar Place functionality)

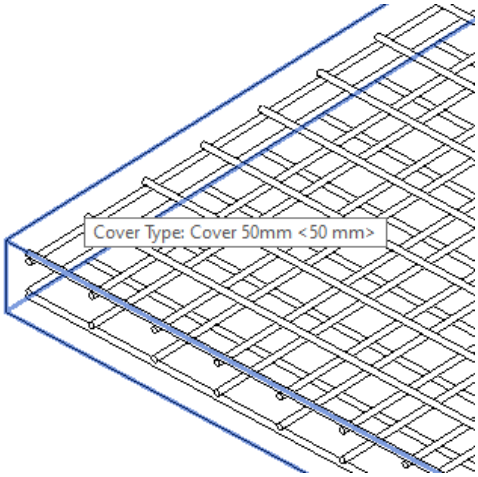


4.6 Cover

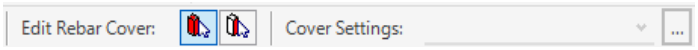
You can edit the rebar cover 

of either the entire element or a particular face while working with rebar and its host.

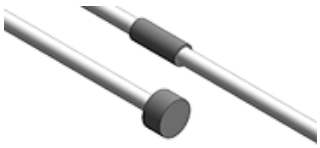
Copyright © Computer and Design Services Limited



While using the rebar cover tools, determine the existing rebar cover settings by hovering your mouse over either an individual face or the entire element.



4.7 Rebar Coupler



Use the Rebar Couplers to connect or cap rebar instances.

Rebar couplers connect adjacent rebar while simplifying the design of reinforced concrete.

Couplers interact with the reinforcement bars that they connect by modifying their physical dimensions. Couplers apply end treatments to connected rebar according to the connection needs of the coupler. Bar geometry shortens to accommodate the connection with the coupler.

Go to the Reinforcement panel 

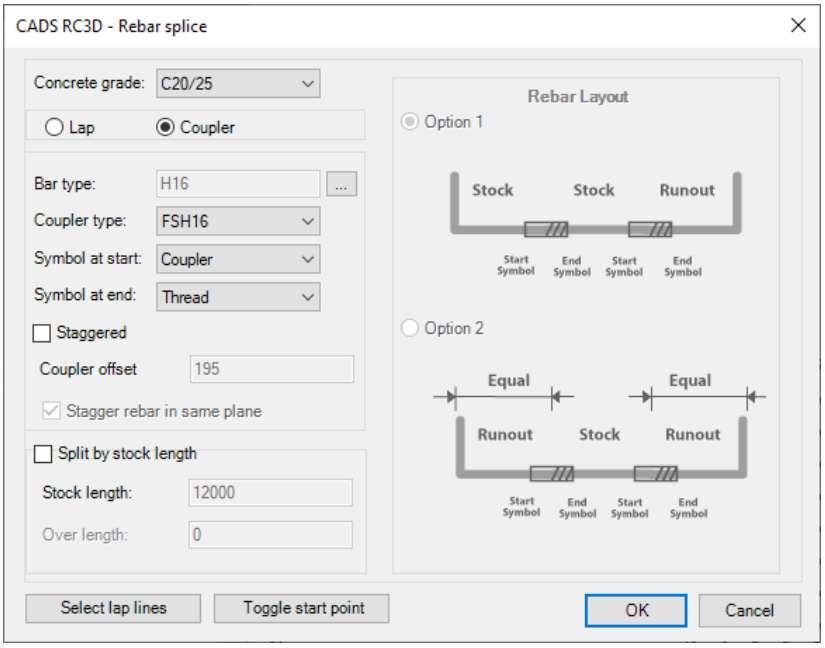
(Rebar Coupler) to add couplers between rebar, at the end of rebar etc.

Or, select the Modify Structural Rebar Tab - Rebar Coupler Panel 

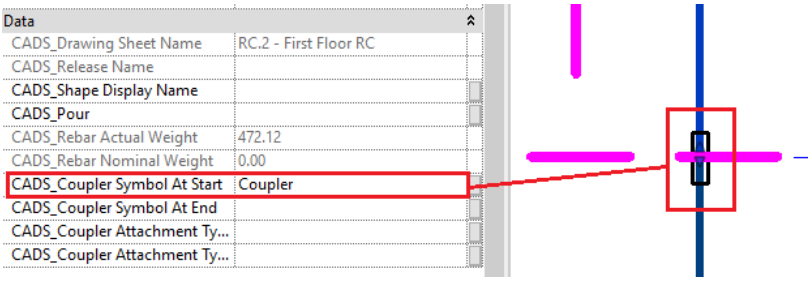
(Insert Coupler).

Alternatively, use the CADS RC3D Rebar Splice command to couple bars together, refer to Chapter Splice Rebar.

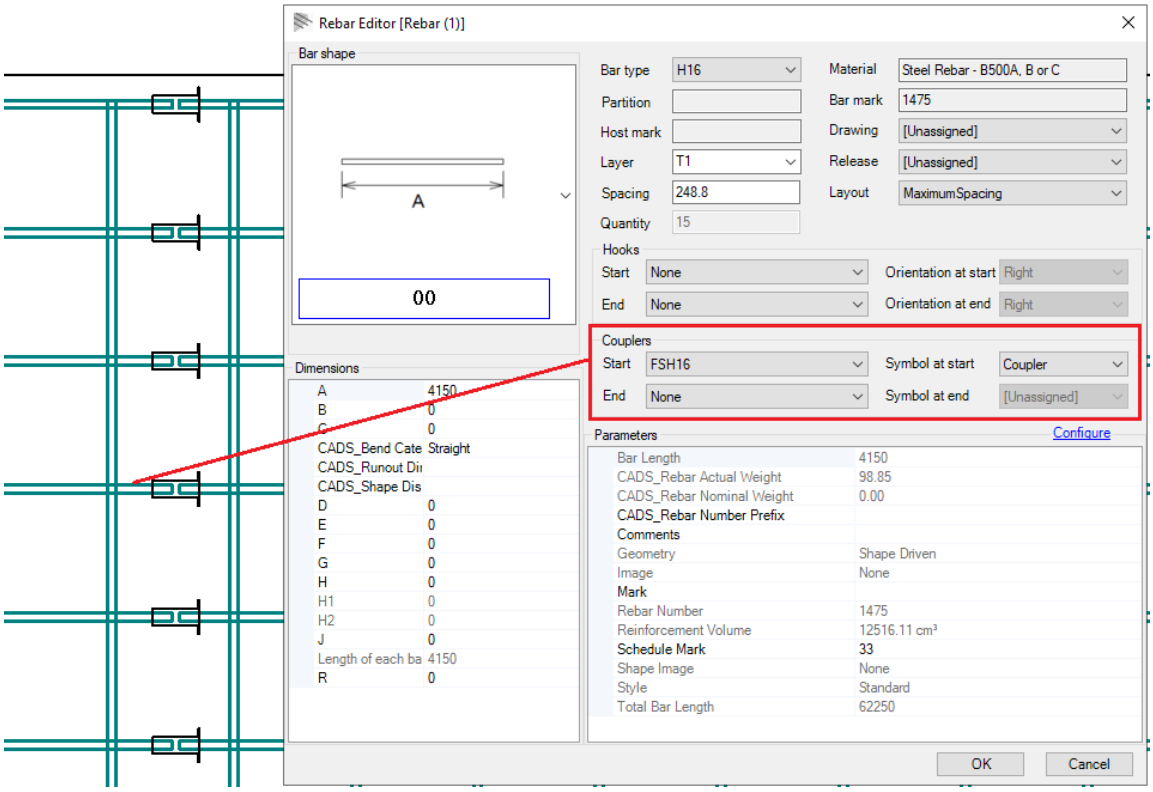
Copyright © Computer and Design Services Limited

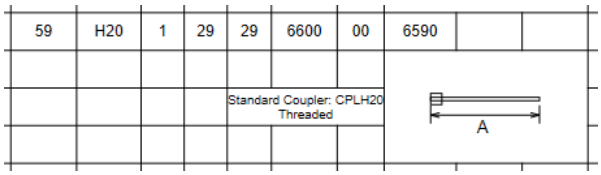


Define the CADS Coupler symbol in the Properties dialog or using the CADS RC3D Edit Rebar command in order for a coupler symbol to be displayed in the schedule.

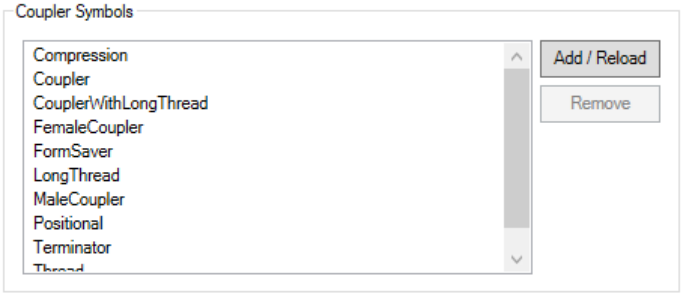


Copyright © Computer and Design Services Limited





Coupler Symbols are loaded into CADS RC3D in the Project Settings dialog under the Revision & Coupler Tab.



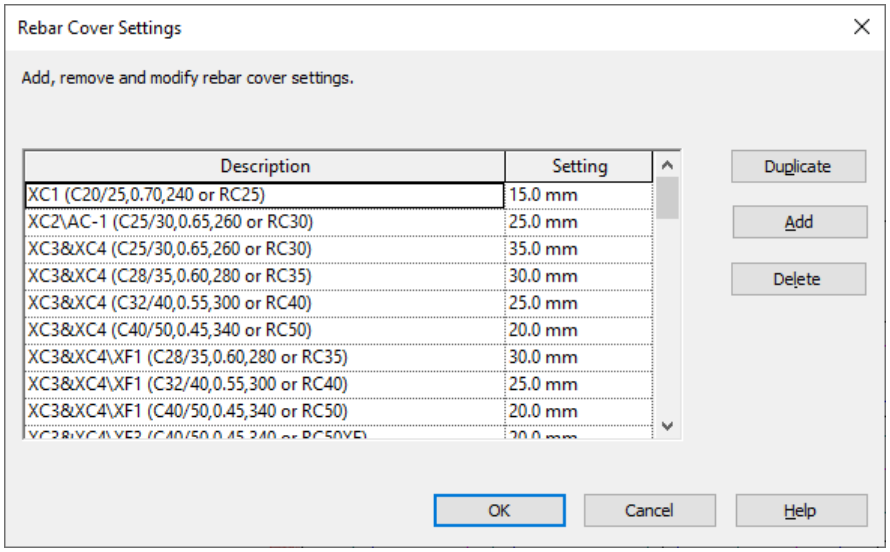
4.8 Rebar Cover Settings

Reinforcement Panel 

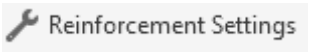
(Rebar Cover Settings)

Use Add or Duplicate to add additional rebar cover values. Use Delete to remove them from the list.

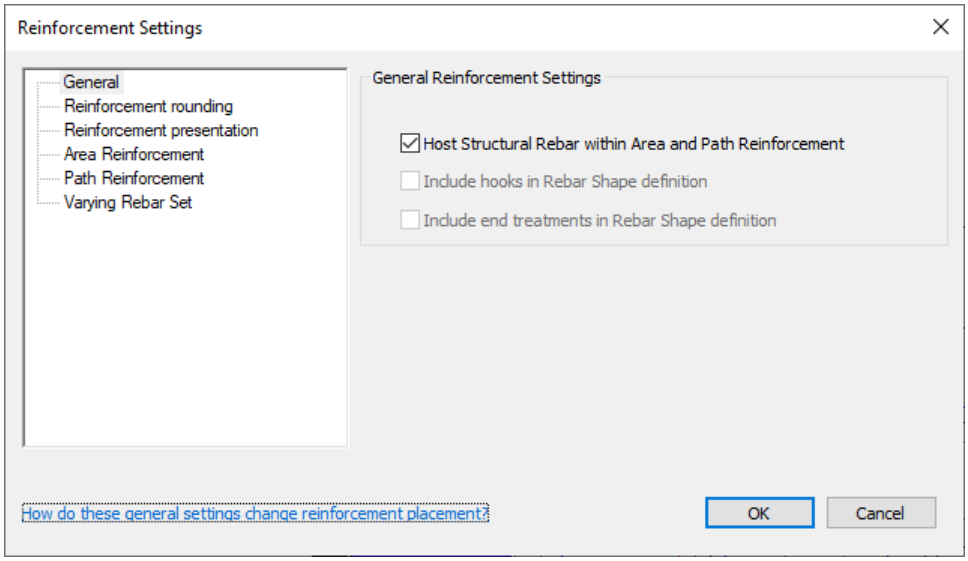
Copyright © Computer and Design Services Limited



4.9 Revit® Reinforcement Settings

Use the Revit® Reinforcement Settings 

to set the default bar rounding, graphical representation, reinforcement layer abbreviations and to set the varying taper bar mark numbering.



4.9.1 General

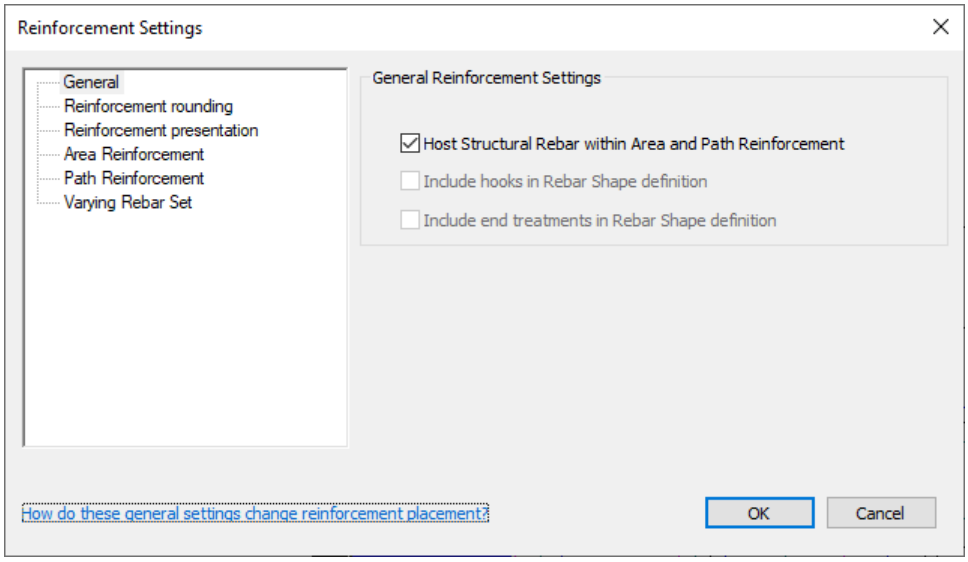
Select Host Structural Rebar within Area and Path Reinforcement to be able to:

- Schedule every rebar in a project.

  Hosted Structural Rebar creates rebar sets if possible. This allows scheduling elements like rebar sets where adjacent bars of the same length are grouped in one row of the schedule.

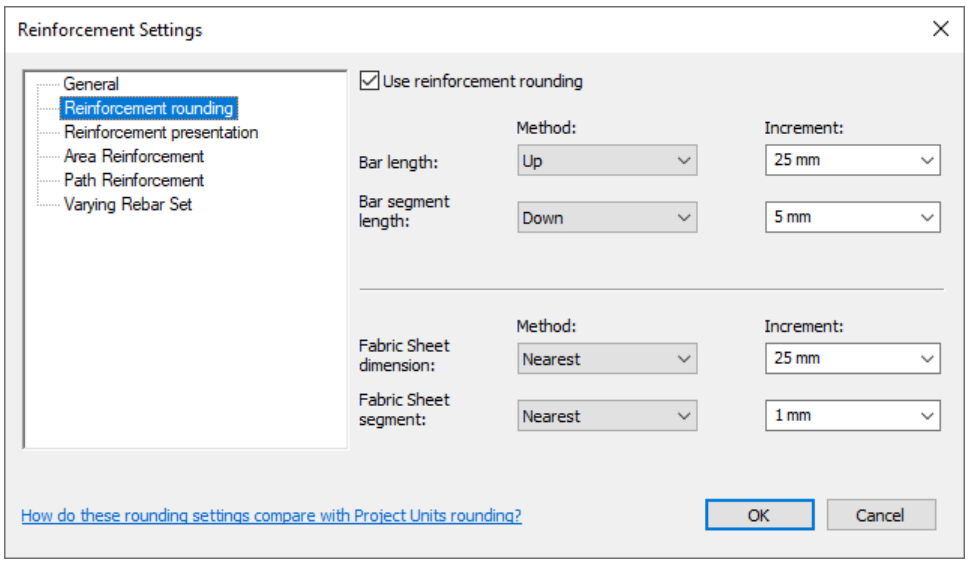
- Remove the area or path system from a project and leave rebar or rebar sets in place.

Copyright © Computer and Design Services Limited



4.9.2 Reinforcement Rounding

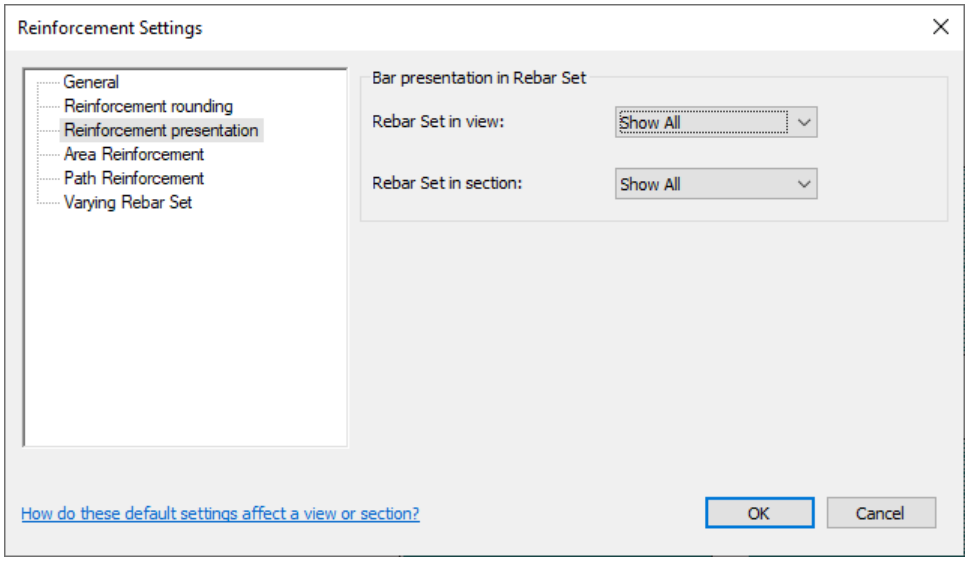
The Rebar rounding values in the schedule are set in this dialog for rebar and fabric mesh.



4.9.3 Reinforcement Presentation

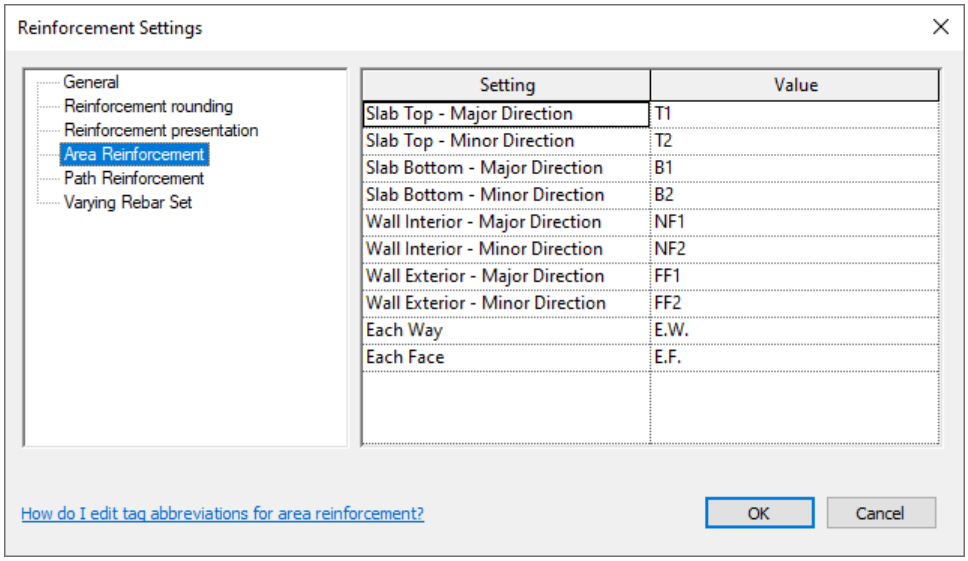
Use the Bar Presentation Settings to choose to Show All, Show First & Last or Show Middle Rebar for Rebar Sets in View or in Section.

Copyright © Computer and Design Services Limited



4.9.4 Area Reinforcement

Assign the layer to reinforcement placed by the Revit® Area Reinforcement command, as example is shown below. These layers will be automatically assigned when the command is used.



The reinforcement layers will be added to the end of the bar label when the family tag with layer parameter is selected.

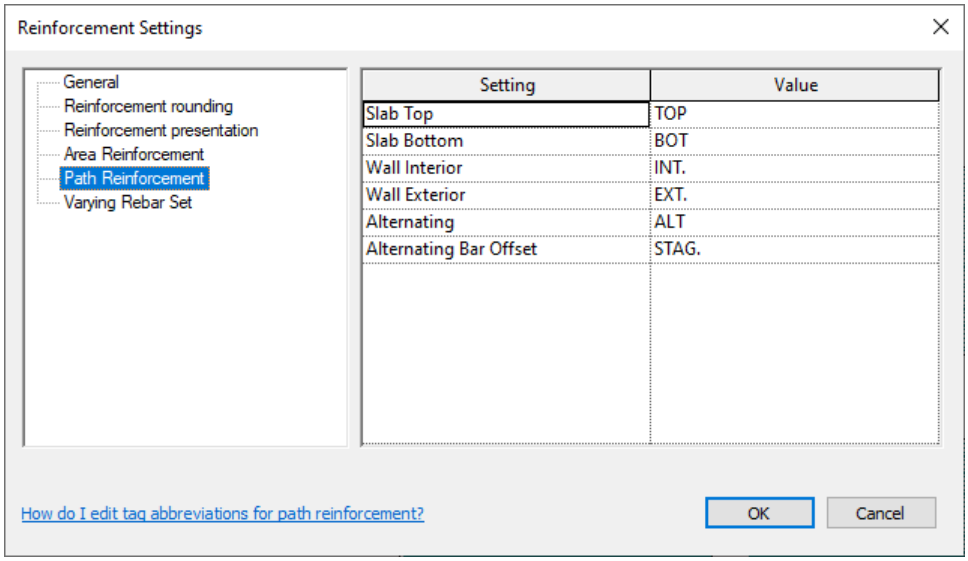
50 B16 104 -200 T2

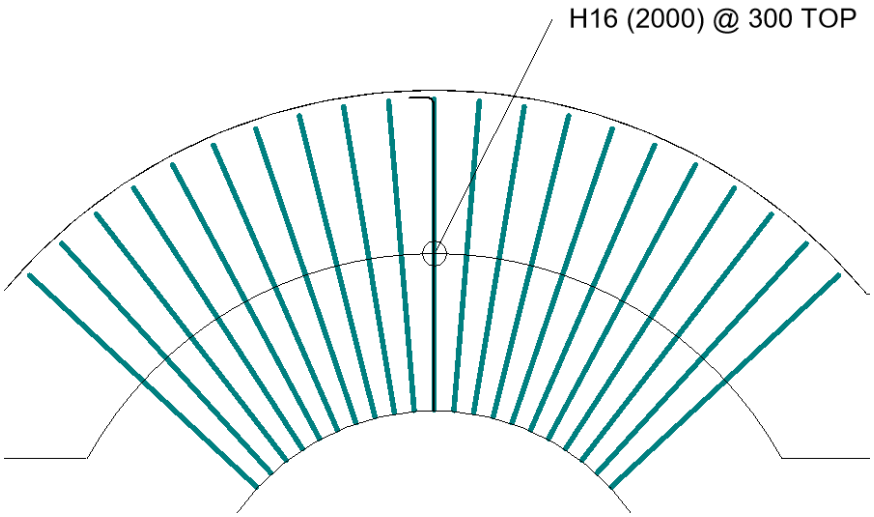
50 B16 104 -200 B2

4.9.5 Path Reinforcement

Assign the layer to reinforcement placed by the Revit® Path Reinforcement command, an example is shown below. These layers will be automatically assigned when the command is used.

Copyright © Computer and Design Services Limited

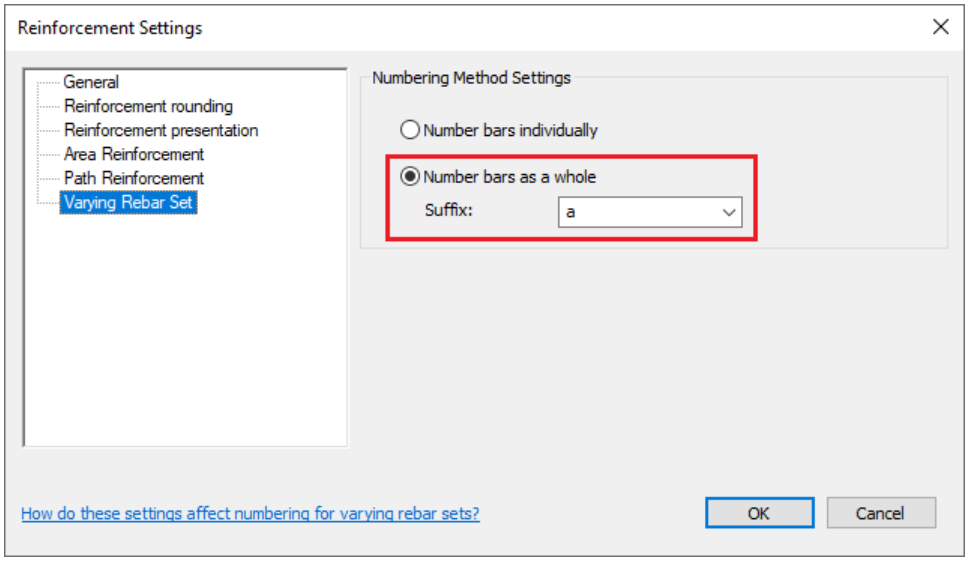




4.9.6 Varying Rebar Set

The standard method of bar marking varying ranges is to show the bar marks as 01a, 01b, 01c etc. Select the option ‘Number bars as a whole’ and enter the starting letter in the dialog.

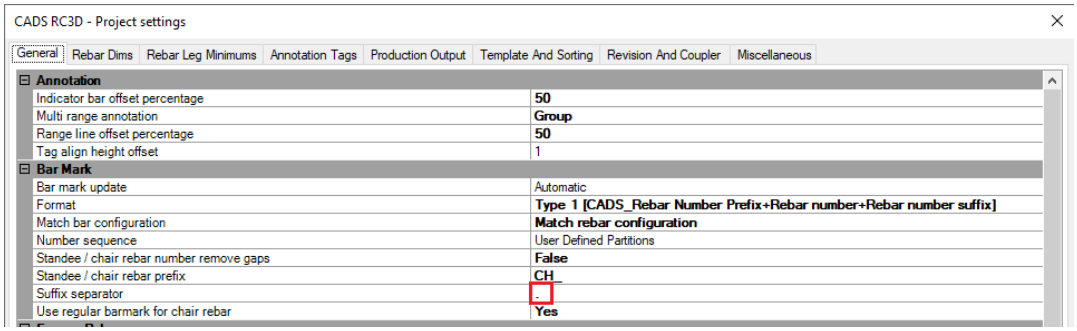
Copyright © Computer and Design Services Limited



28 B16 115 (a-ab) -200 B2

28 B16 112 (a-ab) -200 T2

Where you want the rebar marked as 1.1, 1.2, 1.3, type in the number as the suffix. The full stop will have to be added in the CADS RC3D Project Settings dialog in the Suffix Separator option on the General tab.



28 B16 115 (1-28) -200

28 B16 112 (1-28) -200

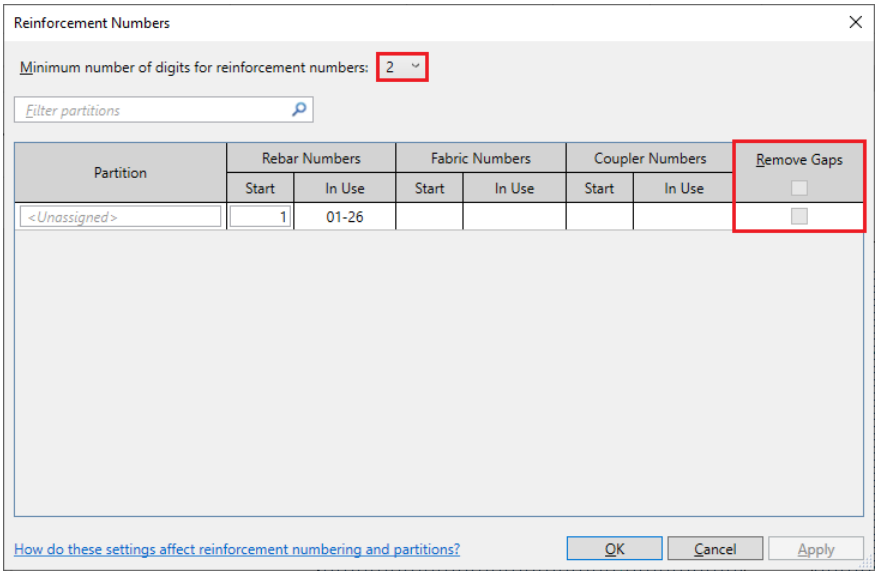
Member	Bar Mark	Type and size	No. of Mbrs	No. of bars in each	Total No	Length of each bar † (mm)	Shape code	A* (mm)	B* (mm)	C* (mm)	D* (mm)	E* (mm)	F* (mm)	R* (mm)	Weight (kg)	Rev
	101	B16	1	2		7425	00	7410							23.44	
	103	B16	1	34		7750	00	7735							416.16	
	107	B16	1	62		5200	00	5180							509.02	
	108	B16	1	38		8725	00	8705							523.64	
	109	B16	1	22		8400	00	8380							291.72	
	112.1	B16	1	28		5275	00	5255							8.33	
	112.2	B16	1	28		5100	00	5085							8.05	
	112.3	B16	1	28		4925	00	4915							7.78	
	112.4	B16	1	28		4750	00	4745							7.50	
	112.5	B16	1	28		4600	00	4575							7.26	

Copyright © Computer and Design Services Limited

4.10 Reinforcement Numbers

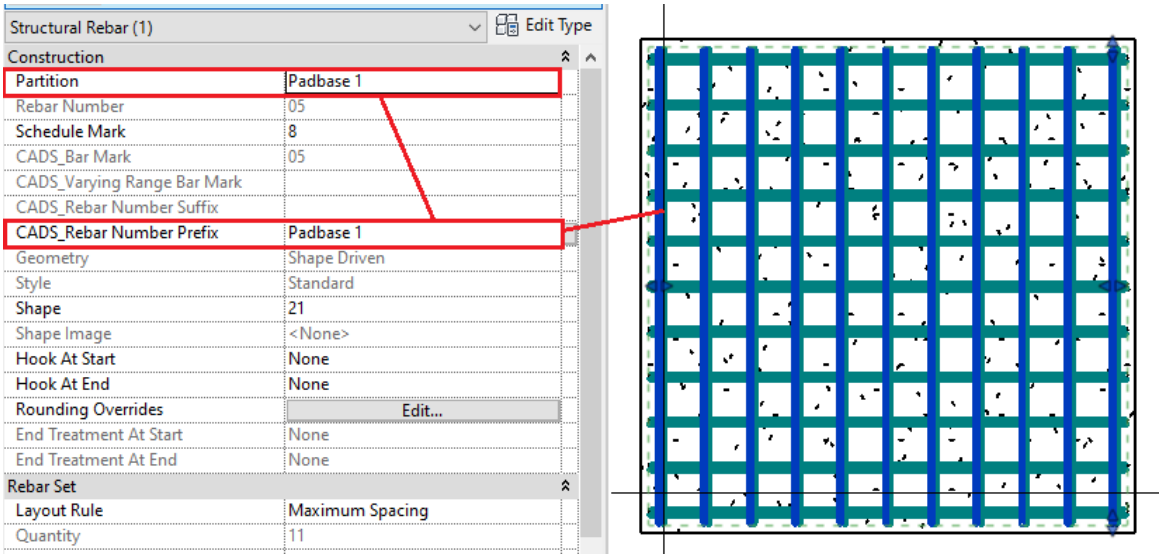
The Reinforcement Numbers  control the minimum number of digits in a bar mark, set this to 2 digits to display the conventional 01, 02, 03 etc bar mark numbering.

Remove gaps in the bar mark numbering by ticking the Remove Gaps option when available.

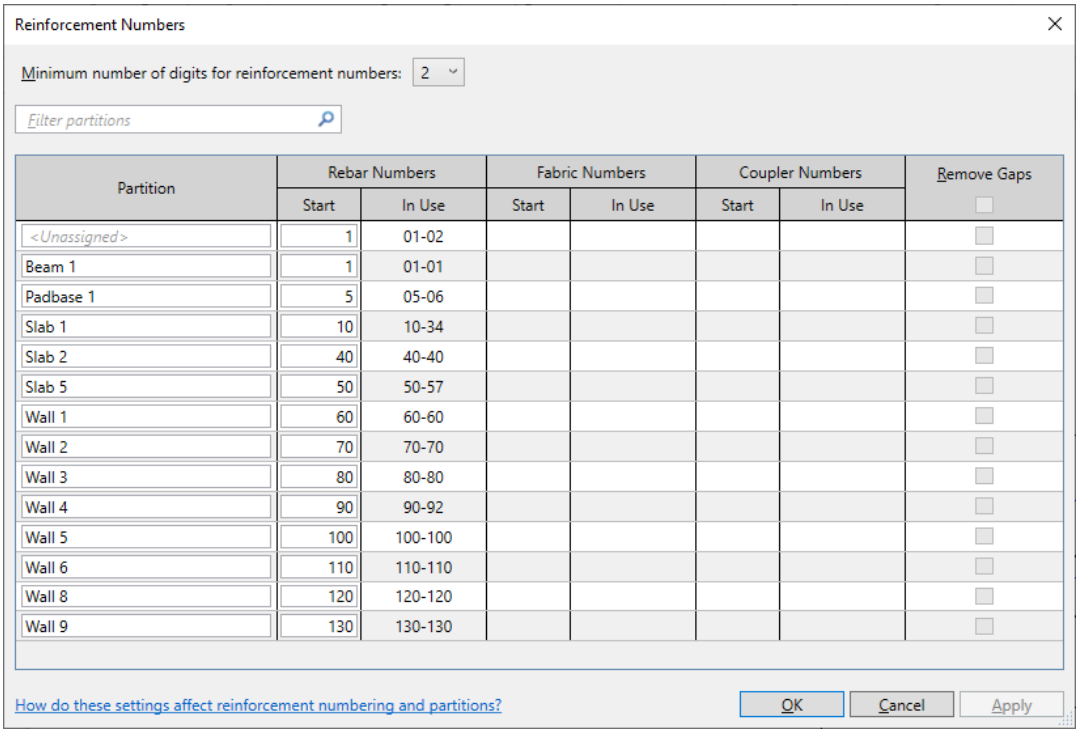


4.10.1 Partitions

Use Partitions to control bar mark numbers based on Host, Category, Level etc. In the example below rebar has been assigned to partitions based on their Host Mark in the Properties dialog.



Copyright © Computer and Design Services Limited



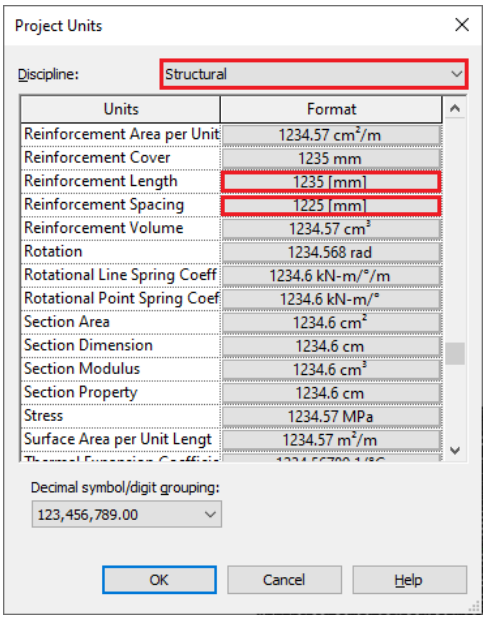
Partition	Rebar Numbers		Fabric Numbers		Coupler Numbers		Remove Gaps
	Start	In Use	Start	In Use	Start	In Use	
<Unassigned>	1	01-02					
Beam 1	1	01-01					
Padbase 1	5	05-06					
Slab 1	10	10-34					
Slab 2	40	40-40					
Slab 5	50	50-57					
Wall 1	60	60-60					
Wall 2	70	70-70					
Wall 3	80	80-80					
Wall 4	90	90-92					
Wall 5	100	100-100					
Wall 6	110	110-110					
Wall 8	120	120-120					
Wall 9	130	130-130					

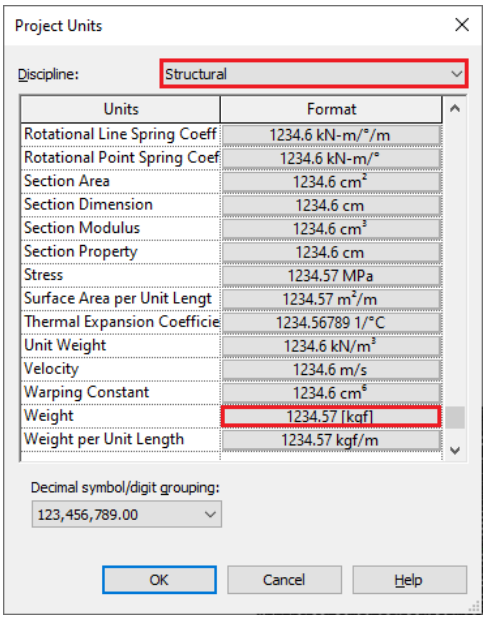
4.11 Additional Revit® Settings

Changing the following settings will improve the presentation of your reinforcement drawings.

4.11.1 Changes to the Project Units

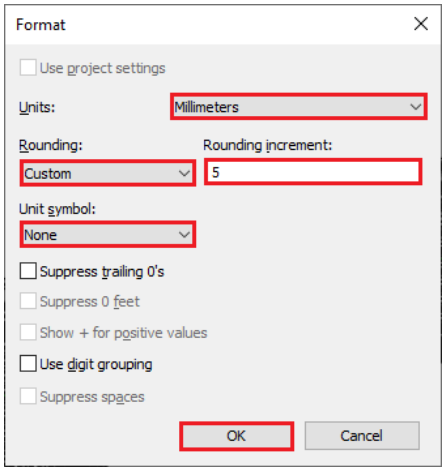
1. Select the Manage Tab.
2. Click on the Project Units option.
3. Change the Discipline to Structural.



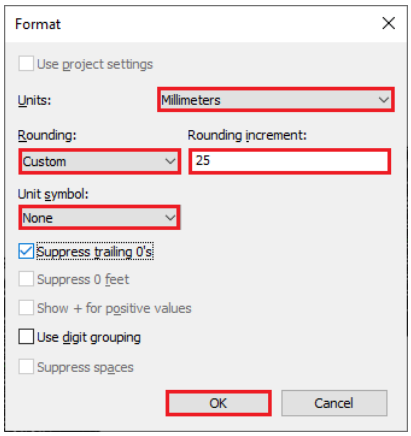


Copyright © Computer and Design Services Limited

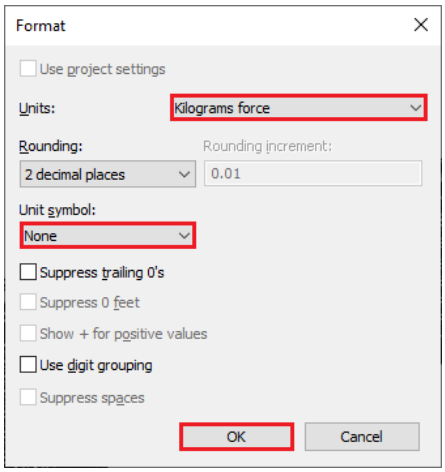
4. Select the Reinforcement Length format button, set the rounding to custom, increment 5 & unit symbol to none.
5. Click OK.



6. Select the Reinforcement Spacing format button, set the rounding to custom, increment to 25 & unit symbol to none.
7. Click OK.



8. Select the Weight format button, set the units to kilogram force & the unit symbol to none.
9. Click ok twice to exit from the dialog.

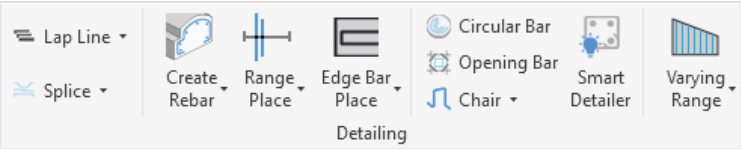


These settings can be added to your Revit® template file.

Copyright © Computer and Design Services Limited

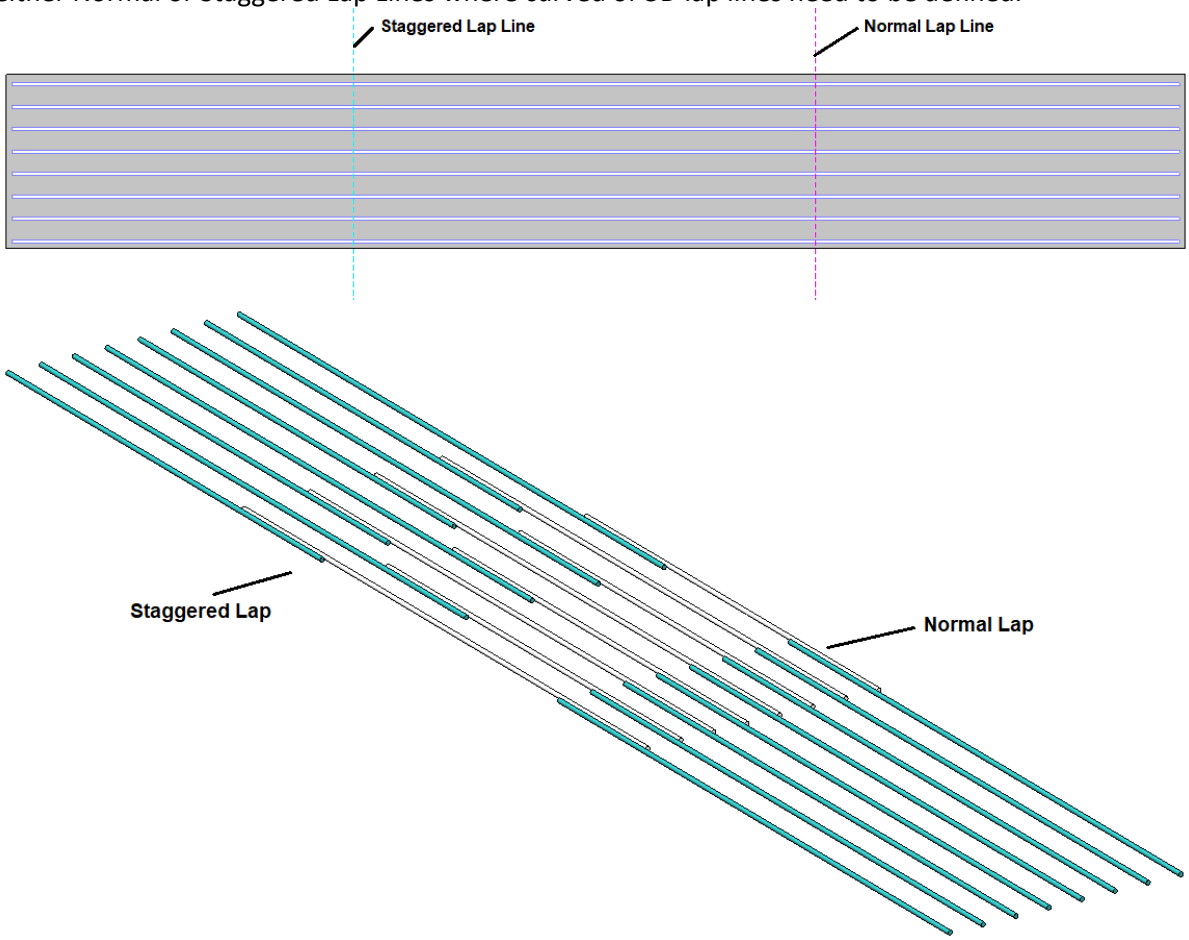
5 Detailing Panel

This section of the help provides information on the Detailing Features provided inside CADS RC3D / RebarCAD 3D with an explanation of how each command works. This includes details on how to place CADS Rebar and Ranges, create normal and staggered lap bars, copying bars, joining bars, grouping rebar, adding reinforcement to the structure edges and openings. The commands are described in the order that they appear in the Detailing Panel.



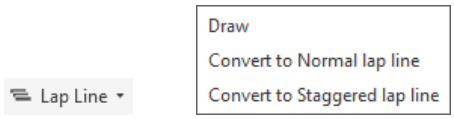
5.1 Lap Line

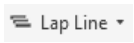
Lap lines are used to define the locations of bar splices in rebar reinforcement. Straight Lap Lines can be drawn directly across the rebar using the Lap Line – Draw command. They can be defined as either Normal (laps in the same alignment) or Staggered Lap Lines. Detail Lines can be converted to either Normal or Staggered Lap Lines where curved or 3D lap lines need to be defined.



Copyright © Computer and Design Services Limited

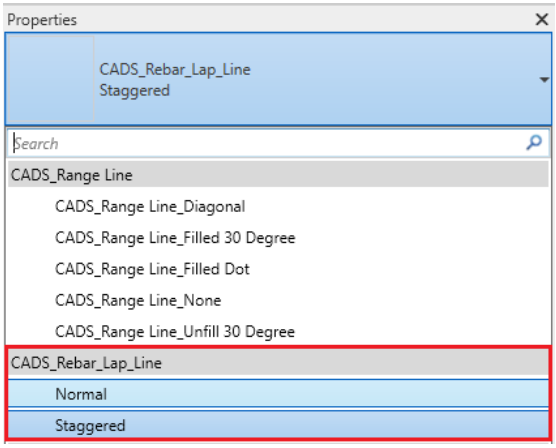
5.1.1 Draw

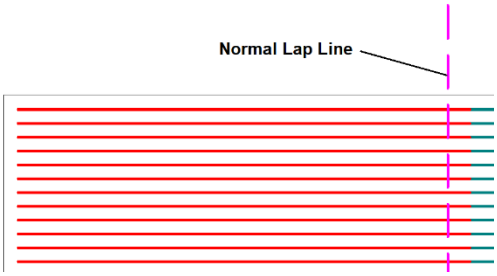


Use the Lap Line 

, Draw Lap 

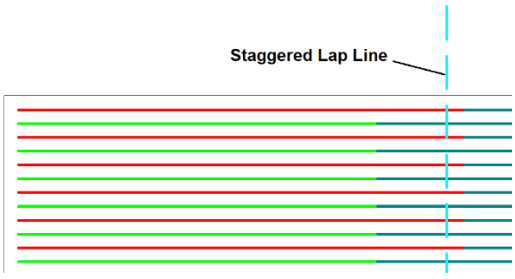
Line command to specify the position of splices in the rebar within the concrete host. There are two types of lap line available Normal or Staggered, these can be selected in the Revit® Properties dialog.





Normal Lap

Where all the rebar are lapped in the same position across the structure.

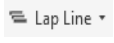


Staggered Lap

Where the lap positions are offset for each alternate bar across the structure.

5.1.2 Draw Lap

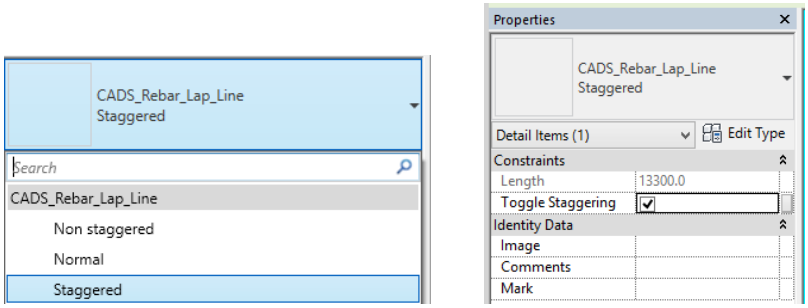
Place one or more normal or staggered lap lines across previously placed rebar.

1. Select the Lap Line command 

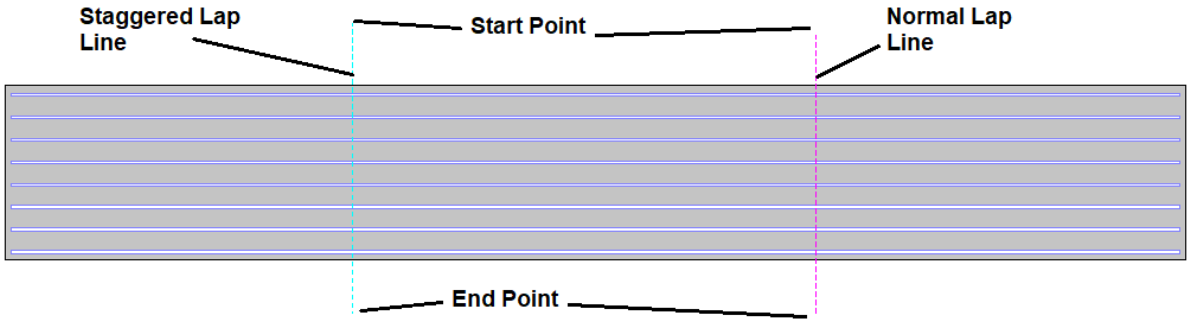
available from the RC3D / RebarCAD 3D for Revit® Tab in the Detailing Panel, to specify the lap locations on a slab or a wall.

Copyright © Computer and Design Services Limited

2. Prior to adding a lap line, the lap type can be specified; the option is selected in the Revit® Properties panel. Currently supported are Normal Laps (shown as Magenta colour) and Staggered Laps (shown as Cyan colour).



3. The Toggle Staggering option allows the toggling of the staggered laps across the lap line.
4. The command prompts the selection the start point and endpoint of the lap line.

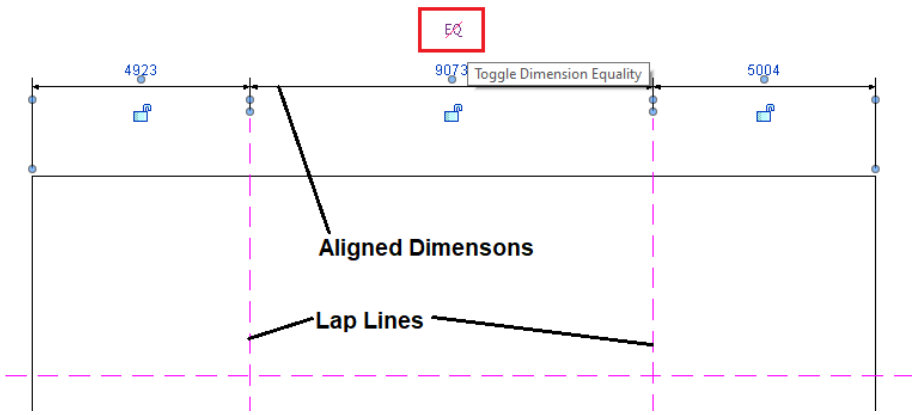


5. It allows the positioning of multiple lap lines in different locations without terminating the command.
6. Press ESC twice to terminate the command.

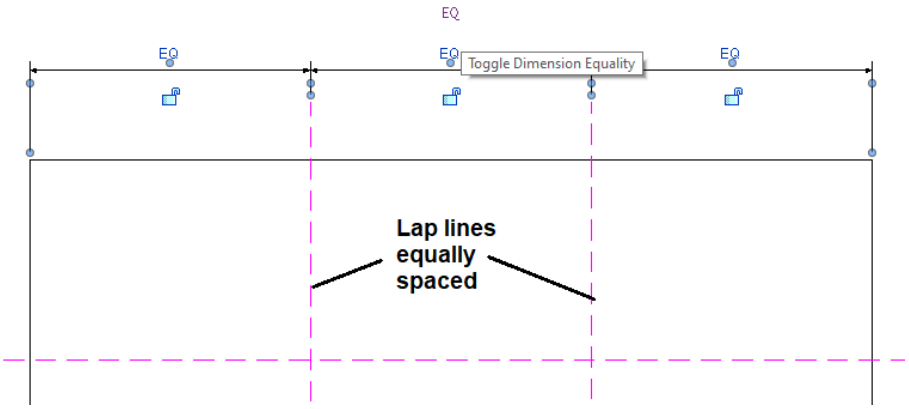
Hints & Tips: Using the Dimension annotation to equalise the distance between lap lines

Place aligned dimensions as shown below from the slab edge to each lap line.

Click on the EQ option to move the lap lines to be equally spaced.



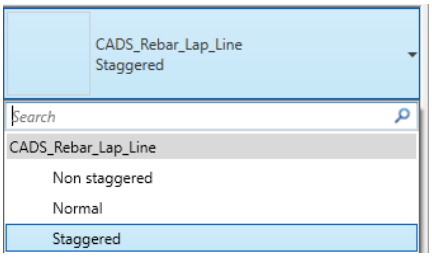
Copyright © Computer and Design Services Limited

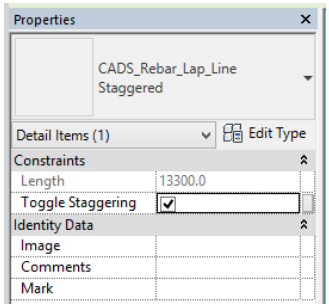


5.1.3 Lap Line Workflow

1. Select the Lap Line command 

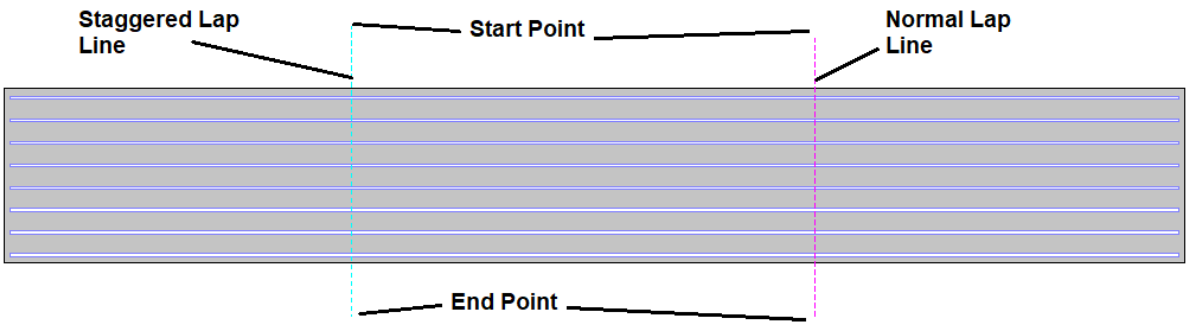
available from the CADS RC3D for Revit® Tab in the Detailing Panel, to specify the lap locations on a slab or a wall.
2. Prior to adding a lap line, you can specify the lap type; the option is selected in the Revit® Properties panel. Currently supported are Normal Laps (shown as Magenta colour) and Staggered Laps (shown as Cyan colour).





The Toggle Staggering option allows the toggling of the staggered laps across the lap line.

3. The command prompts the selection the start point and endpoint of the lap line.
4. It allows the positioning of multiple lap lines in different locations without terminating the command.



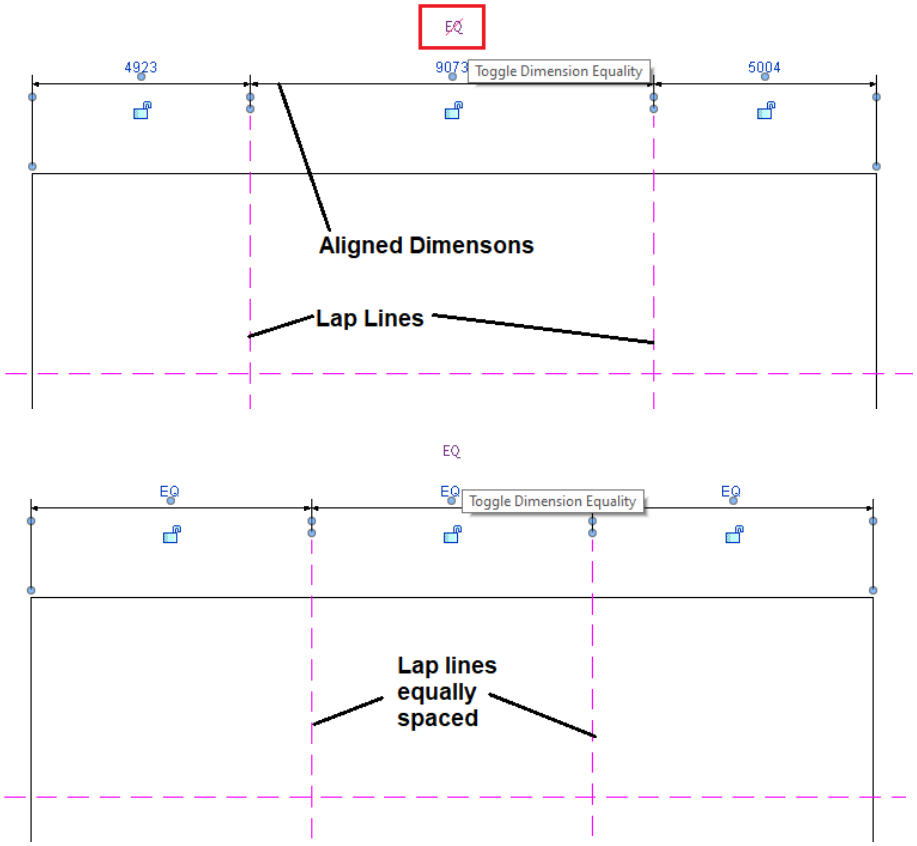
5. Press ESC twice to terminate the command.

Hints & Tips - Using the Dimension annotation to equalise the distance between lap lines.

Place aligned dimensions as shown below from the slab edge to each lap line.

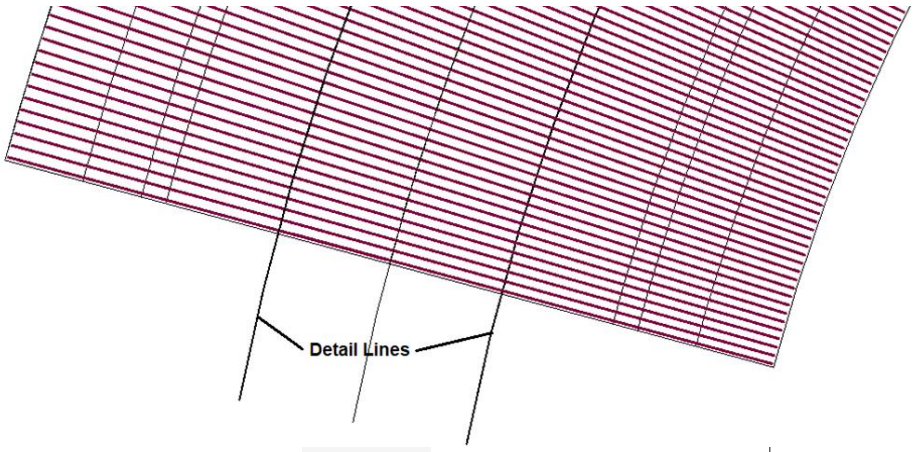
Copyright © Computer and Design Services Limited

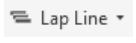
Click on the EQ option to move the lap lines to be equally spaced.

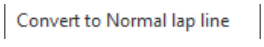


5.1.4 Convert to Normal Lap Line

The detail lines should be already placed using the Revit® Detail line in the Annotation tab or by using default shortcut key DL, in locations where laps are to be done and it should be visible in the view.



Select the Lap Line drop down option 

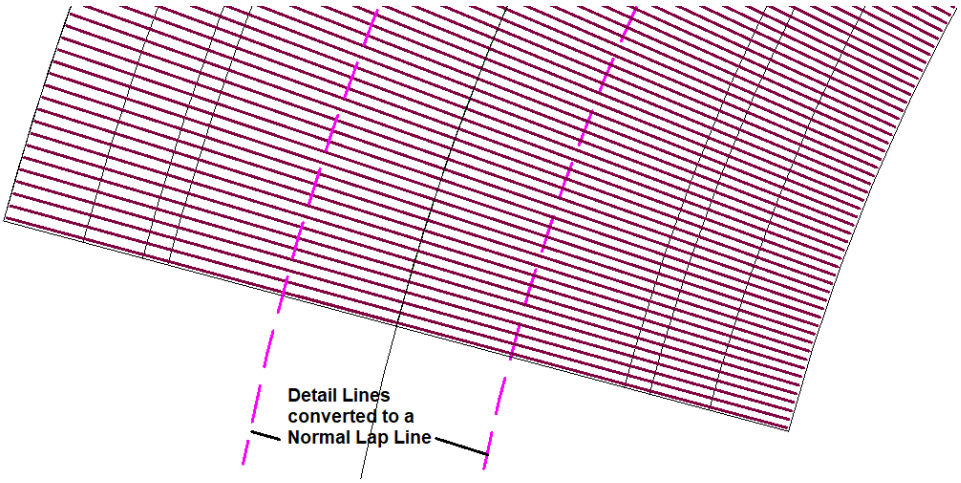
Convert to Normal Lap Line 

command available from the CADS RC3D for Revit® Tab in the Detailing Panel, to convert the detail lines to normal lap line category.

Click Finish 

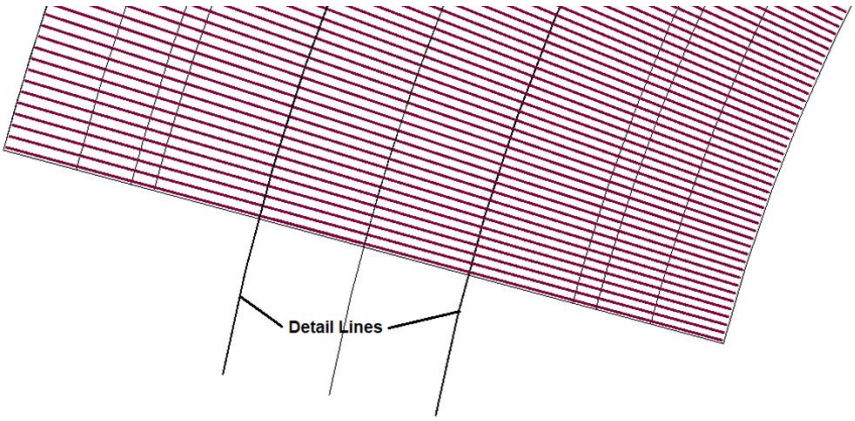
to convert all the selected detail line to Normal lap line or Cancel to terminate the command.

Copyright © Computer and Design Services Limited



5.1.5 Convert to Staggered Lap Line

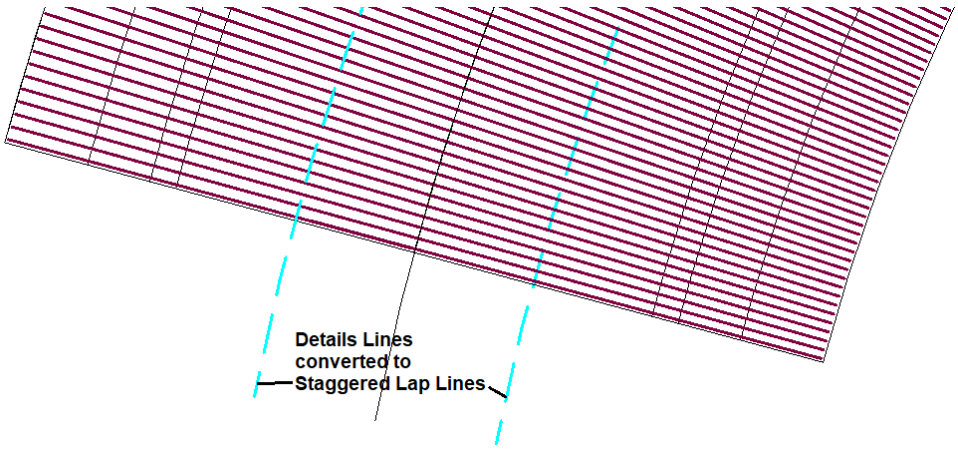
The detail lines should be already placed using the Revit® Detail line in the Annotation tab or by using default shortcut key DL, in locations where laps are to be done and it should be visible in the view.



Select the Lap Line drop down option Convert to Staggered Lap Line command available from the CADS RC3D for Revit® Tab in the Detailing Panel, to convert the detail lines to Staggered lap line category.

Click Finish 

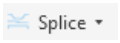
to convert all the selected detail line to Staggered lap line or Cancel to terminate the command.



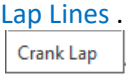
Copyright © Computer and Design Services Limited

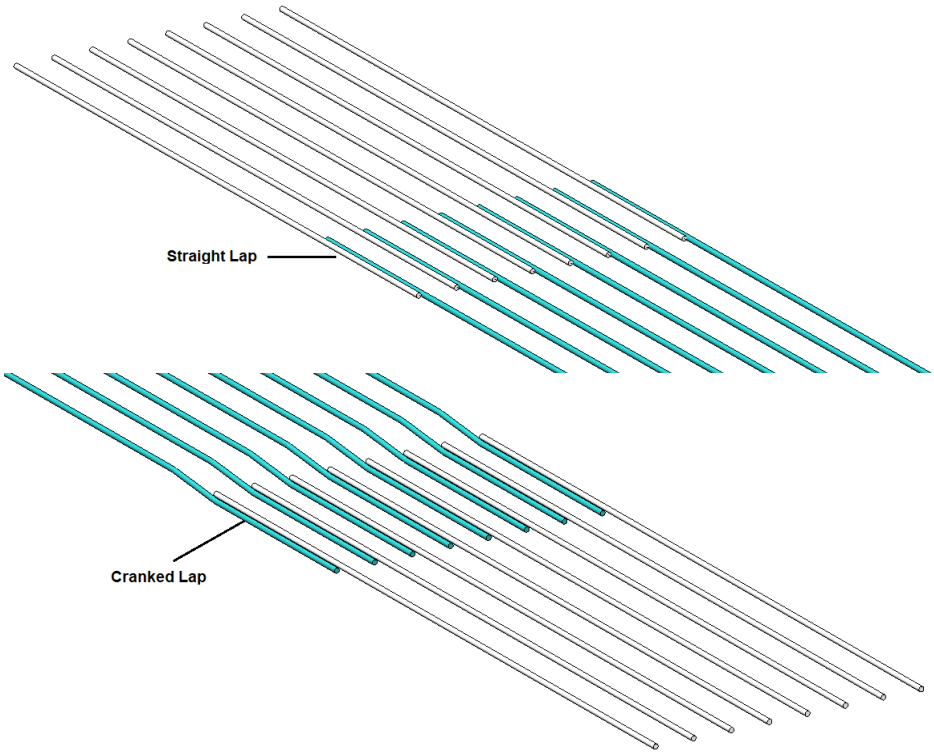
Note: Detail line of types Spline, Ellipse and partial Ellipse cannot be converted to Staggered Lap line.

5.2 Splice

Use the Splice Bar 

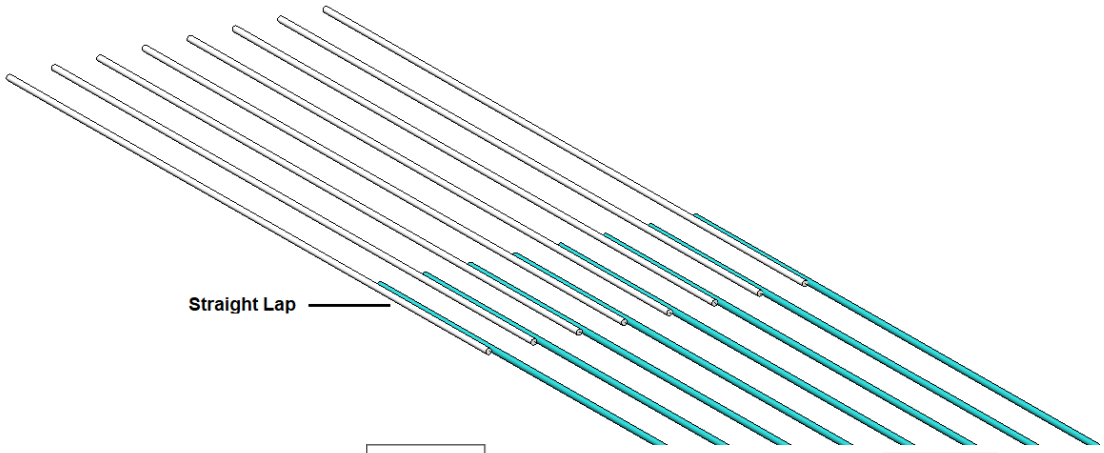
command to split the modelled rebar into the required stock length, specify a lap length or coupler connection.
This command can be used in conjunction with previously placed Lap Lines or on its own without Lap Lines.
The Splice command supports splicing of Free form rebar types. The rebar assemblies/groups will be split into individual rebar for splicing but the rebar geometry will still be retained as freeform. The rebar can then be grouped together and defined as a varying assembly using the CADS Group and CADS Varying Range functionality.
The Splice command now supports curved / arc lines as lap lines for splicing. Use Revit® Detail lines to create the curved / arc lap lines and then covert them to either a Normal or Staggered Lap Lines .
There are two types of splice command available; Straight Lap 

and Cranked Lap 



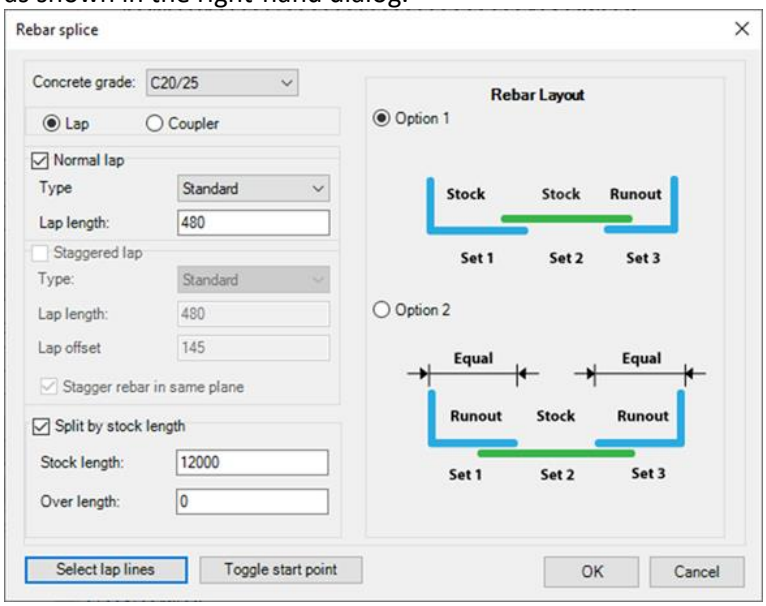
Copyright © Computer and Design Services Limited

5.2.1 Splice Straight Lap



1. Select the Straight Lap [Straight Lap] command from the Splice Rebar [Splice] drop down menu, in the Detailing Panel, to split rebar and form straight laps.
2. Select the Rebar to be spliced by clicking on individual sets or, using a window selection. This allows rebar of different bar diameters to be selected in several different hosts.
3. Click Finish [Finish].
4. The Splice command displays the dialog box to specify lap details as shown below.

When all the rebar has the same bar diameter, the lap length and stock length are displayed as a value, as shown in the left-hand dialog.
If the selected rebar has different bar diameters, the lap length and stock length will show [Varies], as shown in the right-hand dialog.

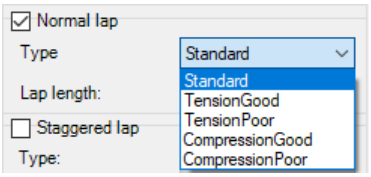


- **Concrete Grade:** This is automatically assigned from the Rebar Dims Tab in the CADS RC3D Project Settings dialog. This dialog sets the default settings for bar diameters, actual diameters, stock lengths and minimum lengths. It also holds the lap length dimensions and the anchorage lengths for tension and compression laps.

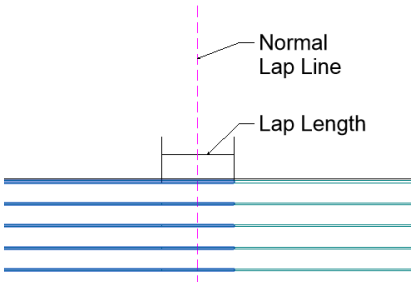
Normal Lap

- **Tick option:** select this option to apply normal laps to the rebar. This will automatically deselect the staggered options.
- **Type:** Choose the appropriate type of lap for the concrete host. The Tension and Compression options have been included to comply with EC2.

Copyright © Computer and Design Services Limited



- **Lap length:** Specify lap length for selected rebar. Where different diameters of rebar are present, the Lap Length will show “varies”. The Lap Lengths applied will be the defaults assigned in the Rebar Dims Tab in the Project Settings dialog. Type in the required Lap Length to override the values automatically applied from the Project Settings.

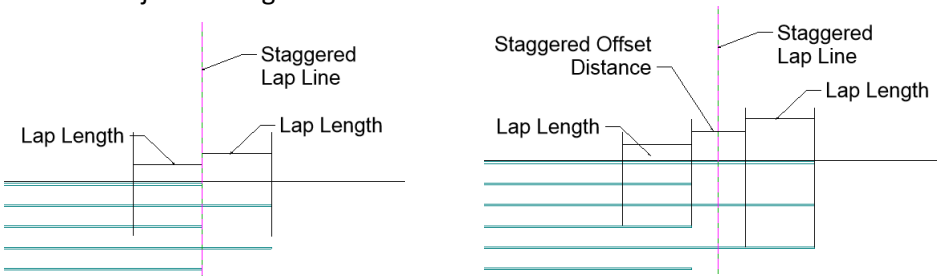


Staggered Lap

- **Tick option:** select this option to apply staggered laps to the rebar. This will automatically deselect the Normal Lap options.
- **Type:** Choose the appropriate type of lap for the concrete host. The Tension and Compression options have been included to comply with EC2.



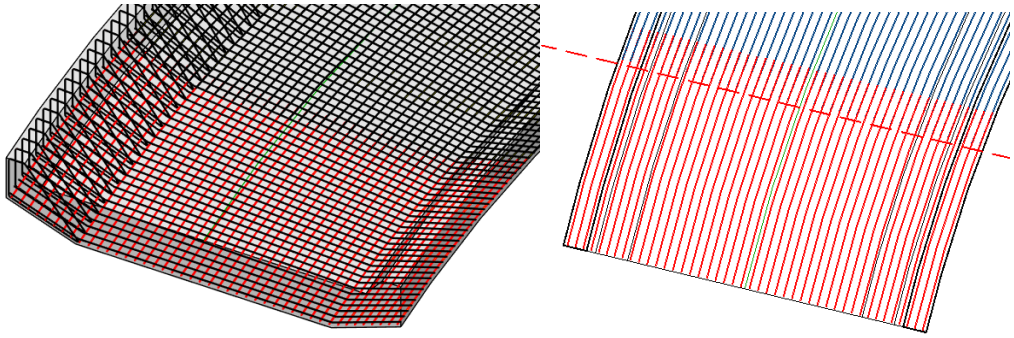
- **Lap Length:** Specify lap length for selected rebar. Where different diameters of rebar are present, the Lap Length will show “varies”. The Lap Lengths applied will be the defaults assigned in the Rebar Dims Tab in the Project Settings dialog. Override the values automatically applied by typing the required lap length.
- **Lap Offset:** Specify the staggered offset distance from the lap line as shown above. Where different diameters of rebar are present, the Lap Offset will show “varies”. The Lap Offset applied will be the defaults assigned in the Rebar Dims Tab in the Project Settings dialog. Type in the required Lap Length to override the values automatically applied from the Project Settings.



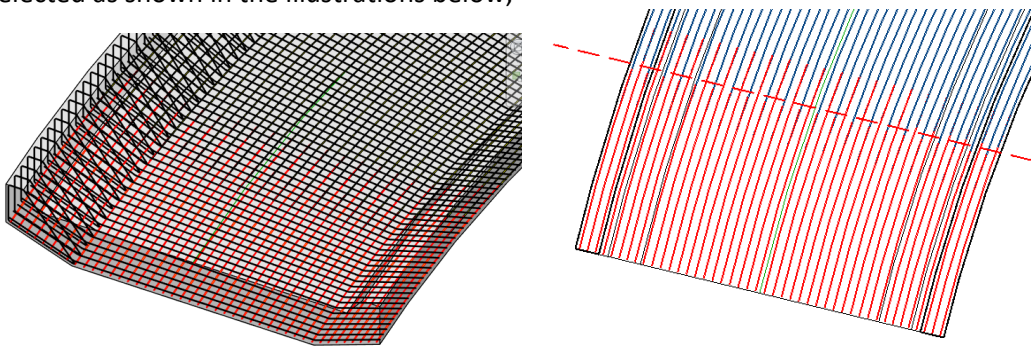
- **Stagger rebar in the same plane**

When this option is selected the rebar are lapped at the same point across the structure even though a staggered lap line has been selected, as shown in the illustrations below;

Copyright © Computer and Design Services Limited



When the option is unticked the rebar laps are staggered when a staggered lap line has been selected as shown in the illustrations below;

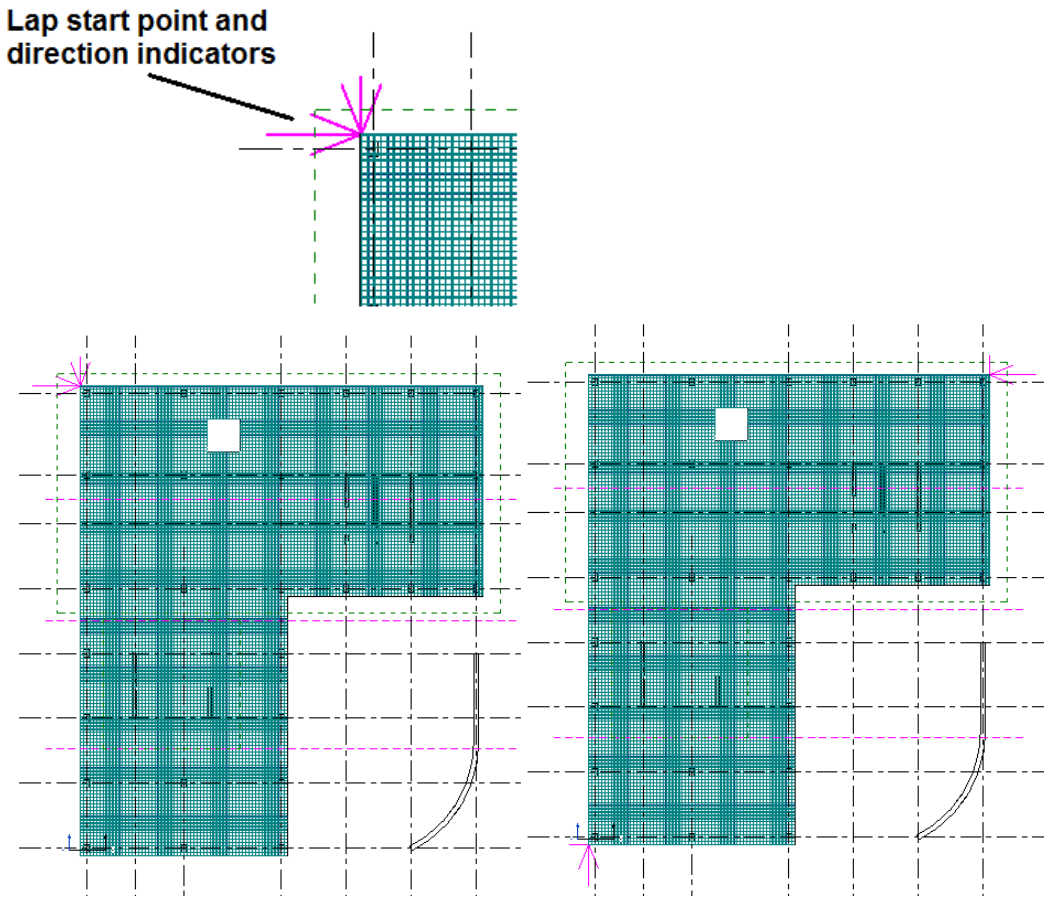


Stock Length Options

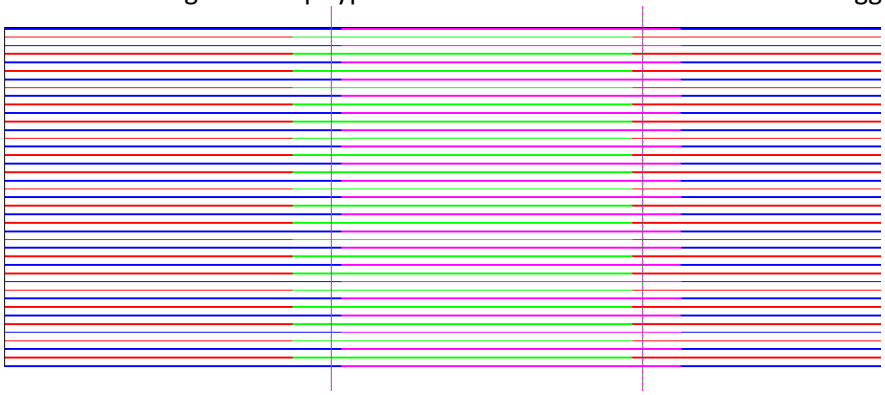
- **Split by Stock length:** Use the Split by Stock Length option where the lap line has been placed in the structure, at a distance that is greater than the stock length of the bars being detailed. The bars will be automatically split and lapped, using the specified lap length until the lap line is encountered.
- **Stock length:** Type in the maximum bar length. Where different diameters of rebar are present, the Stock Length will show "varies". The Stock Length applied will be the defaults assigned in the Rebar Dims Tab in the Project Settings dialog. Override the values automatically applied by typing the required stock length.
- **Over Length:** Specify the maximum dimension for the over length bar that can be used by the straight lap command.
- **Rebar Layout:** This option becomes active if the Split by stock length option is selected. Choose either Option 1, the last bar is the make-up bar or Option 2, first & last bars are the make-up bars.
- **Select Lap Lines:** If Lap Lines have been created, use the Select Lap Lines button to select the lines either individually or by using a window/crossing selection. Click the Finish 

button to return to the dialog.
- **Toggle Start Point:** Magenta direction arrows will appear on the model, indicating the start point and the direction the rebar will be lapped. Use the Toggle Start point button to change the start point and reverse the direction of the laps. In the example below; both horizontal and vertical rebar are being spliced at the same time. Use the Rebar Visibility – By Layer to control which rebar is displayed, if the splicing needs to be different in the horizontal and vertical directions.

Copyright © Computer and Design Services Limited



5. Enter the lap length, offset stagger and whether the reinforcement is to be split by stock length, and then click ok.
6. The command splits the rebar that are visible in the current view and applies lap splices according to the lap type defined. Below is an illustration of a staggered lap.

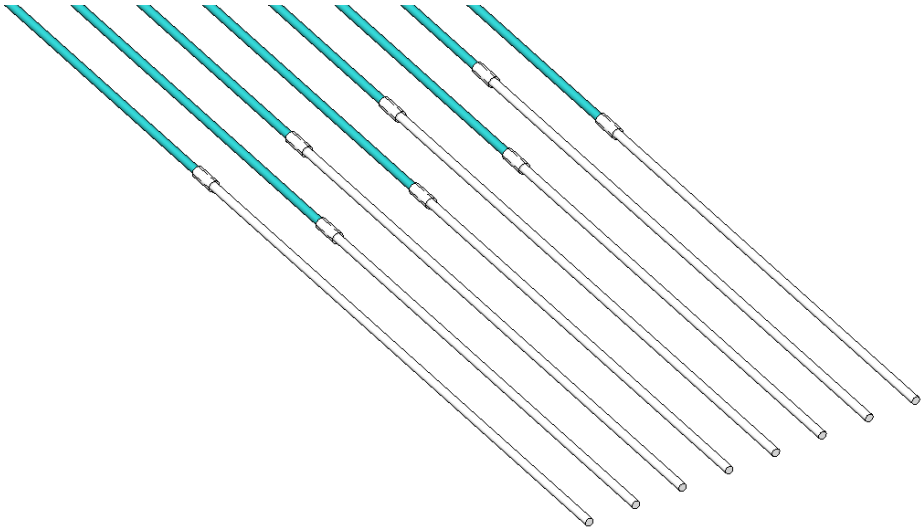


Note: The selected Area Reinforcement and the Path reinforcement element system will be removed. The Area and Path Reinforcement will be converted to regular rebar sets after running this command.

Note: A combination of Normal Lap Lines, Staggered Lap Lines, and Lap Length can be used on the same structure to achieve the desired results.

Copyright © Computer and Design Services Limited

5.2.2 Applying a Coupler with the Splice Straight Lap



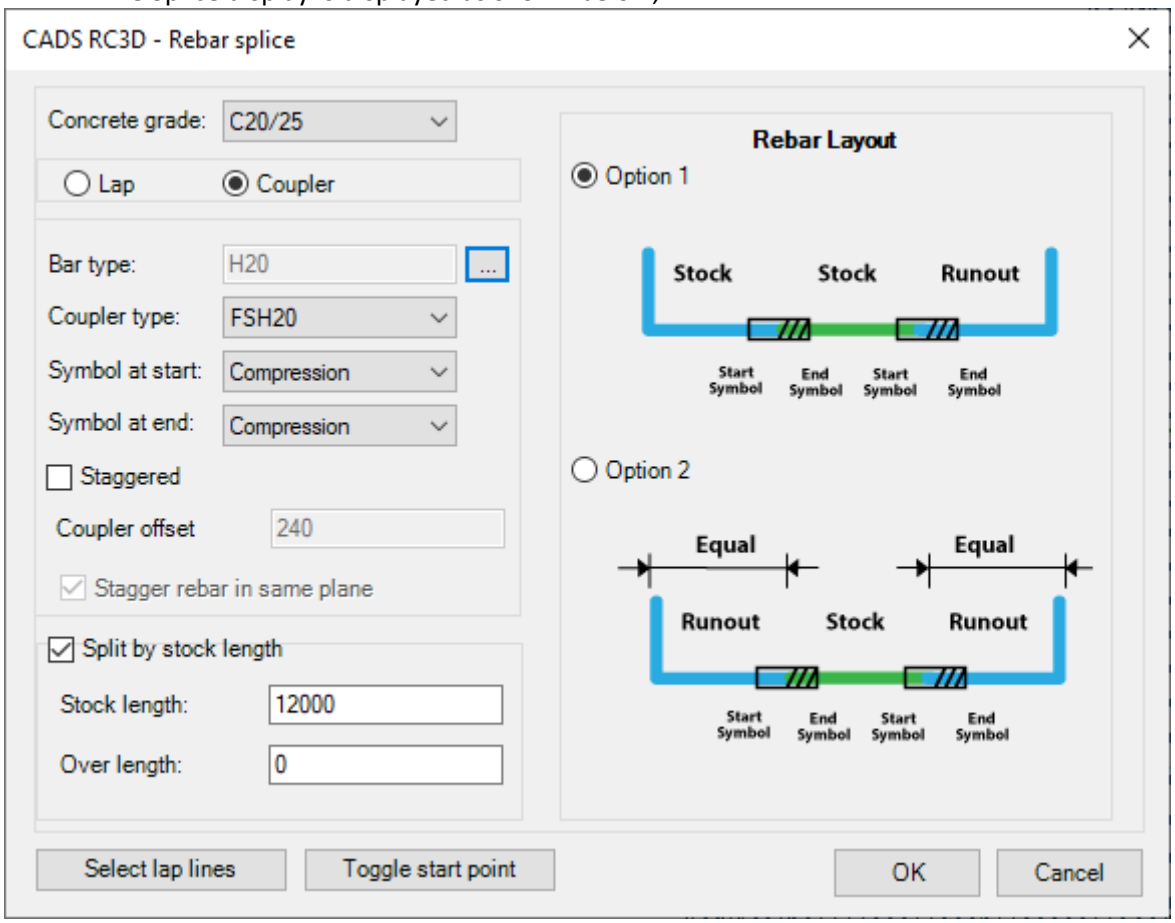
Use this option to apply a Coupler & a Thread to join two rebar instead of lapping the rebar. The Coupler Symbols are loaded inside the Project Settings dialog under the Revision & Coupler Tab .

1. Select the Straight Lap 

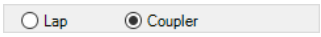
command from the Splice Rebar 

drop down menu, in the Detailing Panel of RC3D® for Revit, to split rebar and add a coupler/thread.
2. Select the Rebar to be spliced by clicking on individual sets or, using a window selection. This allows rebar of different bar diameters to be selected in several different hosts.
3. Click Finish 

.
4. The Splice display is displayed as shown below;

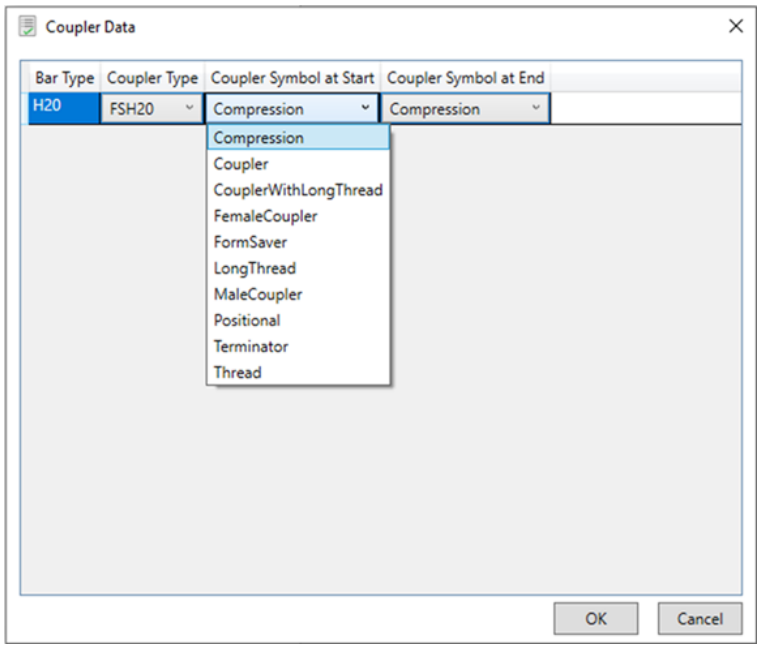


Copyright © Computer and Design Services Limited

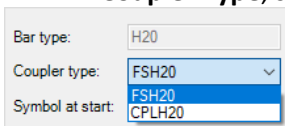
5. Tick the **Coupler** option 

.
6. **Bar Type** 

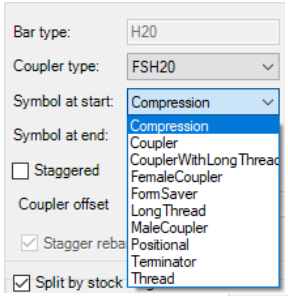
, select the Browse button to access the Coupler Data dialog, this displays the coupler types available and the symbols for the start and end of the rebar.

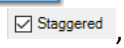


7. **Coupler Type**, select the coupler type to use from the drop-down menu



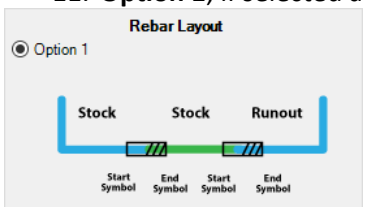
8. **Symbol at start & at end**, select the coupler/thread symbol to use at the start and end of the rebar



9. **Staggered** 

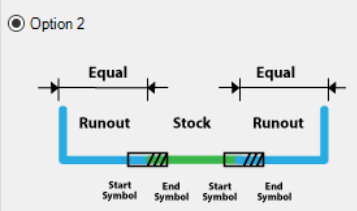
, tick the Staggered option if the rebar coupler locations are to be staggered across the structure.
10. **Coupler offset** 

, if the Staggered option is selected enter the stagger offset.
11. **Option 1**, if selected a runout bar length is applied at the end of the spliced rebar.



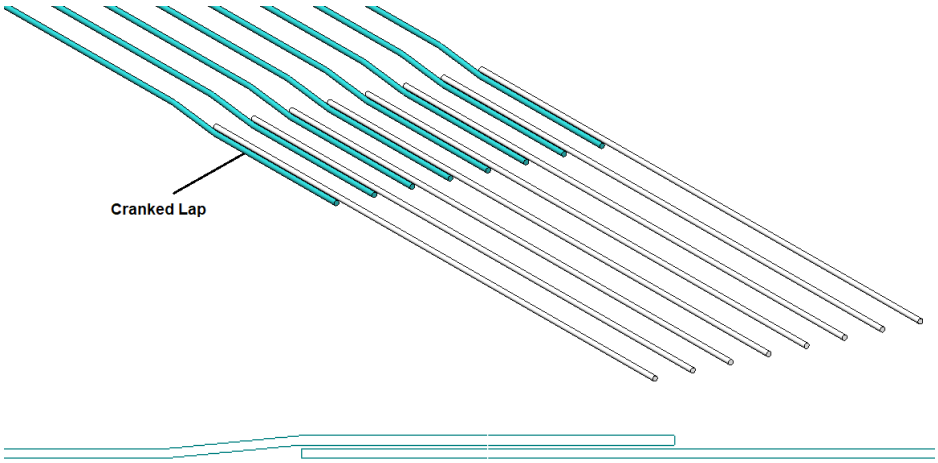
12. **Option 2**, if selected runout bar lengths are applied at the start and end of the spliced rebar. This option is only available if the Staggered Coupler option is unticked.

Copyright © Computer and Design Services Limited

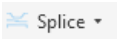


5.2.3 Splice Crank Lap

The Cranked Lap command introduces a cranked lap into the bar shape, so bars lap top to bottom or vice versa.



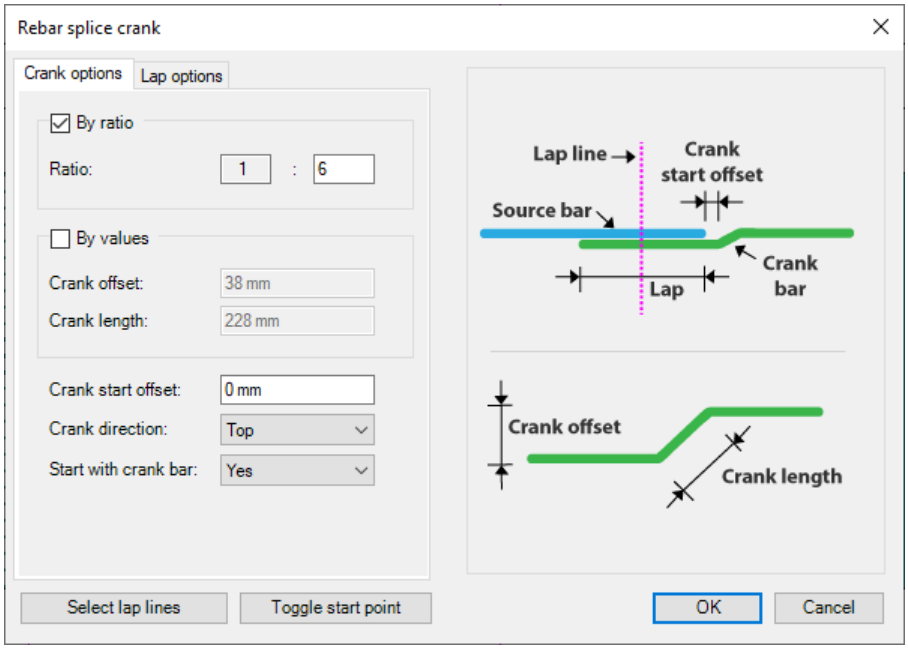
1. Select the Crank Lap 

command from the Splice Rebar drop down menu 

available from the Detailing Panel, to split rebar and form cranked laps.
2. Select the Rebar to be spliced by clicking on individual sets or, using a window selection. This allows rebar of different bar diameters to be selected in several different hosts.
3. Click Finish 

.
4. The Crank Lap dialog box is displayed to specify the lap details as shown below;

Copyright © Computer and Design Services Limited



5. The details of the Lap Options Tab are identical to the Straight Lap command described above in the Straight Lap Workflow.

Crank Options Tab

By Ratio

- **Tick option:** Tick this option to calculate the crank length and offset as a ratio of the bar diameter.
- **Ratio:** this is calculated based on the minimum offset value for the bar diameter being placed. For instance: a 16mm bar has a minimum offset value of 38; this is defined as 2 times the actual bar diameter. The actual bar diameter is set in the Rebar Dims Tab in the Project Settings dialog.

By Values

- **Tick option:** Tick this option to calculate the crank length and offset as a ratio of the bar diameter.
- **Crank Offset**: the default value is calculated as two times the actual bar diameter. The actual bar diameter value is set in the Rebar Dims Tab in the Project Settings dialog.
- **Crank Length:** the default value is calculated as six times the actual bar diameter. The actual bar diameter value is set in the Rebar Dims Tab in the Project Settings dialog.

Crank Options

- **Crank Start Offset:** specify distance to start of bar from the crank.
- **Crank Direction:** specify whether crank bar is placed to the top, bottom, left or right of the lapped bar.
- **Start with Crank Bar:** specify whether the first bar is a crank bar or a straight bar.

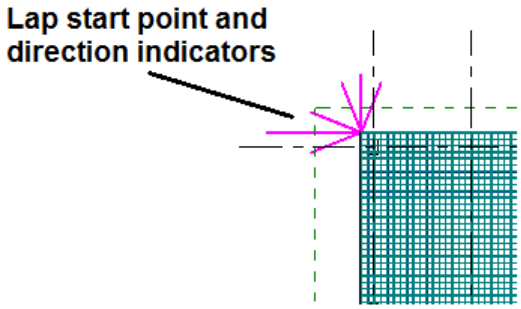
Select Lap Lines

If Lap Lines have been created, use the Select Lap Lines button to select the lines either individually or by using a window/crossing selection. Click the Finish  button to return to the dialog.

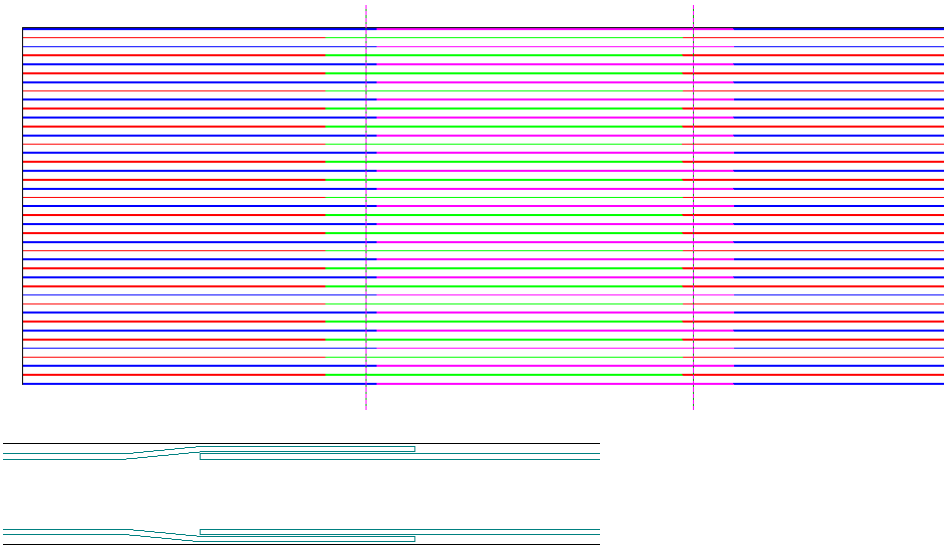
Copyright © Computer and Design Services Limited

Toggle Start Point

Magenta direction arrows will appear on the model, indicating the start point and the direction the rebar will be lapped. Use the Toggle Start point button to change the start point and reverse the direction of the laps. In the example below; both horizontal and vertical rebar are being spliced at the same time. Use the Rebar Visibility – By Layer to control which rebar is displayed, if the splicing needs to be different in the horizontal and vertical directions.



6. On the Lap Options Tab, enter the lap length, offset stagger and whether the reinforcement is to be split by stock length.
7. Select the Cranked Lap Tab; choose between Ratio and By Values. If required add the crank offset and choose the crank direction and whether the first bar is cranked. Then click ok.
8. The command splits the rebar that are visible in the current view and applies lap splices according to the lap type defined.



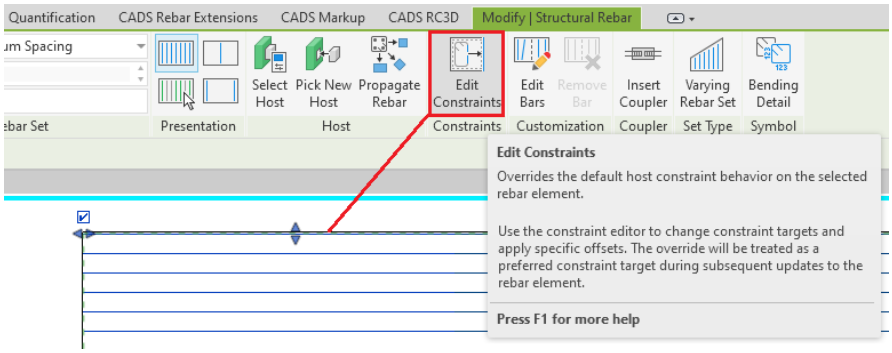
Note: Selected Area Reinforcement and the Path reinforcement element system will be removed. The Area and Path Reinforcement will be converted to regular rebar sets after running this command.

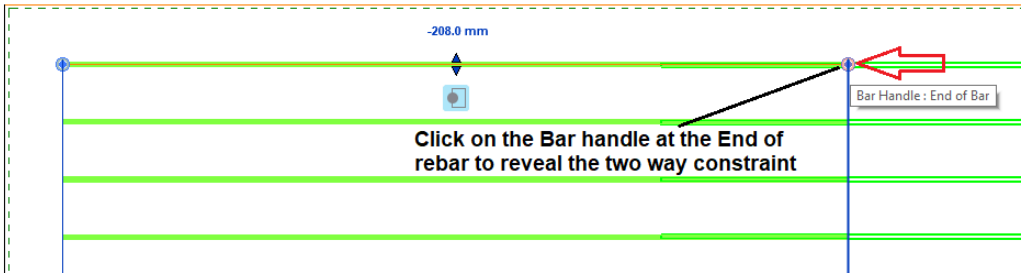
Hints & Tips - Constraining Rebar to each other

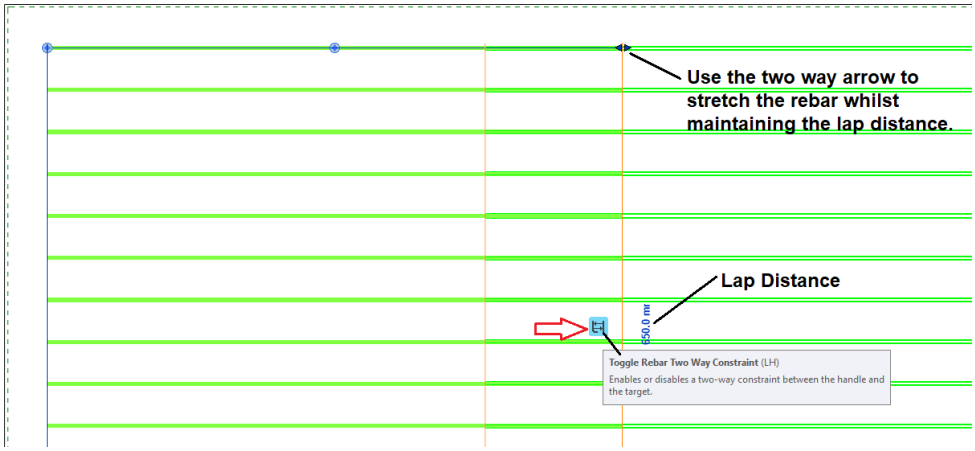
Rebar to rebar constrain has been automatically added to the spliced rebar assemblies which keeps the lap length intact between the spliced rebar. The constraint can be examined by selecting one of the spliced rebar assemblies and then select the Edit Constraints option from the ribbon.

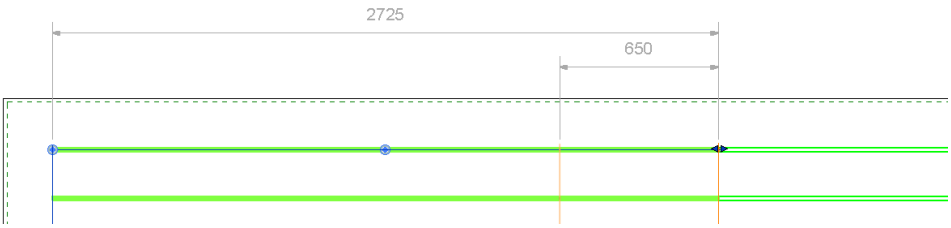
This is illustrated in the diagrams below;

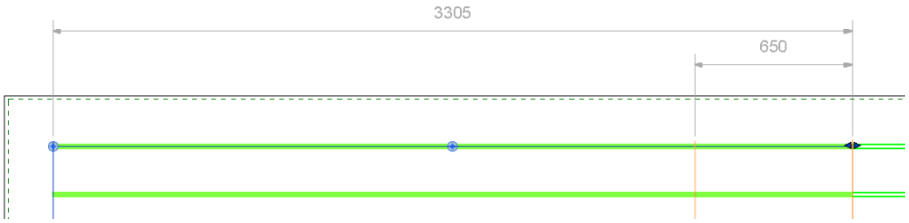
Copyright © Computer and Design Services Limited











Copyright © Computer and Design Services Limited

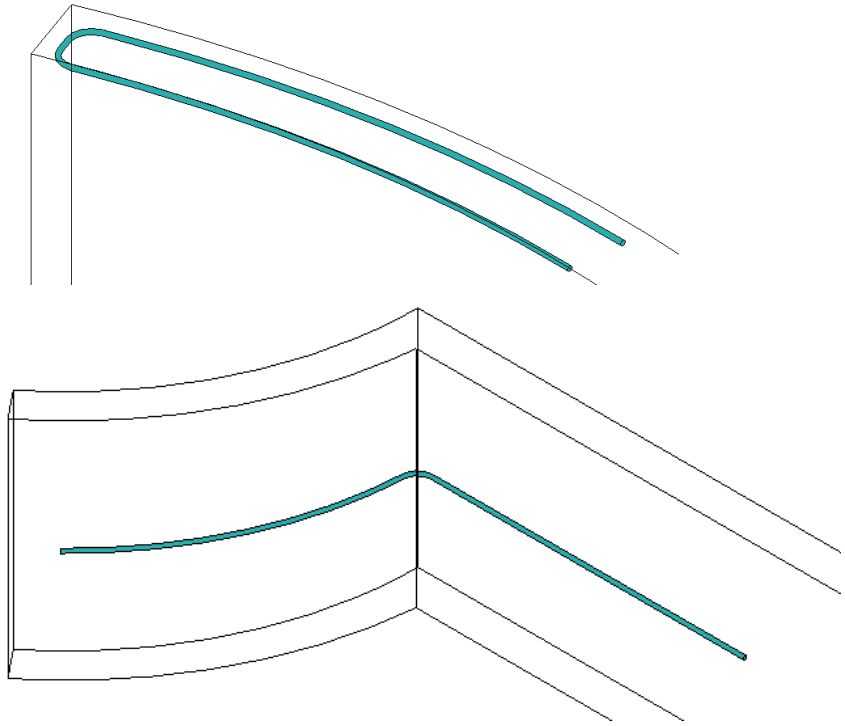
5.3 Create Rebar

Use the Create Rebar 

New Rebar

command to place CADS Rebar Shapes in the project. Use the Select Free Form 

command to convert Revit Free Form Rebar to predefined CADS Rebar Shapes.



CADS Rebar Shapes are loaded into the project in the Project Settings dialog, Loading CADS Rebar Shapes

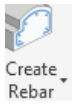
The CADS Rebar Shapes are stored in the "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\CadsRebarShapes" folder. Currently the folder contains;

- **SANS** South African CADS Rebar Shapes to SANS 282-2004, click this link to view diagrams

of these shapes, CADS SANS Shape Codes .

- **UK** Set of shape code 99's, click this link to view the diagrams of these shapes CADS

Rebar Shape Code 99's.

A single bar can be placed when using Create Rebar 

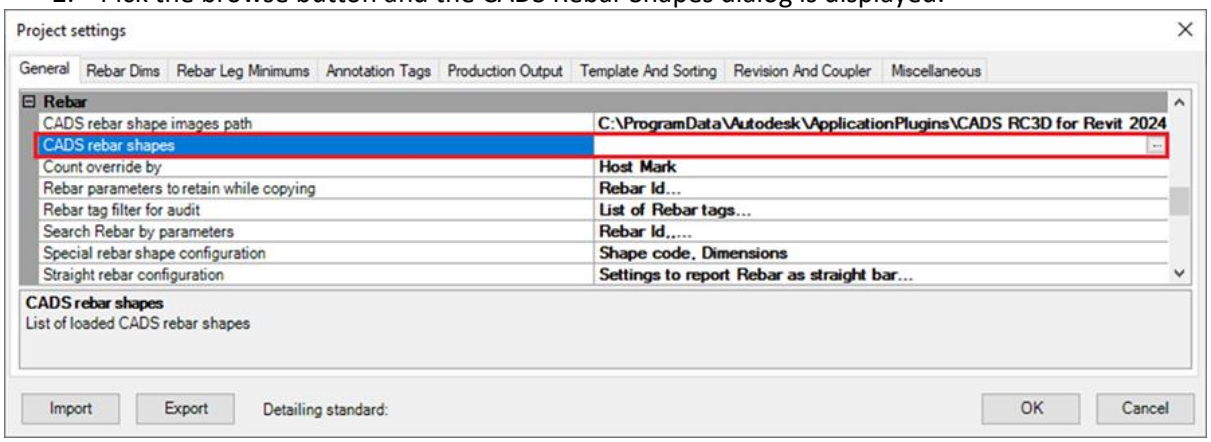
command. To have multiple incidences of the bar in the host, use the Rebar Range Place command to create either;

5.3.1 Loading CADS UK Rebar Shapes

Additional CADS Shape Code 99's can be loaded into your project from inside the CADS RC

Copyright © Computer and Design Services Limited

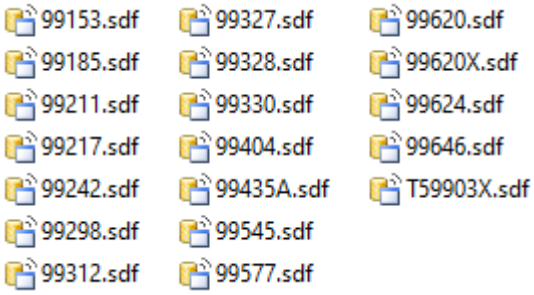
1. Open the Project Settings dialog, under the General Tab, Rebar Panel, select the CADS Rebar Shapes line in the dialog.
2. Pick the browse button and the CADS Rebar Shapes dialog is displayed.



3. This will be blank until you load some shapes.

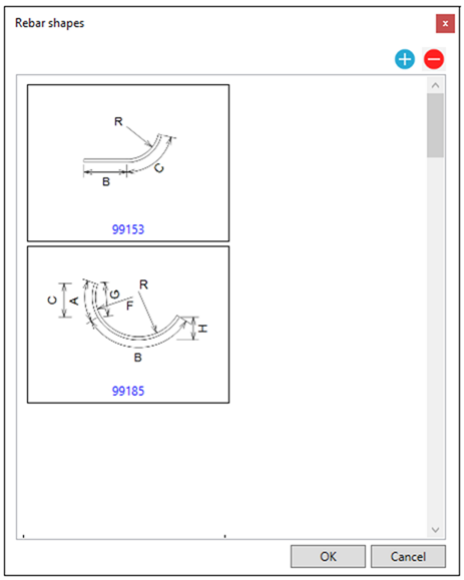


4. To load the CADS Rebar Shapes click the Blue Plus button.
5. The default location for the CADS Rebar Shapes is "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\CadsRebarShapes\UK".



6. The images of the loaded shapes are displayed in the Rebar Shapes dialog.
7. Use the minus option to remove shape codes from the list.

Copyright © Computer and Design Services Limited



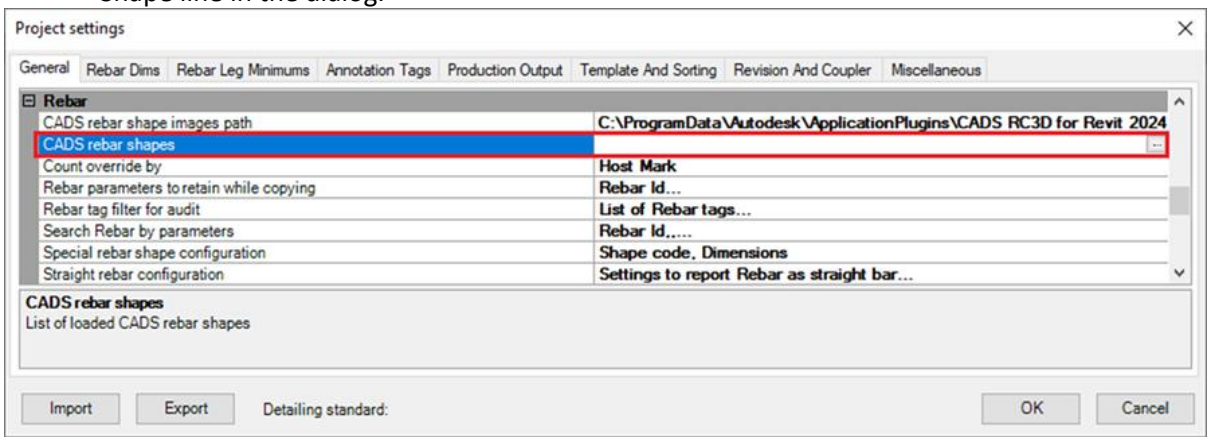
8. Click ok to return to the Project settings dialog where the loaded shape names are added to the CADS Rebar Shapes.

Rebar	
CADS rebar shape images path	C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 2024.bundle\Co
CADS rebar shapes	99153,99185,99211,99217,99242,99298,99312,99327,99328,99330,99404,99435/...
Count override by	Host Mark
Rebar parameters to retain while copying	A,B,...
Rebar tag filter for audit	List of Rebar tags...
Search Rebar by parameters	Rebar Id,Host Mark,...
Special rebar shape configuration	Shape code, Dimensions
Straight rebar configuration	Settings to report Rebar as straight bar...

5.3.2 Loading CADS SAN-282-2004 Rebar Shapes

If CADS RC3D has been configured to the SAN-282 Standard by Importing the SANS.CRS Configuration file in Projects Setting using the Import Option, then then SANS Shape Codes will need loading into the project.

1. Open the Project Settings dialog, under the General Tab, Rebar Panel, select the CADS Rebar Shape line in the dialog.

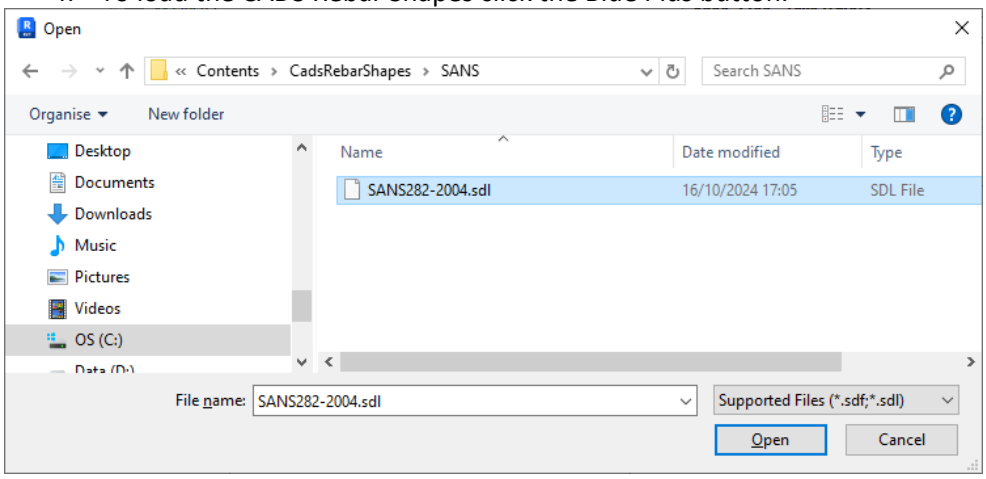


2. Pick the browse button and the CADS Rebar Shapes dialog is displayed.

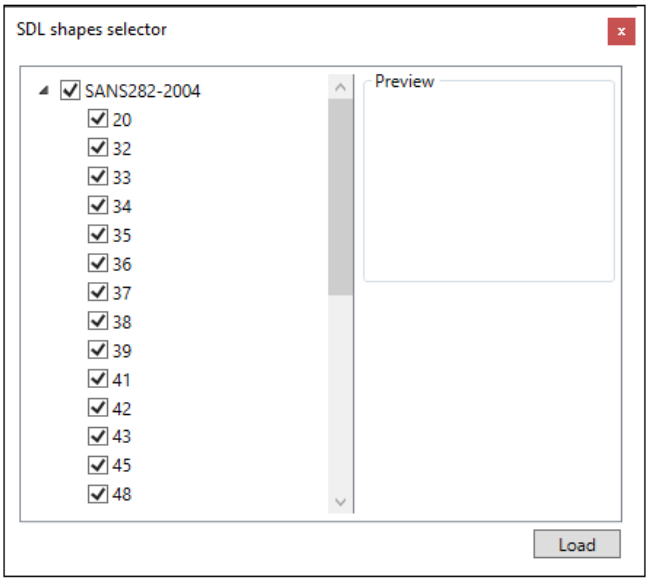
Copyright © Computer and Design Services Limited



3. This will be blank until you load some shapes.
4. To load the CADS Rebar Shapes click the Blue Plus button.

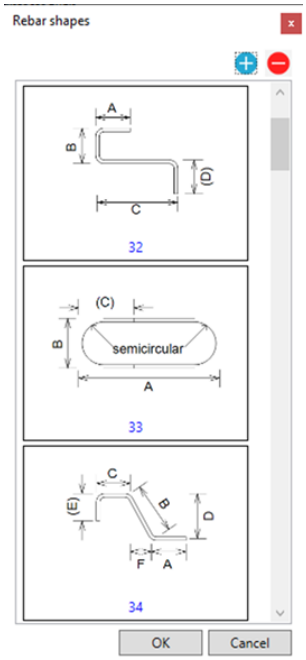


5. The default location for the CADS SANS 282-2004 Rebar Shapes is "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\CadsRebarShapes\SANS".
6. Select the SANS282-2004.SDL file and click Open.

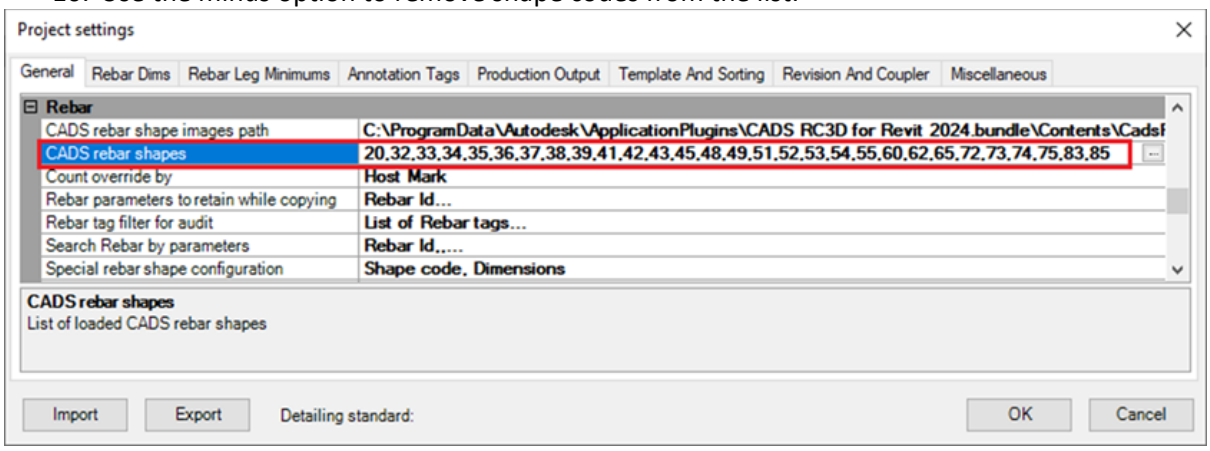


7. The SDL Shape Selector dialog is displayed with all the shapes reselected.
8. Deselect any shapes that should not be loaded and click on the Load button.

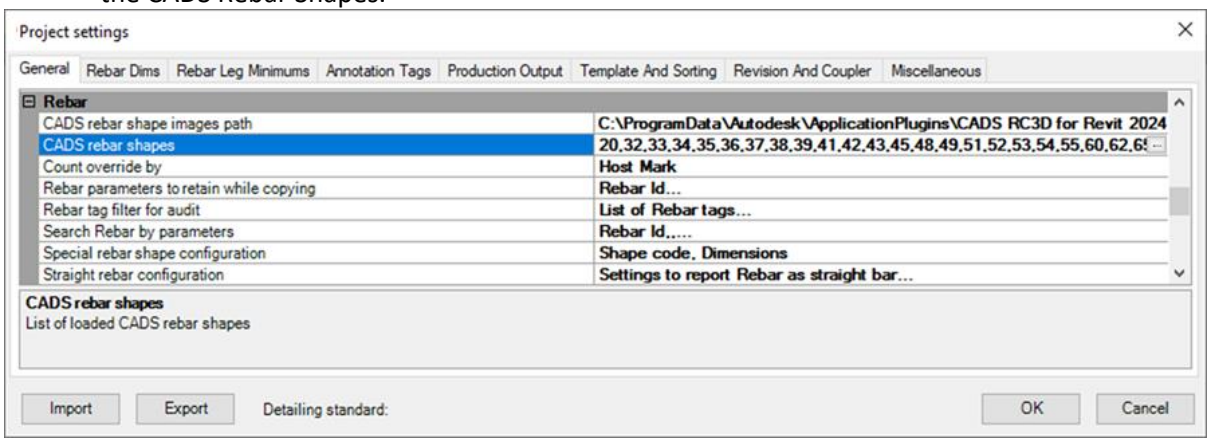
Copyright © Computer and Design Services Limited



9. The images of the loaded shapes are displayed in the Rebar Shapes dialog.
10. Use the minus option to remove shape codes from the list.



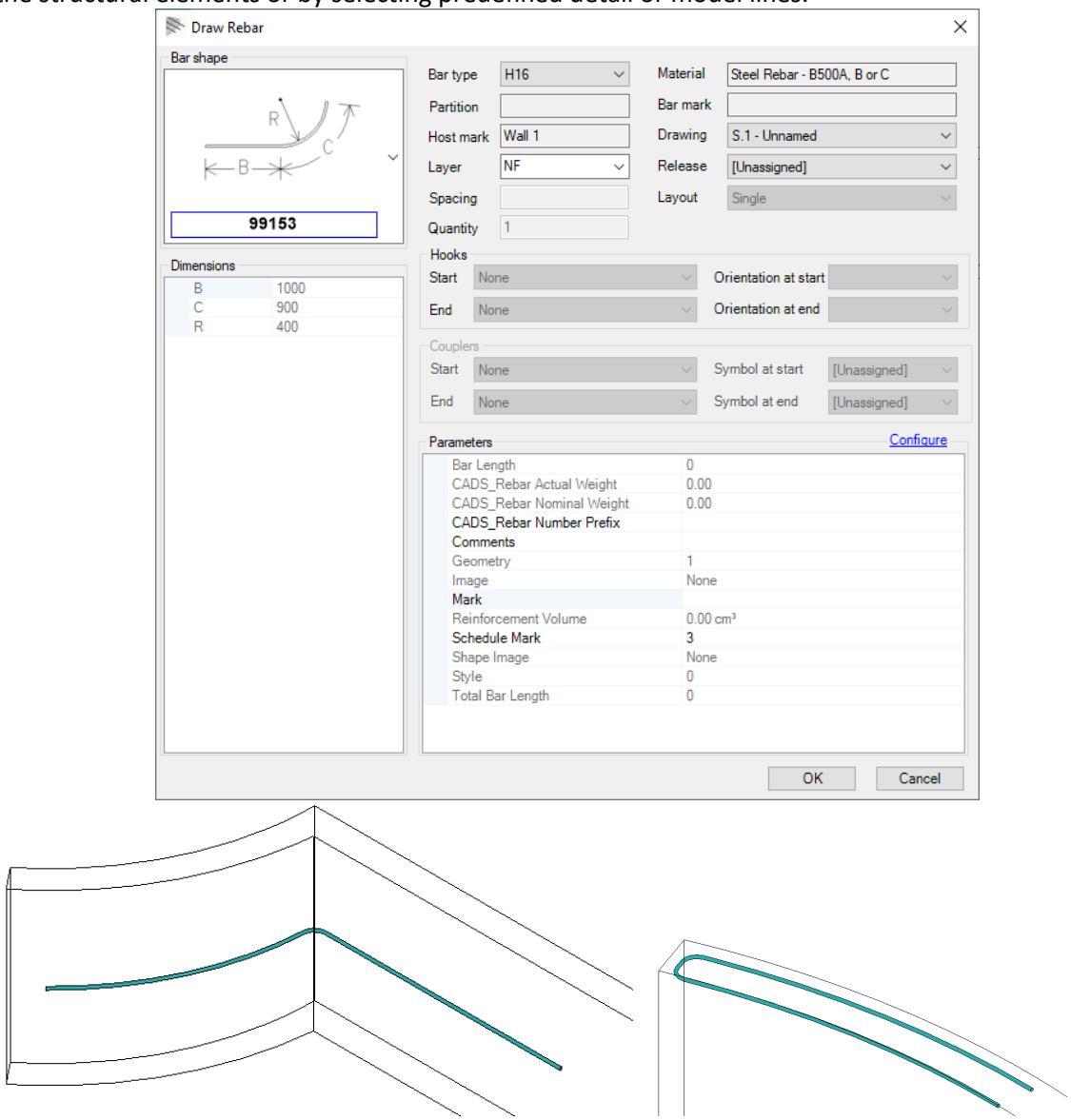
11. Click ok to return to the Project settings dialog where the loaded shape names are added to the CADS Rebar Shapes.



Copyright © Computer and Design Services Limited

5.3.3 New Rebar

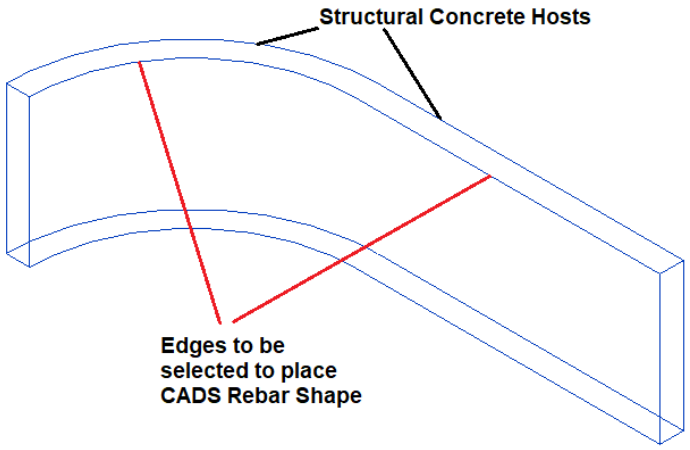
Use the Create Rebar New Rebar command to place individual CADS Rebar Shapes in Structural Concrete Elements in the project. The shapes can be placed either selecting the edge of the structural elements or by selecting predefined detail or model lines.



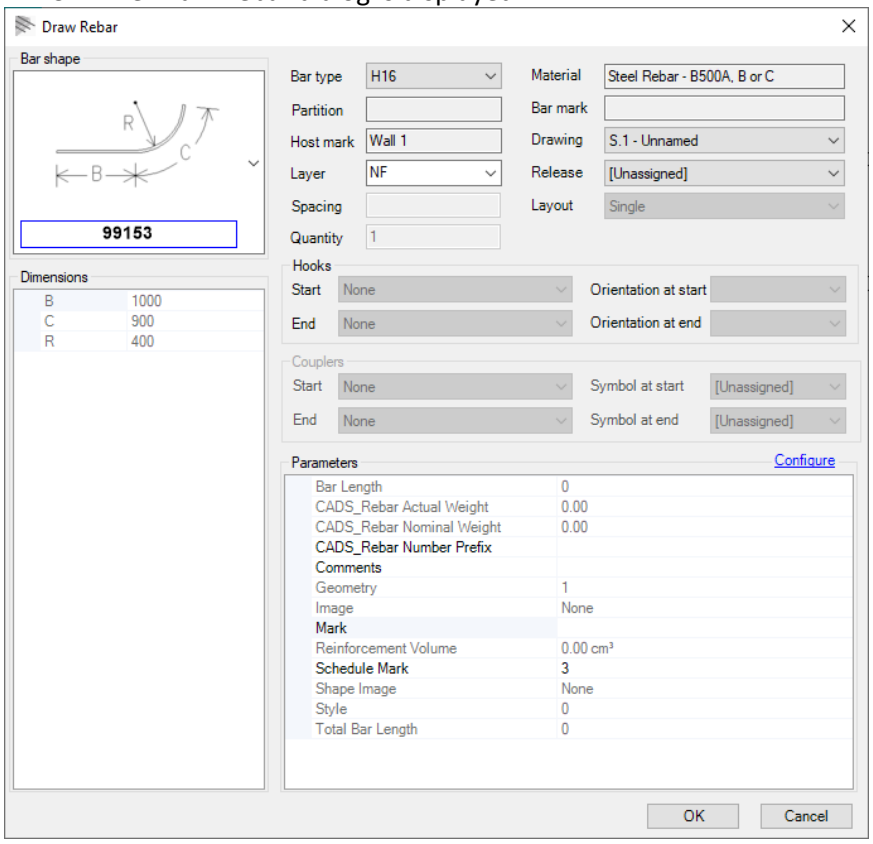
5.3.4 Select Edge Method

1. Select Create Rebar drop down menu and then the New Rebar command and then select the Rebar Structural Concrete Host(s) in the model.

Copyright © Computer and Design Services Limited



2. Click Finish  to proceed.
3. The Draw Rebar dialog is displayed.



- **Bar Shape:** Use the drop-down menu to select the shape from the preloaded bar shapes.
- **Bar Type:** Chose the Bar grade and diameter from the drop-down list.
- **Partition:** This feature is not available in the current release.
- **Host mark:** Displays the host mark assigned to the structural element selected to receive the rebar shape.
- **Layer:** Select the predefined reinforcement layer from the drop-down menu or type in the required reinforcement layer.
- **Spacing:** Not currently available due to single rebar placement restriction.
- **Quantity:** Locked as one rebar in the current version.
- **Material:** Displays the selected Rebar Grade.
- **Bar Mark:** Currently not available, this will be automatically assigned the next available

Copyright © Computer and Design Services Limited

bar mark.

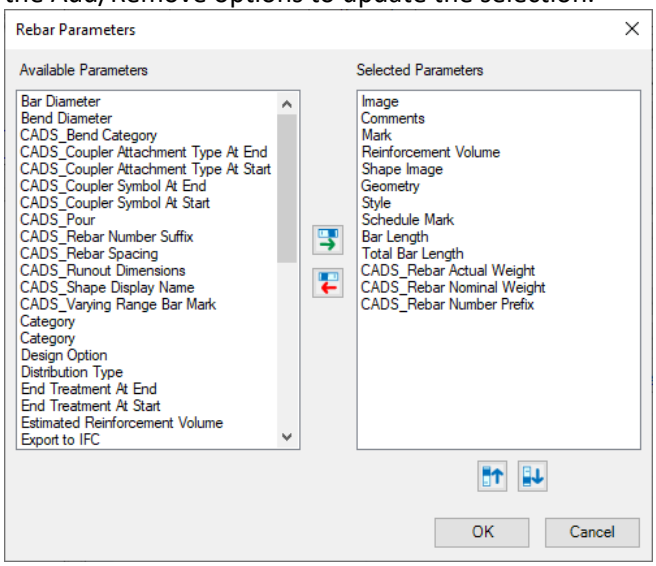
- **Drawing:** Select the Drawing Sheet to assign to the rebar. This can be assigned after the bar has been placed using the Assign Rebar to Drawing Sheet .
- **Release:** Select the Release to assign to the rebar. This can be assigned after the bar has been placed using the Assign Release command .
- Layout: Currently locked to Single Rebar

Hooks These features is not available in the current release.

Couplers These features is not available in the current release.

Parameters

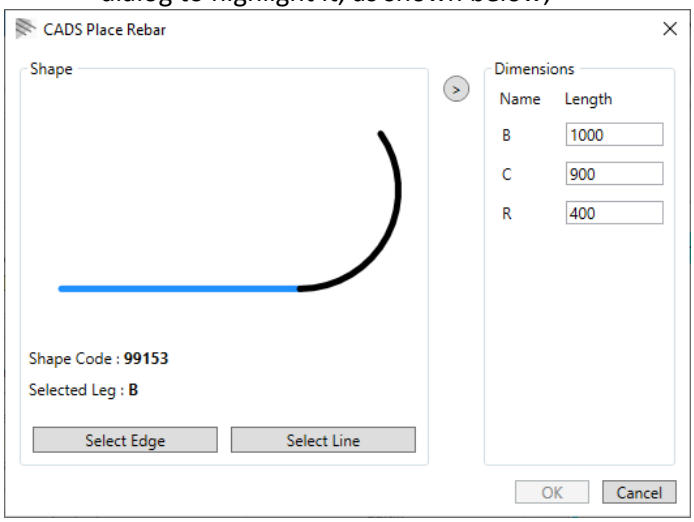
- **Dimensions:** Currently dimensions cannot be assigned to the rebar in this dialog.
- **Configure:** Select this option to edit the parameters being displayed in the dialog. Use the Add/Remove options to update the selection.



4. Select OK to continue with the command, the CADS Place Rebar dialog is displayed.

Rebar Place dialog

5. The command prompts for an edge or line to be selected to place the highlighted Leg shown in the dialog, in the case above Leg B. To select another leg of the shape select it on the dialog to highlight it, as shown below;



Placement Options

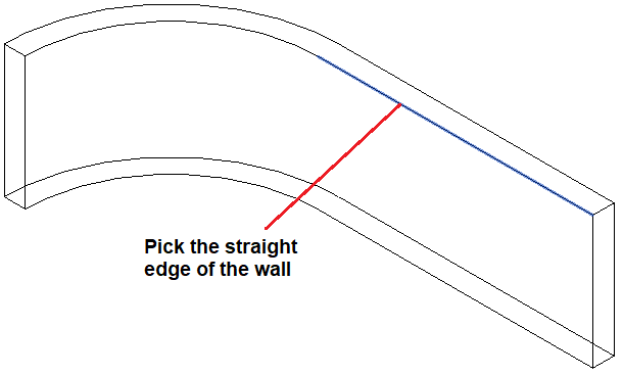
- **Shape:** Interactive diagram of the proposed shape, select the leg of the rebar to use in conjunction with either the Select Edge or Select Line options.

Copyright © Computer and Design Services Limited

Note: the straight leg is highlighted in the dialog. Pick the curved leg will change the colour to show it in a blue hight, this would then be the first edge/line to select.

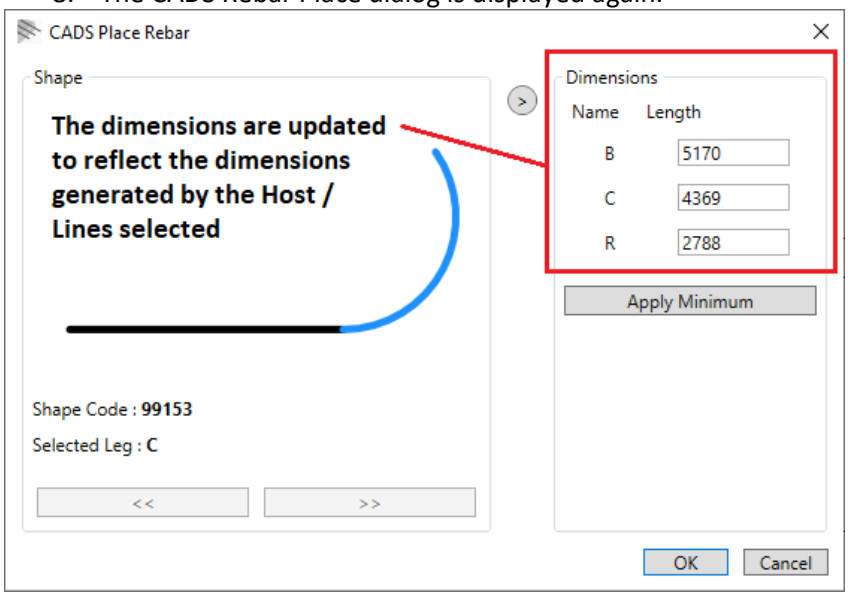
- **Select Edge:** This option allows to select an edge to specify dimension for the selected leg.
- **Select Line:** This option allows to select model/detail lines as centreline of rebar leg. This is useful to place rebar that are not detailed on the edges of the element.
- **Dimensions:** Table of Rebar Legs and Dimensions displays the Legs of the Rebar and the Dimensions selected/input. The dialog displays default dimensions when it first opens.

6. Now pick the Select Edge button.
7. The dialog will disappear and then pick on the edge of the straight concrete structural element to place the first leg of the rebar.



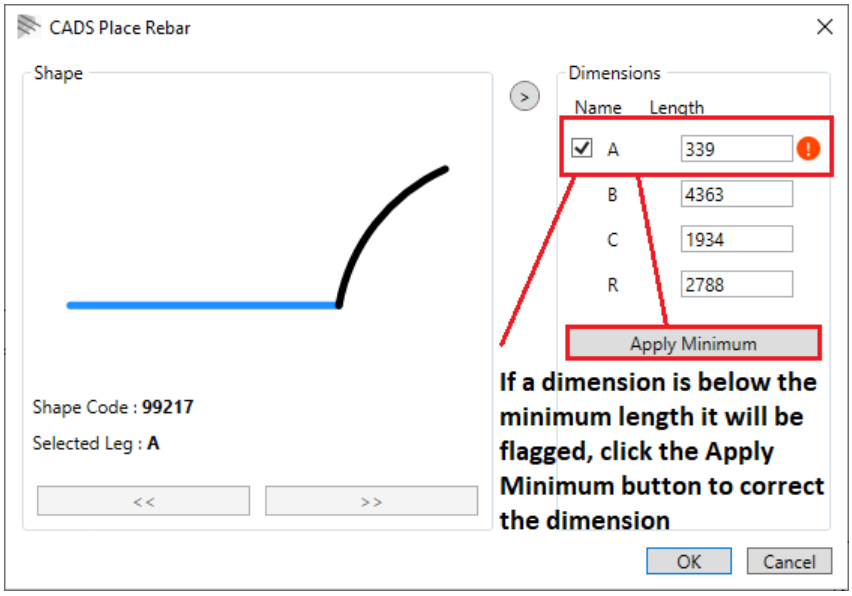
Note: When using the Select Edges option only the first edge will need to be selected for the shape shown in the dialog.

8. The CADS Rebar Place dialog is displayed again.

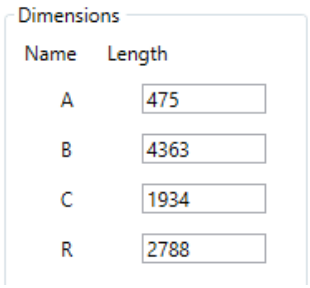


- **Direction Arrows:** The dialog has additional Left and Right Arrows to allow any placed rebar to be flipped within the Host where applicable.
- **Apply Minimum:** If any bar dimension is below the minimum length defined in Project Settings – Rebar Leg Minimums , it is highlighted in the dialog as shown below;

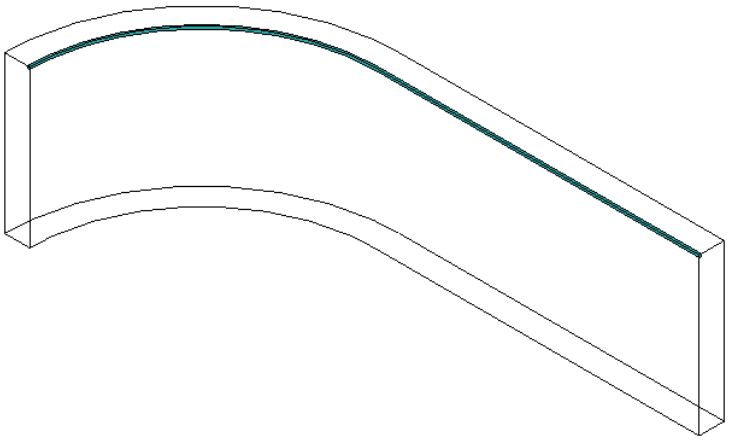
Copyright © Computer and Design Services Limited



9. If required, click on the Apply Minimum button to apply the minimum configured dimension length.



10. Click OK on the CADS Place Rebar dialog to place the Shape in the Structural Element and complete the command.



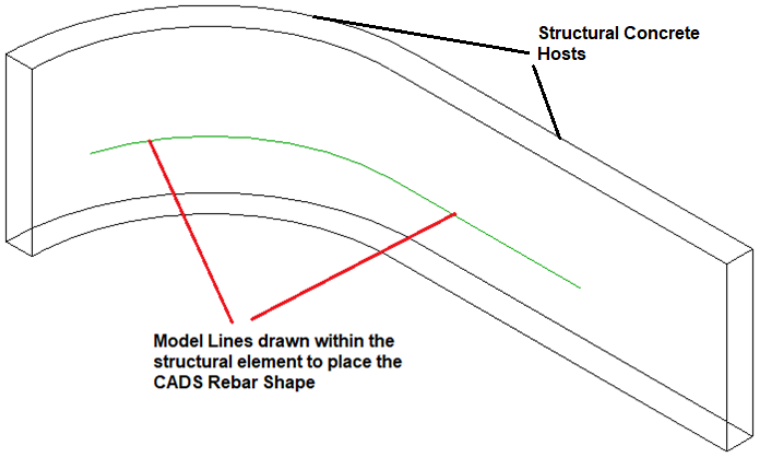
5.3.5 Select Line Method

1. Select Create Rebar 

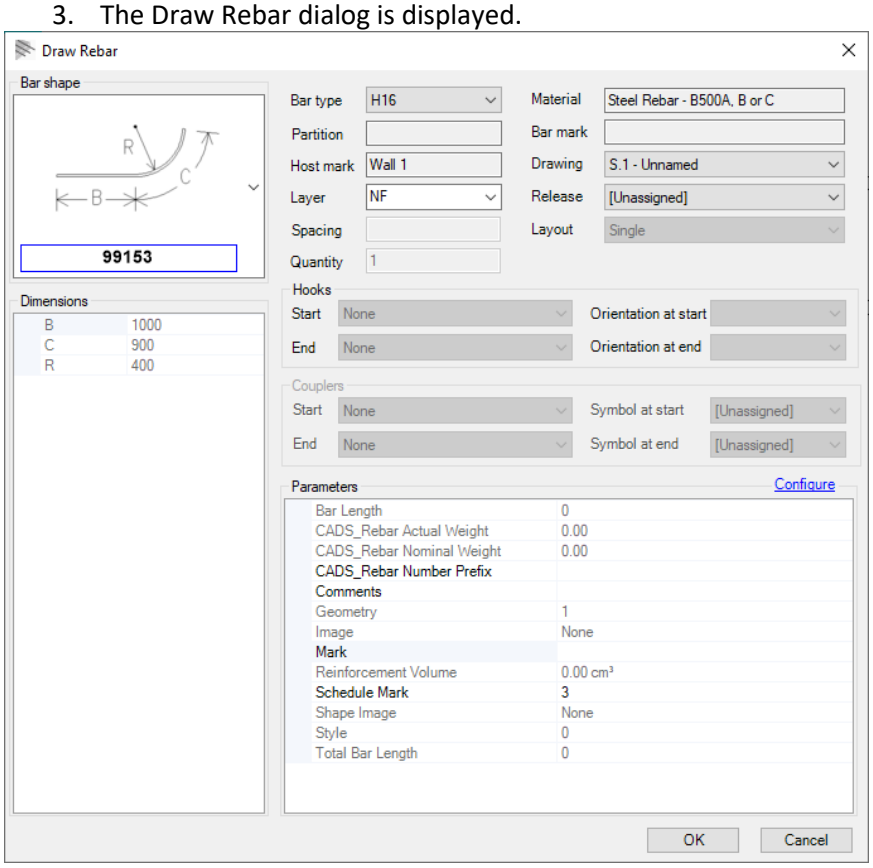
drop down menu and then the New Rebar 

command and then select the Rebar Structural Concrete Host(s) in the model.

Copyright © Computer and Design Services Limited



2. Click Finish  to proceed.
3. The Draw Rebar dialog is displayed.



- **Bar Shape:** Use the drop-down menu to select the shape from the preloaded bar shapes.
- **Bar Type:** Chose the Bar grade and diameter from the drop-down list.
- **Partition:** This feature is not available in the current release.
- **Host mark:** Displays the host mark assigned to the structural element selected to receive the rebar shape.
- **Layer:** Select the predefined reinforcement layer from the drop-down menu or type in the required reinforcement layer.
- **Spacing:** Not currently available due to single rebar placement restriction.
- **Quantity:** Locked as one rebar in the current version.
- **Material:** Displays the selected Rebar Grade.
- **Bar Mark:** Currently not available, this will be automatically assigned the next available

Copyright © Computer and Design Services Limited

bar mark.

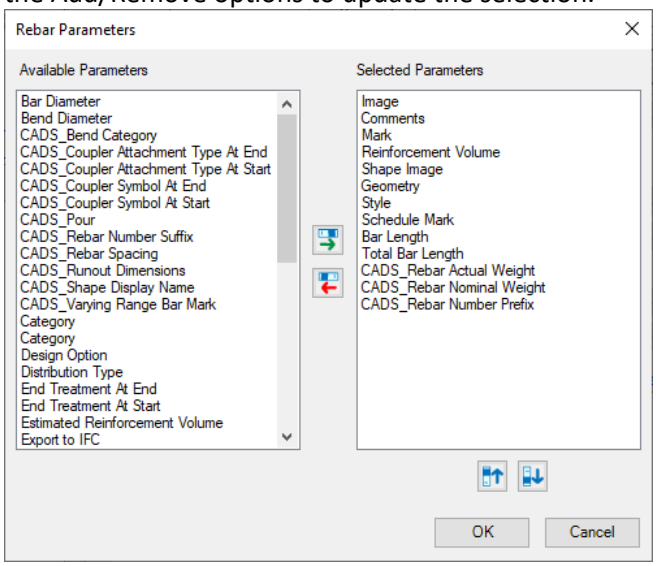
- **Drawing:** Select the Drawing Sheet to assign to the rebar. This can be assigned after the bar has been placed using the Assign Rebar to Drawing Sheet.
- **Release:** Select the Release to assign to the rebar. This can be assigned after the bar has been placed using the Assign Release command.
- **Layout:** Currently locked to Single Rebar

Hooks These features is not available in the current release.

Couplers These features is not available in the current release.

Parameters

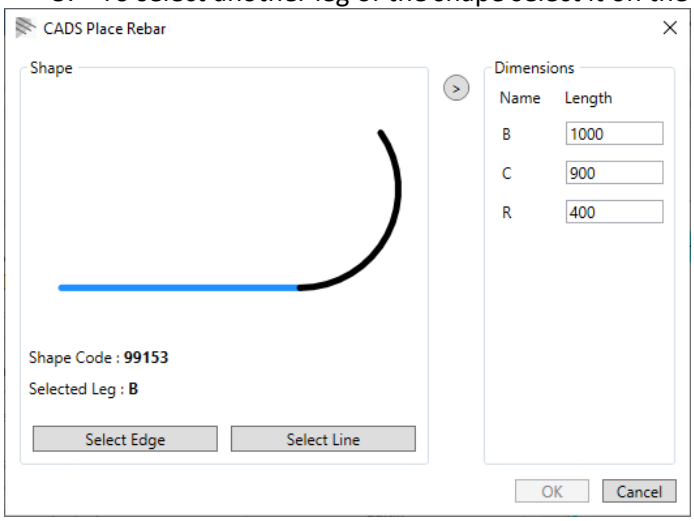
- **Dimensions:** Currently dimensions cannot be assigned to the rebar in this dialog.
- **Configure:** Select this option to edit the parameters being displayed in the dialog. Use the Add/Remove options to update the selection.



4. Select OK to continue with the command, the CADS Place Rebar dialog is displayed.

Rebar Place dialog

5. To select another leg of the shape select it on the dialog to highlight it, as shown below;



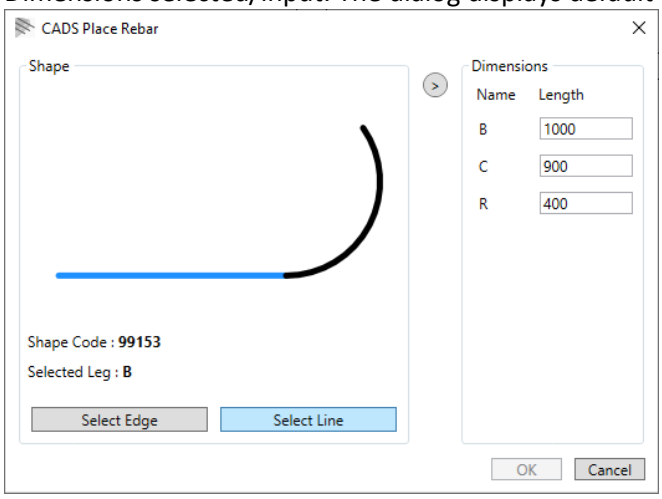
Placement Options

- **Shape:** Interactive diagram of the proposed shape, select the leg of the rebar to use in conjunction with either the Select Edge or Select Line options.

Copyright © Computer and Design Services Limited

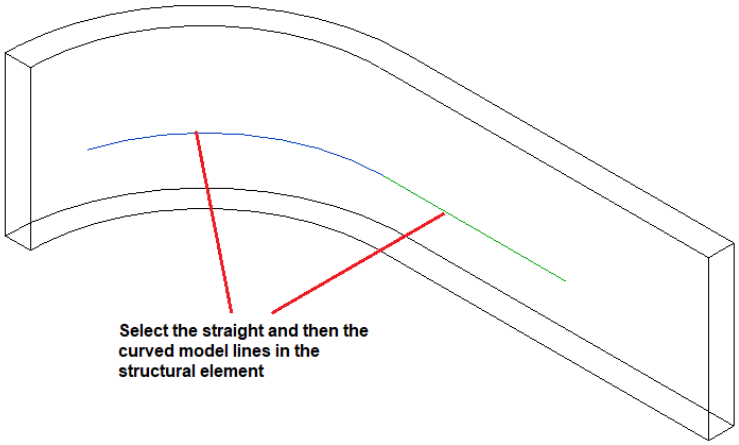
Note: the straight leg is highlighted in the dialog. Pick the curved leg will change the colour to show it in a blue hight, this would then be the first edge/line to select.

- **Select Edge:** This option allows to select an edge to specify dimension for the selected leg.
- **Select Line:** This option allows to select model/detail lines as centreline of rebar leg. This is useful to place rebar that are not detailed on the edges of the element.
- **Dimensions:** Table of Rebar Legs and Dimensions displays the Legs of the Rebar and the Dimensions selected/input. The dialog displays default dimensions when it first opens.



6. Now pick the Select Line button.
7. The dialog will disappear and then pick the straight model line and then the curved model line.

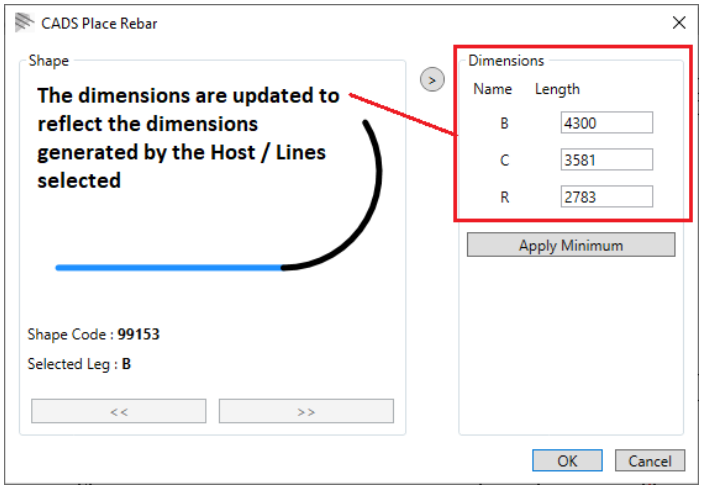
Note: When using the Select Line method all of the lines representing the shape need to be selected.



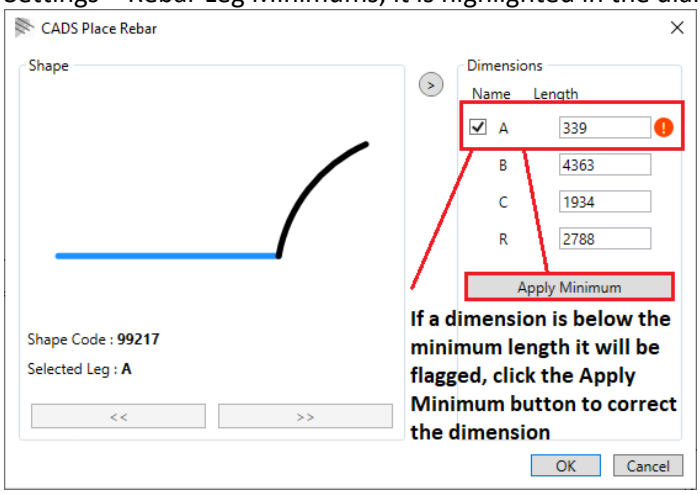
8. Click Finish 

.
9. The CADS Rebar Place dialog is displayed again.

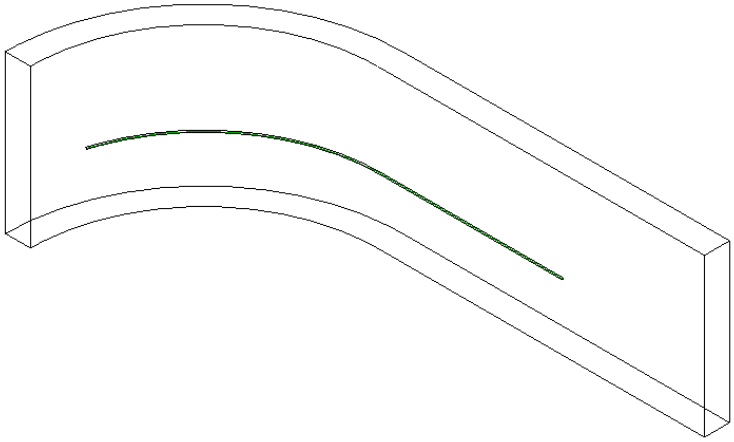
Copyright © Computer and Design Services Limited



- **Direction Arrows:** The dialog has additional Left and Right Arrows to allow any placed rebar to be flipped within the Host where applicable.
- **Apply Minimum:** If any bar dimension is below the minimum length defined in Project Settings – Rebar Leg Minimums, it is highlighted in the dialog as shown below;



10. Click OK on the CADS Place Rebar dialog to place the Shape in the Structural Element and complete the command.



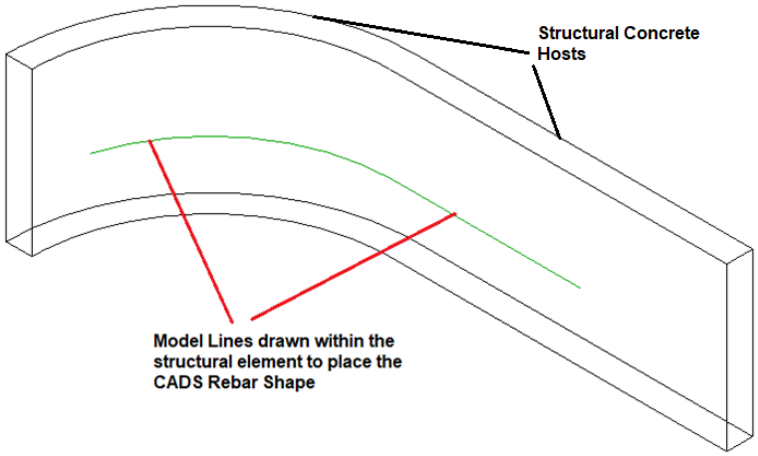
Copyright © Computer and Design Services Limited

Select Line Method

1. Select Create Rebar 

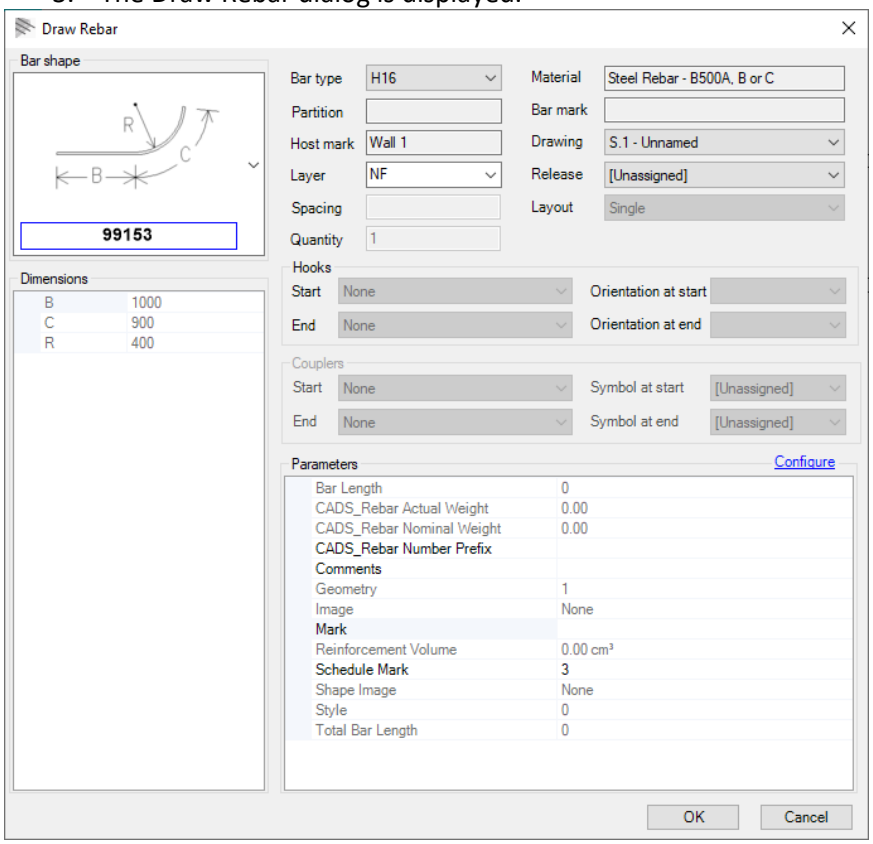
drop down menu and then the New Rebar

command and then select the Rebar Structural Concrete Host(s) in the model.



2. Click Finish 

to proceed.
3. The Draw Rebar dialog is displayed.



- **Bar Shape:** Use the drop-down menu to select the shape from the preloaded bar shapes.
- **Bar Type:** Chose the Bar grade and diameter from the drop-down list.
- **Partition:** This feature is not available in the current release.
- **Host mark:** Displays the host mark assigned to the structural element selected to receive the rebar shape.

Copyright © Computer and Design Services Limited

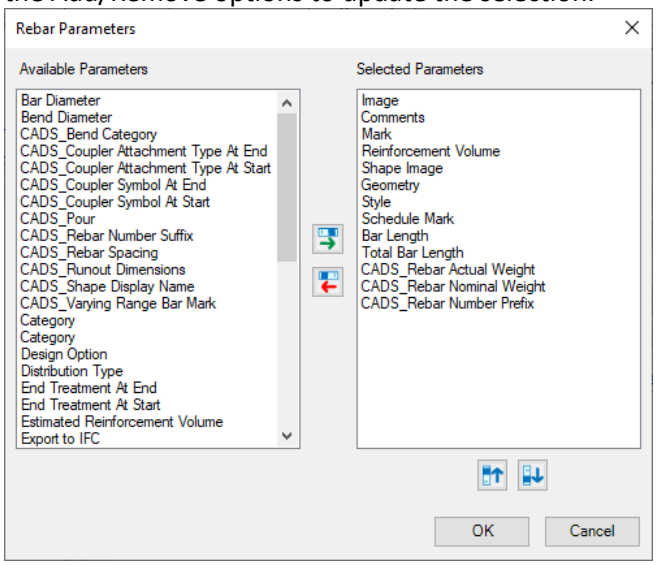
- **Layer:** Select the predefined reinforcement layer from the drop-down menu or type in the required reinforcement layer.
- **Spacing:** Not currently available due to single rebar placement restriction.
- **Quantity:** Locked as one rebar in the current version.
- **Material:** Displays the selected Rebar Grade.
- **Bar Mark:** Currently not available, this will be automatically assigned the next available bar mark.
- **Drawing:** Select the Drawing Sheet to assign to the rebar. This can be assigned after the bar has been placed using the Assign Rebar to Drawing Sheet .
- **Release:** Select the Release to assign to the rebar. This can be assigned after the bar has been placed using the Assign Release command .
- **Layout:** Currently locked to Single Rebar

Hooks These features is not available in the current release.

Couplers These features is not available in the current release.

Parameters

- **Dimensions:** Currently dimensions cannot be assigned to the rebar in this dialog.
- **Configure:** Select this option to edit the parameters being displayed in the dialog. Use the Add/Remove options to update the selection.

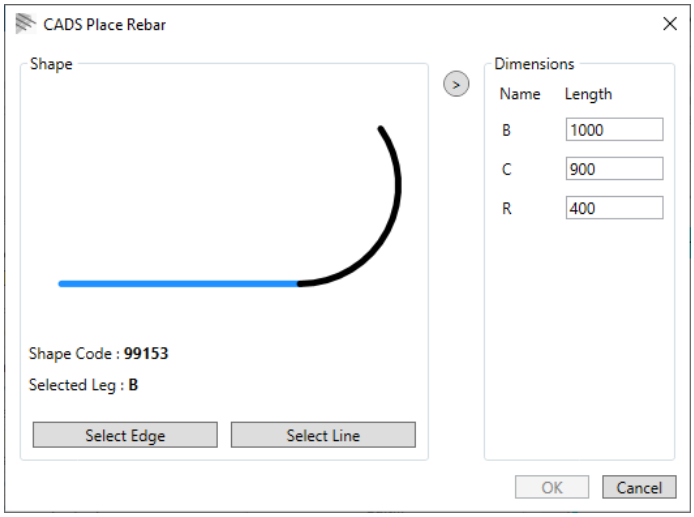


4. Select OK to continue with the command, the CADS Place Rebar dialog is displayed.

Rebar Place dialog

5. To select another leg of the shape select it on the dialog to highlight it, as shown below;

Copyright © Computer and Design Services Limited

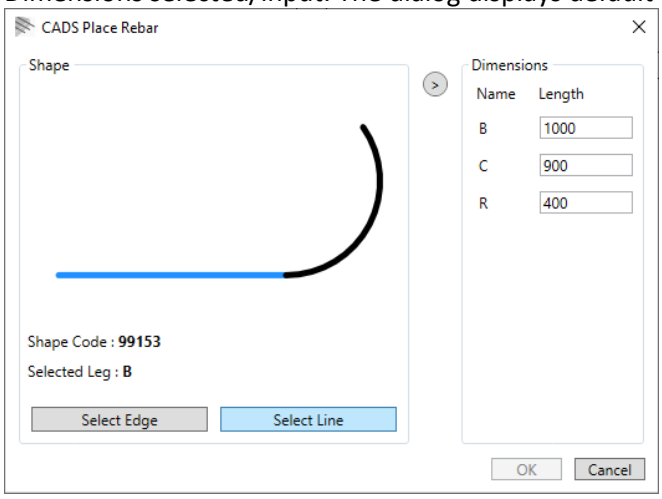


Placement Options

- **Shape:** Interactive diagram of the proposed shape, select the leg of the rebar to use in conjunction with either the Select Edge or Select Line options.

Note: the straight leg is highlighted in the dialog. Pick the curved leg will change the colour to show it in a blue hight, this would then be the first edge/line to select.

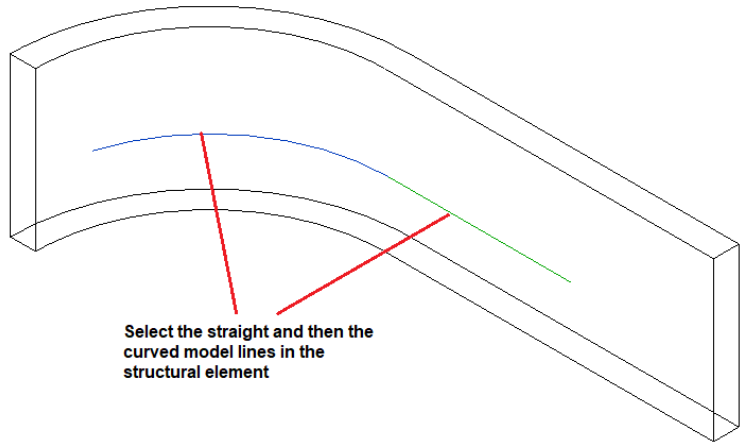
- **Select Edge:** This option allows to select an edge to specify dimension for the selected leg.
- **Select Line:** This option allows to select model/detail lines as centreline of rebar leg. This is useful to place rebar that are not detailed on the edges of the element.
- **Dimensions:** Table of Rebar Legs and Dimensions displays the Legs of the Rebar and the Dimensions selected/input. The dialog displays default dimensions when it first opens.



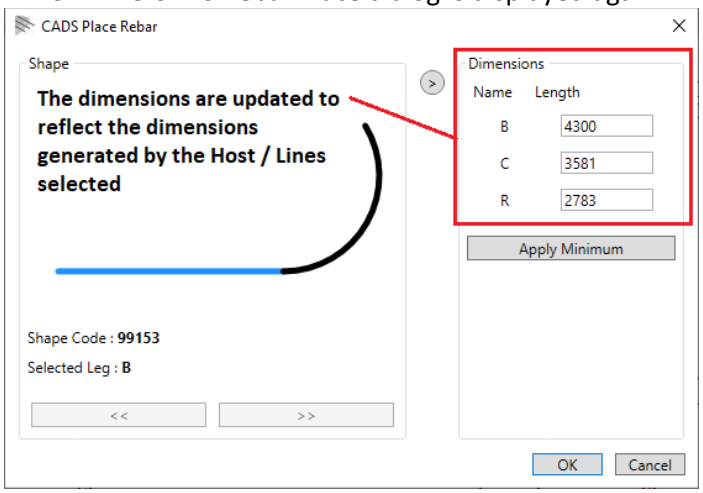
6. Now pick the Select Line button.
7. The dialog will disappear and then pick the straight model line and then the curved model line.

Note: When using the Select Line method all of the lines representing the shape need to be selected.

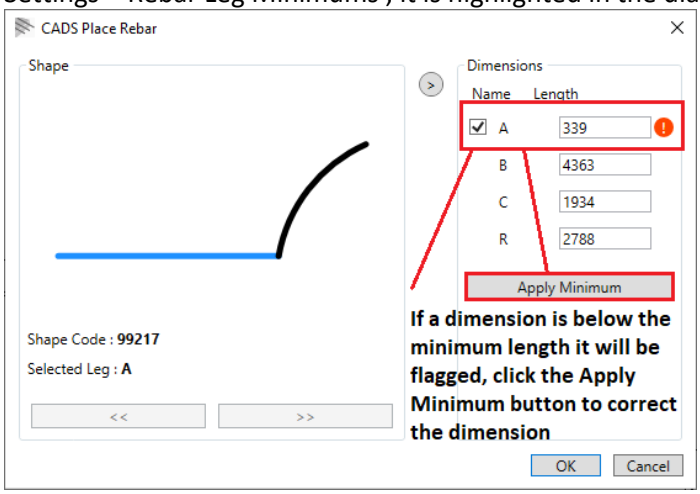
Copyright © Computer and Design Services Limited



8. Click Finish  .
9. The CADS Rebar Place dialog is displayed again.

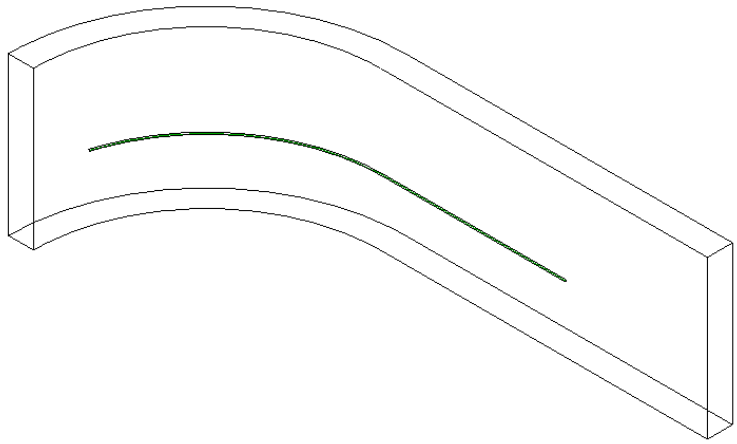


- **Direction Arrows:** The dialog has additional Left and Right Arrows to allow any placed rebar to be flipped within the Host where applicable.
- **Apply Minimum:** If any bar dimension is below the minimum length defined in Project Settings – Rebar Leg Minimums , it is highlighted in the dialog as shown below;



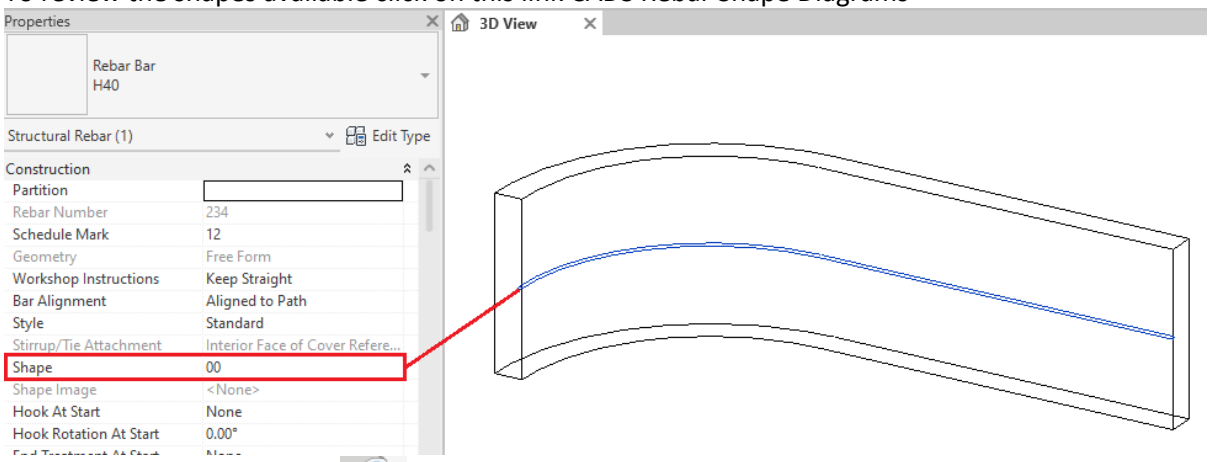
10. Click OK on the CADS Place Rebar dialog to place the Shape in the Structural Element and complete the command.

Copyright © Computer and Design Services Limited



5.3.6 Select Free Form

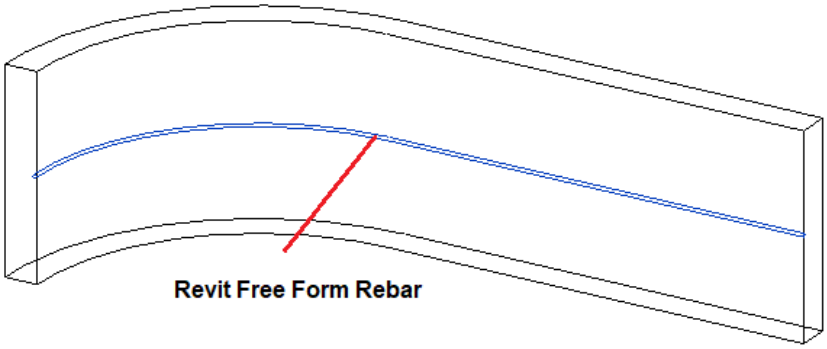
Converts rebar shape created with the Revit Free Form Rebar command to a CADS Rebar Shape Code 99 if a matching shape is available in the Project.
CADS Rebar Shapes are loaded into the project inside the Project Settings dialog – General Tab, Rebar Panel.
To review the shapes available click on this link CADS Rebar Shape Diagrams



1. Select Create Rebar 

drop down menu and then the Select Free Form 

command.
2. Select a placed Revit Free Form Rebar in the project.

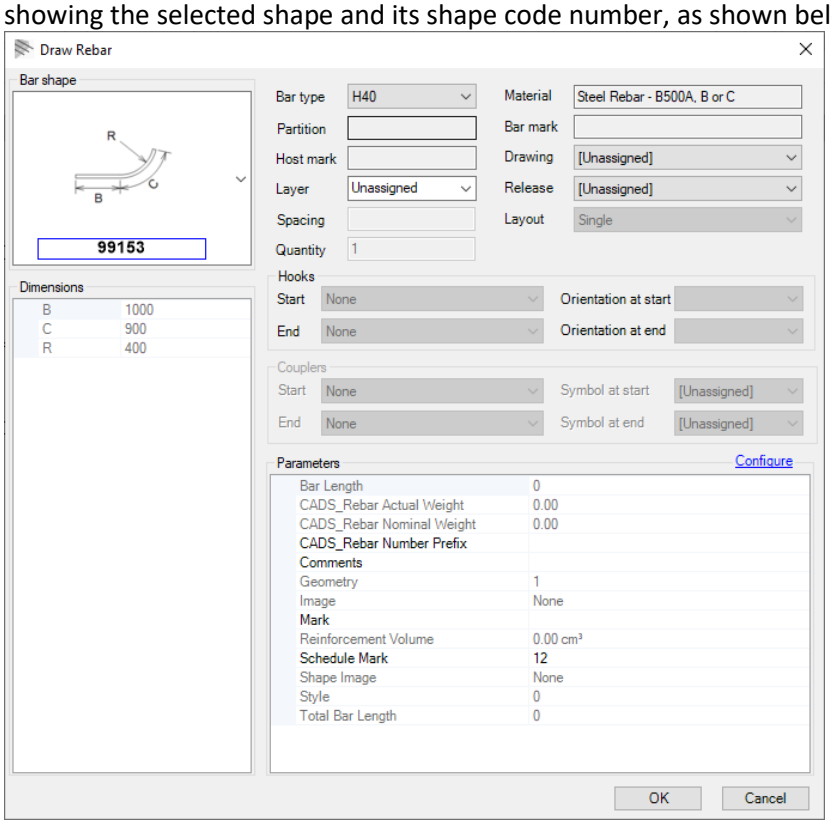


Copyright © Computer and Design Services Limited

3. Click Finish 

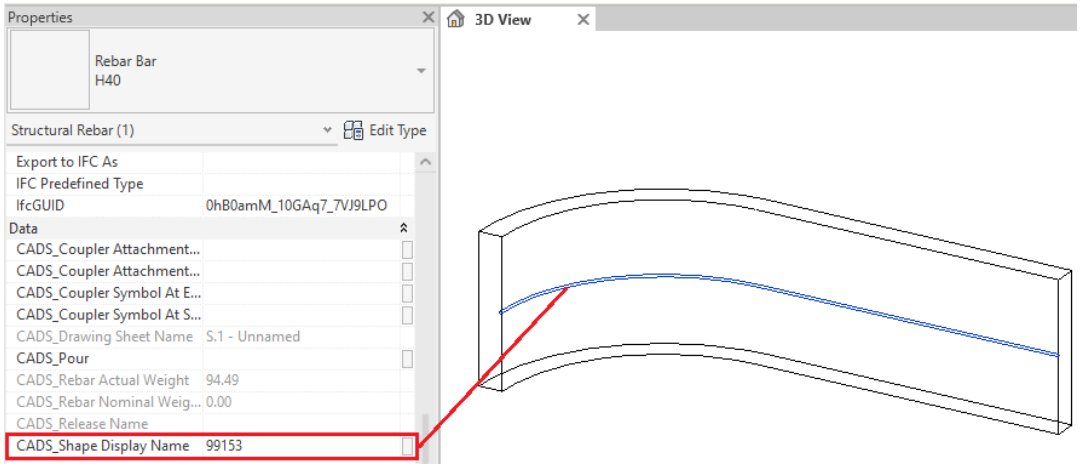
.

If the shape can be matched to preloaded CADS Rebar Shapes the Draw Rebar dialog is displayed showing the selected shape and its shape code number, as shown below;



4. Click OK to close the dialog.

The CADS Rebar Shape displays its shape code name and diagram in the Properties dialog and the Schedule.



Copyright © Computer and Design Services Limited

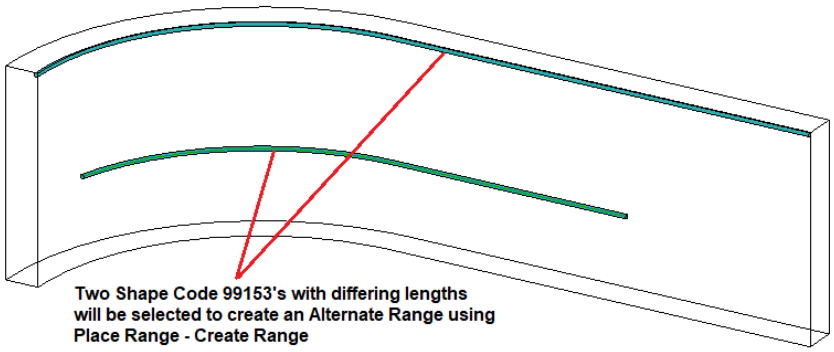
Project : Project Name
Client : Owner
Job No : Project Number
By : Author
Date : 07/30/24
Last revised :
Sheet No S.1 - Unnamed
Page No 0 1
Revn
Status

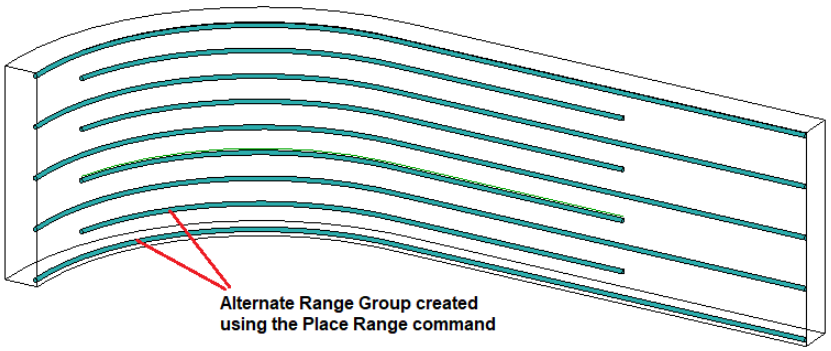
Member	Bar Mark	Type and size	No. of Mbrs	No.of bars in each	Total No.	Length of each bar †mm	Shape code	A * mm	B * mm	C * mm	D * mm	E/R * mm	Rev letter
	234	H40	1	1	1	9550	99153		1000	900		400	
								R					
								B		C			

5.4 Range Place

Use the Range Place 

, Create Range Create Range command to create Standard, Alternate, Staggered or Varying Rebar Groups from a Single Rebar. To alter the range properties, use the Edit Range Edit Range command.

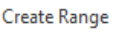




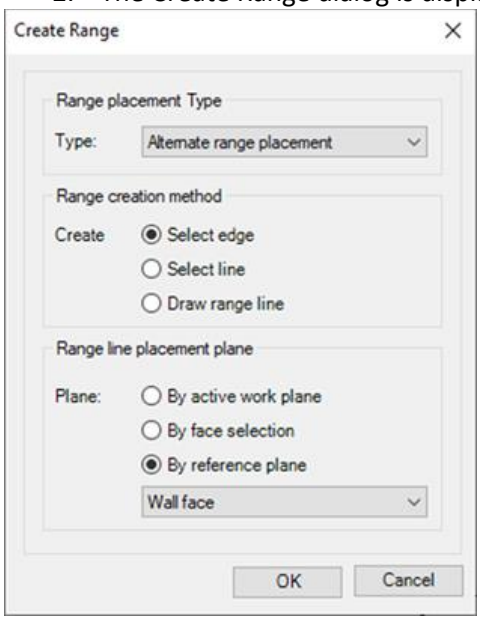
Copyright © Computer and Design Services Limited

5.4.1 Create Range

1. Select the Range Place 

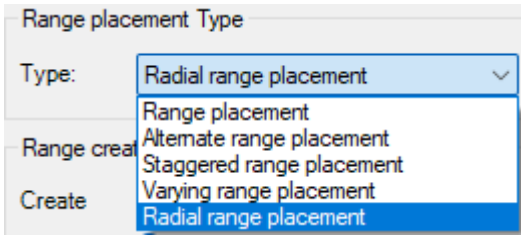
Create Range 

command from the Detailing Panel.
2. The Create Range dialog is displayed.

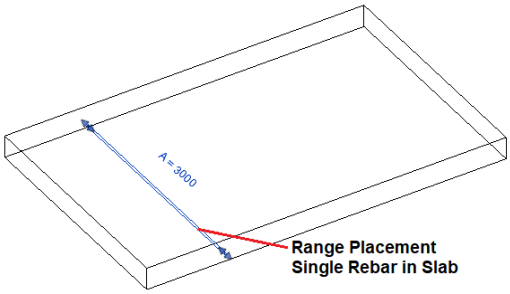


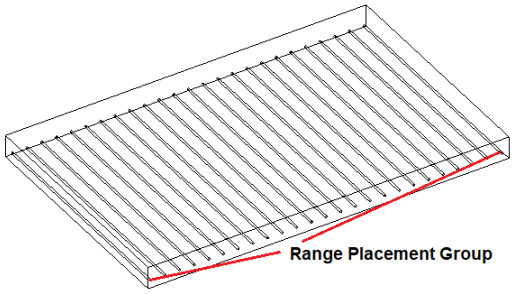
The dialog is divided into three sections dealing with the type of range being placed, the range creation method and the range placement plane.

Range Placement Type



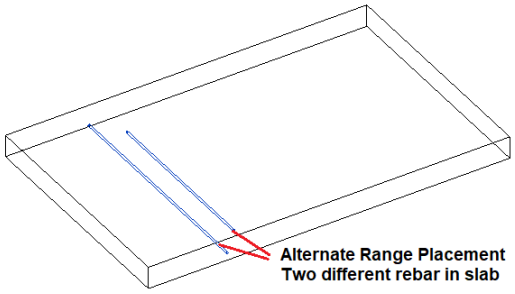
- **Range Placement:** Creates a group or rebar based on the selection of one Bar Mark. When annotated RC3D will show a standard range annotation line with one bar label annotation.

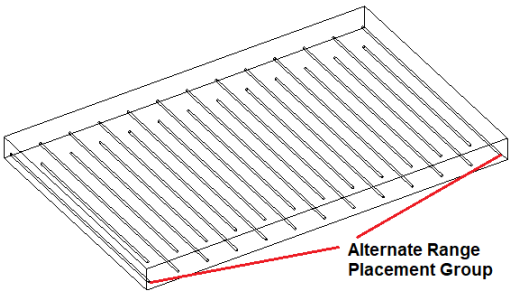




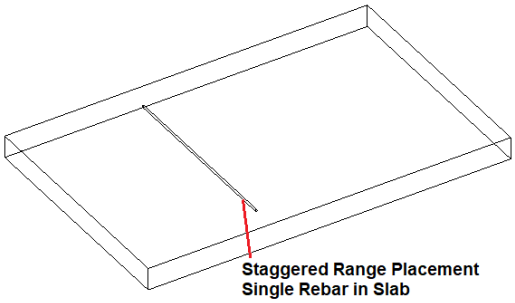
- **Alternate Range:** Creates a group based on two different Bar Marks alternating with each other. When annotated RC3D will show a range annotation line with two associated bar label annotations and an ALT (alternate) suffix.

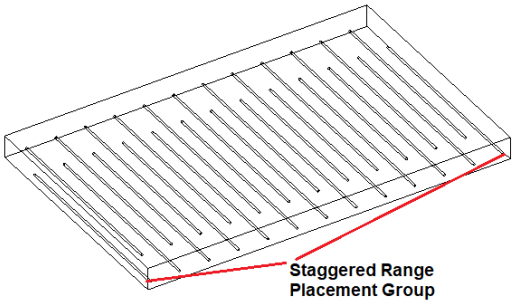
Copyright © Computer and Design Services Limited



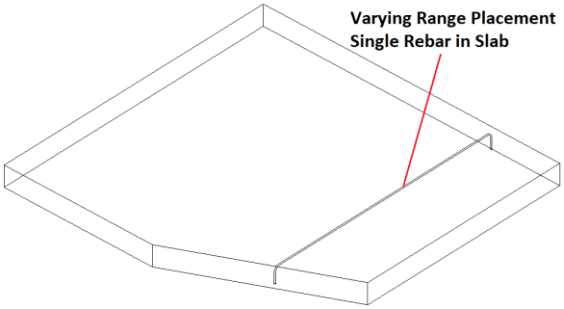


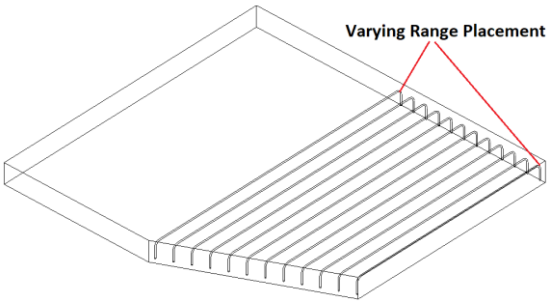
- **Staggered Range:** Creates a group from one Bar Mark with either staggered or offset placement in the host. When annotated RC3D will show a range annotation line with one bar label annotation and a STG (staggered) suffix.



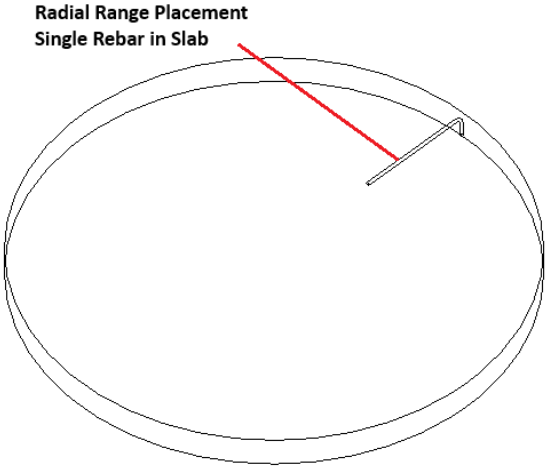


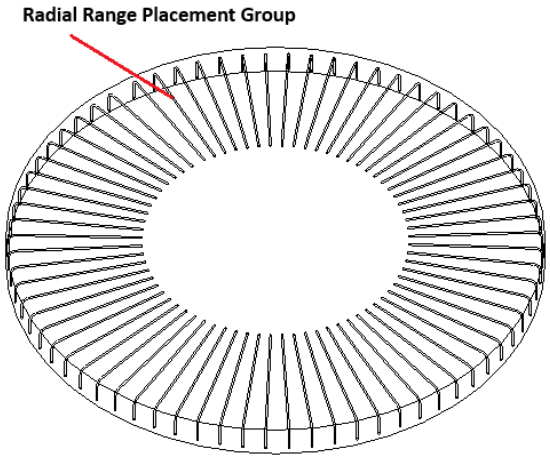
- **Varying Range Placement:** Creates a varying range from a single rebar. When annotated RC3D will show a range annotation line with one bar label and the rebar mark as (a to x) or (1.1 to 1.xx) based on the bar mark configuration.





- **Radial Range** Creates a radial range from a single rebar. The centres between the bars are controlled by the line selected to define the range. start point of the rebar . When annotated RC3D will show a radial range annotation line.



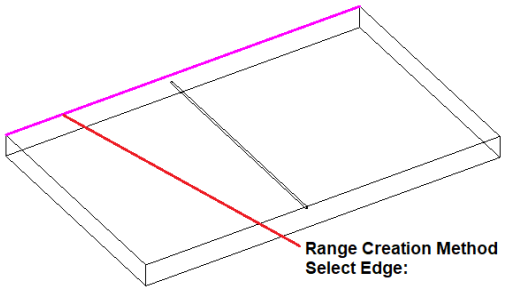


Range Creation Method

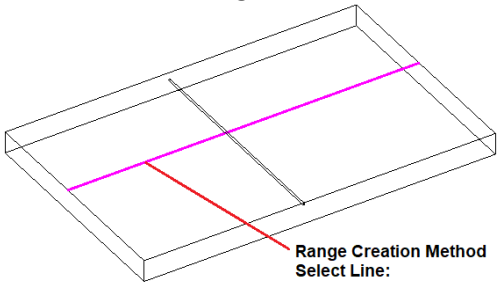
- **Select Edge:** Use the Edge of the host to define the range path direction, this

Copyright © Computer and Design Services Limited

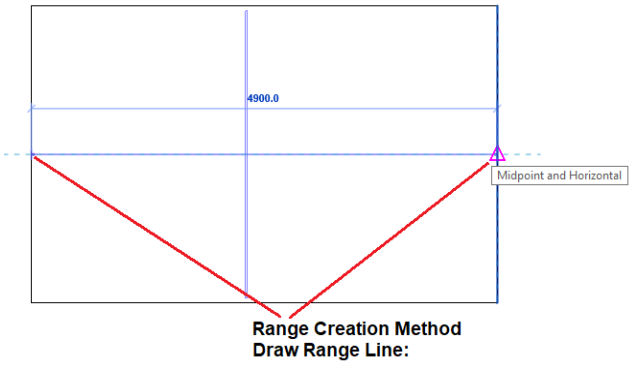
should be at an angle to the rebar.



- **Select Line:** Select a predefined Model or Detail line to define the length and direction of the range.

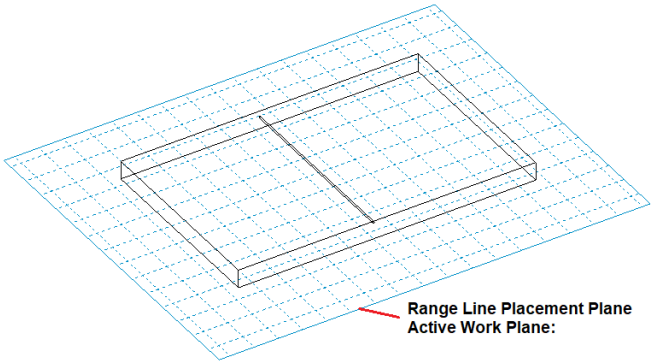


- **Draw Range Line:** Draw a temporary line that intersects the rebar to define the length and direction of the range line, can only be used in 2D Views.



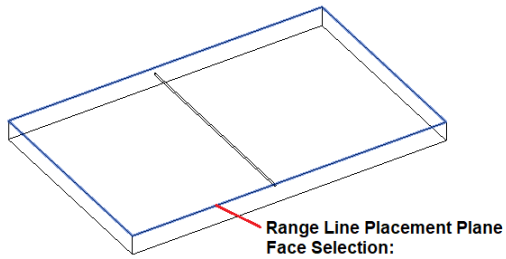
Range Line Placement Plane

- By Active Work Plane: This option will use the active work plane to create the rebar group.

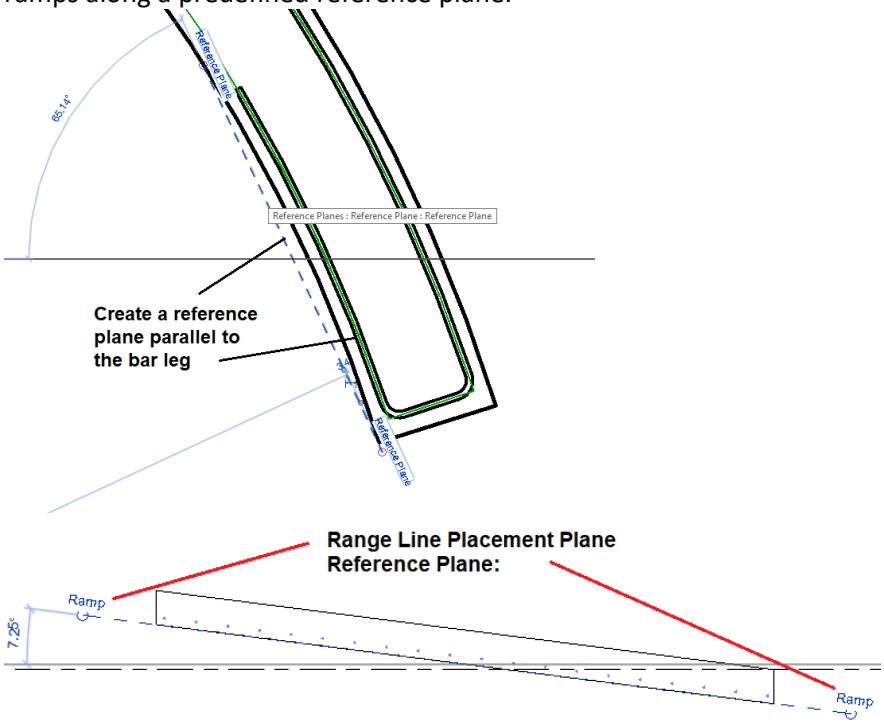


- **By Face Selection:** This option requires the selection of a face of the host structure to specify the work plane.

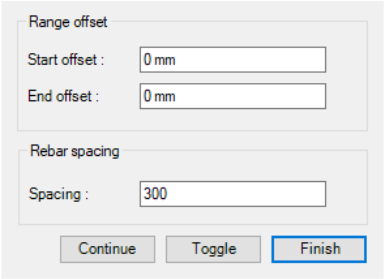
Copyright © Computer and Design Services Limited



- **By Reference Plane:** This option uses an existing reference plane to be selected from the drop-down menu for the creation of the grouped rebar. This option is useful when creating a range in a curved structure. Create a reference plane in alignment with the leg of the primary bar being selected and make it the active reference plane. Also useful for placing rebar groups on sloping ramps along a predefined reference plane.



3. Click OK to continue.
4. After the Rebar, Range Line Placement Plane and Range Creation Method have been selected the Range Offset / Spacing dialog is displayed.

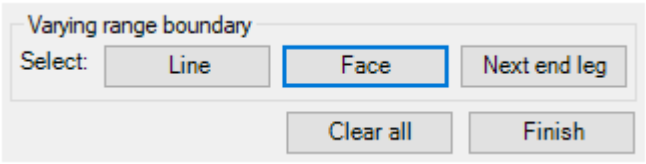


- **Range Offset** This option is only available if the Range Creation method is selected as either Select Line or Draw Range Line. Enter the Start and End Offset values if required.
- **Rebar Spacing** Enter the centre to centre spacing distance between Rebar.
- **Continue option** Select Continue to pick further edges to define as a path.
- **Toggle option** Changes the range creation direction.

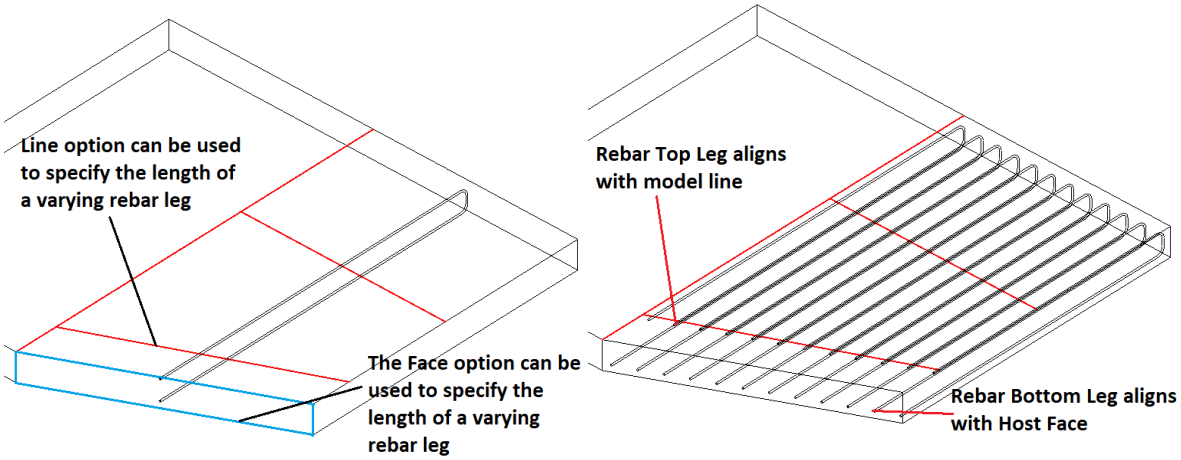
Copyright © Computer and Design Services Limited

5. Click Finish 

to create the Range Group except in the case of a Varying Range Placement.
6. The next step of the Varying Placement command prompts to “Pick a rebar end for which varying length to be applied:”
7. The Varying Range Boundary dialog is displayed:



- **Line** Select a predefined model or detail line to specify the varying range boundary.
- **Face** Select a Face of the Concrete Host to specify the varying range boundary.
- **Next Leg** Use the Next Leg option to specify the boundary for a second leg of the rebar where more than one leg of the bar is varying.



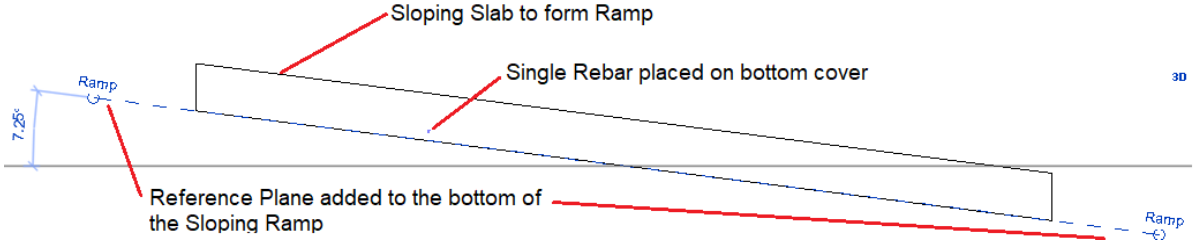
- **Clear All** Clear the current selection of the varying boundary, allows selection of an alternative line, face or rebar leg.

8. Click Finish to create the Varying Range

5.4.2 Range Placement (using A Reference Plane)

Rebar placed along the slope in a Concrete Structural Ramp using a Reference Plane

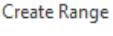
1. The concrete slab has been modelled with a slope of 7.5 degrees.
2. A Reference Plane has been drawn on the bottom face of the ramp, this does not need to be set as the current reference plane in Revit.
3. A single rebar has been added to the bottom face of the ramp.



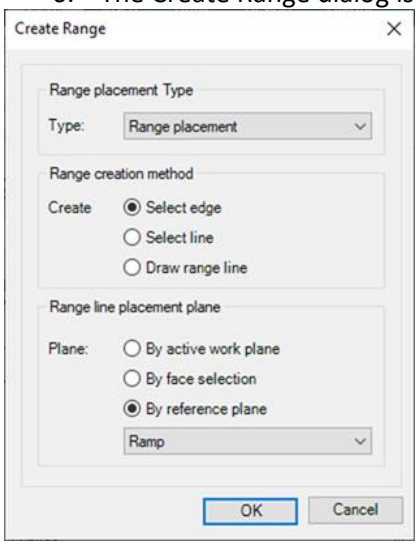
4. Change to a 3D View of the Slab

Copyright © Computer and Design Services Limited

5. Select the Range Place 

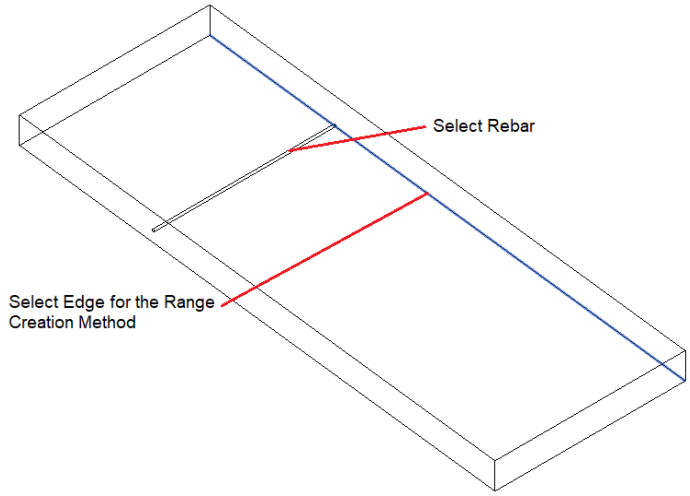
Create Range 

command from the Detailing Panel.
6. The Create Range dialog is displayed.

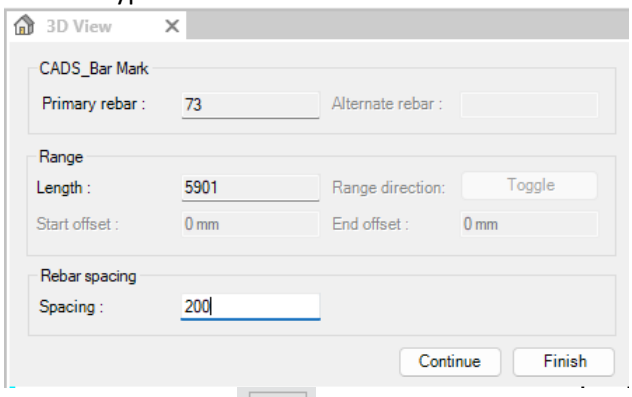


- Range Placement Type: Range Placement.
- Range Creation Method: Select Edge.
- Range Line Placement Type: By Reference Plane, select Ramp on the drop-down menu.

7. Click OK.



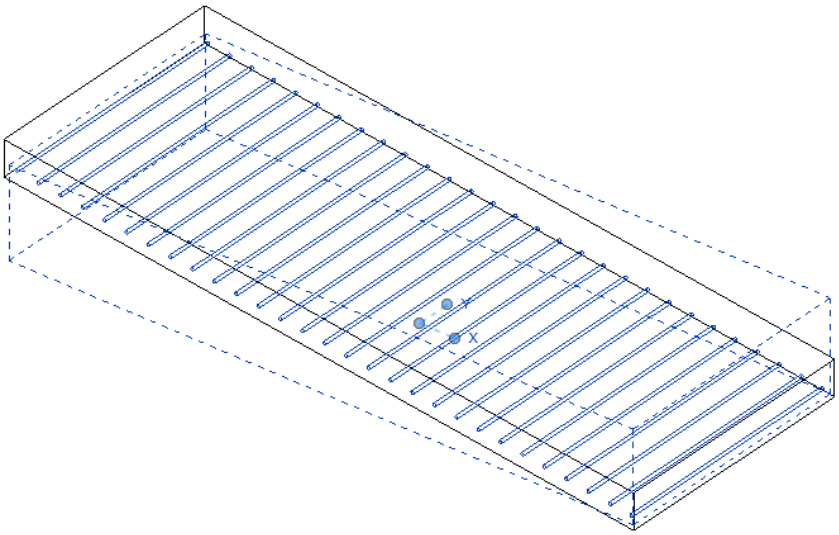
8. Type in the centre to centre distance for the Rebar.



9. Click Finish 

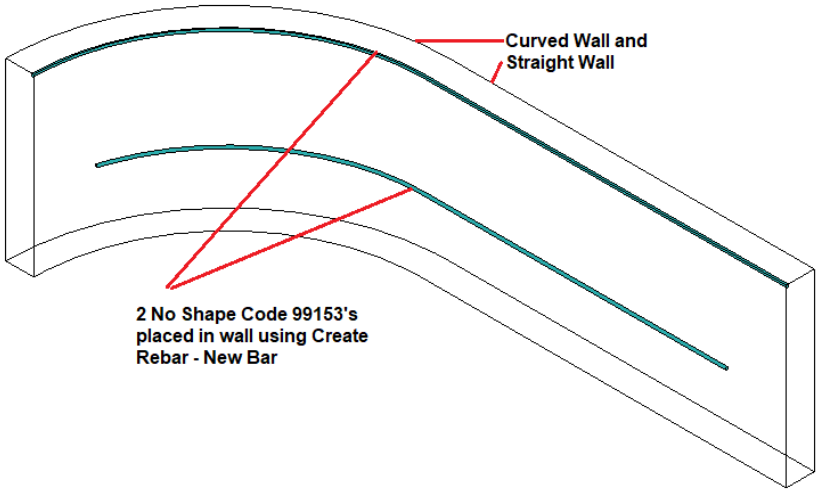
to create the Range Group.

Copyright © Computer and Design Services Limited

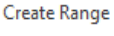


5.4.3 Alternate Range

1. Create a straight and curved wall joined together as shown below;
2. Add in two shape code 99153's using the Create Rebar – New Rebar command.

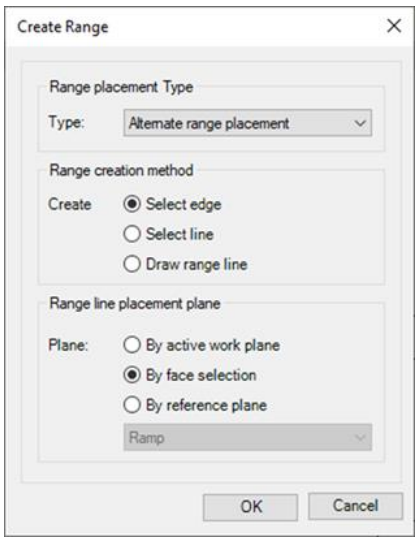


3. Select the Range Place 

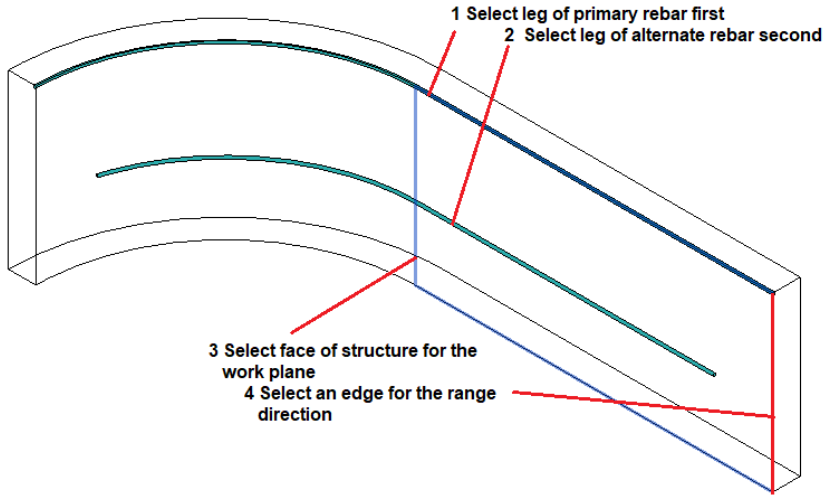
Create Range 

command from the Detailing Panel.
4. The Create Range dialog is displayed.

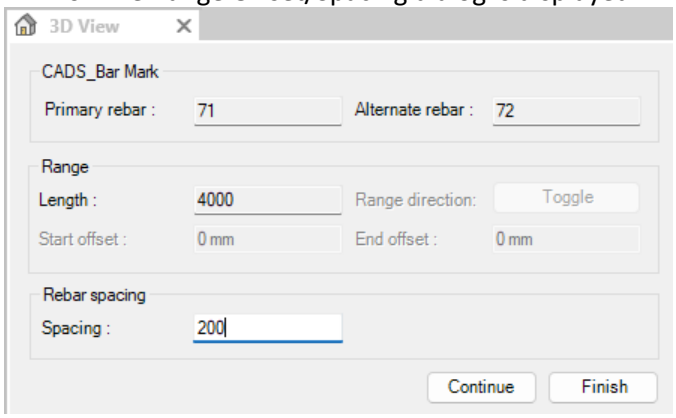
Copyright © Computer and Design Services Limited



- Range Placement Type: Alternate Range Placement
- Range Creation Method: Select Edge
- Range Line Placement Type: By Face Selection



5. Click Ok
6. Pick a Rebar Leg of Primary Rebar.
7. Pick a Rebar Leg of Alternate Rebar.
8. Select the face of the rebar host to set a reference plane for the range line.
9. Select an Edge to add to the path.
10. The Range Offset/Spacing dialog is displayed

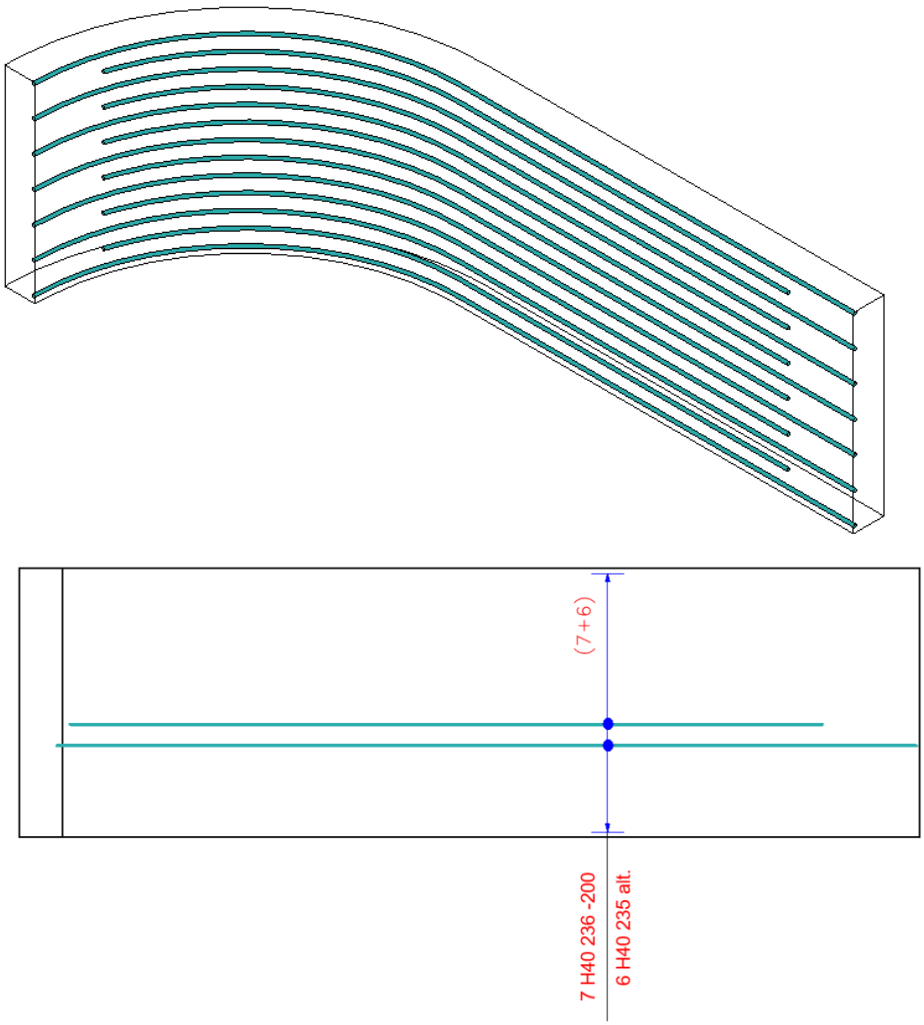


11. Type in the centre to centre spacing.

Copyright © Computer and Design Services Limited

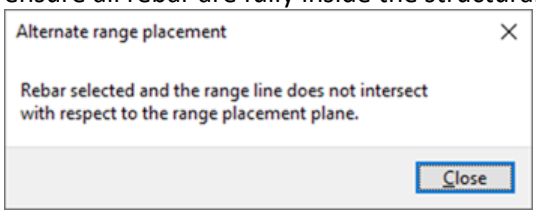
12. Click Finish 

.



13. The alternate range is created as shown above;

Note: If the following error message is displayed check the position or the rebar in a section and ensure all rebar are fully inside the structural element.



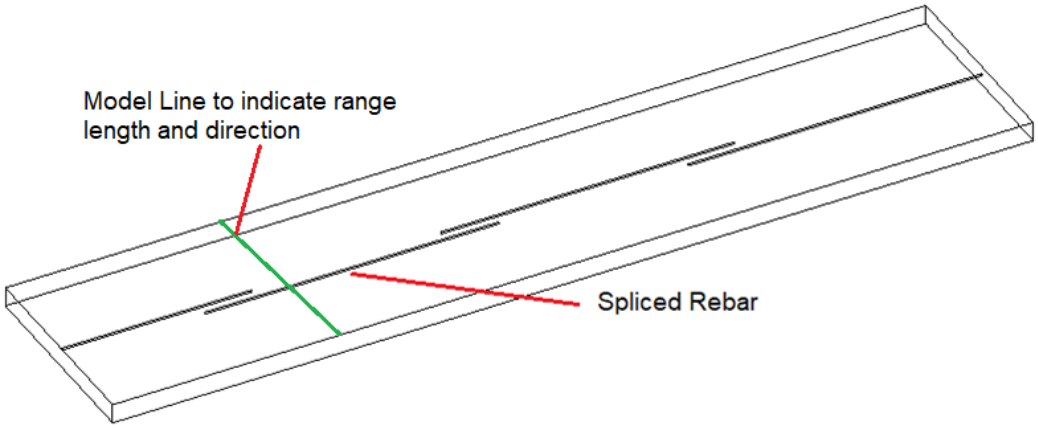
Note: The text suffix for the second annotation label (alt) is configured in Project Settings – General Tab – Group – Default Comment for Group Annotation.

5.4.4 Staggered Range

Creating a Staggered Range / Assembly from a Single Rebar.

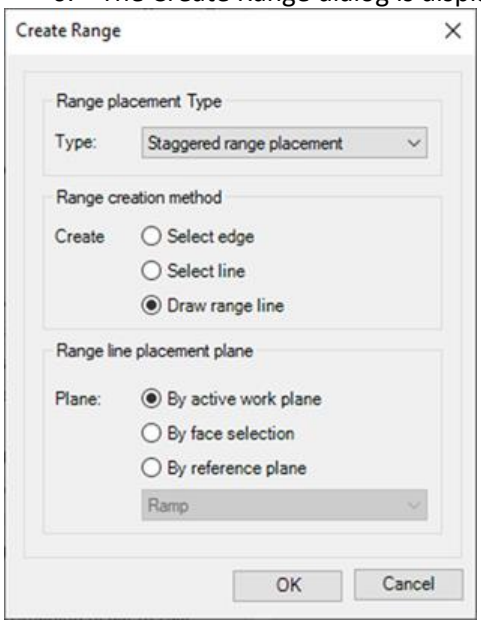
1. Use Revit® Rebar Placement Tools to place a single Rebar in the Slab.
2. The use Straight Splice Lap to splice the straight bars as shown below;
3. Draw a model line 90 degrees to the second splice bar as shown below;

Copyright © Computer and Design Services Limited



4. Change to a 2D View of the slab
5. Select the Range Place 

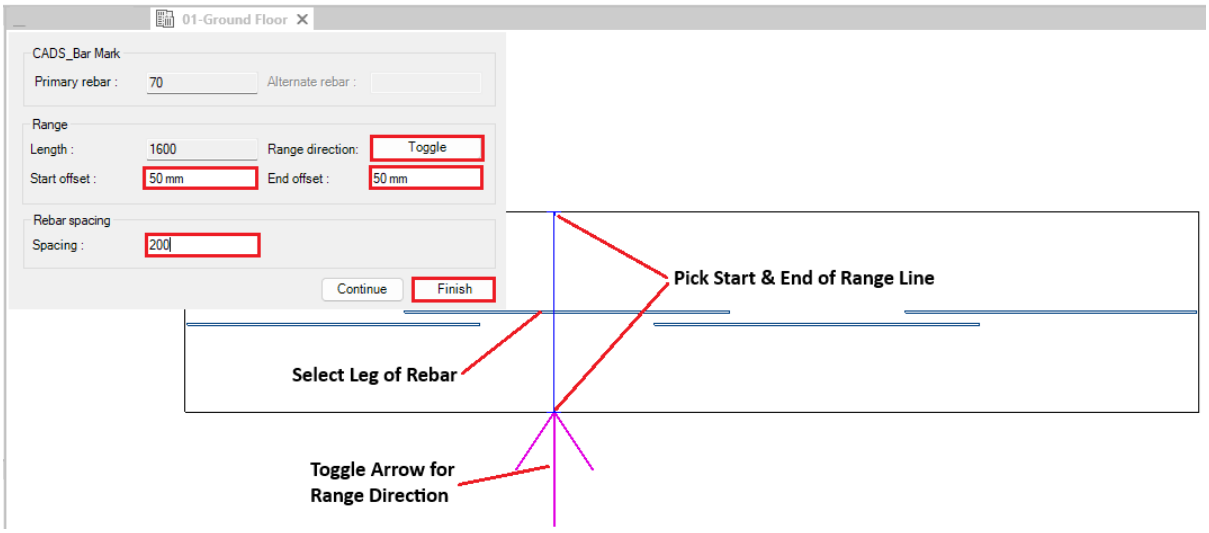
Create Range command from the Detailing Panel.
6. The Create Range dialog is displayed.



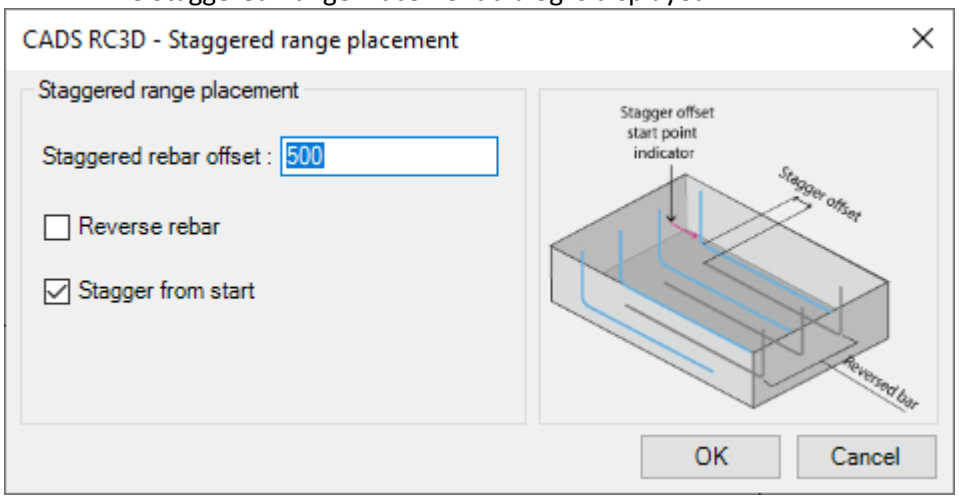
- Range Placement Type: Staggered Range Placement.
- Range Creation Method: Draw Range Line.
- Range Line Placement Plane: By Active Work Plane.

7. Click OK to continue.

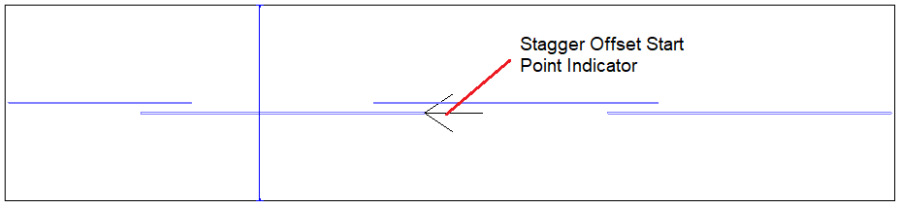
Copyright © Computer and Design Services Limited



8. Pick a rebar leg of primary rebar.
9. Pick the Start and End Points of the Range Line
10. The Range Offset/Spacing dialog is displayed to the top left of the screen.
    - Type in the start and end rebar offset distances.
    - Type in the Centre to Centre spacing
    - Use the Toggle option to reserve the range start point if required.
11. Click OK.
12. The Staggered Range Placement dialog is displayed.

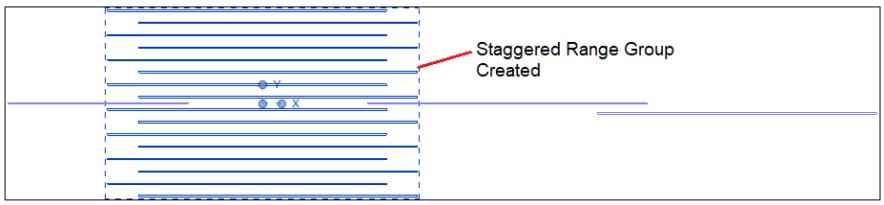


- Staggered Rebar Offset: Type in the offset between the start of one bar and the next as shown in the diagram below.
- Reverse Rebar: Tick this option to reverse the rebar with the structure, see diagram below.
- Stagger from Start: Tick this option to start the stagger from the point indicated by the arrow in the structure.

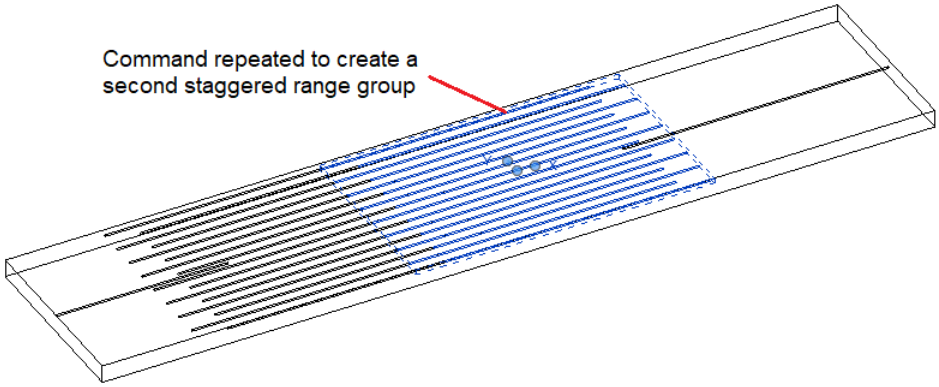


13. Click OK to place the Alternate Range Group

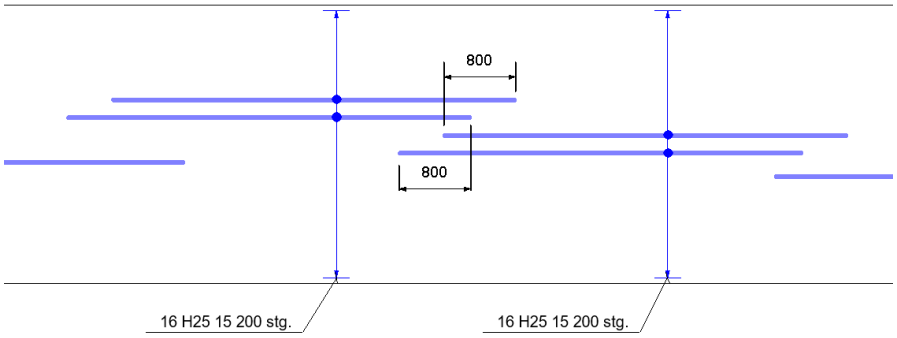
Copyright © Computer and Design Services Limited



14. Completed Staggered Range Group.
15. Command repeated to produce second staggered range group.



16. Annotated Staggered Rebar Groups.



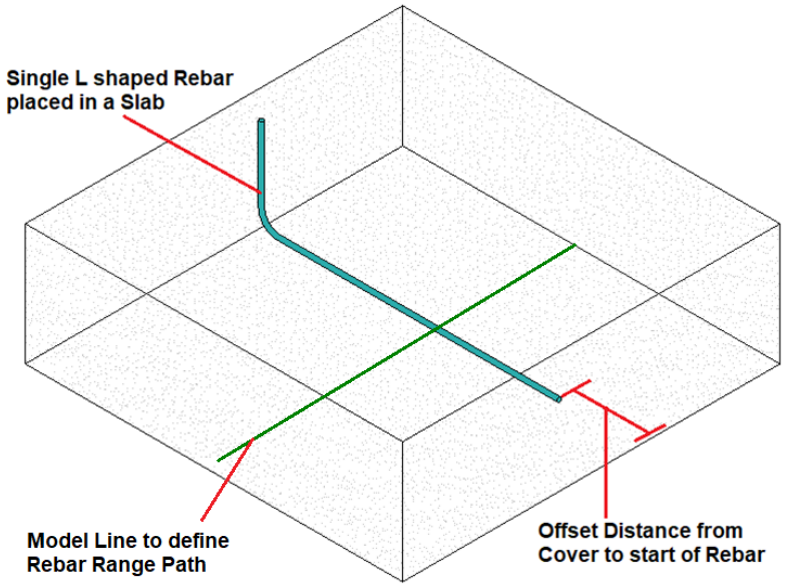
Note: The text suffix for the annotation label is configured in Project Settings – General Tab – Group – Default Comment for Group Annotation.

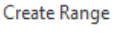
5.4.5 Staggered Range (L Bar Reversed)

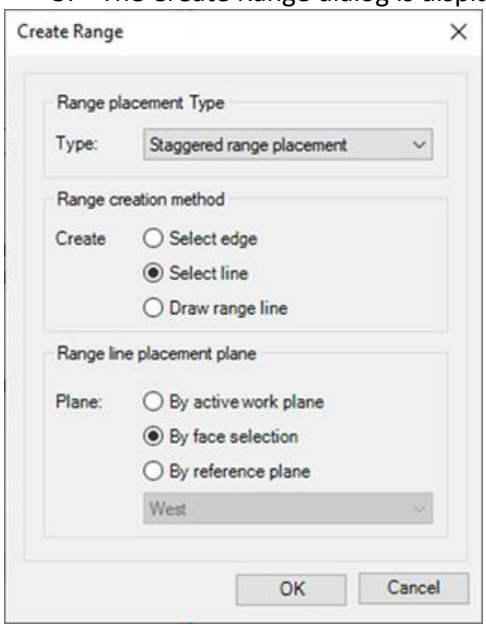
This workflow describes how to create a staggered reversed range group from a single rebar placed in the structure.

1. Place a single L Bar in the structure using Revit® Rebar Placement tools prior to using the Create Range command.
2. Measure the distance from the end of the long leg to the cover line on the edge of the structure, you will need this for the offset distance later.
3. Draw a model to define the rebar range path.

Copyright © Computer and Design Services Limited



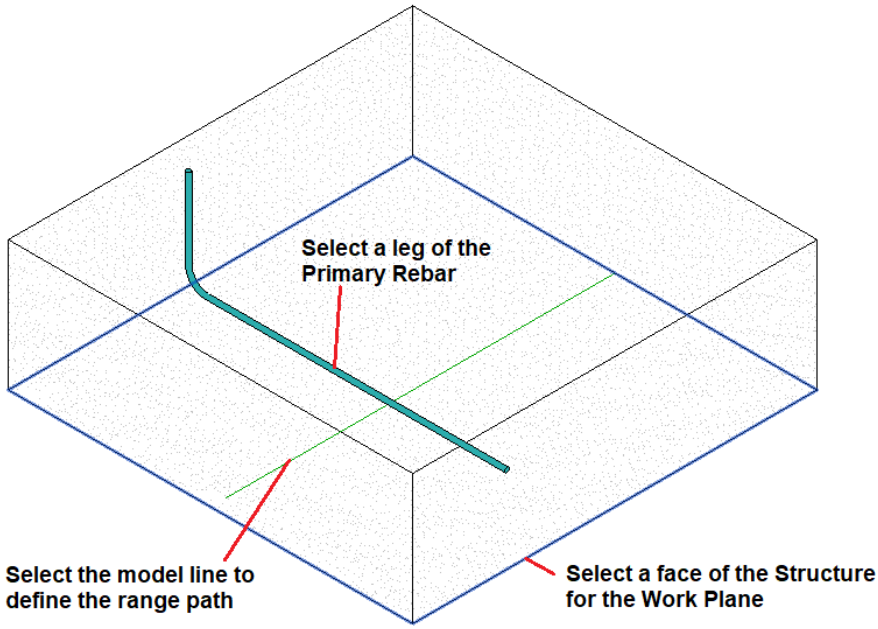
4. Select the Range Place  Create Range  command from the Detailing Panel.
5. The Create Range dialog is displayed.



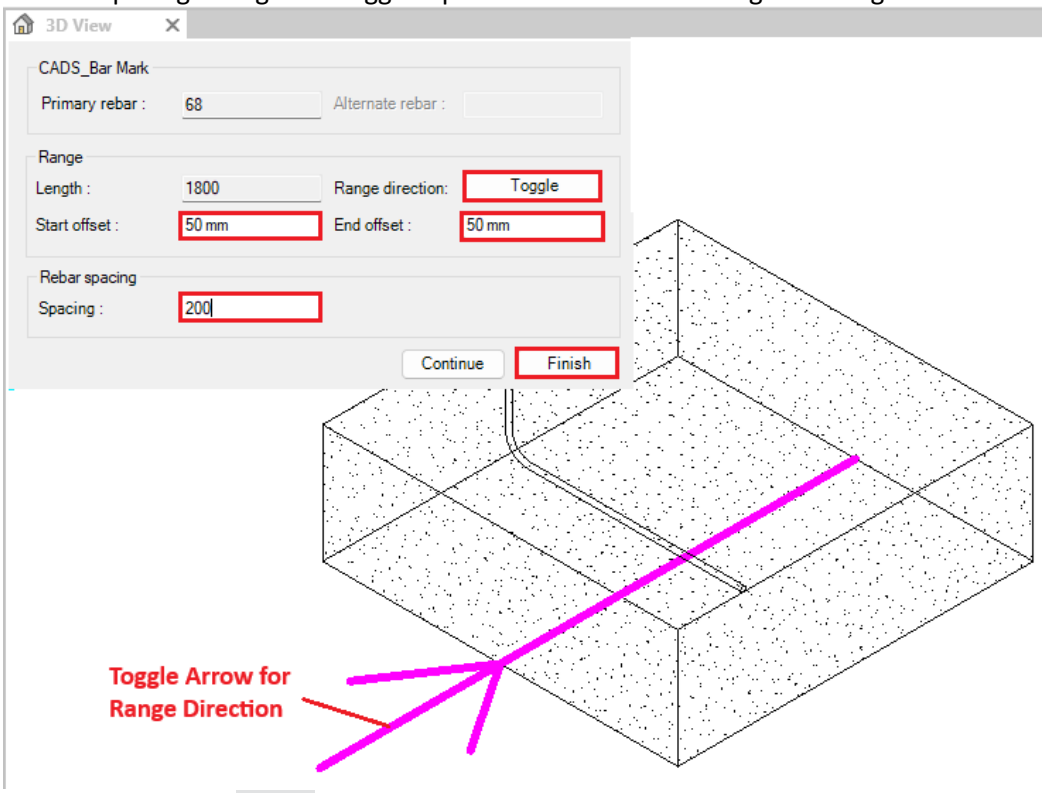
- Range Placement Type: Staggered Range Placement
- Range Creation Method: Select Line
- Range Line Placement Plane: By Face Selection

6. Click OK

Copyright © Computer and Design Services Limited

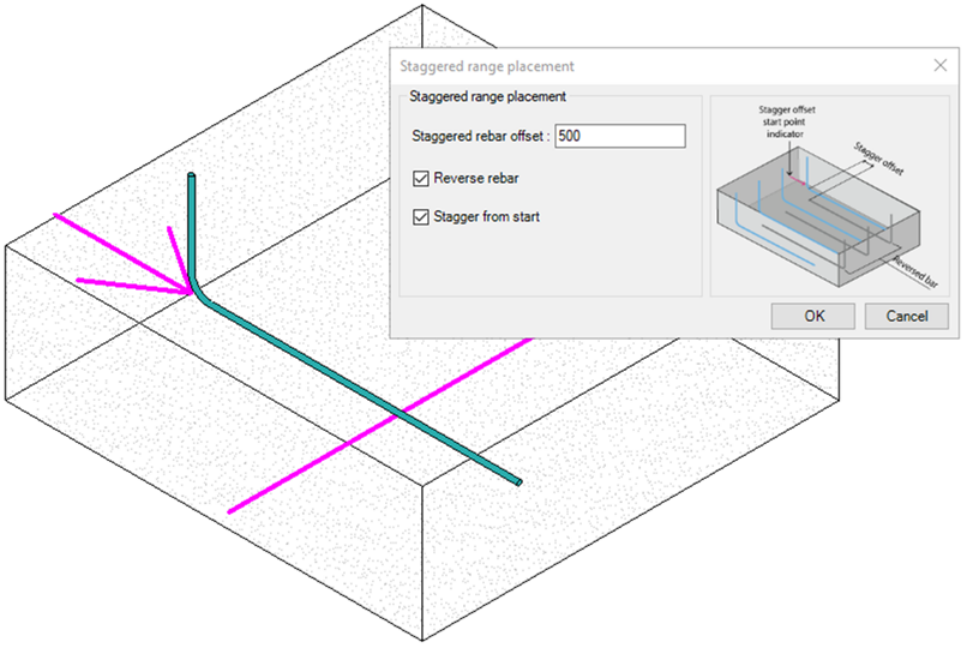


7. Pick a rebar leg of the primary rebar: Select a leg of the rebar.
8. Select a face of the rebar host to set a reference plane for the range line:
9. Select the model line to define the range path: For the range / assembly direction.
10. Enter 50mm for the range start & end offsets, 200mm spacing in the Range Offset/Rebar Spacing dialog. The Toggle option can be used to change the range direction.



11. Click Finish  .
12. The Staggered Range Placement dialog is displayed.

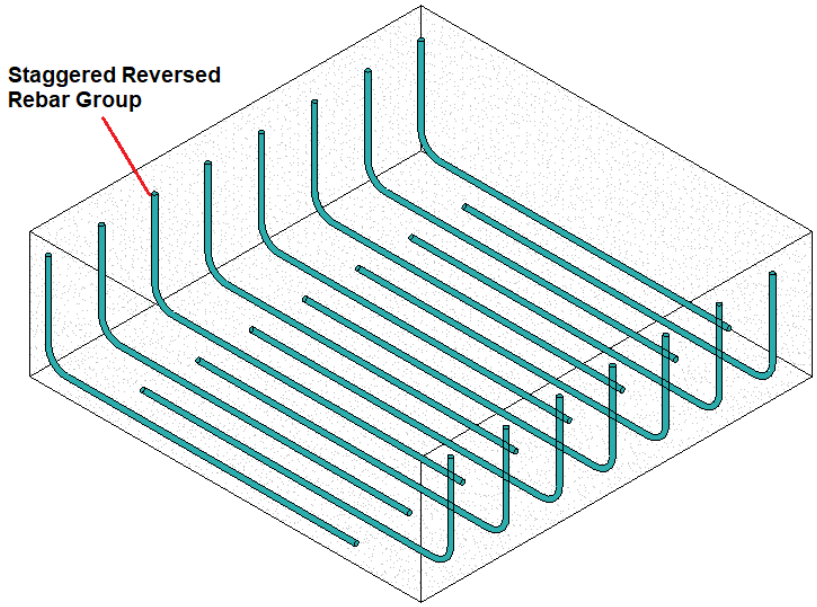
Copyright © Computer and Design Services Limited



- Enter the offset distance for the staggered rebar.
- Tick Reverse Rebar option.
- Tick Stagger from Start option.

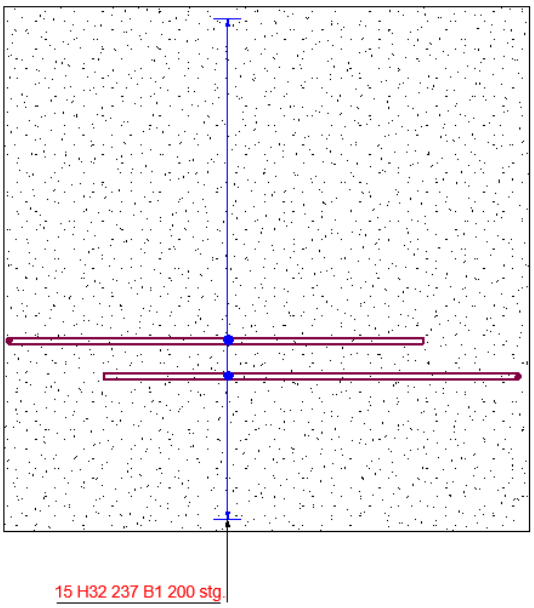
13. Click OK.

The Staggered Rebar Reversed Group is created as shown below;



Annotated Staggered Reversed Rebar Group.

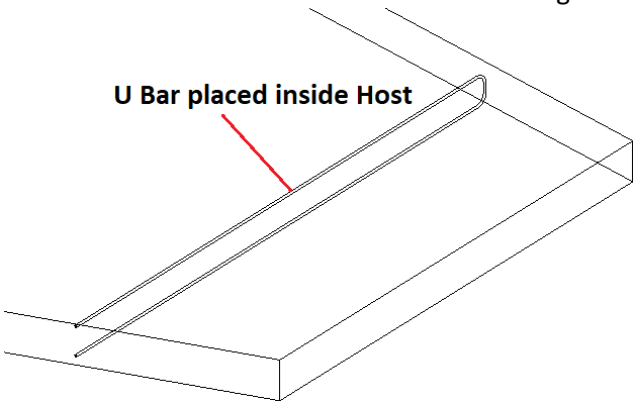
Copyright © Computer and Design Services Limited



5.4.6 Varying Range

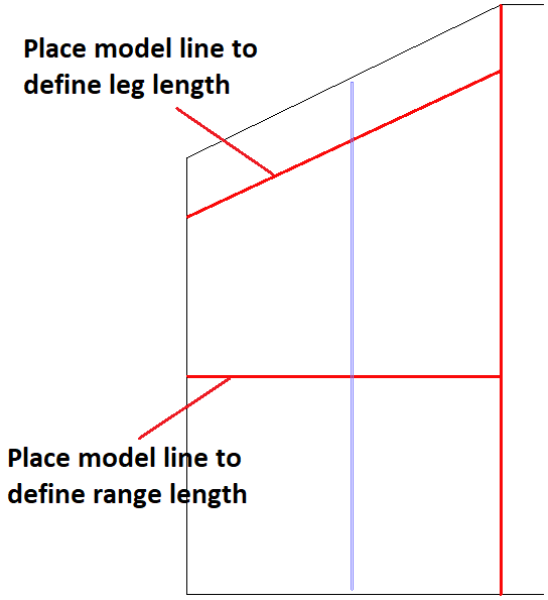
In this example a U bar with two tapering legs of different length is created.

1. Create a concrete host with a tapering edge to host the Varying Taper Range.
2. Place a U Bar with the First and Last Legs in the Top and Bottom Faces of the slab.

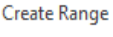


3. Place model lines to define the length of the range line and the length of the top bar leg.

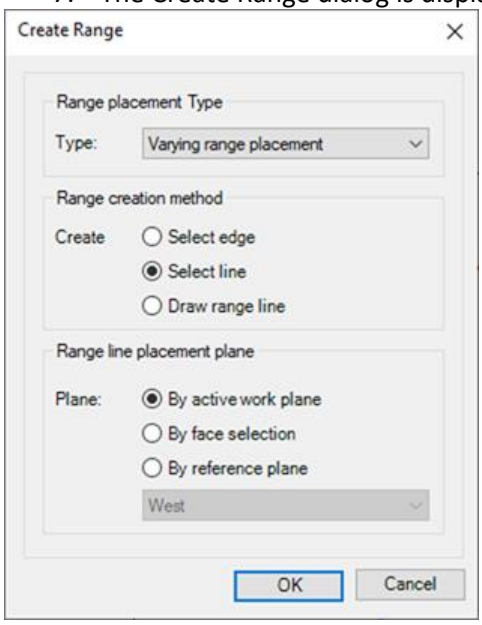
Copyright © Computer and Design Services Limited



4. Tile a 2D and 3D view of the Host showing the U Bar.
5. Select the 2D View of the slab.
6. Select the Range Place 

Create Range 

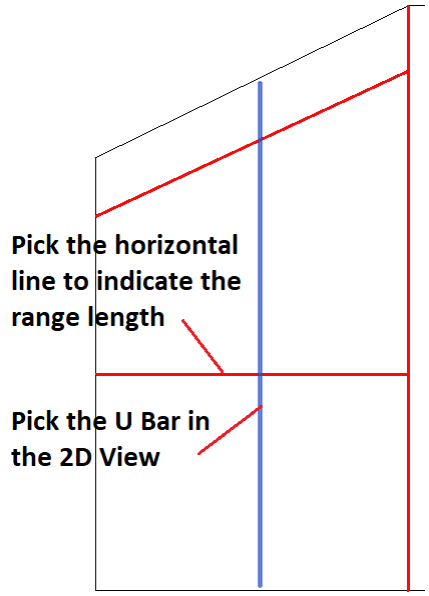
command from the Detailing Panel.
7. The Create Range dialog is displayed, choose the options shown below;



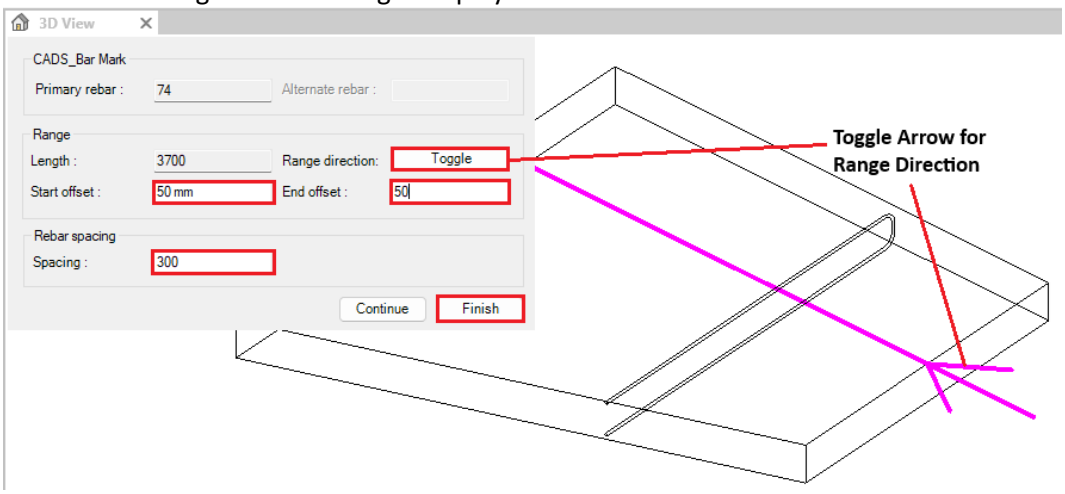
- Range Placement Type: Varying Range Placement.
- Range Creation Method: Select Line.
- Range Line Placement Plane: By Active Work Plane.

8. Click OK
9. Pick Rebar: Select the U Bar in the 2D View.
10. Pick a Line: Select the horizontal line that represents the range length in the 2D View.

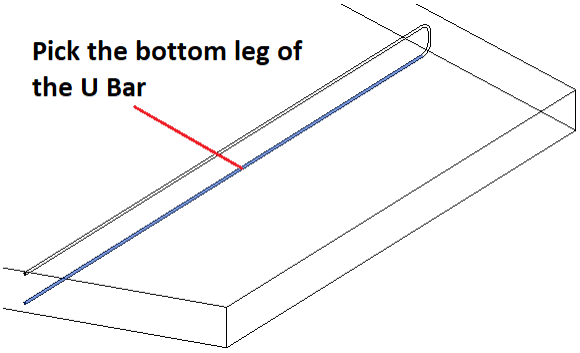
Copyright © Computer and Design Services Limited



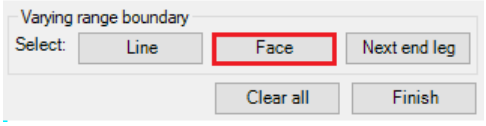
11. The Range Details dialog is displayed.



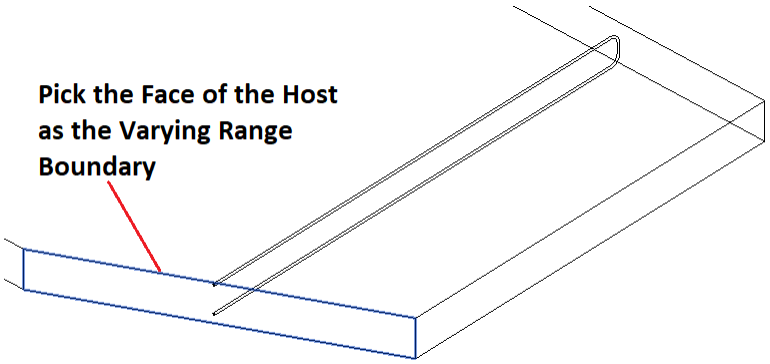
12. Type in the required start and end offsets.
13. Type in the centre to centre spacing for the Rebar.
14. Click Finish.
15. Pick a rebar end for which varying length to be applied: In a 3D View select the bottom leg of the U Bar.



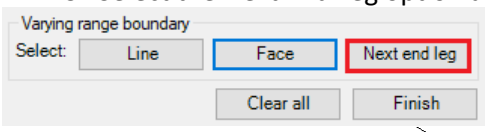
16. The Varying Range Boundary dialog is displayed.
17. Select the Face option and pick the face of the host indicated below;

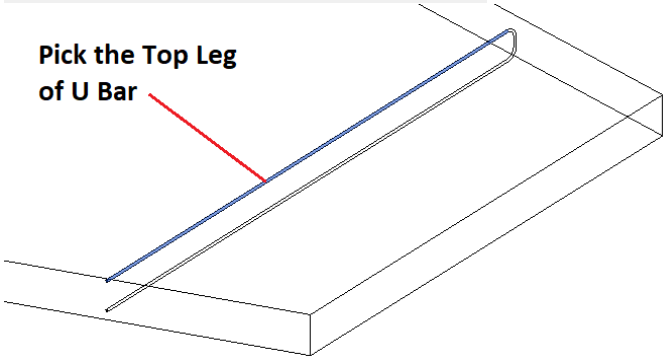


Copyright © Computer and Design Services Limited

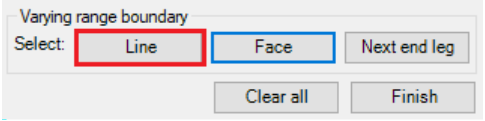


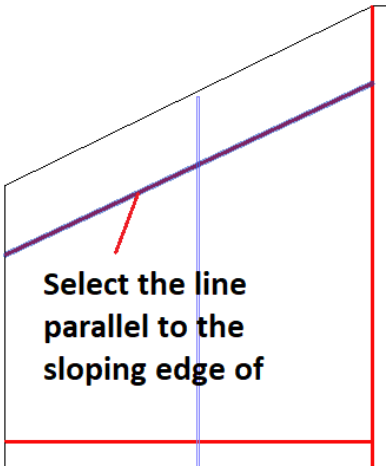
18. The Varying Range Boundary dialog is displayed.
19. Select the Next End Leg option and pick the top leg of the U Bar as indicated below;





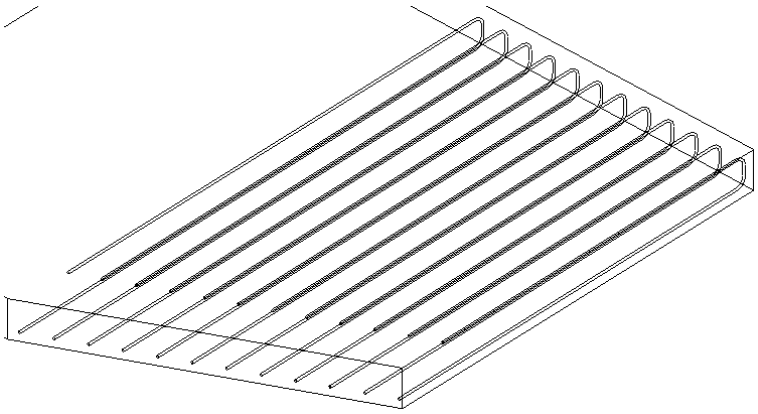
20. The Varying Range Boundary dialog is displayed.
21. Select the Line option, switch to the 2D View and select the line that runs parallel to the sloping edge of the host as indicated below;





22. Click Finish to place the Varying Range.

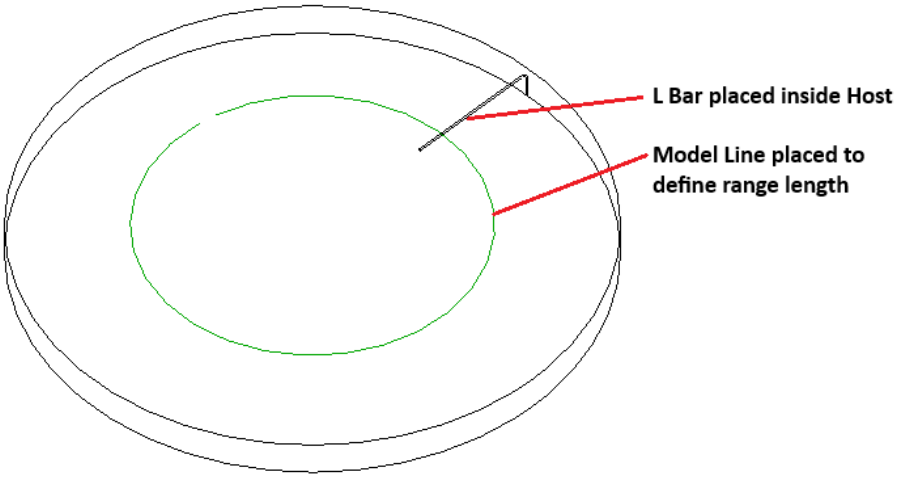
Copyright © Computer and Design Services Limited

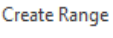


5.4.7 Radial Range

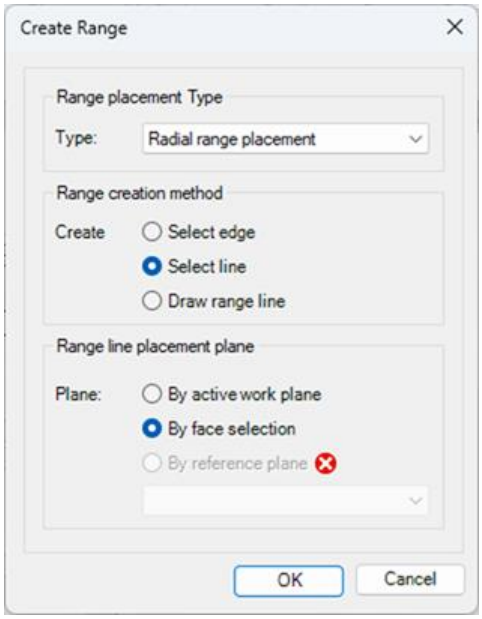
In this example an L Bar is used to create a radial range in a circular slab.

1. Create a circular concrete host to host the Radial Range.
2. Place an L Bar with the First Leg in the Top of the slab.



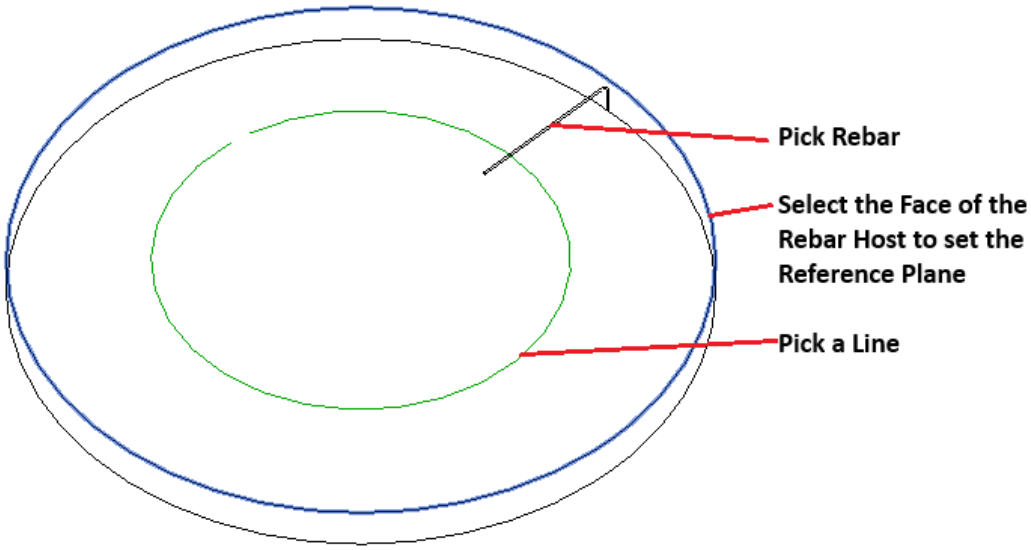
3. Place an arc model line to define the length of the range line.
4. Make the 3D View of the slab active.
5. Select the Range Place  Create Range  command from the Detailing Panel.
6. The Create Range dialog is displayed, choose the options shown below;

Copyright © Computer and Design Services Limited

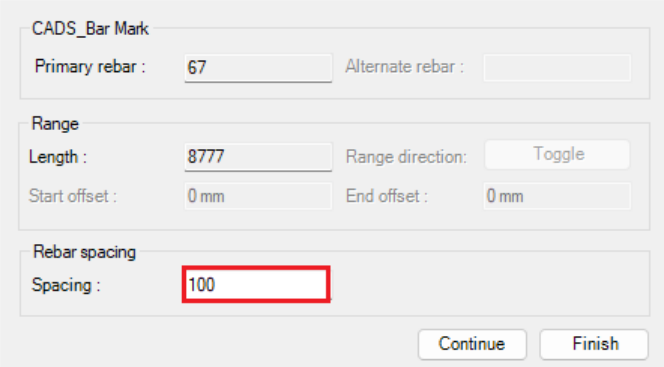


- Range Placement Type: Radial Range Placement.
- Range Creation Method: Select Line.
- Range Line Placement Plane: By Face Selection.

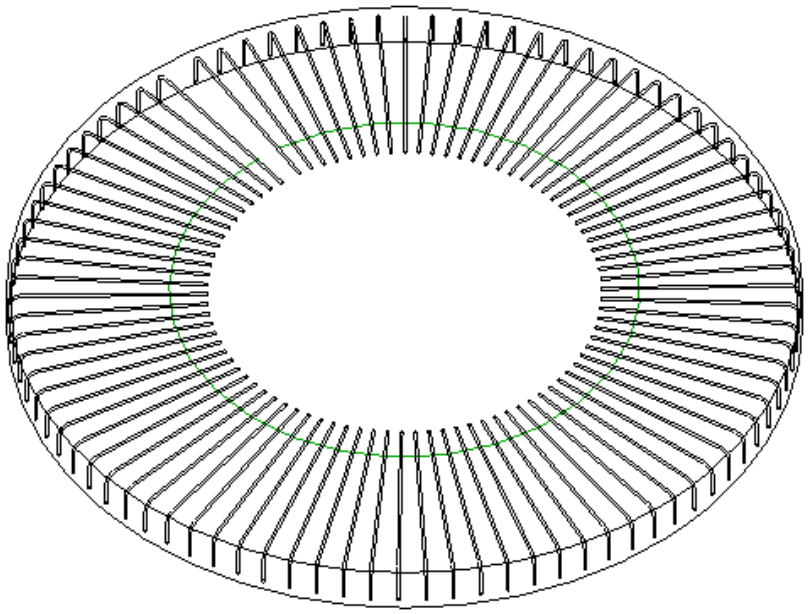
7. Click OK
8. Pick Rebar: Select the L Bar in the 3D View.
9. Select the Face: Pick the upper face of the slab
10. Pick a Line: Select the arc drawn previously



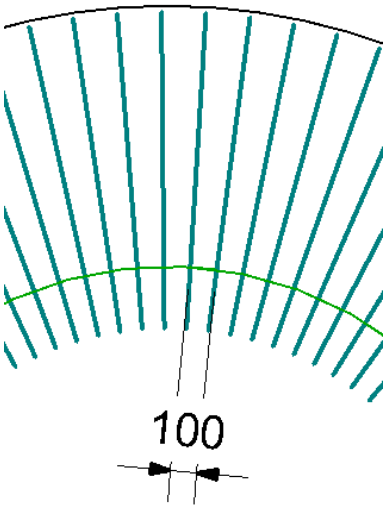
11. The Range Details dialog is displayed, enter the required centres and click Finish.



Copyright © Computer and Design Services Limited



12. The centres are measured at the position of the line selected to define the range.

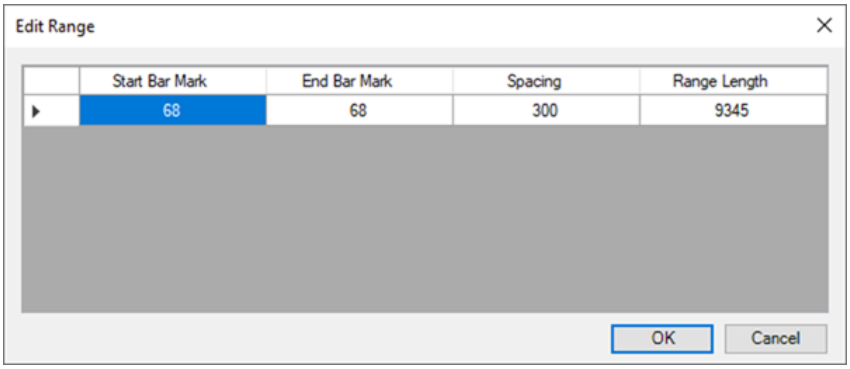


5.5 Edit Range

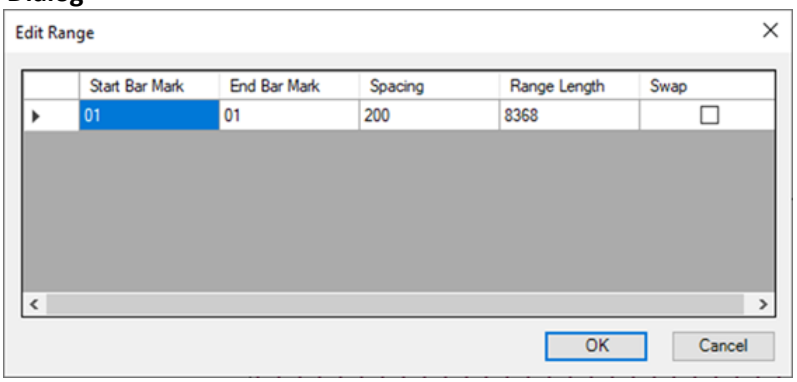
Use the Edit Range Edit Range command from the Range Place Range Place drop down menu on the Detailing Panel to swap the order of the rebar in an alternate range or change the spacing between rebar. Select the Edit Range Edit Range command and then select a CADS Range Group, the dialog box displayed will alternate depending on the range style selected.

Range Dialog

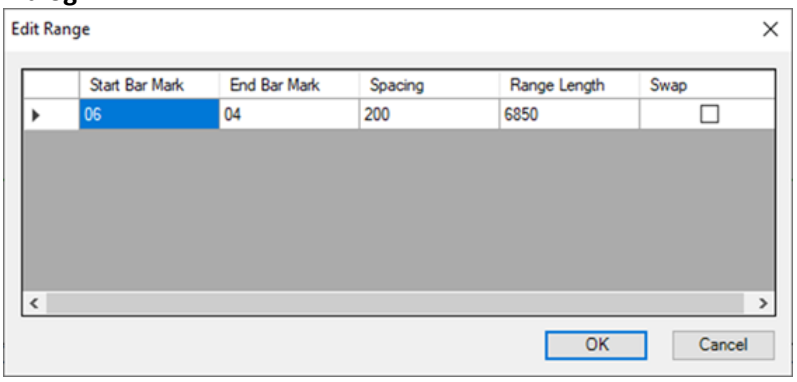
Copyright © Computer and Design Services Limited



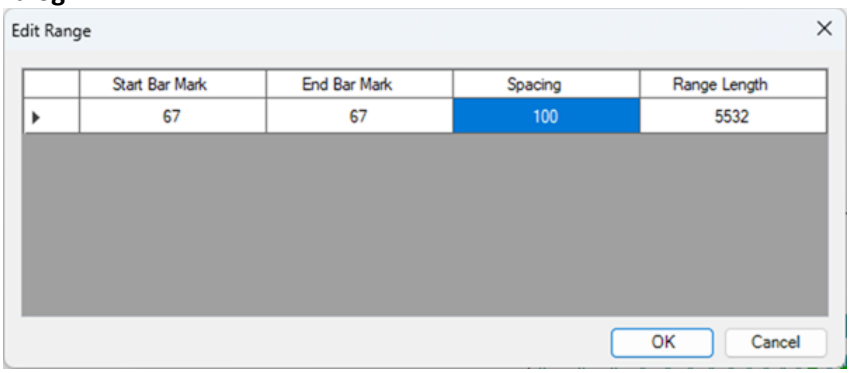
Staggered Range Dialog



Alternate Range Dialog



Radial Range Dialog

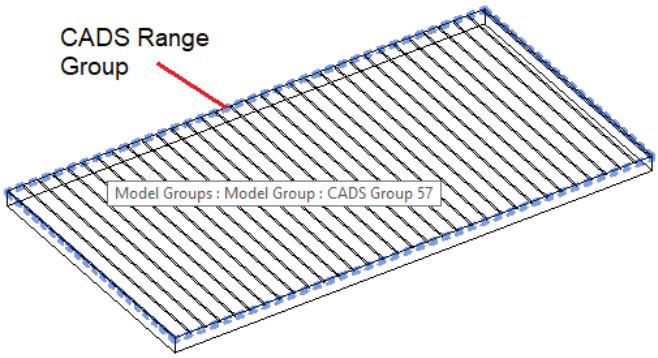


5.5.1 Edit Standard Range

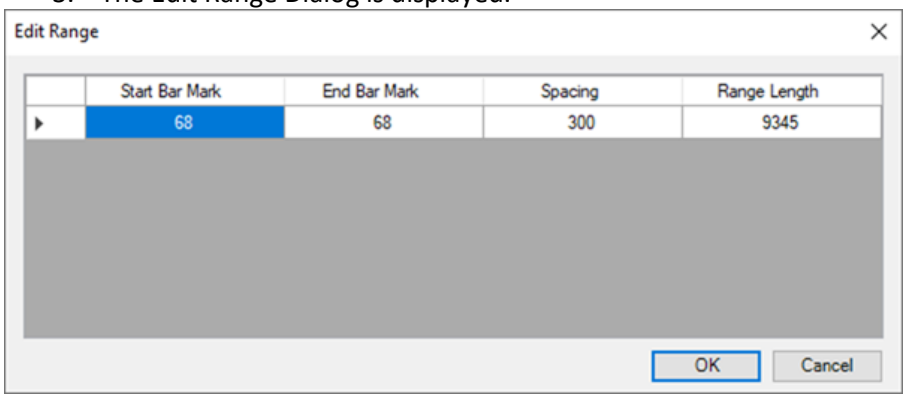
A Standard CADS Range Group will need to be placed in a Concrete Structural Element prior to editing, Create Range – Range Placement.

Copyright © Computer and Design Services Limited

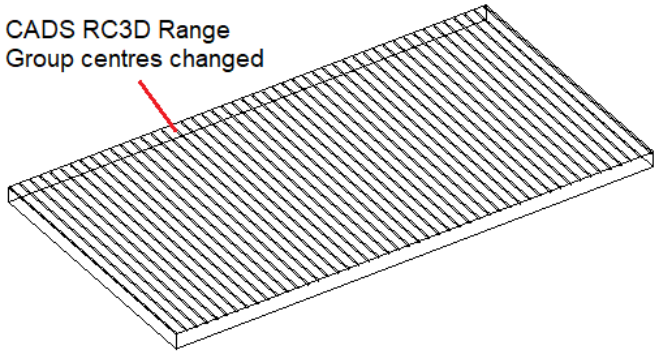
1. Select the Edit Range option from the Range Place drop down menu from the Detailing Panel.
2. Select a CADS Range Group in the Project.



3. The Edit Range Dialog is displayed.



4. Only the centre to centre spacing between rebar can be edited in this dialog. Change from 300 to 200 centres.

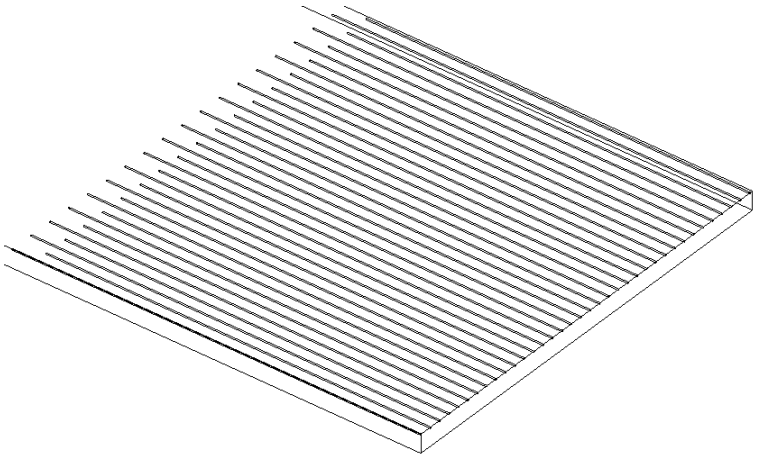


5.5.2 Edit Alternate Range

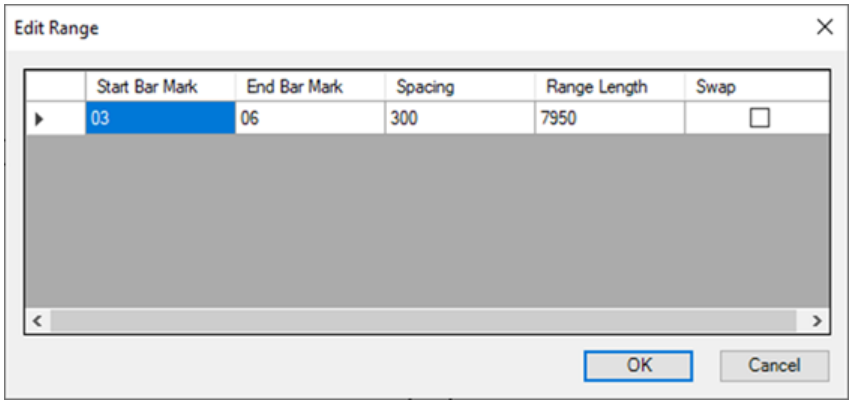
An Alternate CADS Range Group will need to be placed in a Concrete Structural Element prior to editing, Create Range – Alternate Range Placement.

1. Select the Edit Range option from the Rebar Range Placement drop down menu from the Detailing Panel.
2. Select an Alternate Range Group in the model.

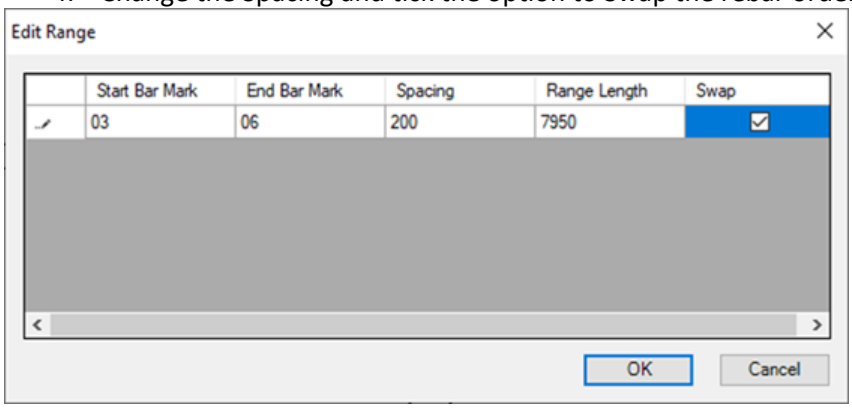
Copyright © Computer and Design Services Limited



3. The Edit Range dialog is displayed showing different bar mark numbers for the Start and End Bar Marks.

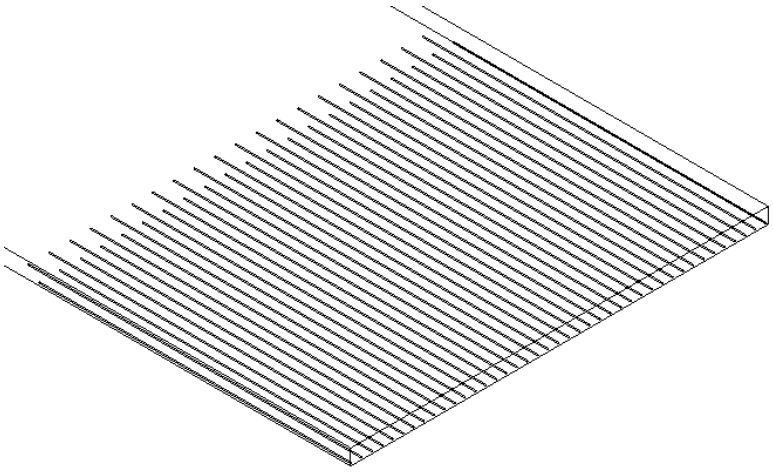


4. Change the Spacing and tick the option to Swap the rebar order.



5. Click OK.
6. The Bar Mark ordered is swapped in the structure and rebar are placed at 200mm centres.

Copyright © Computer and Design Services Limited



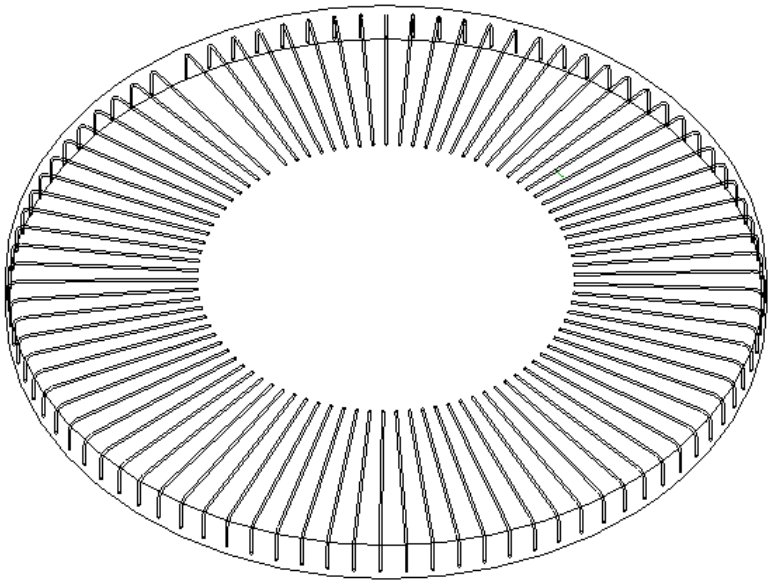
5.5.3 Edit Radial Range

A Staggered CADS Range Group will need to be placed in a Concrete Structural Element prior to editing, Create Range – Radial Range Placement.

1. Select the Edit Range 

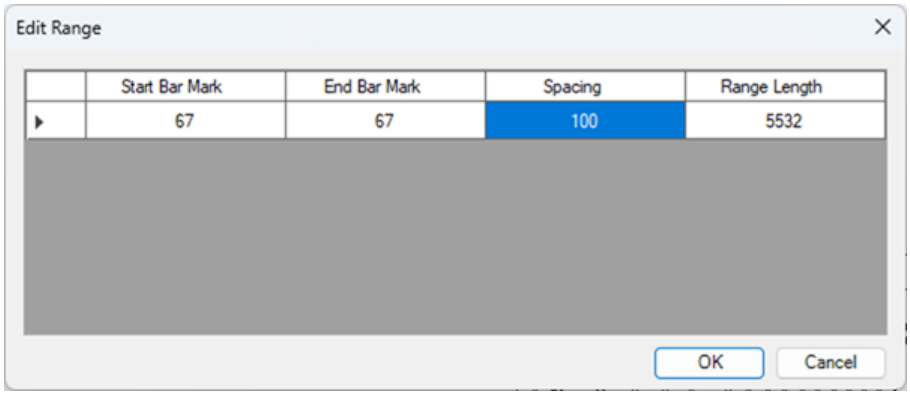
option from the Range Place 

drop down menu from the Detailing Panel.
2. Select a Radial Range Group in the model.

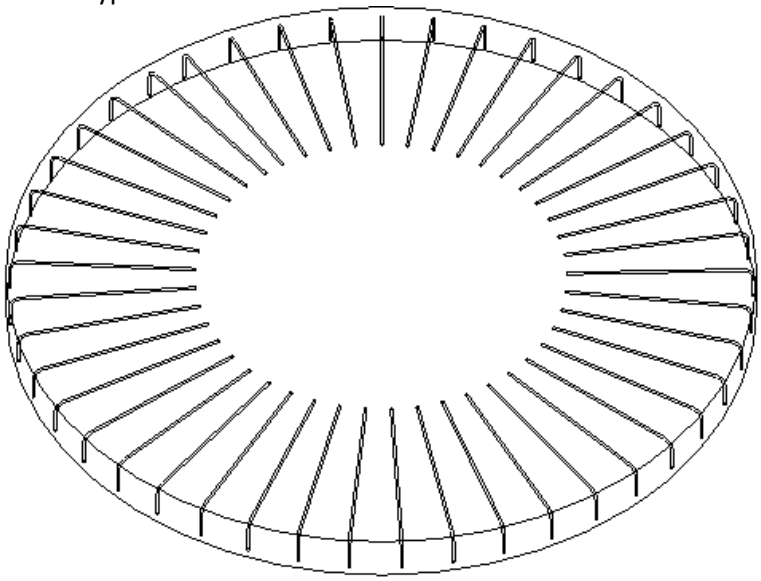


3. The Edit Range dialog is displayed showing the bar mark, bar centres and the range length.

Copyright © Computer and Design Services Limited

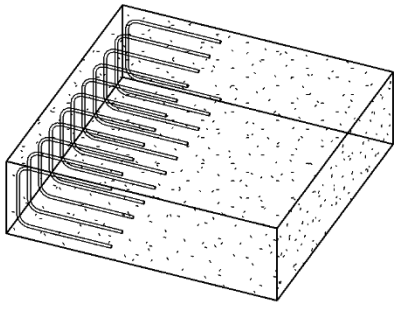


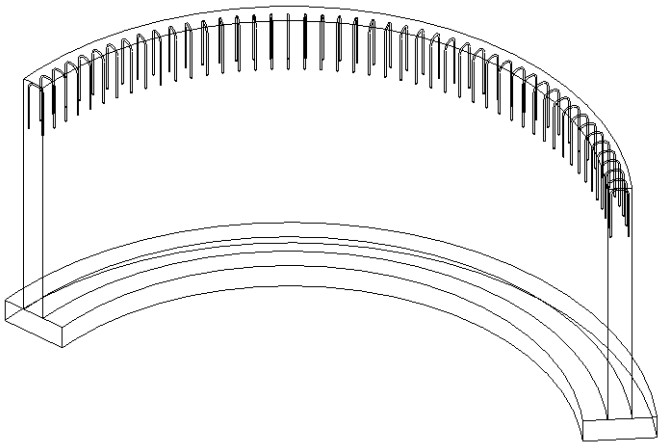
4. The only editable field is the bar centres.
5. Type in the new centre to centre distance and click ok.



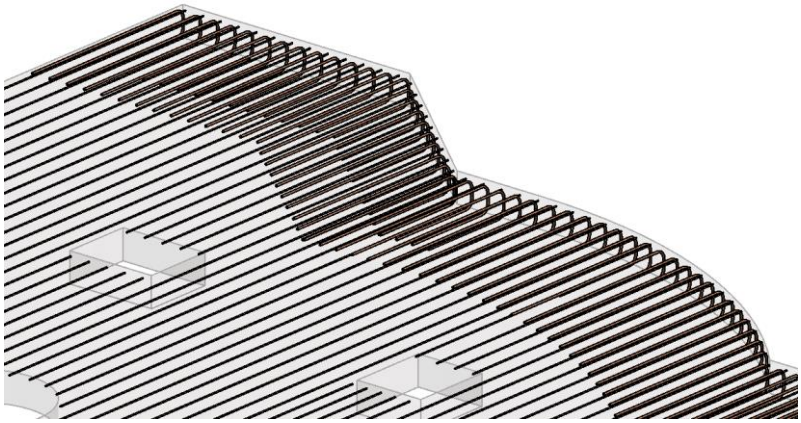
5.6 Edge Bar Place

The two Edge Bar commands place either L or U Bars along the edges or around the openings of slabs and walls.





Copyright © Computer and Design Services Limited

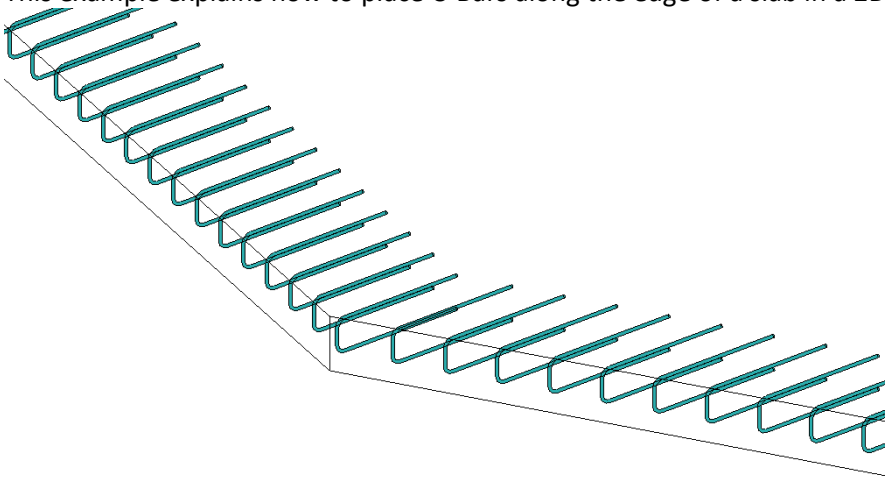


Edge Bar Edge Bar command places U bars or L bars along the edges of slabs and walls by defining the rebar direction and path. This function supports beams, columns, foundations, curved and irregular shaped walls. The command works in 2D and 3D views with slightly different workflows in each dependent on the structure type.

Edge Bar Lap Edge Bar Lap command has the additional options to lap with existing rebar and specify the lap distance. The tools are similar to the Revit® Path reinforcement feature but, has had the orientation limitations removed from placing U bars and L bars around the edge of walls and slabs.

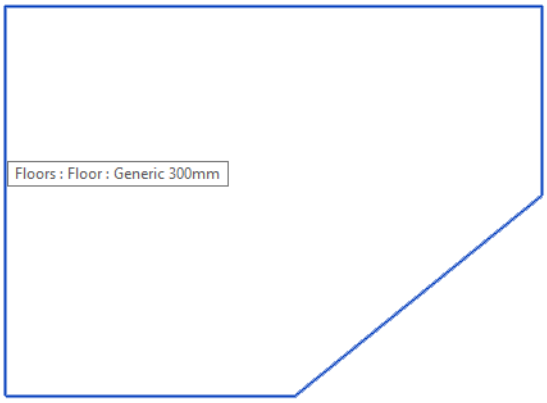
5.6.1 Edge Bar Slabs 2D Workflow

This example explains how to place U Bars along the edge of a slab in a 2D View.



1. Open a 2D view of the structure to add the edge rebar.

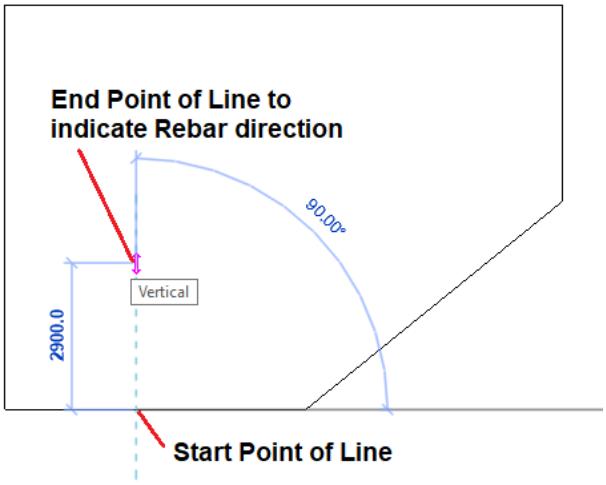
Copyright © Computer and Design Services Limited



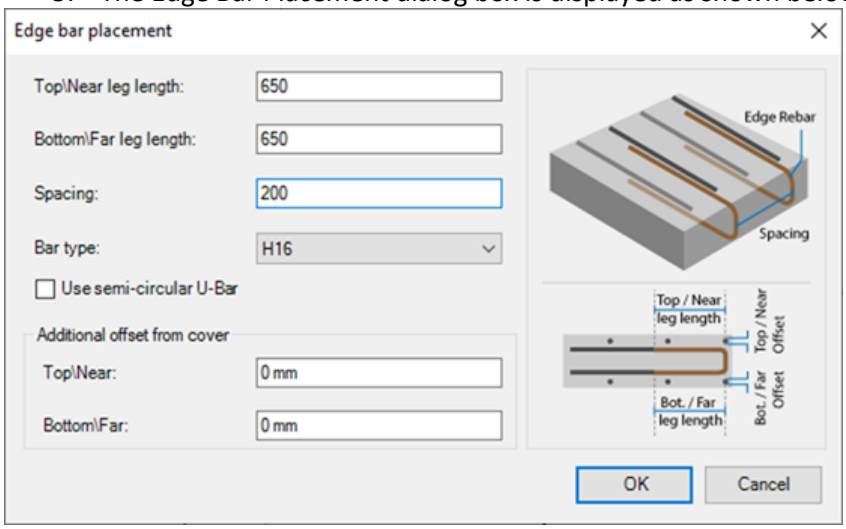
2. Select the Edge Bar drop down menu 

and then the Edge Bar command

available from the Detailing Panel.
3. Pick an Element: Select a wall or slab.
4. Click to enter line start point: Specify the direction of the U bar leg from the edge of the slab by clicking on the edge of the slab and then picking the direction.



5. The Edge Bar Placement dialog box is displayed as shown below.



Copyright © Computer and Design Services Limited

Explanation of the fields in the Edge bar Placement dialog

- **Top/Near leg length:** Specify the value for the top leg length in the case of slabs and near leg length in the case of walls.
- **Bottom/Far leg length:** Specify a value for the bottom leg length in the case of slabs and far leg length in the case of walls.

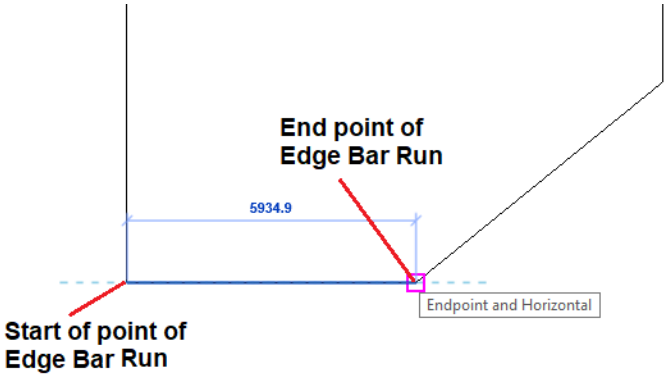
Note: Specify either top or bottom leg length and leave the other field blank to place the edge bar as an L bar.

- **Spacing:** Type in the centre to centre (c/c) distance between the reinforcement.
- **Bar type:** Select the type (Grade and size) of rebar.
- **Use semi-circular U bar:** If selected the command will use a semi-circular U bar (e.g. Shape 13 – BS8666:2005) instead of a flat bend U bar (e.g. Shape 21 – BS8666:2005).

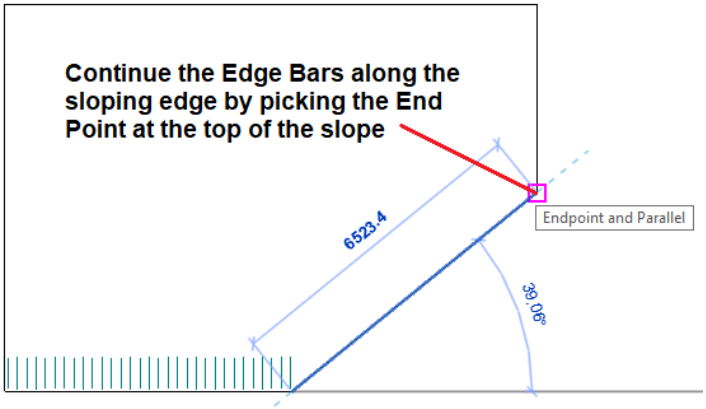
Additional offset from cover

- **Top\Near:** This option will increase the offset to the rebar from the specified cover, for the element being reinforced. This option would be used where the U Bar is being placed in the second layer of reinforcement (T2); in this case the diameter of the upper layer of reinforcement (T1) would be specified.
- **Bottom\Far:** This option will increase the offset to the rebar from the specified cover for the element being reinforced. This option would be used where the U Bar is being placed in the second layer of reinforcement (B2); in this case the diameter of the lower layer of reinforcement (B1) would be specified.

6. Click OK.

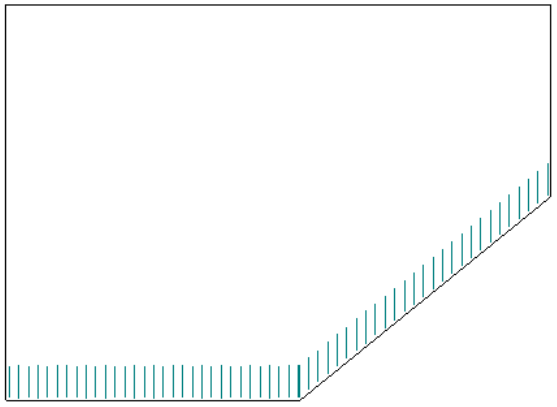


7. Pick the start and end point of the rebar path by selecting on the edge of the slab or wall in the same manner as the Revit's® structural path reinforcement option.

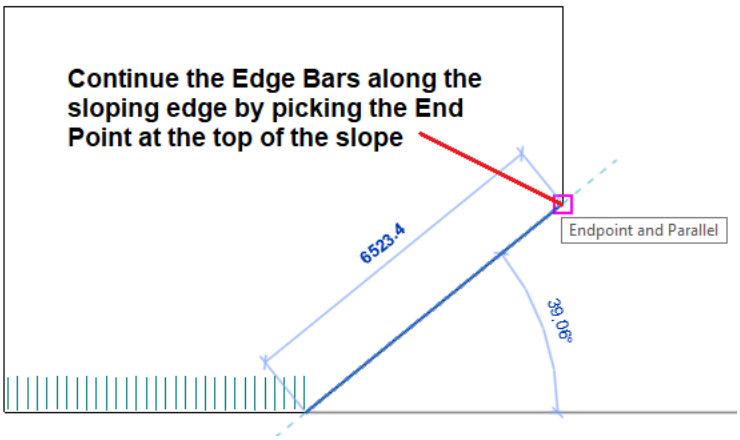


8. The U bar is placed after specifying a segment of the path or picking a segment of line.

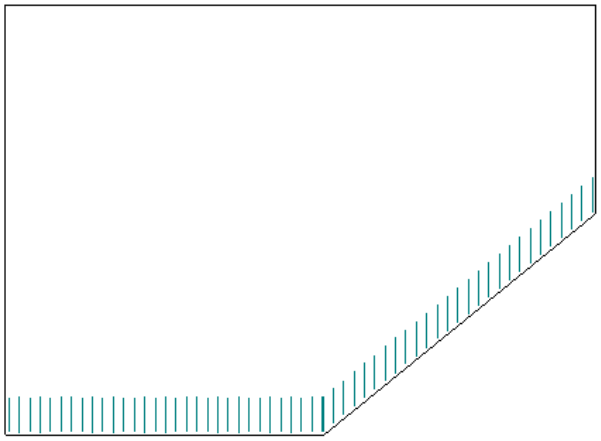
Copyright © Computer and Design Services Limited



9. The command can be continued, as long as the alignment of the rebar is the same as previously specified.

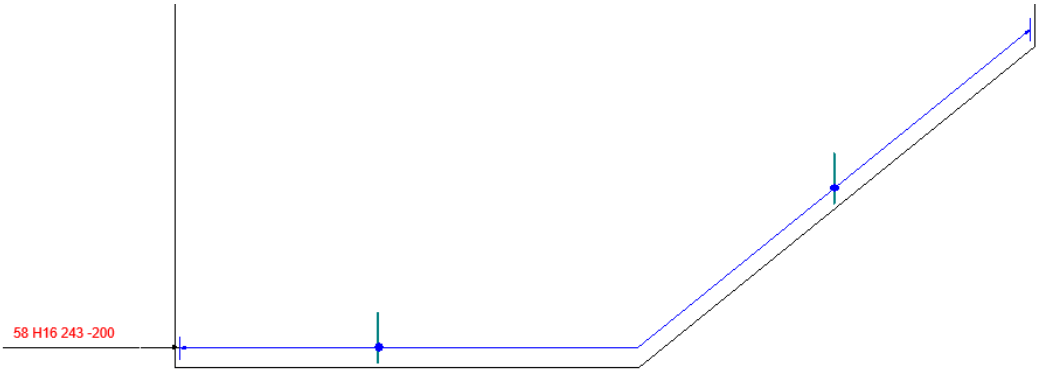


10. Terminate the command by pressing the “ESC” button.

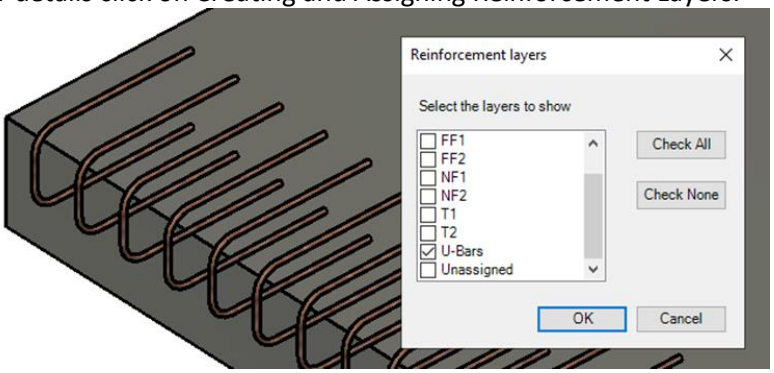


11. Where the edge reinforcement direction is different, the command; must be terminated and restarted.

Copyright © Computer and Design Services Limited



12. The U bars placed are automatically assigned to the reinforcement layer property (CADS reinforcement layer) “U bars” and the L bars placed are assigned to the layer “L bars” by default. For details click on Creating and Assigning Reinforcement Layers.



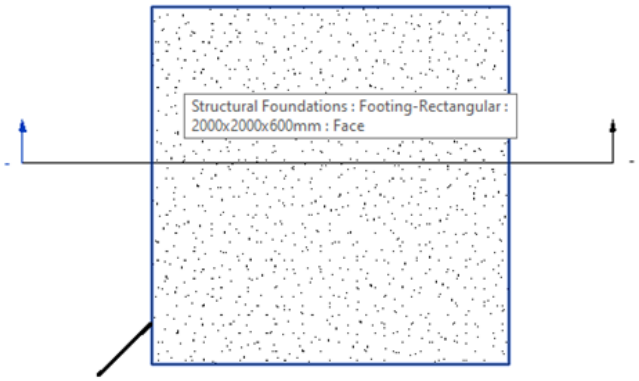
5.6.2 Edge Bar Placement Walls, Beams, Foundations etc 2D Workflow

There is a slight difference in the workflow when selecting other structural elements.
After selecting the Host the command prompts for a face to be selected for the Dim A leg of the U Bar.

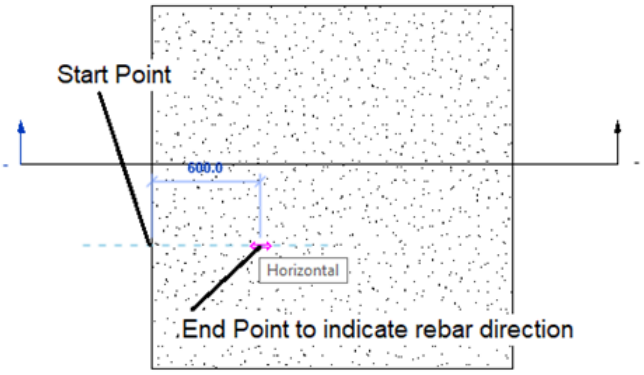
1. Open a 2D view of the structure to add the edge rebar.
2. Select the Edge Bar drop down menu 

and then the Edge Bar command Edge Bar from the Detailing Panel, and then select a foundation, beam etc.
3. **Pick an Element**: Select a foundation, beam etc
4. **Select a Face:** Select the face of the structure to place the first leg of the U bar.

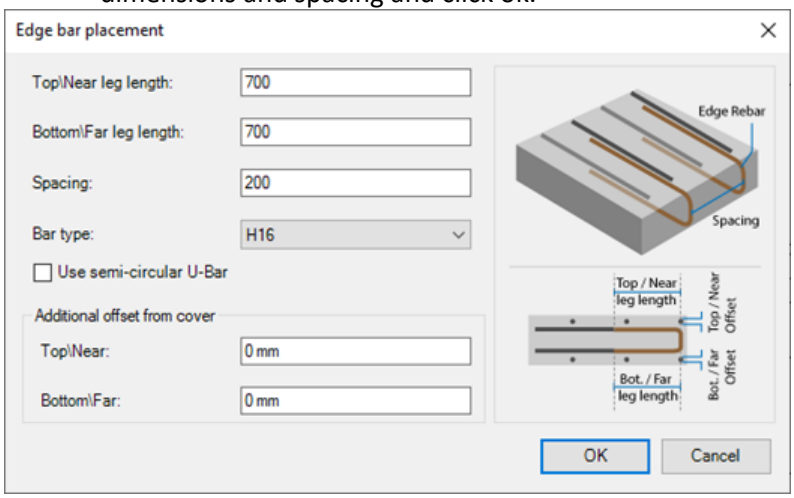
Copyright © Computer and Design Services Limited



5. **Click to enter line start point:** Pick a start and end point to indicate the direction of the rebar.

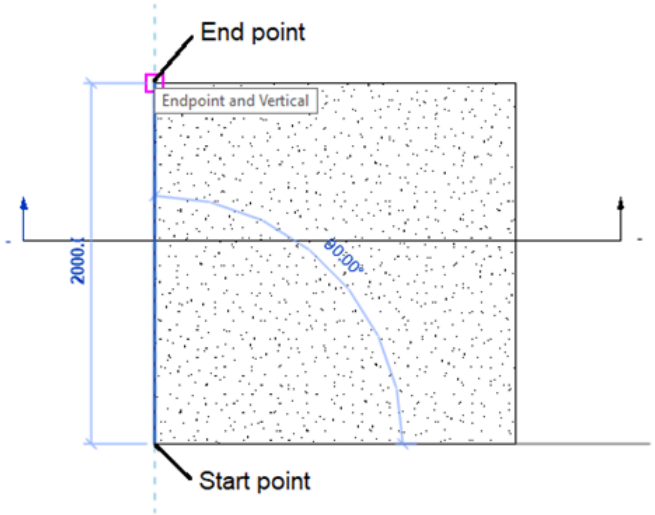


6. The Edge Bar Placement dialog box is displayed as shown below. Enter the required dimensions and spacing and click ok.

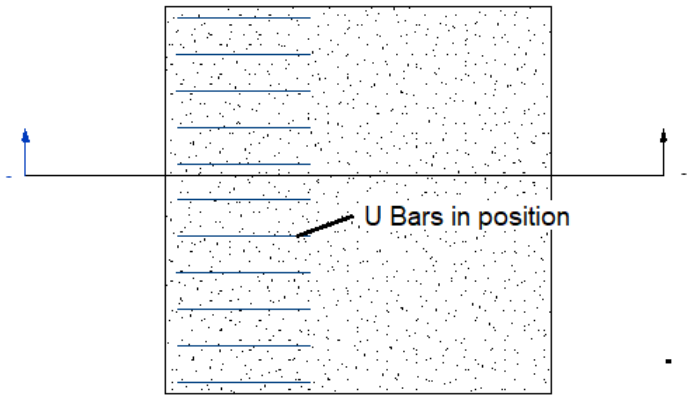


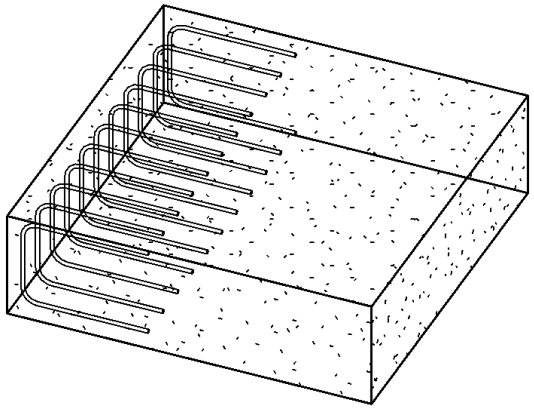
7. Pick the start and end point of the rebar path.

Copyright © Computer and Design Services Limited



8. The U bars are drawn in position, continue to select points to place the rebar provided they are in the same alignment or press to finish the command.





5.6.3 Edge Bar Placement 3D Workflow

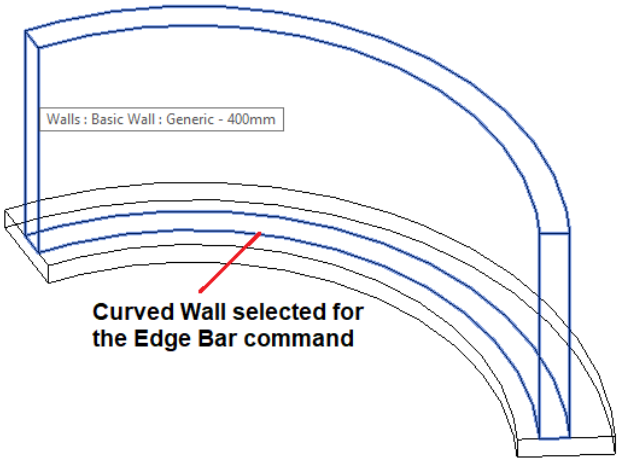
In this example U Bars are added to the top of a curved wall.

1. Open a 3D view of the structure to add the edge rebar.

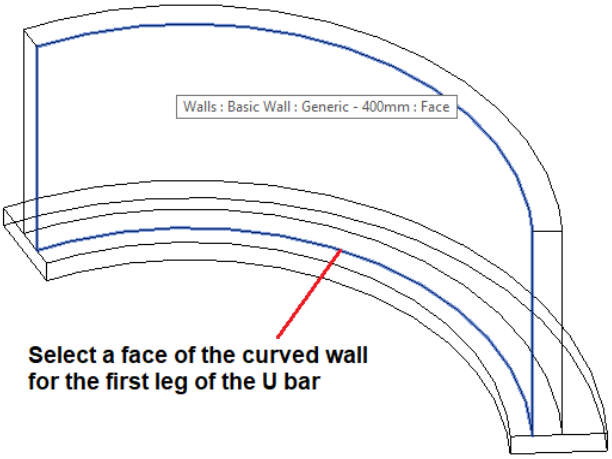
Copyright © Computer and Design Services Limited

2. Select the Edge Bar drop down menu 

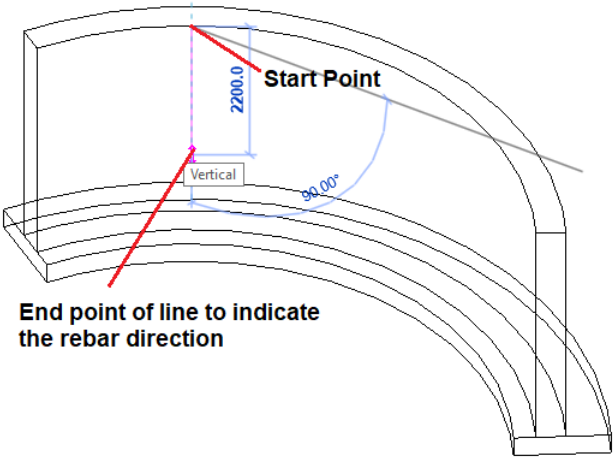
and then the Edge Bar command Edge Bar available from the Detailing Panel, and then select a curved wall.
3. **Pick an Element:** Select the curved wall.



4. **Select a Face:** Select the face of the structure to place the first leg of the U bar.

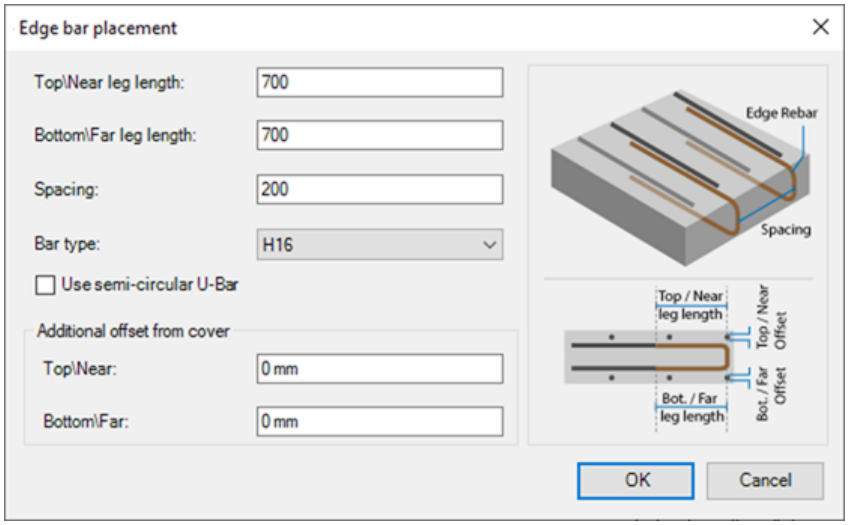


5. **Click to enter line start point:** Pick a start and end point to indicate the direction of the rebar.

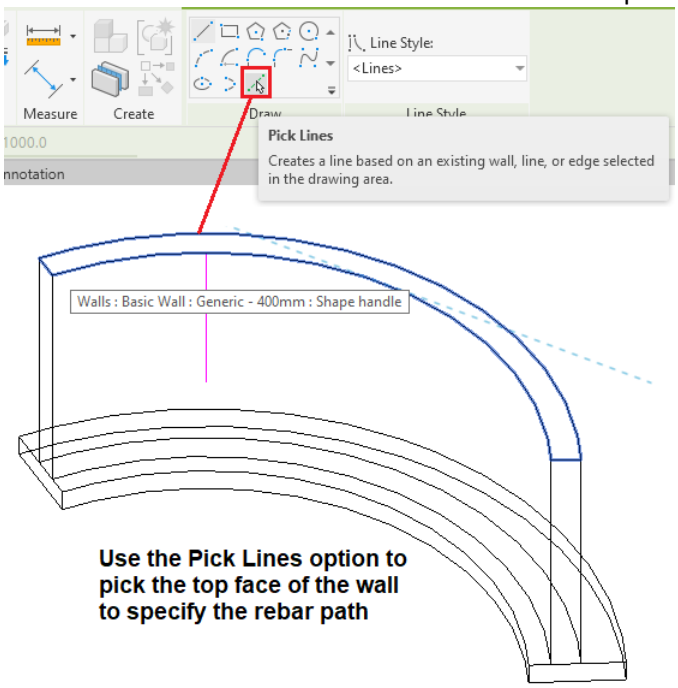


6. The Edge Bar Placement dialog displays the input the dimensions and spacing required and click ok.

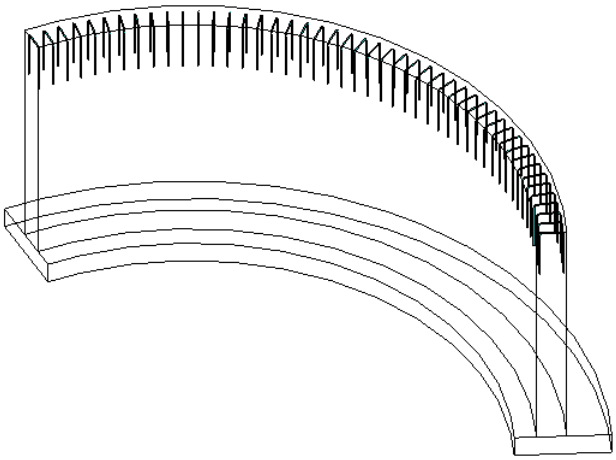
Copyright © Computer and Design Services Limited



7. Click to enter start line: Use the Pick Lines option to select the top face.



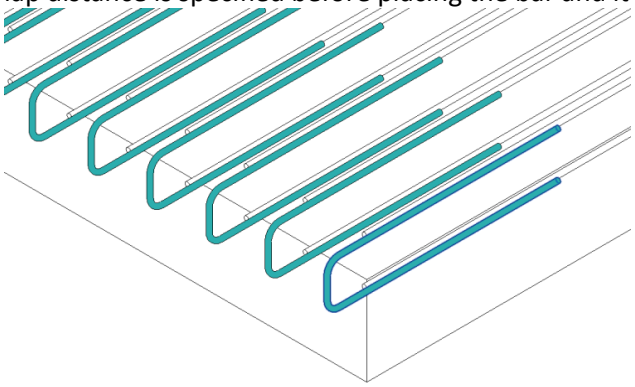
8. The rebar will run along the top face of the wall.



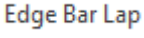
Copyright © Computer and Design Services Limited

5.6.4 Edge Bar Lap

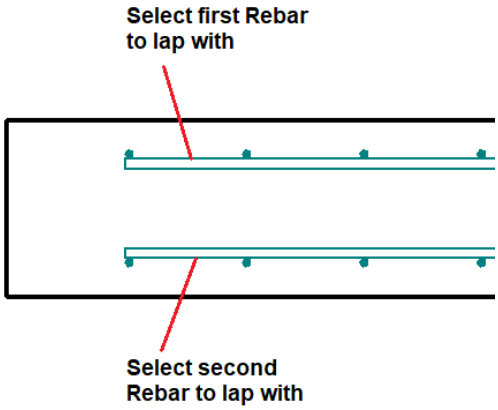
The Edge Bar Lap command is used to add U Bar or L Bars to the edge of a concrete structure. The lap distance is specified before placing the bar and it is placed alongside the lapping rebar.



1. This command works in 2D and 3D views.
2. Select the Edge Bar Placement 

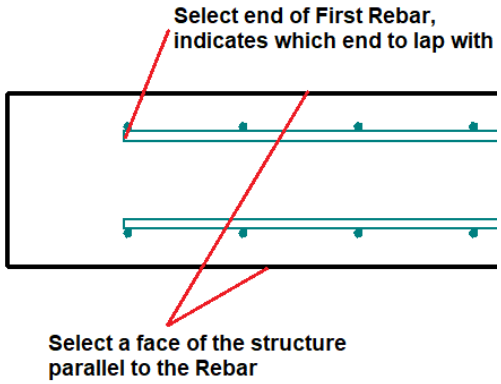
drop down menu, then select the Edge Bar Lap 

command available from the Detailing Panel.
3. Select the first Rebar to lap with as shown below.
4. Select the Second rebar to lap with as shown below.



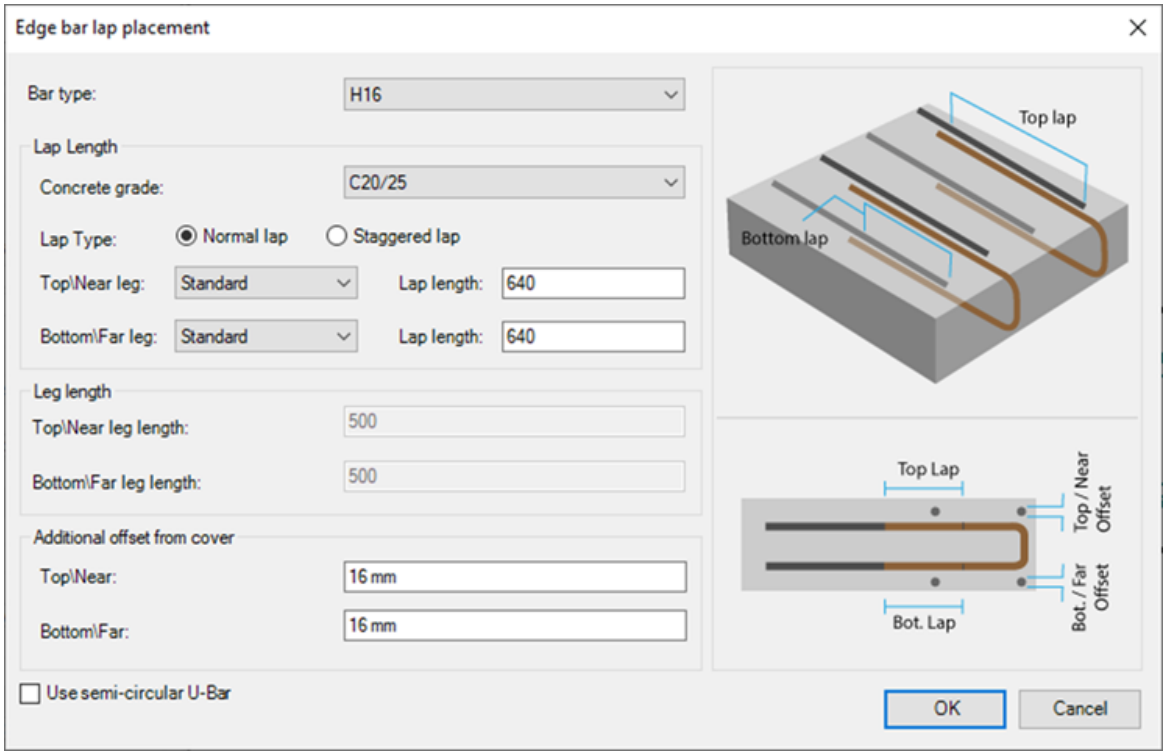
5. Click the Finish 

button.
6. Select the end the first rebar, to denote the end of rebar to lap with.
7. Select a concrete edge that runs parallel to the either the first or third leg of the rebar.



8. The Edge Bar Lap Placement dialog is displayed.

Copyright © Computer and Design Services Limited



9. The dialog is divided into input areas to specify lap type, lap lengths, leg lengths etc.

- **Bar Type:** Select the bar diameter from the drop-down menu.

Lap Length

- **Concrete Grade:** Select the concrete grade from the drop-down menu.
- **Lap Type:** Click on the radio buttons for either normal or staggered laps.
- **Top\Near leg:** Choose the lap type required from Standard, Tension Good, Tension Poor, Compression Good or Compression Poor.
- **Top\Near Lap Length:** Override the lap length by typing in the distance if required.
- **Bottom\Far leg:** Choose the lap type required from Standard, Tension Good, Tension Poor, Compression Good or Compression Poor.
- **Bottom\Far Lap length:** Override the lap length by typing in the distance if required.

Leg Length

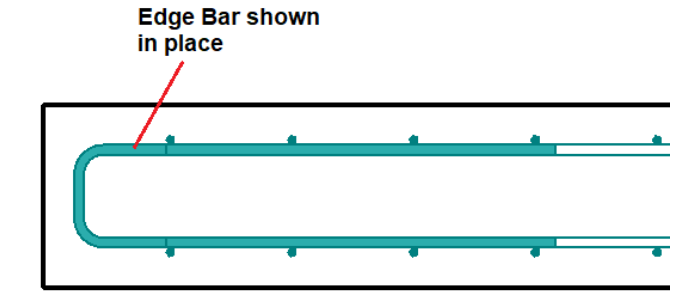
- **Top\Near leg length:** The top\near leg length field will only be editable when the top or near bar to lap with has not been selected.
- **Bottom\Far leg length:** The bottom\far leg length field will only be editable when the bottom or far bar to lap with has not been selected.

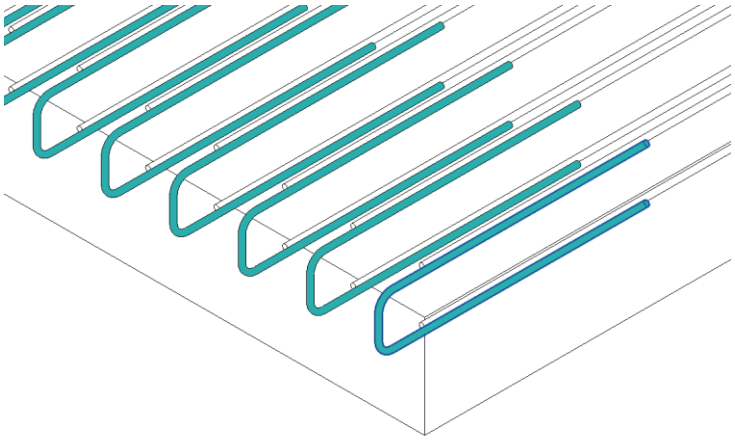
Additional offset from cover

- **Top\Near:** Enter the distance of any additional cover required. As the bar to lap with is in the T2 layer, type in the additional cover as the bar diameter of the T1 bar.
- **Bottom\Near:** Enter the distance of any additional cover required. As the bar to lap with is in the B2 layer, type in the additional cover as the bar diameter of the B1 bar.
- **Use semi-circular U-Bar:** Tick this option to place a semi-circular rebar where the thickness of the structure is restricted.

10. Click OK to complete the command.
11. The edge bars are placed side by side of the selected rebar within the concrete structure with matching centres.

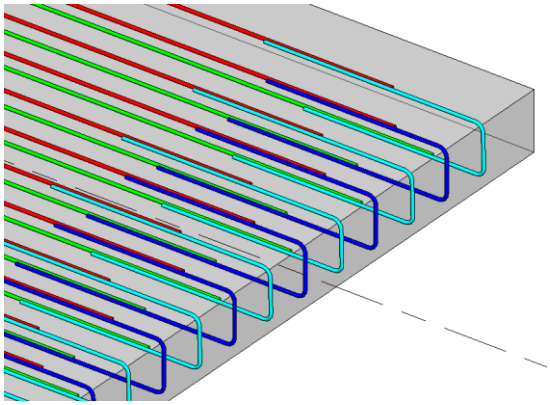
Copyright © Computer and Design Services Limited





12. The edge bars are automatically assigned the U-Bars Layer in the Reinforcement Layers dialog.

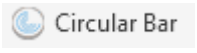
Note: The Edge Bar Lap command can be used to add U Bars to several assemblies of reinforcement in one go. In the diagram below the straight bars are staggered at the edge of the slab forming two bar assemblies top and bottom. When prompted to select rebar at the beginning of the command select all four sets of rebar.



Copyright © Computer and Design Services Limited

5.7 Circular Bar



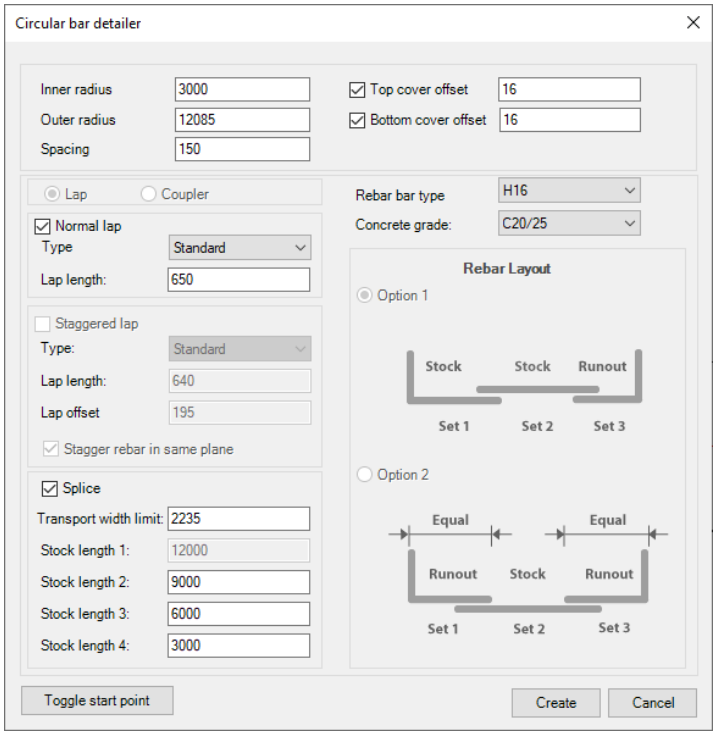
The Circular Rebar Arrangement 

tool, available from Detailing Panel.

This tool helps to detail circular foundation slabs or floors automatically. It also includes an option to automatically splice the rebar according to the specified stock lengths of rebar and the transport width.

The tool supports slabs/floors created either using the “structural floors” or the “structural foundation slab” commands. It also supports elements created using the model in-place option with categories set as ‘Floors’ or ‘Structural foundations.

Copyright © Computer and Design Services Limited



- **Geometry:** The geometry for the inner and outer radii is automatically filled when the structural element is selected in the project. These measurements can be overridden if required. The centre to centre distance of the rebar can entered manually.
- **Cover:** Tick the top / bottom cover offset to place the rebar in one or both faces and additional cover can be applied to the rebar by typing in a value for the cover offset options.
- **Lap/Coupler:** Only the Normal Lap option is supported in the current version of the Circular Bar Detailer.
- **Normal Lap:** Choose the Lap Type from the drop-down menu and override the Lap Length if required.
- **Lap Type:** Select the anchorage type from the drop down menu, the length dimensions for tension and compression laps to EC2 are configured in Projects Settings – Rebar Dims .
- **Staggered Lap:** The staggered lap is not supported in the current version of the Circular Bar Detailer.
- **Splice:** Tick the Splice option to apply automatic splicing to the rebar based on the transport width and the stock lengths.
- **Transport Width:** This is the max width of the rebar that can be carried on the transport lorry.
- **Stock length:** There are four stock lengths available with the defaults set to 3 metre length increments, these can be overridden to suit.
- **Rebar bar type:** Select the required Grade and Bar Diameter from the drop-down menu.

Copyright © Computer and Design Services Limited

- **Concrete Grade:** Select the required Concrete grade from the drop-down menu.
- **Rebar Layout:** Not currently available.
- **Toggle Start Point:** Use this option to change the direction of the rebar.

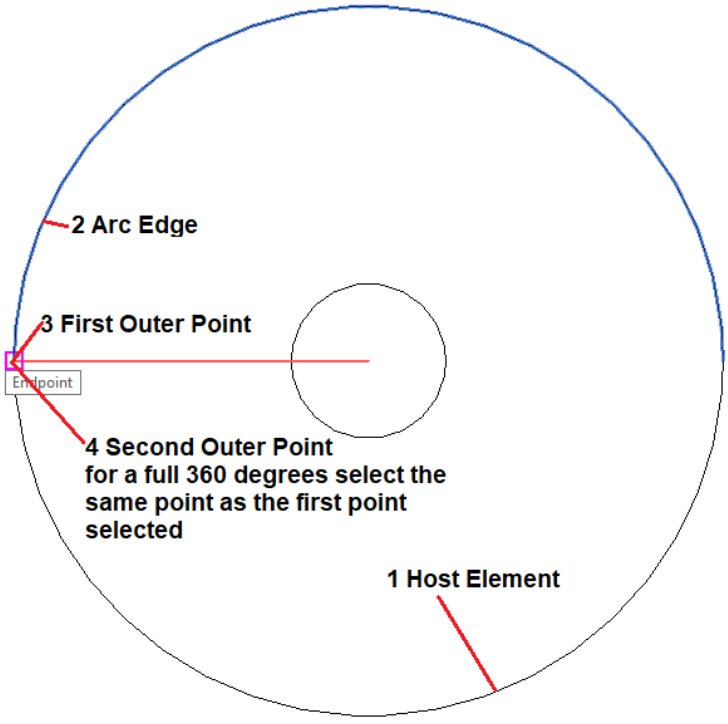
5.7.1 Circular Rebar with Splicing

Prior to starting the command, please ensure you have a suitable structural floor or foundation present in the model. The one shown below is a flat circular slab with a circular hole in the middle.

The Circular Bar Detailer 

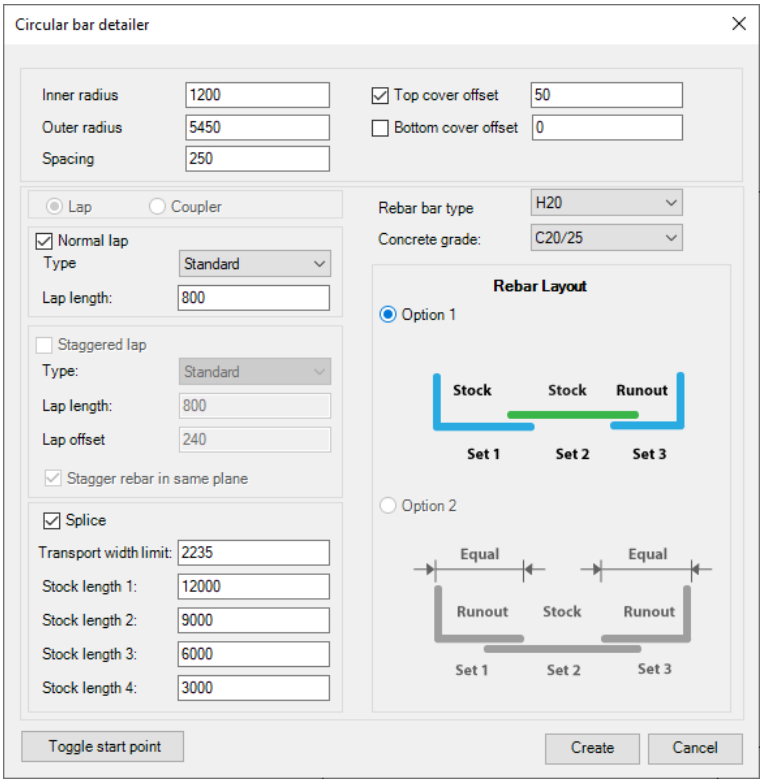
command is available from the Detailing Panel.

1. Select the host element:
2. Select an arc edge:
3. Select first outer point:
4. Select second outer point:



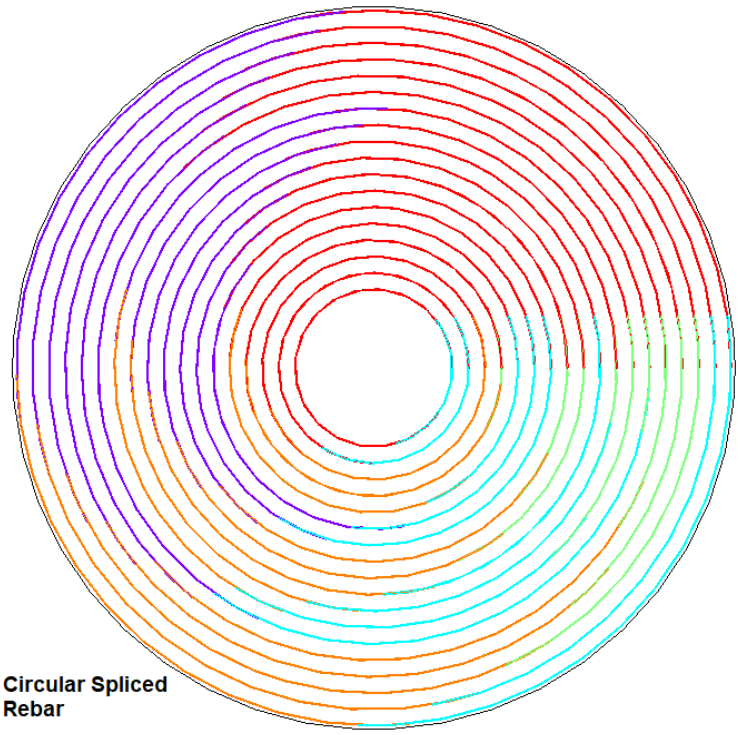
5. The Circular Bar Detailer dialog is displayed.

Copyright © Computer and Design Services Limited



6. Enter the spacing.
7. Tick the Top Cover Offset / Bottom Cover Offset to place rebar in the top face of the structure and or the bottom face of the structure.
8. Change the Bar grade and diameter to suit, this will automatically update the lap value which can be overridden if required.
9. Ensure the Splice option is selected and click Create.
10. Each of the circulars of rebar are split into stock lengths that do not exceed the transport width.

Copyright © Computer and Design Services Limited



Circular Spliced Rebar

5.7.2 Circular Rebar no Splicing

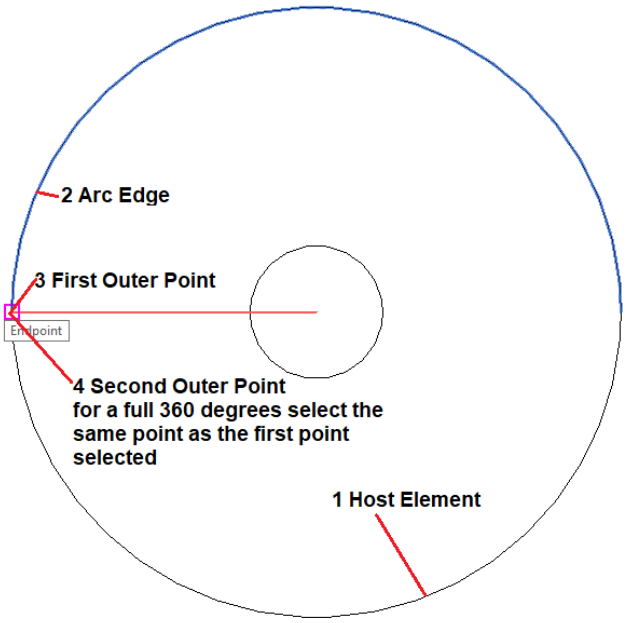
Prior to starting the command please ensure you have a suitable structural floor or foundation present in the model. The one shown below is a flat circular slab with a circular hole in the middle. In addition to the Circular Bar Detailer the example below continues and uses the Lap Bar and Splice Bar commands to complete the detail.

The Circular Bar Detailer 

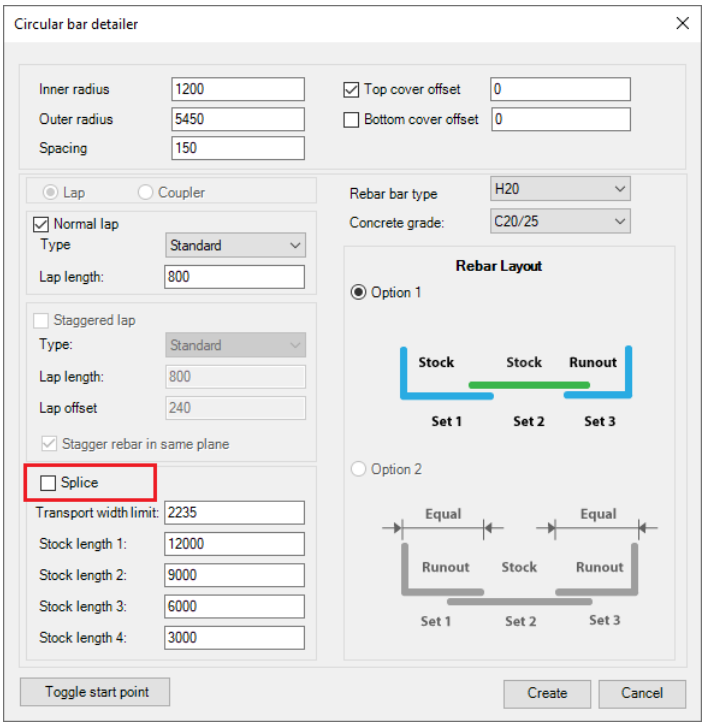
command is available from the Detailing Panel.

1. Select the host element:
2. Select an arc edge:
3. Select first outer point:
4. Select second outer point:

Copyright © Computer and Design Services Limited

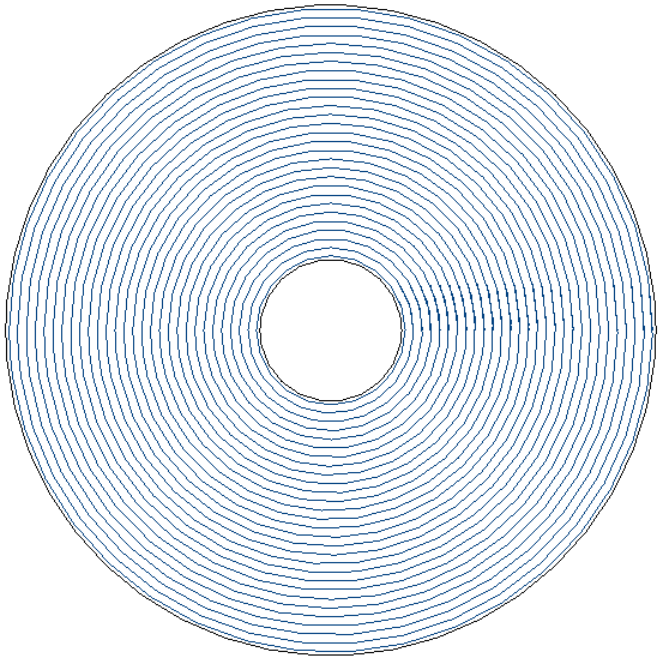


5. The Circular Bar Detailer dialog is displayed.



6. Enter the spacing.
7. Tick both the Top Cover Offset / Bottom Cover Offset to place rebar in the top face of the structure and or the bottom face of the structure.
8. Change the Bar grade and diameter to suit, this will automatically update the lap value which can be overridden if required.
9. Ensure the Splice option is NOT selected and click Create.

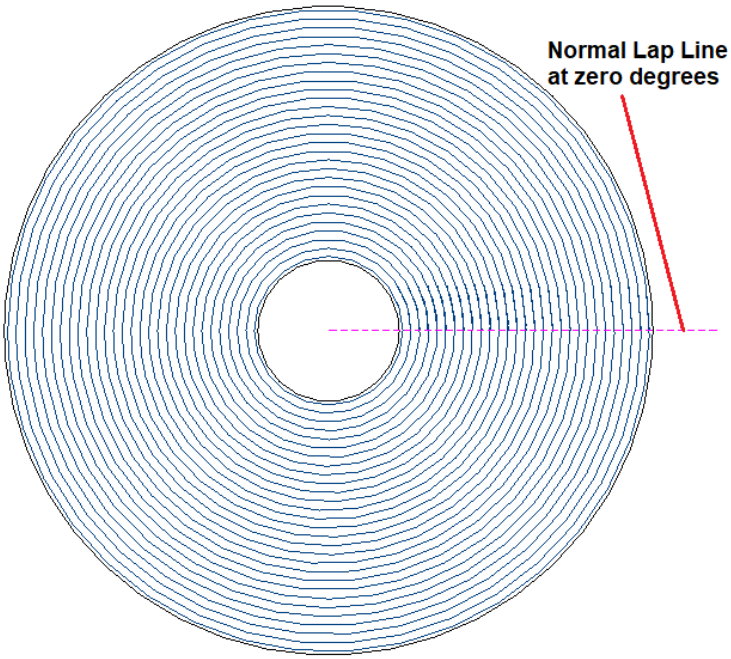
Copyright © Computer and Design Services Limited



Circular Bars in place ready for splicing

Using the Lap Lines and Splice Rebar command to split the circular rebar into smaller lengths and then create Varying Rebar Assemblies.

10. Use Lap Line – Select the Normal Lap line type to place a lap line from the centre of the slab at an angle of zero degrees (East). Using Draw Lap Line

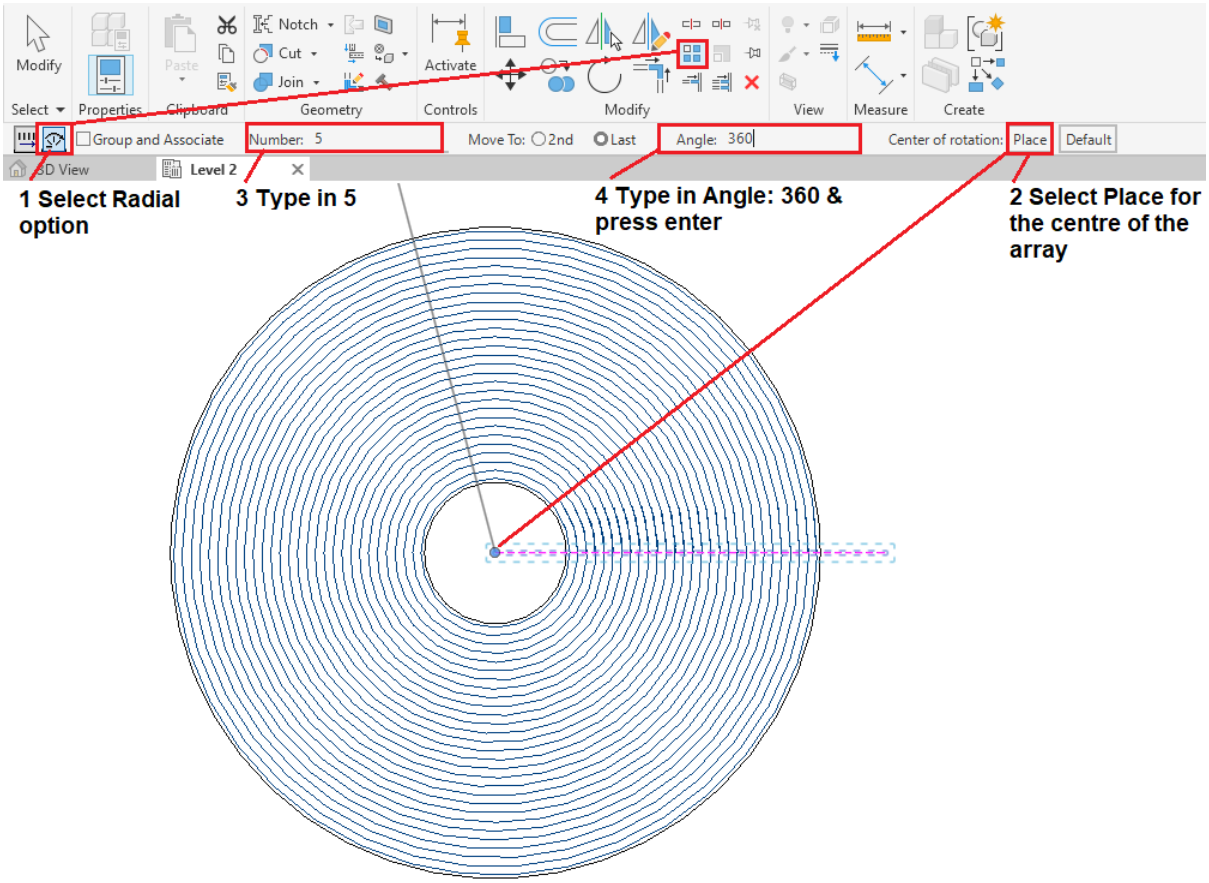


Use the Revit® Radial Array to create 5 radial lap lines. (Total length of the external bar is 35m, in this instance we do not want to exceed bars lengths of 8m.)

11. Select the Normal Lap Line in the Project.
12. Select the Array Revit command from the Modify Tab.
13. Select the Radial option.

Copyright © Computer and Design Services Limited

14. Use the Place option to set the Centre of Rotation in the centre of the slab.

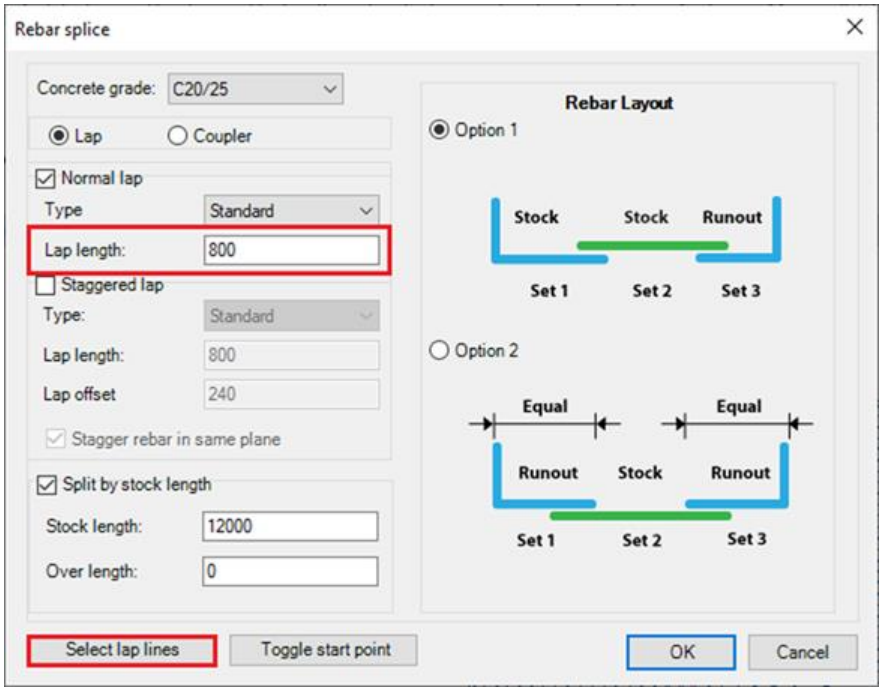


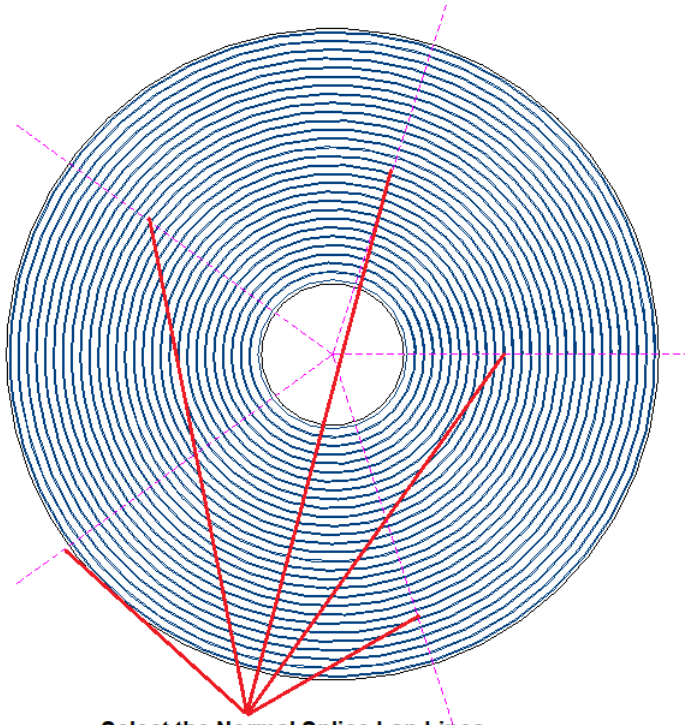
15. Type in 5 as the number and set the rotation to 360 and then press enter.
16. Select Splice Rebar, Straight Lap and select all the rebar in the circular slab.
17. Click Finish 

.
18. In the Rebar Splice Dialog change the Lap Length to 800.
19. Click Select Lap Lines, select all the Lap Lines and then click Finish 

.

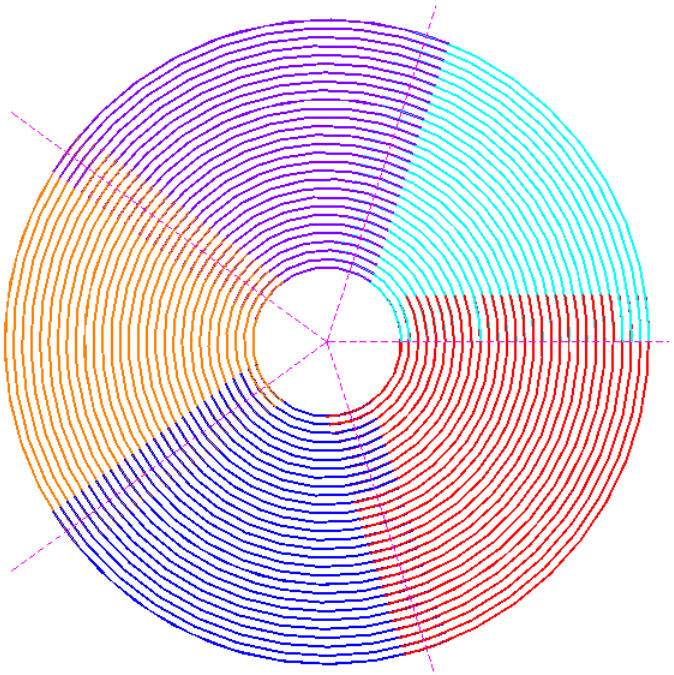
Copyright © Computer and Design Services Limited





20. In the Rebar Splice Dialog click ok to complete the function.

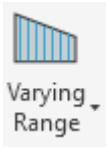
Copyright © Computer and Design Services Limited



Spliced Circular Rebar

Switch to a 3D view and use the Varying Range, Select Rebar to create the six varying range assemblies.

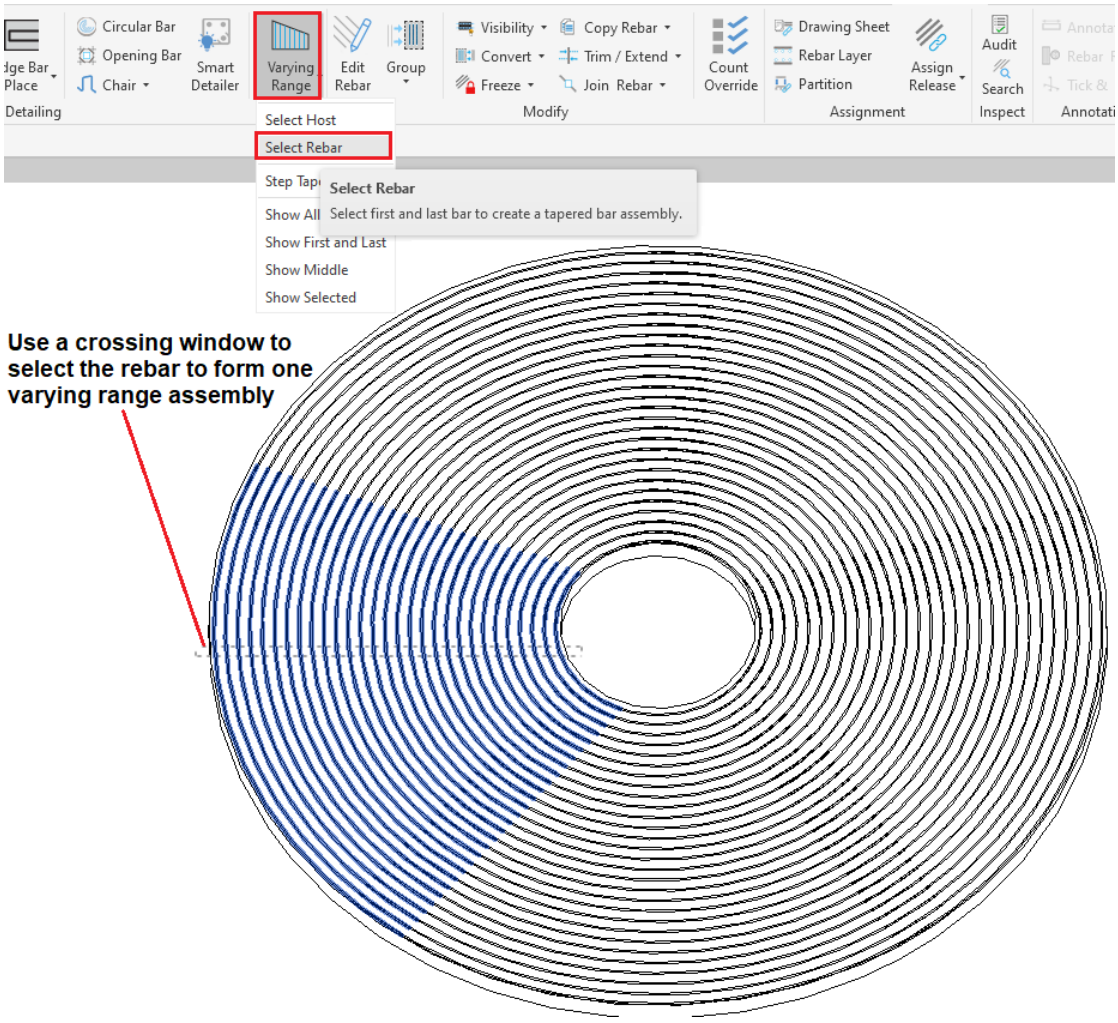
Note: To make selection of the other assembly's easier use the Hide Element on each Varying Assembly as it is created.

Select Varying Range 

drop down menu and then Rebar

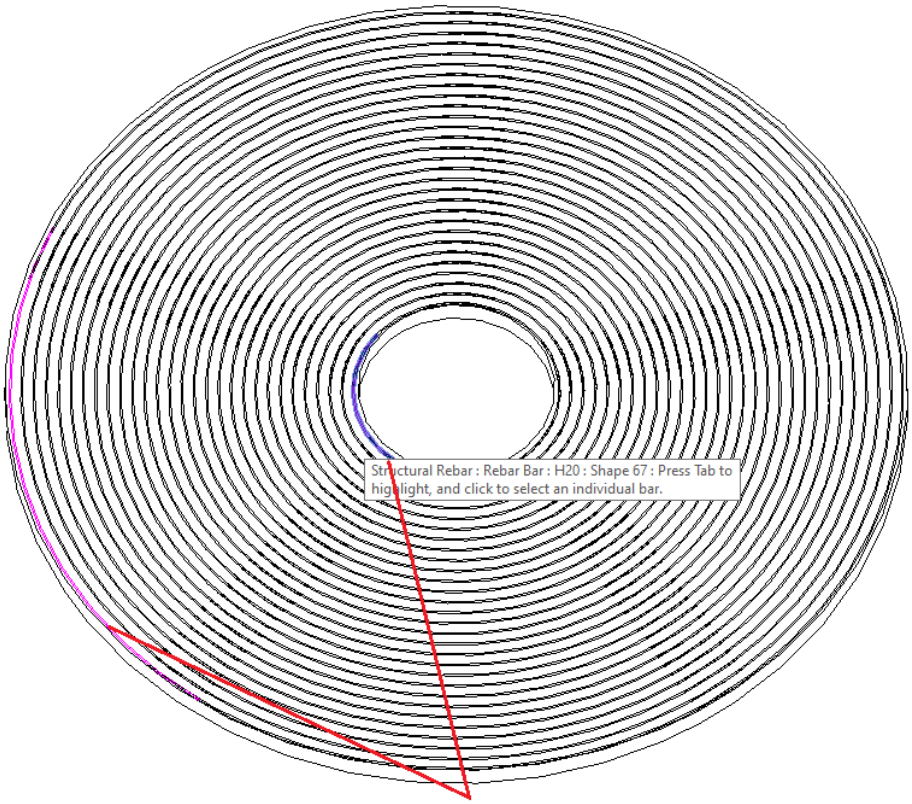
Use a crossing window to select the rebar for a varying range assembly and then click Finish .

Copyright © Computer and Design Services Limited



.

Copyright © Computer and Design Services Limited

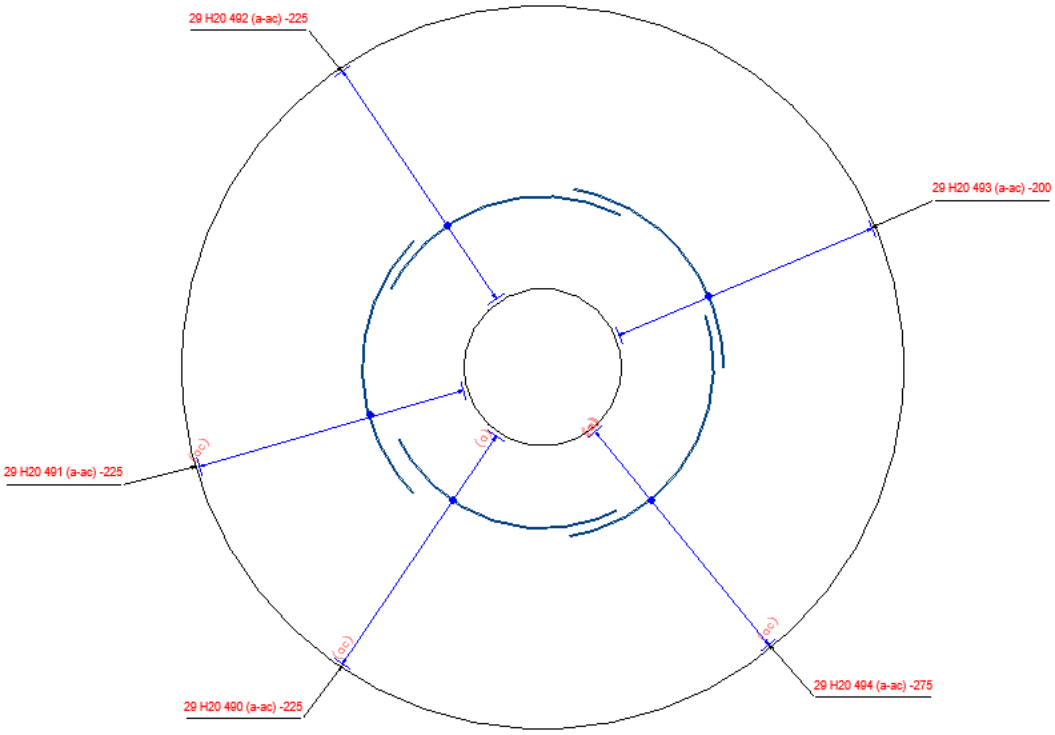


Highlight either the first or last bar to determine the first rebar in the varying range assembly

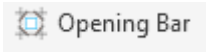
Once all six varying range assemblies have been created, select the option Reset Temporary Hide/Isolate.

Return to the Level View and Annotate the View using Annotation – Select Host .

Copyright © Computer and Design Services Limited

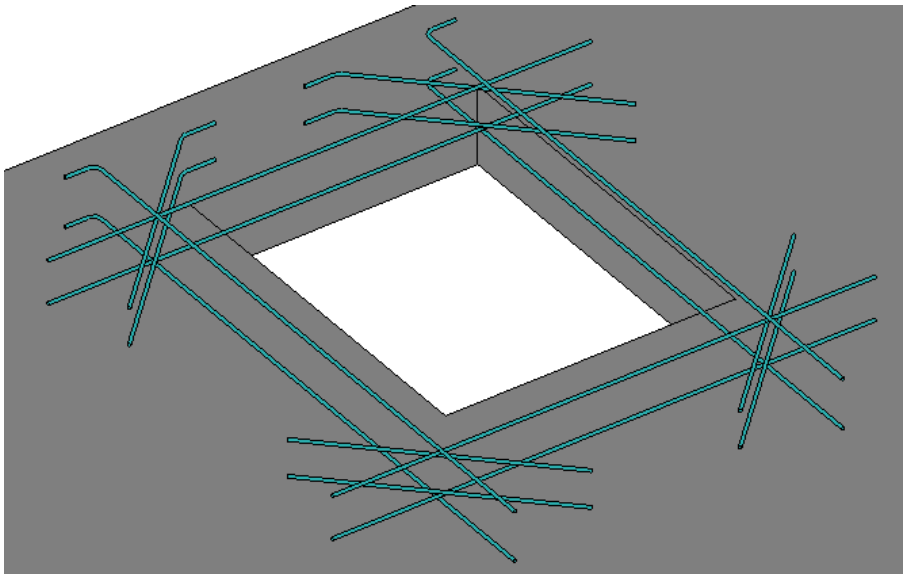


5.8 Opening Bar

The Opening Reinforcement 

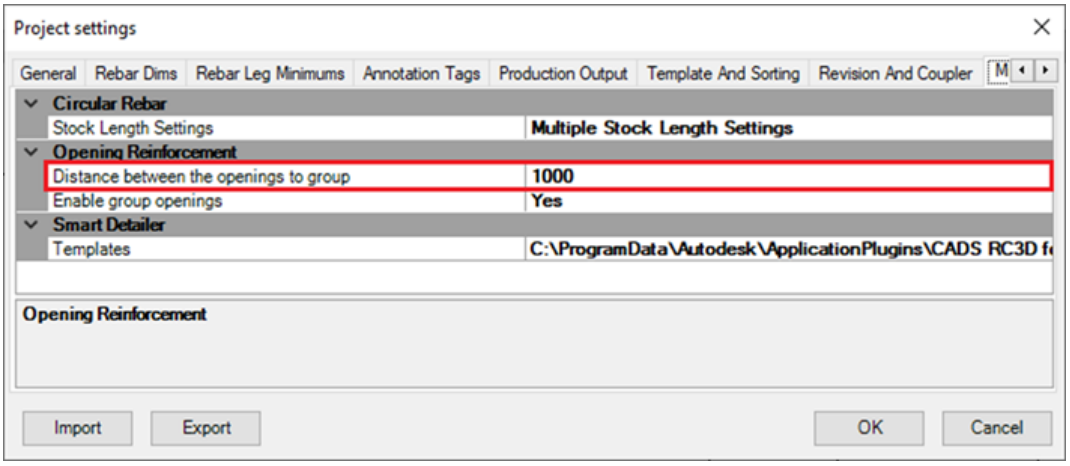
command models the trimmer and diagonal rebar around rectangular and circular openings in slabs and walls.

Where the opening is near the slab edge any rebar that would have projected from slab are automatically bent to keep them inside the structure by selecting the option ‘Bend at Edges’.

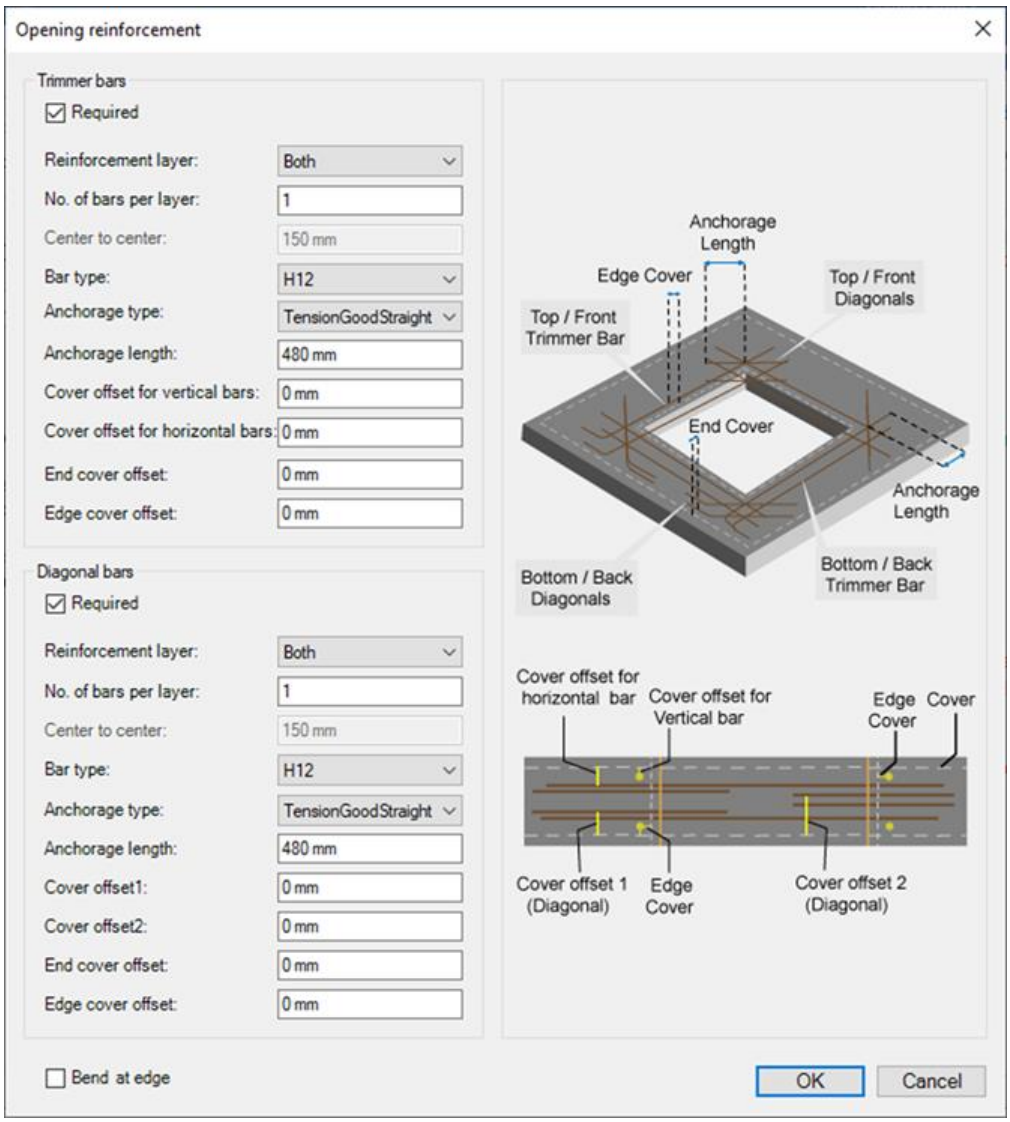


Where openings are close together RC3D will automatically combine the trimmer rebar dependant on a configured proximity distance between openings Project Settings – Miscellaneous

Copyright © Computer and Design Services Limited



Once the Structural element has been selected and the openings identified the Open Reinforcement dialog is displayed.



Trimmer bars

- **Required:** Tick this option to place the vertical and horizontal trimmer bars around the opening.

Copyright © Computer and Design Services Limited

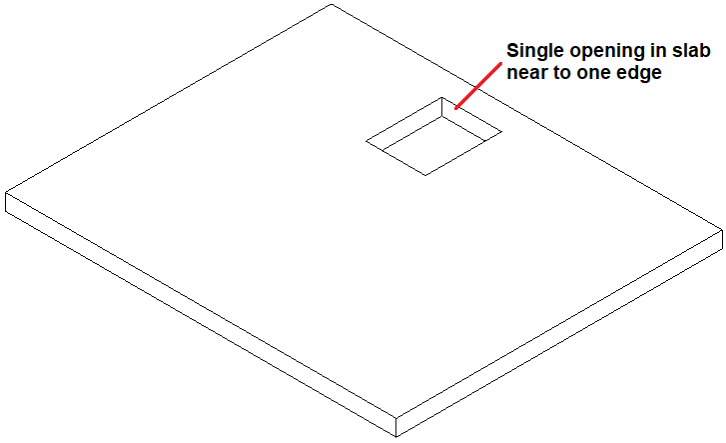
- **Reinforcement layer:** Both/Top or Front/Bottom or Rear – Select where the trimmer bars need to be placed on the top/front layer or bottom/rear layer or on both the layers.
- **No. of bars per layer:** Type in the number of bars to be placed per layer.
- **Centre to Centre:** Type in the spacing between the rebar if the number of bars per layer is greater than one.
- **Bar type:** Specify bar type (grade and size).
- **Anchorage Type:** Select the anchorage type from the drop down menu, the length dimensions for tension and compression laps to EC2 are configured in Projects Settings – Rebar Dims.
- **Anchorage length:** Specify anchorage length beyond the edge of the opening.
- **Cover offset for vertical bars:** Specify an offset if the trimmer bars are to be placed in T2/B2 layers for vertical bars.
- **Cover offset for horizontal bars:** Specify an offset if the trimmer bars are to be placed in T2/T2 layers for horizontal bars.

Diagonal bars

- **Required:** Tick this option to place the diagonal bars around the opening.
- **Reinforcement layer:** Both/Top or Front/Bottom or Rear – Select where the trimmer bars need to be placed on the top/front layer or bottom/rear layer or on both the layers.
- **No. of bars per layer:** Type in the number of bars to be placed per layer.
- **Centre to Centre:** Type in the spacing between the rebar if the number of bars per layer is greater than one.
- **Bar type:** Specify bar type (grade and size).
- **Anchorage Type:** Select the anchorage type from the drop down menu, the length dimensions for tension and compression laps to EC2 are configured in Projects Settings – Rebar Dims.
- **Anchorage length:** Specify an anchorage length beyond the corner of the opening.
- **Cover offset 1:** Specify an offset if the diagonal trimmer bars placed in T3/B3 layers for vertical bars.
- **Cover offset 2:** Specify an offset if the diagonal trimmer bars placed in T3/T3 layers for horizontal bars.
- **Bend at Edges:** Select this option if the opening is near the edge of the slab. The bars will be bent to keep them inside the structure.

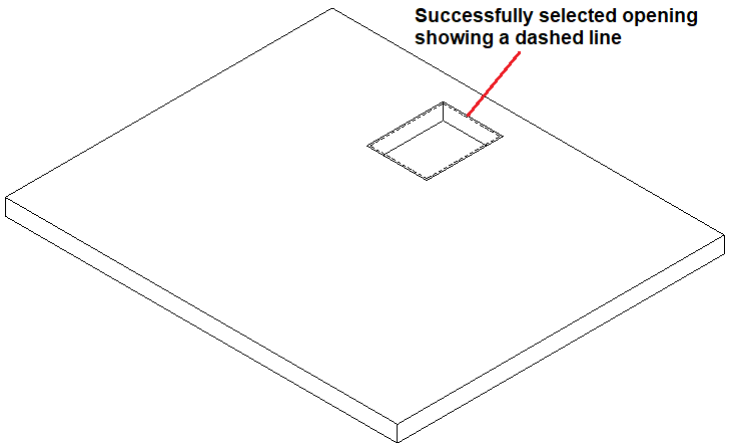
Copyright © Computer and Design Services Limited

5.8.1 Opening Bar for a Single Opening



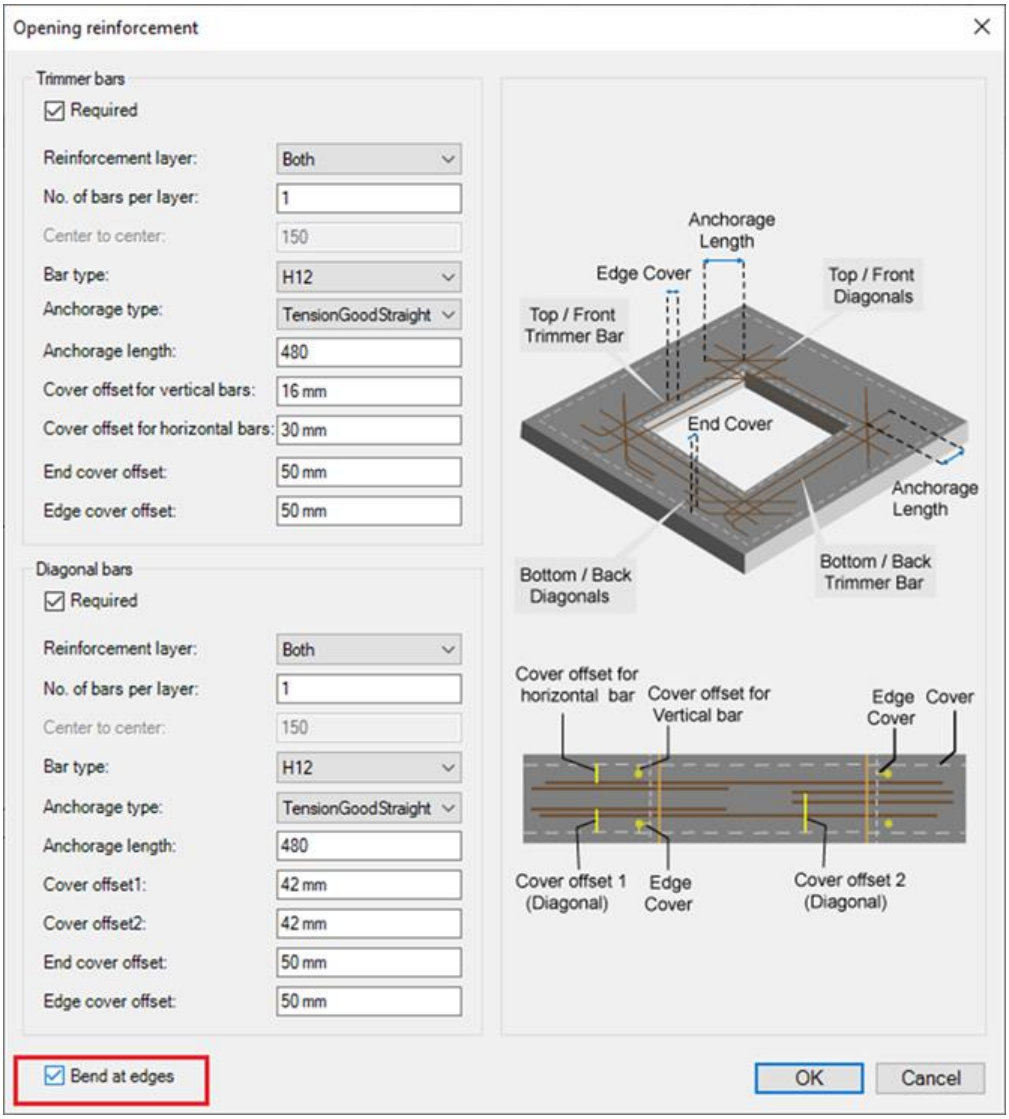
1. This feature works in 2D and 3D views;
2. Select the Opening reinforcement 

command available from the Detailing Panel.
3. Select a concrete host element with either/or rectangular or circular openings.
4. Pick a point inside an opening to select the opening.

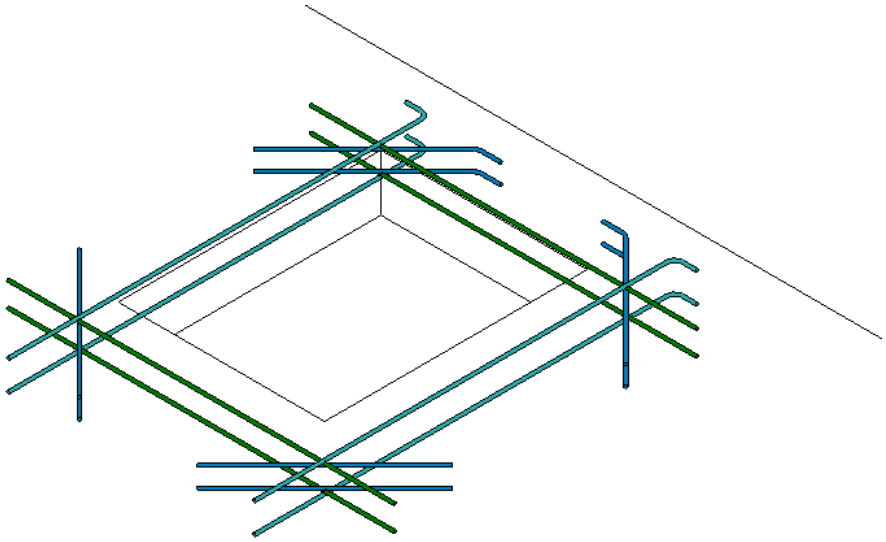


5. A dashed line is placed around the inside edge of the opening once it has been successfully selected.
6. Press ESC to continue.
7. The dialog box shown below is displayed to specify the reinforcement information.
8. Opening Bar describes each input field in the dialog

Copyright © Computer and Design Services Limited

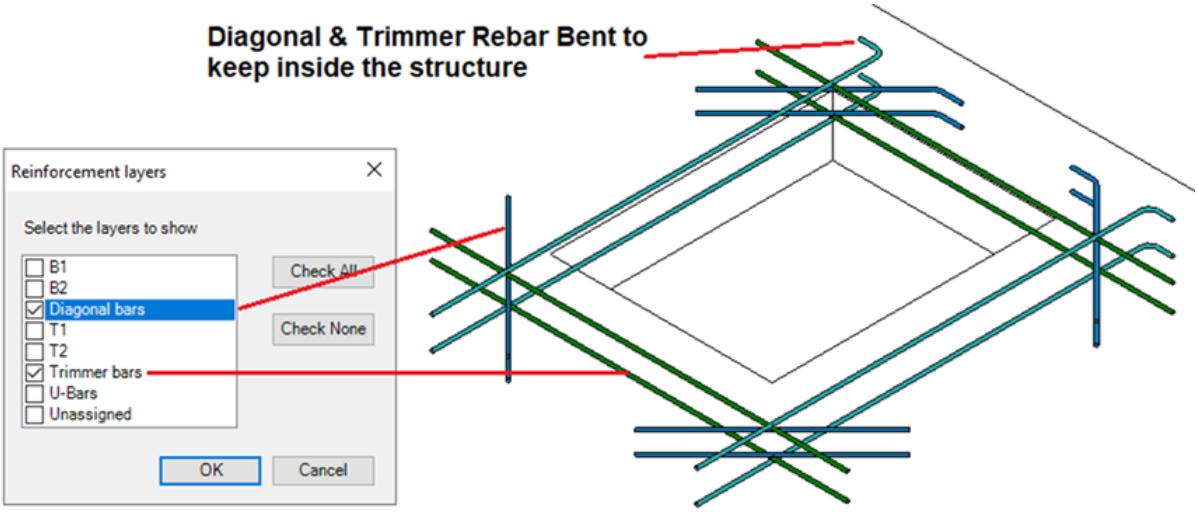


9. Click OK once the input has been completed and the rebar is added to the selected openings.



Copyright © Computer and Design Services Limited

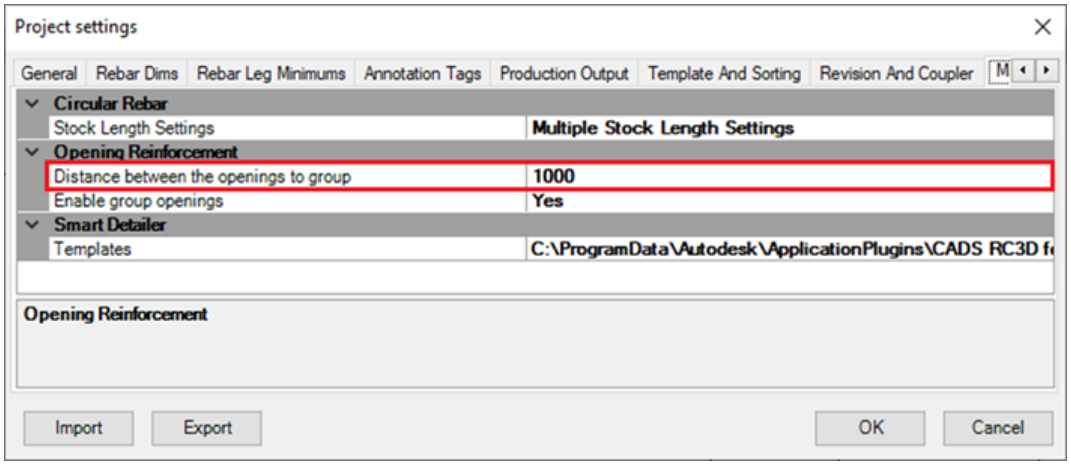
10. The trimmer bars are automatically assigned to the reinforcement layer property (CADS reinforcement layer) “Trimmer bars” and the diagonal bars are assigned to the reinforcement layer property (CADS reinforcement layer) “Diagonal bars”. Creating and Assigning Reinforcement Layers



5.8.2 Opening Bar for Multiple Openings

This example runs through placing trimmer rebar around multiple openings, some of which are in close proximity.

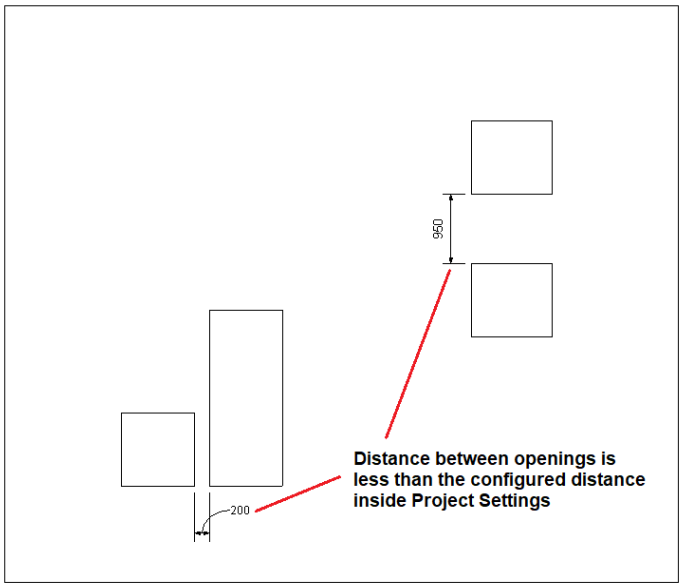
1. Before trying to place the trimmer reinforcement check the Opening Reinforcement Settings in the Project Settings dialog.
2. Select Project Settings from the Support Panel, go to the Miscellaneous Tab. Project Settings – Miscellaneous – Circular Rebar.
3. Under the Circular Rebar Panel, make sure the Enable Group Openings is set to Yes.
4. Check the distance between groups is larger than the distance between the openings in the element. Note the max distance between associated openings is 1000mm.
5. Click ok to close the dialog.



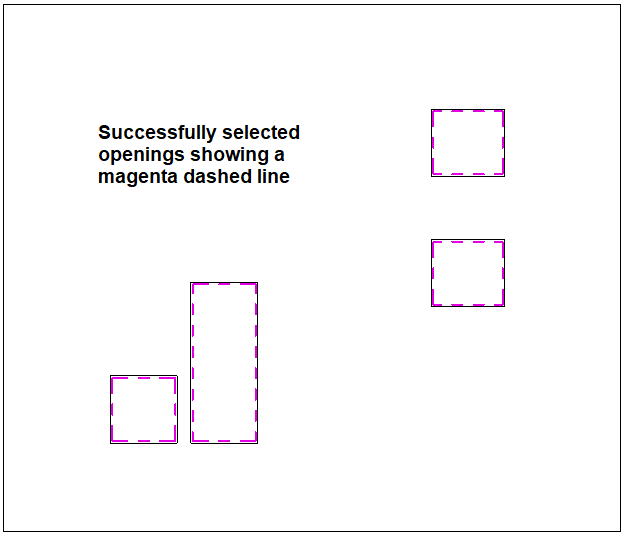
6. Select Opening Reinforcement from the Detailing Panel.

Copyright © Computer and Design Services Limited

7. Select a concrete host element with either/or rectangular or circular openings.

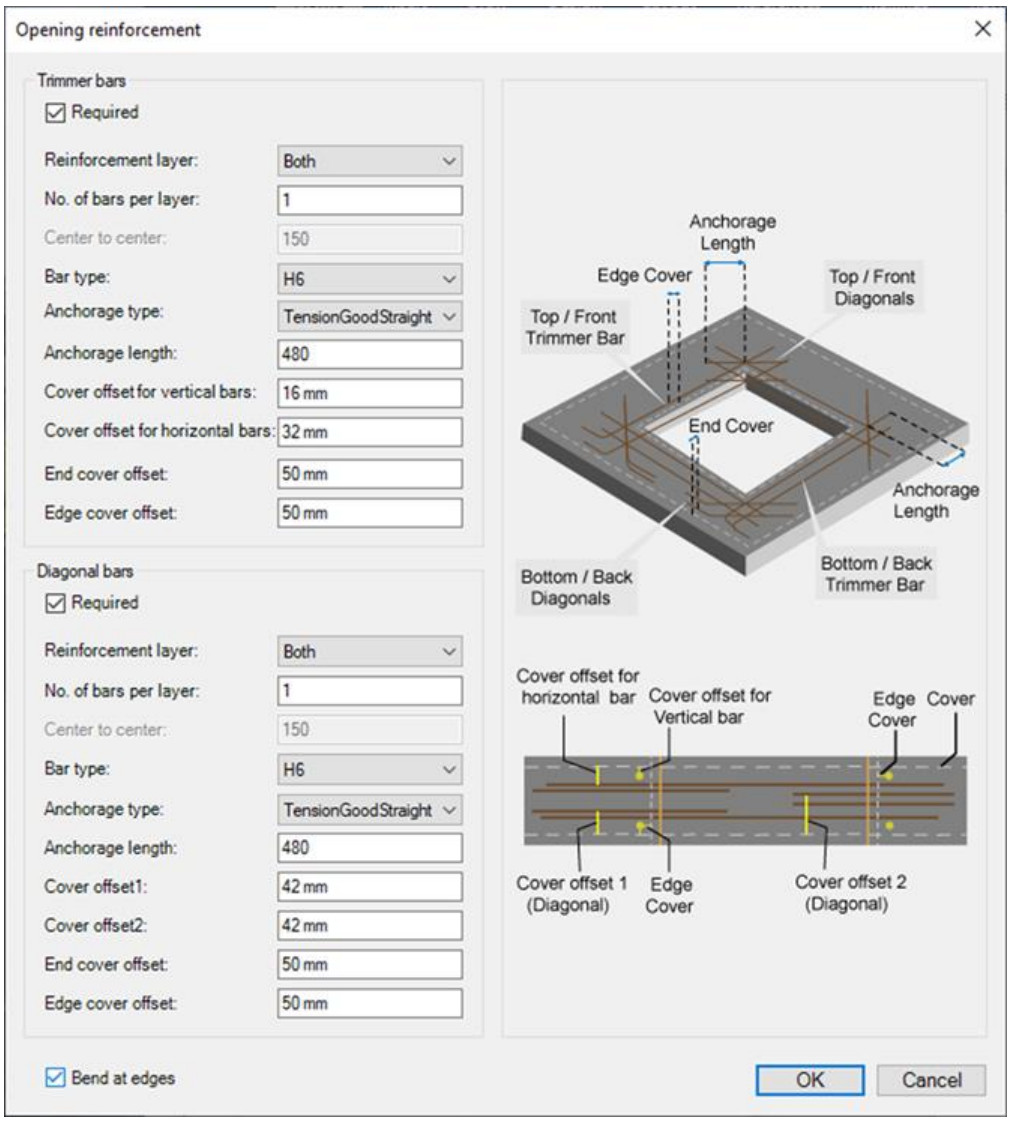


8. Pick a point inside an opening to select the opening.
9. A magenta dashed line is placed around the inside edge of the opening once it has been successfully selected.



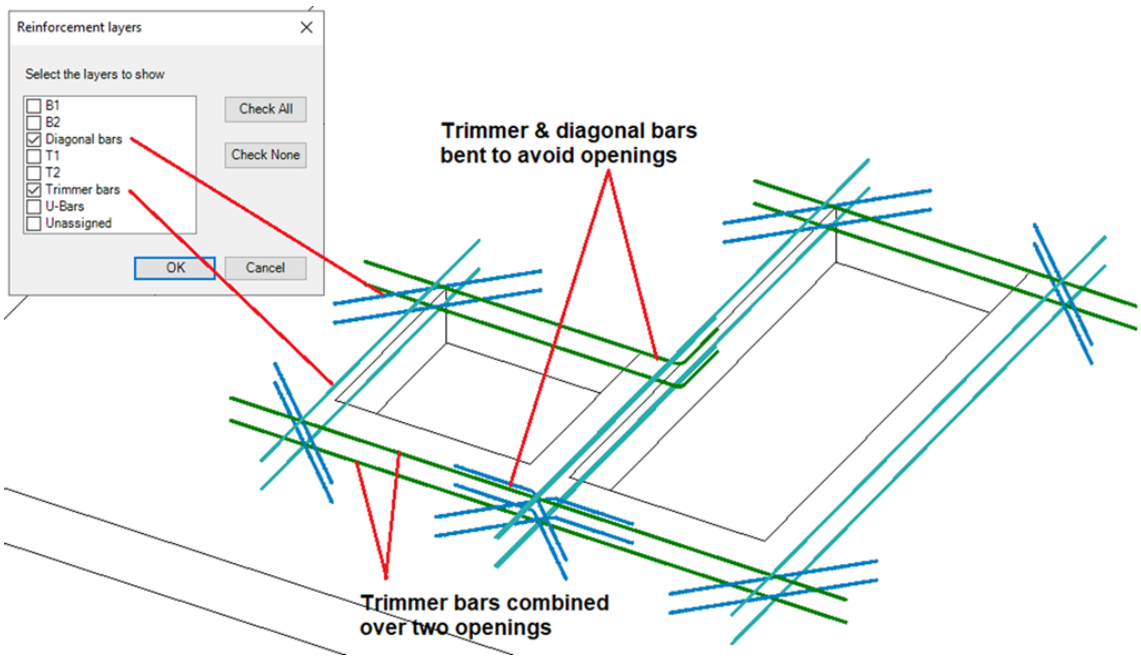
10. Press ESC to end the selection and to continue with the command.
11. The Opening Reinforcement dialog is displayed, Opening Bar describes each input field in the dialog.

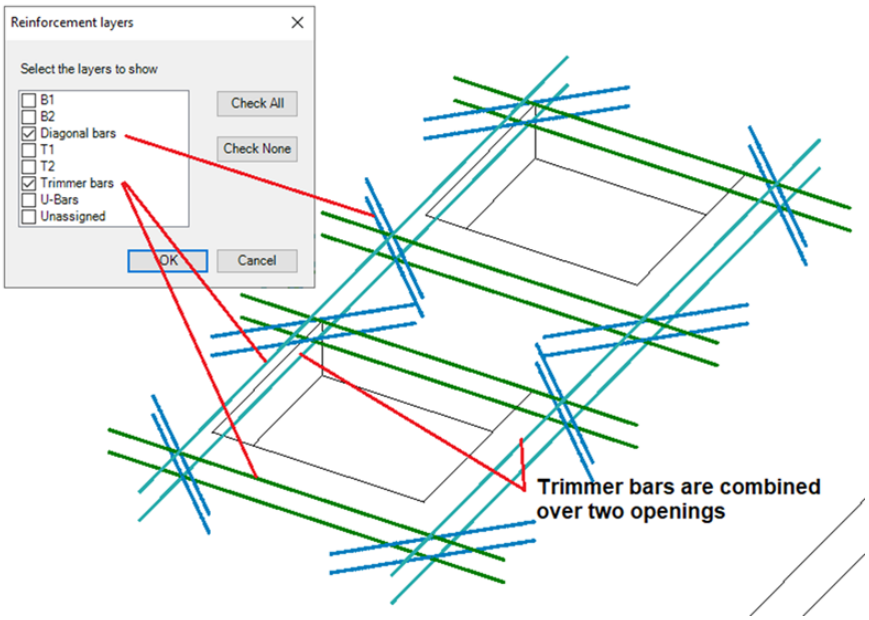
Copyright © Computer and Design Services Limited



11. Enter the anchorage length for the trimmer and diagonal bars, tick the option for bend at edge.
12. Click ok
13. The trimmer bars are automatically assigned to the reinforcement layer property (CADS reinforcement layer) “Trimmer bars” and the diagonal bars are assigned to the reinforcement layer property (CADS reinforcement layer) “Diagonal bars”. Creating and Assigning Reinforcement Layers

Copyright © Computer and Design Services Limited

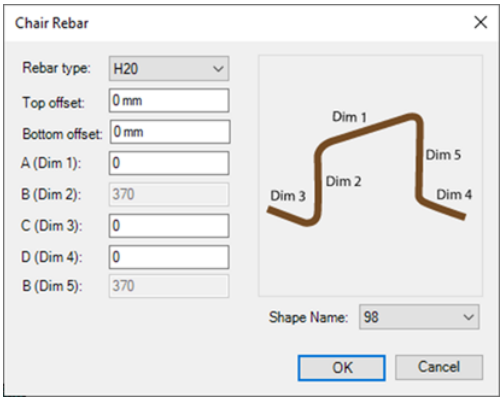


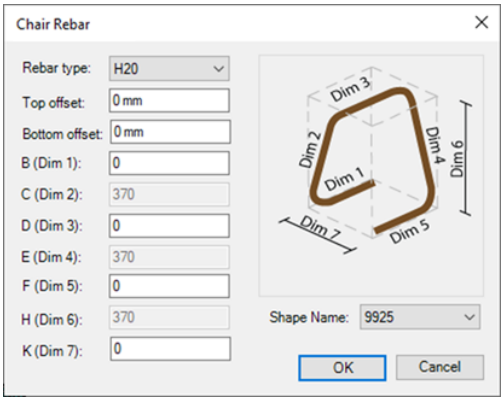


5.9 Chair

The Chair  command, available from the Detailing Panel has two options Create  and Edit . Use the Chair command to place chair reinforcement in the concrete host to support the top reinforcement. Define the Chair Prefix for the bar mark number the Project Settings dialog under the General Tab.
The Create dialog allows the placement of one of two shape codes 98 or 9925;

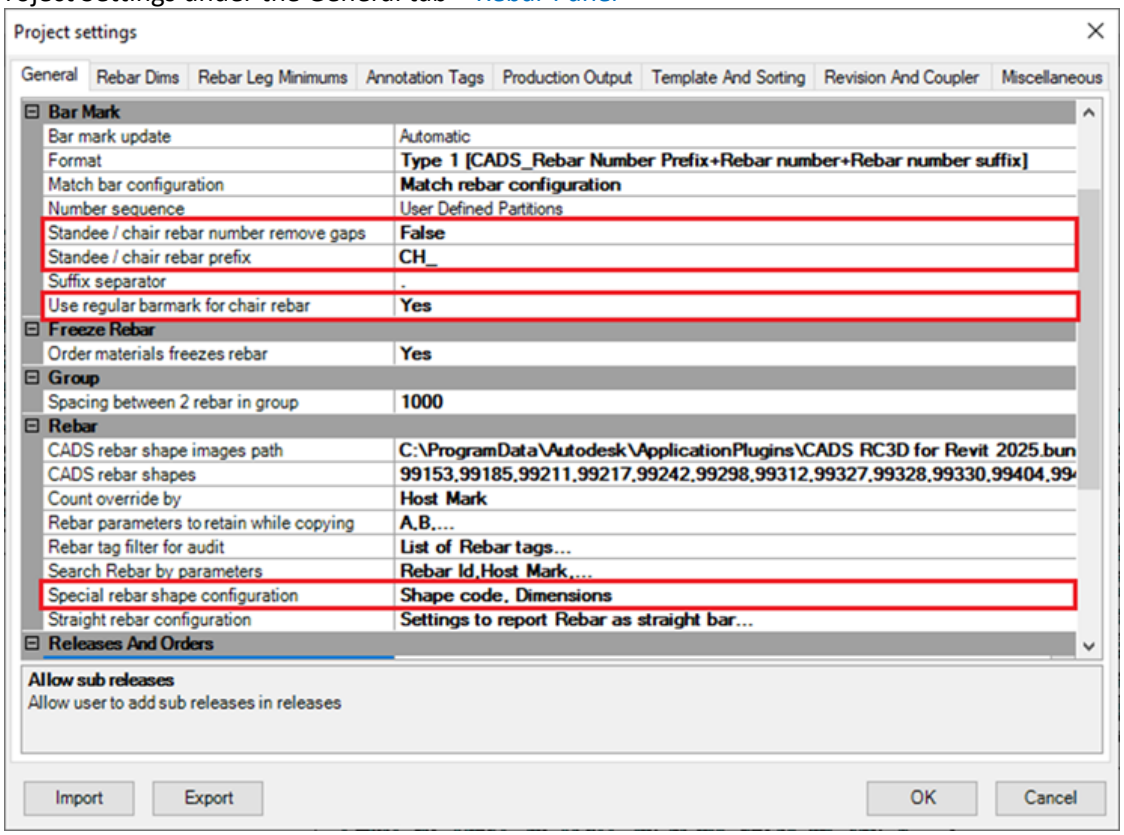
Copyright © Computer and Design Services Limited





Chair Rebar can be configured to use regular bar marks or separate chair rebar bar marks in the Project Settings under the General Tab – Bar Mark Panel

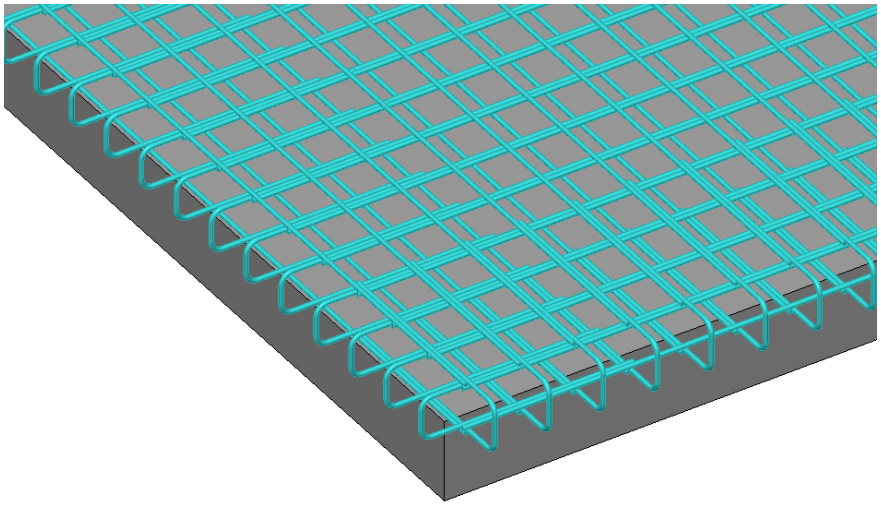
The dimensions used by the Chair rebar can be configured to suit the country detailer requirements in Project Settings under the General tab – Rebar Panel



5.9.1 Create Chair

1. Prerequisite ensure that a structural element such as a slab is placed in the model with top and bottom rebar placed.

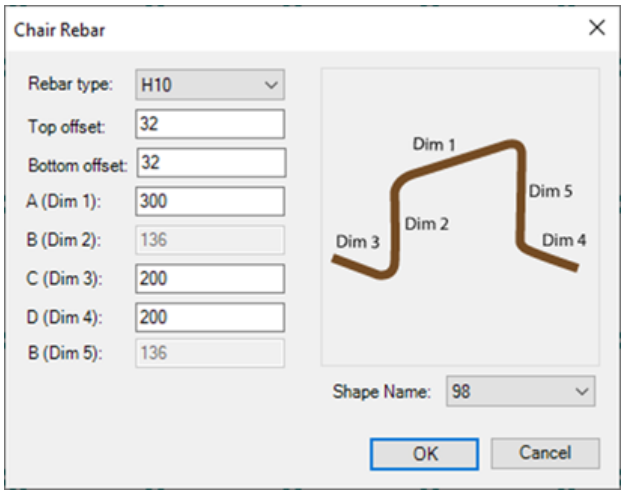
Copyright © Computer and Design Services Limited



2. Switch to a 2D Level View of the Structural element
3. Select the command Chair 

and then the Create 

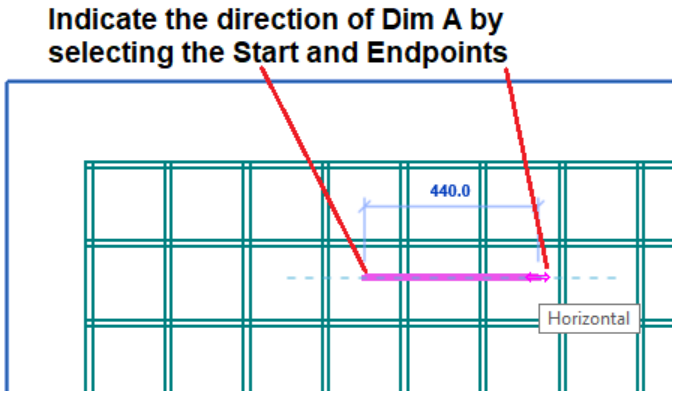
option.
4. Pick rebar host: Select the outline of the concrete host.
5. The Create Chair Rebar dialog is displayed. Select the Bar grade and diameter and input the required dimensions as described below;



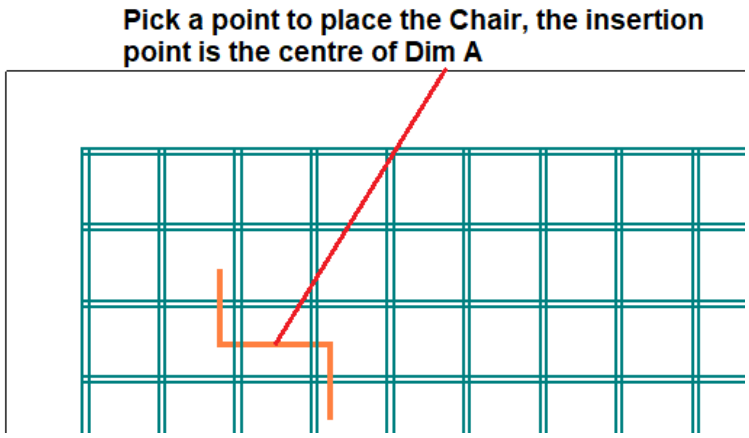
- Rebar Type: Use the Drop Down Menu to select the Bar Grade and diameter
- Dim A: Type in length of Dim A.
- Dim B: This automatically calculated based on the concrete cover and the top and bottom offsets.
- Dim C & D: Type in lengths of Dim C & D.
- Top offset: Type in the offset from the cover for the main top steel.
- Bottom offset: Type in the offset from the cover for the main bottom steel.
- Shape Name: Choose either shape code 98 or 9925.

6. Click Ok to place the Chair.

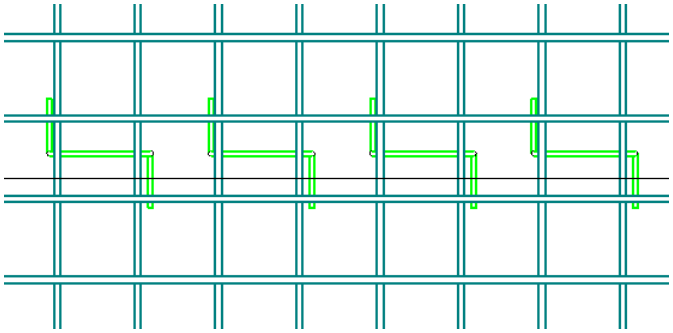
Copyright © Computer and Design Services Limited

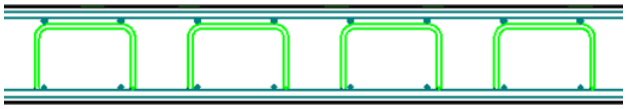


7. Click to enter component start point: Pick a point in the host to indicate start direction of Dim A.
8. Click to enter component end point: Pick a point to indicate the direction of Dim A.



9. Pick a point to insert (Centre point of top leg): Place the chair in the slab.
10. Continue inserting the Chair shape as required





Copyright © Computer and Design Services Limited

5.9.2 Edit Chair

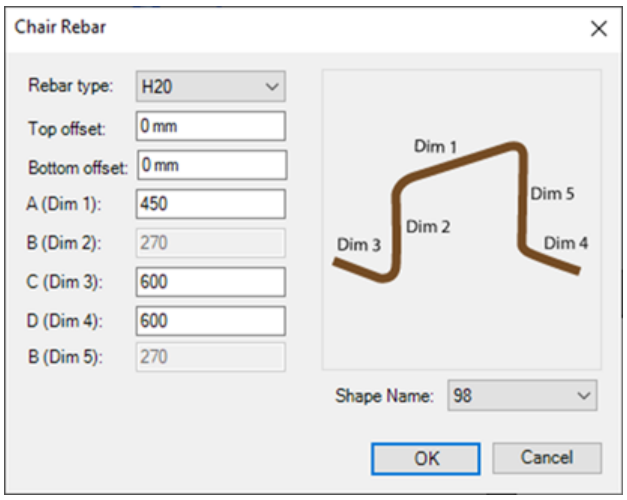
Use the Edit Chair command to amend the dimensions of previously placed chairs.

1. Edit Chair - Select the command Chair 

and then the Edit 

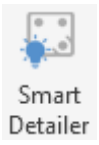
option.
2. Select chair rebar: Select the chair(s) to be edited.
3. Click Finish 

.



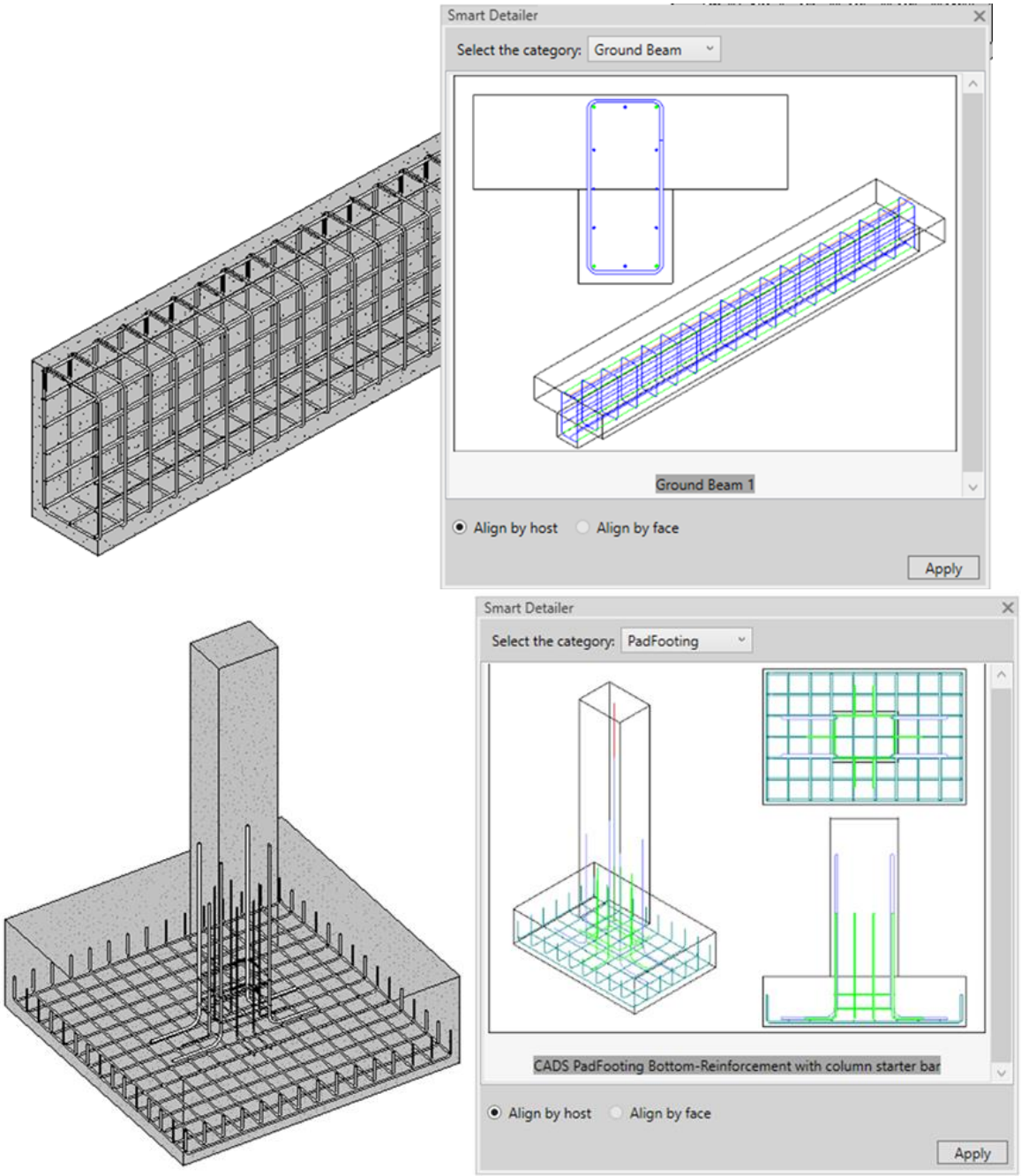
4. Edit the Chair dimensions / shape code as required.
5. Click Ok to complete the command.

5.10 Smart Detailer

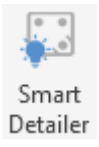


The Smart Detailer command contains a library of predefined Rebar Arrangements for specific structural elements. The Rebar Arrangements are selected in the Smart Detailer dialog and then the command will paste the Rebar cage into the selected similar Structural Element. Additional Details and Categories can be added to the Smart Detailer dialog. The Details can be stored in a user defined central location if required.

Copyright © Computer and Design Services Limited

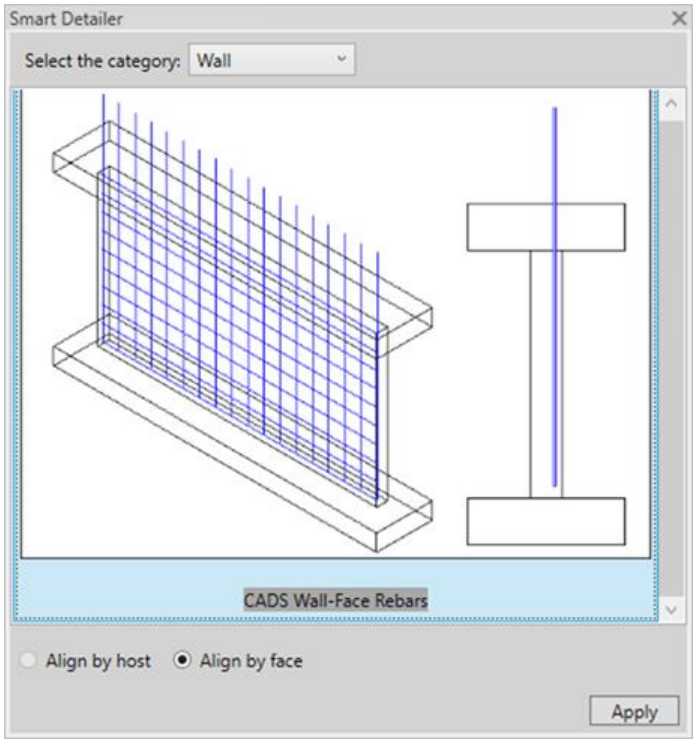


5.10.1 Placing Rebar Arrangements using Smart Detailer

1. Selecting the Smart Detailer 

command from the Detailing Panel displays the floating Smart Detailer dialog.

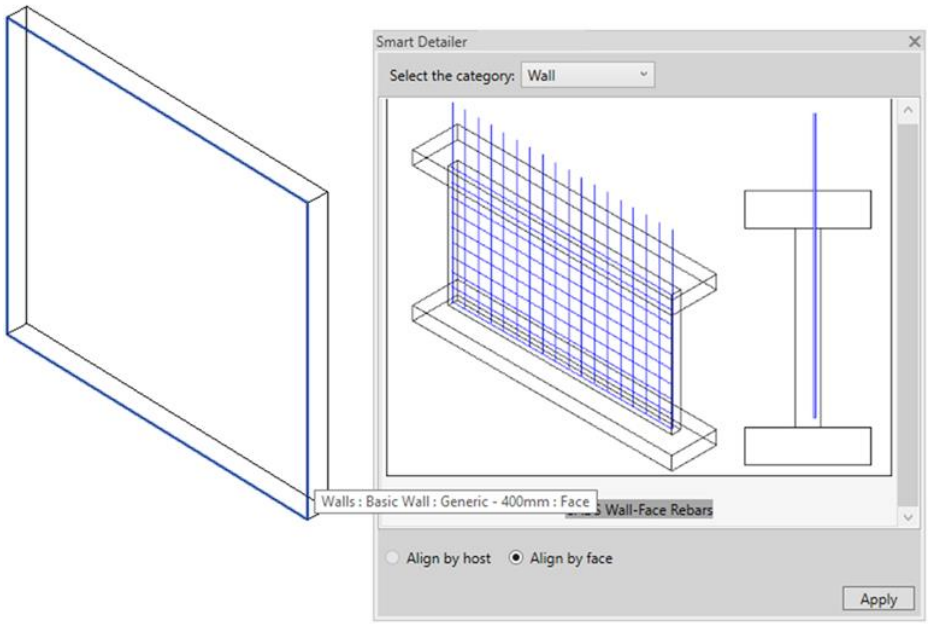
Copyright © Computer and Design Services Limited

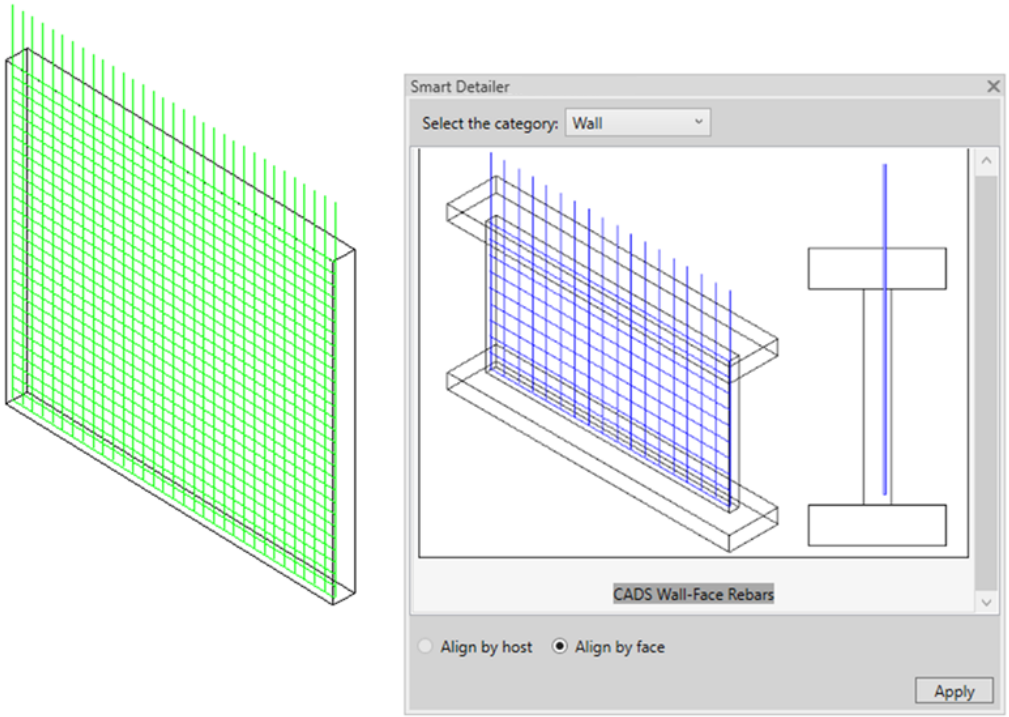


- **Select the Category:** Choose the structural element type from the drop down menu. The predefined categories are Beam, Column, Ground Beam, Pad Footing, Slab Edge and Wall. Additional categories can be added to the drop down list – Creating New Categories for Smart Detailer .
- **Select the Detail:** Use the scroll bar to review the available details and pick in the dialog to select. Additional Details can be added Creating New Categories for Smart Detailer .
- **Align by Host:** This option is automatically selected to Align the Rebar Detail to the Host. This option is setup in the associated *.JSON file, Creating a Data File by Host .
- **Align by Face:** This option is automatically selected to Align the Rebar to the Face in the Structural Element. The option is setup in the associated *.JSON file, Creating a Data File by Face .
- **Apply** Select the Apply button to load the rebar ready to paste into the selected structural element.

2. Select a Host Face of a Concrete Wall Structural Element in the Revit® Model.

Copyright © Computer and Design Services Limited



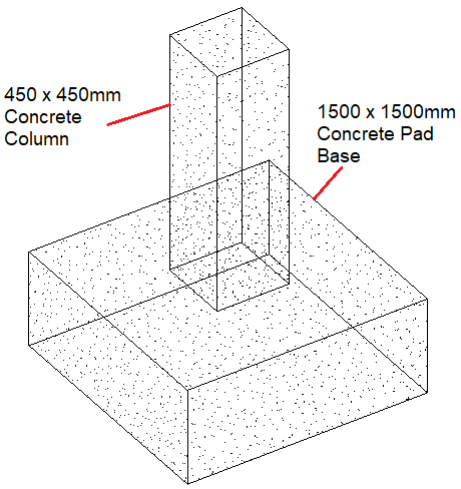


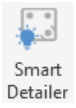
5.10.2 Placing a Smart Detail by Host

In this example a description is given to place an arrangement of Rebar into a Pad Base with associated concrete column.

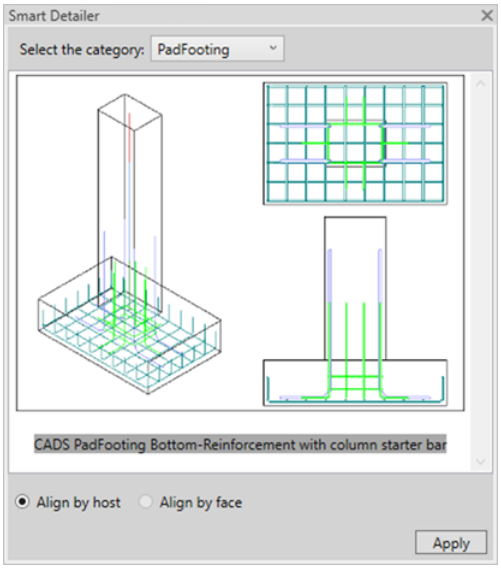
1. In a Revit® project place a Rectangular Concrete Pad Base with a Concrete column as shown below;

Copyright © Computer and Design Services Limited

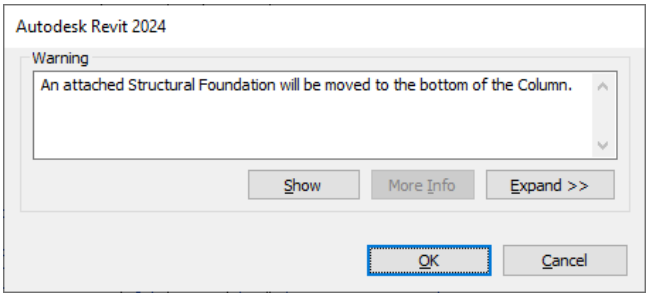


2. Select the Smart Detailer 

command from the Detailing Panel.

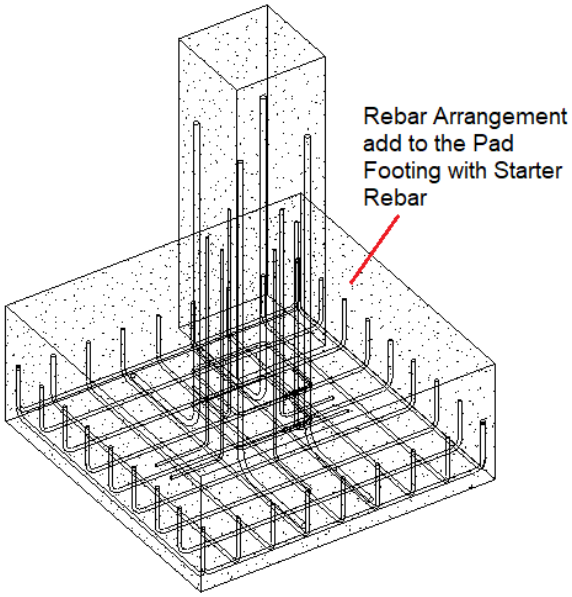


3. Select the Pad Footing Category on the drop down.
4. Select the “CADS Pad Footing Bottom-Reinforcement with column starter bar” from the list of diagrams.
5. The Align by Host is automatically selected as this is assigned in the *.JSON data file.
6. Click Apply.
7. Click Ok on the Autodesk Revit® Warning message if it is displayed.



Copyright © Computer and Design Services Limited

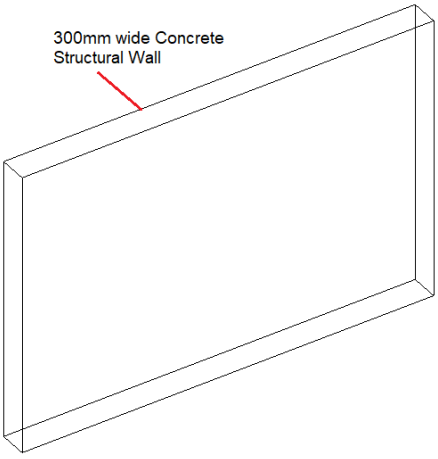
8. Select the Pad Footing in the model to Place the Rebar Arrangement.
9. Continue selecting other Pad Footings if required or;
10. Press ESC (escape) to finish the function.

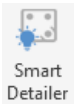


1. Placing a Smart Detail by Face

In this example a description is given to place an arrangement of Rebar into the face of a Wall.

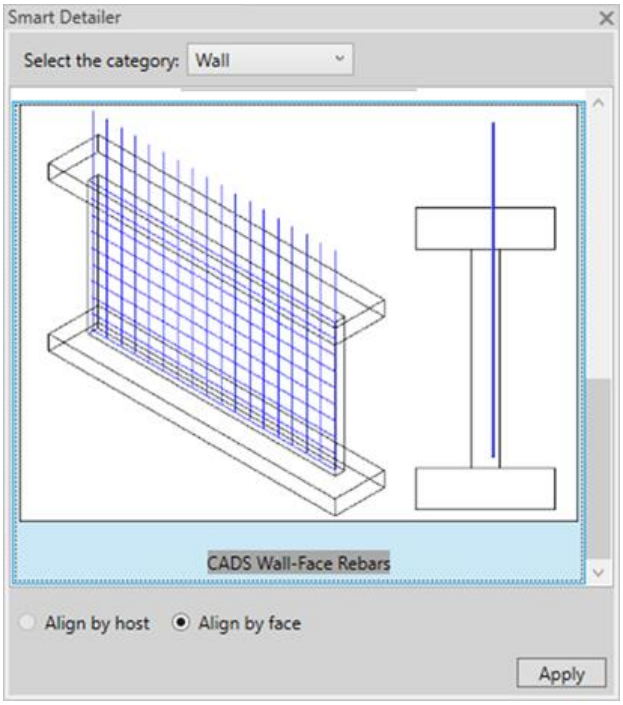
2. In a Revit® project place a 300mm wide Concrete Structural Wall as shown below;



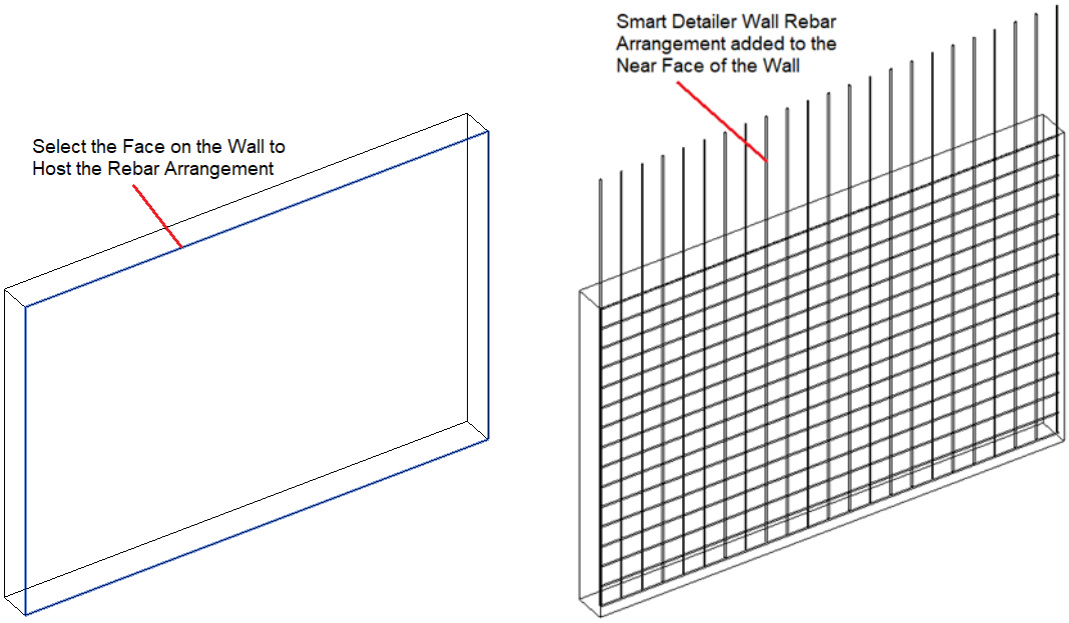
3. Select the Smart Detailer 

command from the Detailing Panel.

Copyright © Computer and Design Services Limited

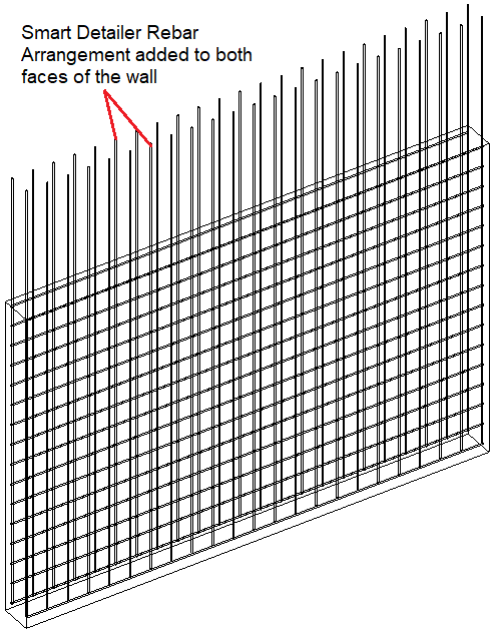


4. Select the Wall Category on the drop down.
5. Select the “CADS Wall-Face Rebars” from the list of diagrams.
6. The Align by Face is automatically selected as this is assigned in the *.JSON data file.
7. Click Apply
8. Select the Host Face on the Wall.



9. Select the Far Face of the Wall to repeat the Rebar Placement.

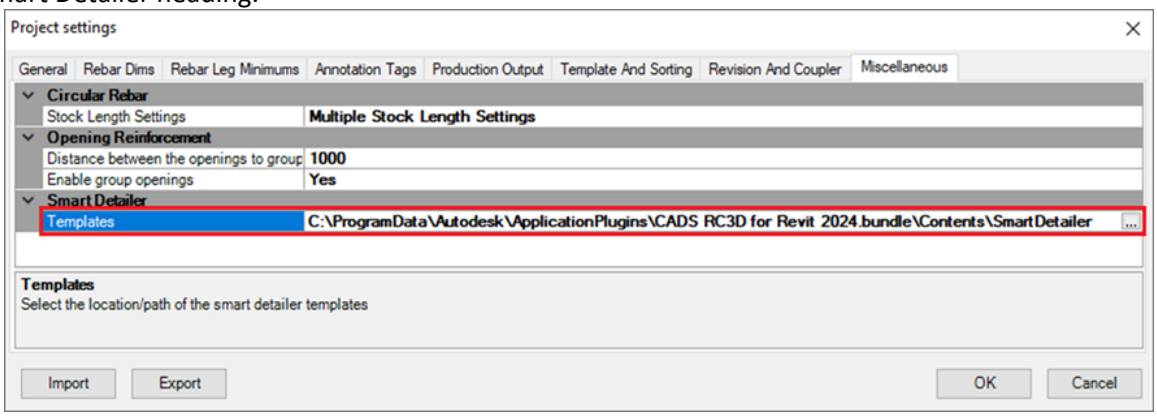
Copyright © Computer and Design Services Limited



10. Press ESC (escape) to finish the function.

5.10.3 Smart Detailer Location Configuration

The default location for the Smart Detailer files is the "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\SmartDetailer" folder.
The location is configured inside the Project Settings dialog in the Miscellaneous Tab under the Smart Detailer heading.



The location of the Smart Detailer folder can be changed to a central location if required.
Copy the Smart Detailer folder, sub-folders and files to the new location.
Update the folder path in the Project Settings as shown above in the Template section.

5.10.4 Contents of Smart Detailer Folders

Each of the Smart Detailer Category Sub-Folders under the "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\SmartDetailer" contains three file types for each detail;

- RVT Revit® file containing the Smart Detail, refer to Creating New Smart Detailer Rebar

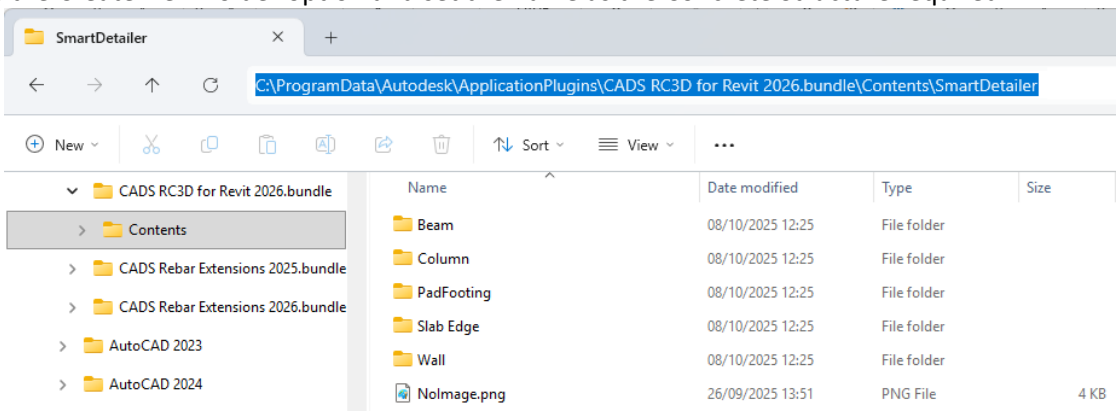
Copyright © Computer and Design Services Limited

Arrangements for further information.

- PNG Image file which displays in the Smart Detailer dialog, refer to Creating image files for new Smart Detailer Rebar Arrangements for further information.
- JSON Data File containing the version number, detail name and placing method, face or Host, refer to the information on Creating data files for new Smart Detailer Rebar Arrangements for further information.

5.10.5 Creating New Categories for Smart Detailer

To create a new Category for Smart Detailer create a sub-folder under the Smart Detailer with the name of the Concrete Element Type. The default location for the Smart Detailer folder is "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\SmartDetailer".
Open Windows File Explorer and navigate to "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\SmartDetailer"
Use the Create New Folder option and set the name as the Concrete Structure required.



5.10.6 Creating New Details for Smart Detailer based on Align by Host

Creating a new Smart Detail is a three step process, creating the Revit® file, creating an image file and finally creating the supporting data file (*.JSON). Currently the rebar grades, diameters and centre to centre spacing will have to be edited after the detail has been imported into the Revit® project. Where a cage of rebar is being defined, the detail should be setup to Align by Host.

Creating a Smart Detailer Align by Host Revit® File

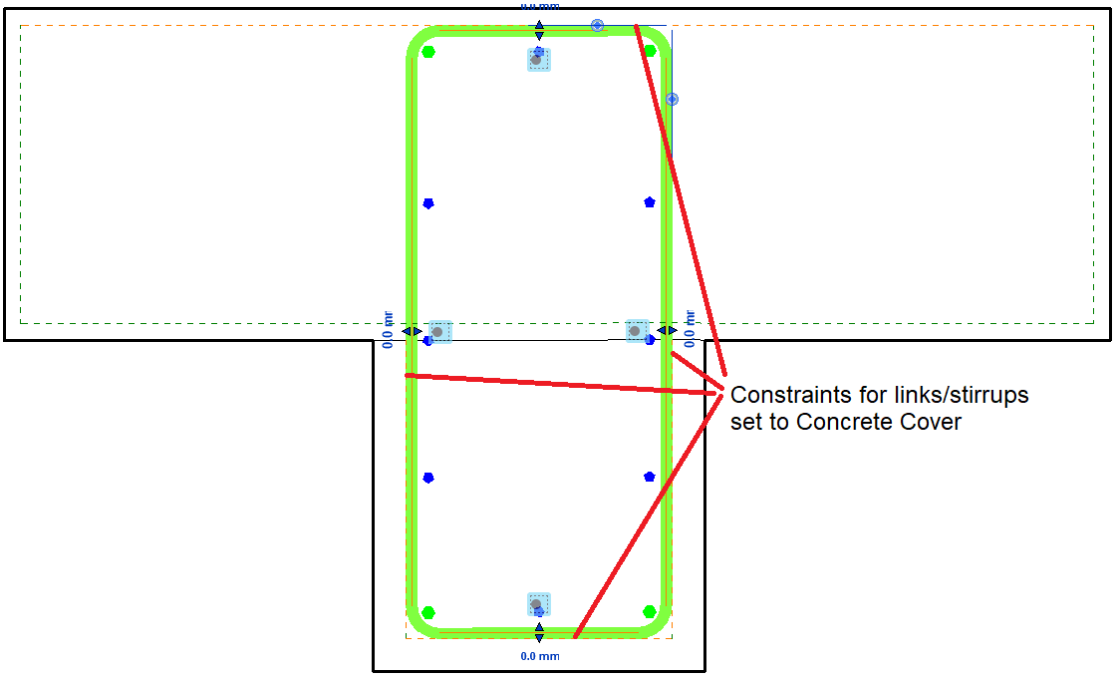
Where possible use the default Revit® Project Files shipped with RC3D / RebarCAD 3D for Revit® to create the new detail.

In this explanation the "CADS_Beam-2 Legged Stirrup" has been used as an example. This file is located in the "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\SmartDetailer\Beam" folder.

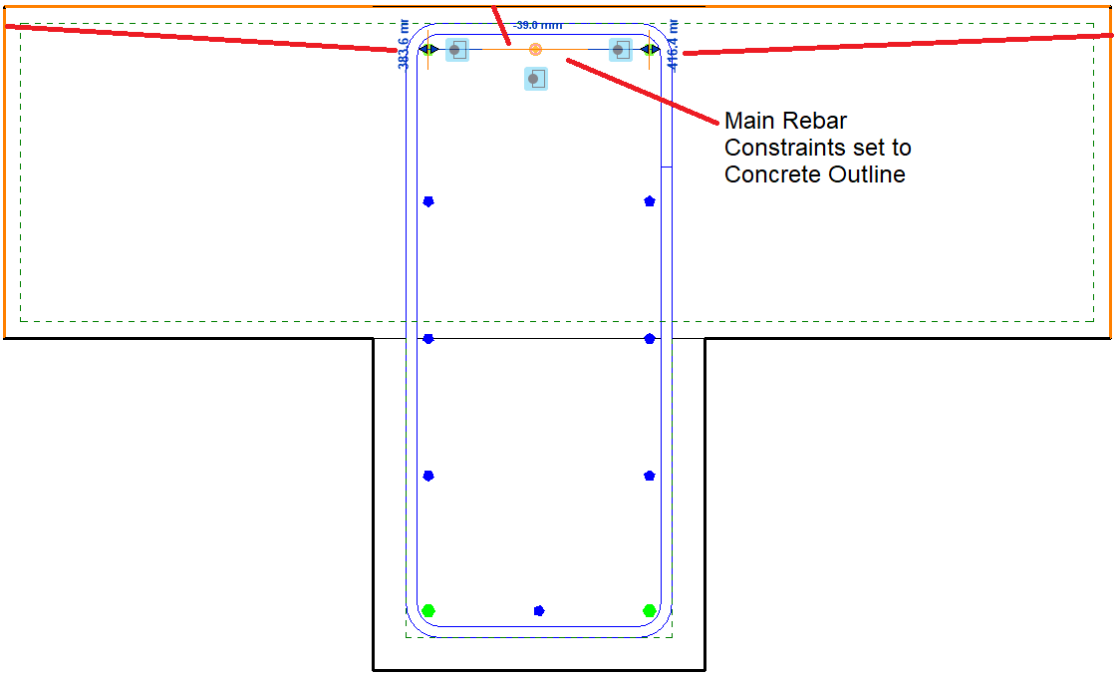
1. Open the Revit® Detail to be edited and save with a new name into the same folder.
2. Edit the detail to add any new rebar, change the centres, bar diameters etc.

Copyright © Computer and Design Services Limited

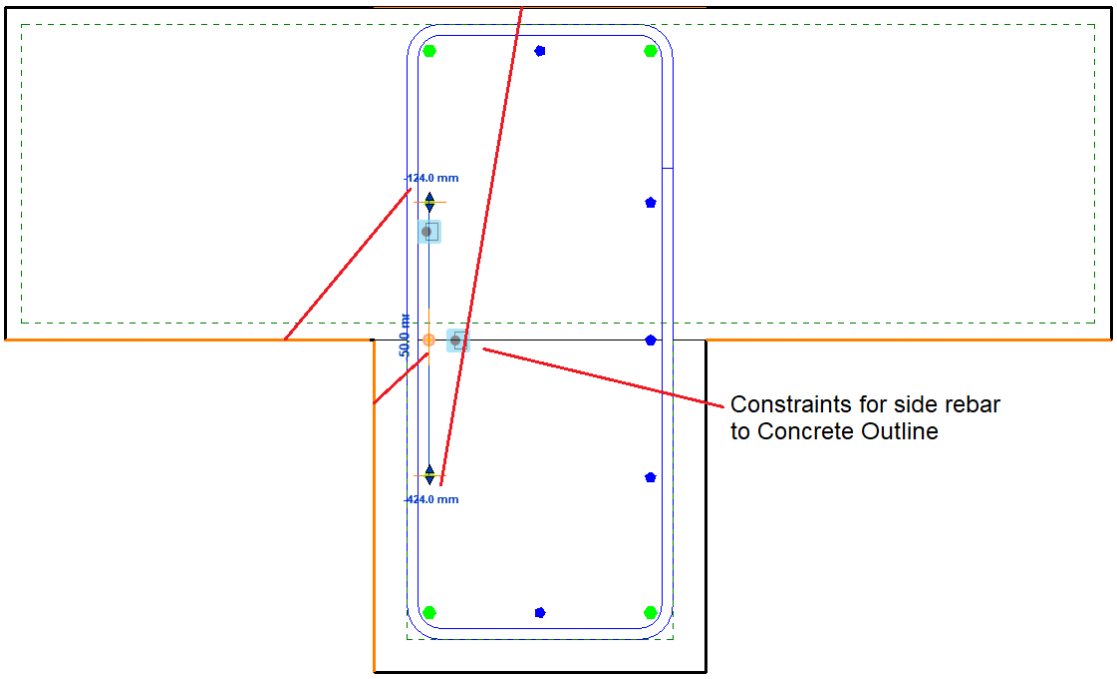
3. Check the constraints of any new rebar to ensure they are assigned correctly, see the example illustrations below;
4. Where links/stirrups are specified constraint the rebar to the cover of the element.



5. Main & Secondary rebar should be constrained to the outline of the structural element.
6. Examples of constraints are shown below;



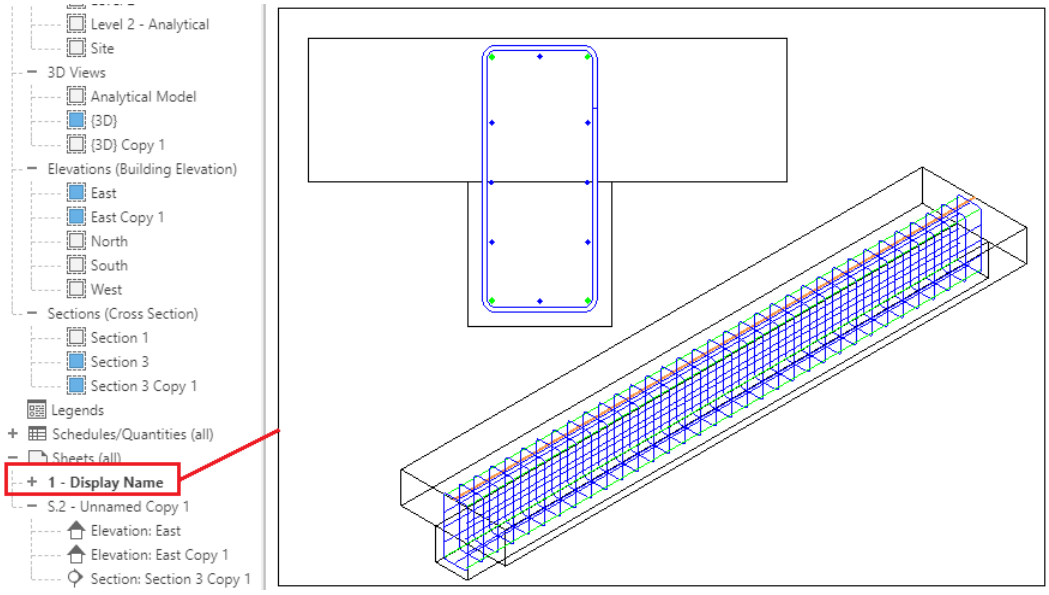
Copyright © Computer and Design Services Limited



7. Save the File

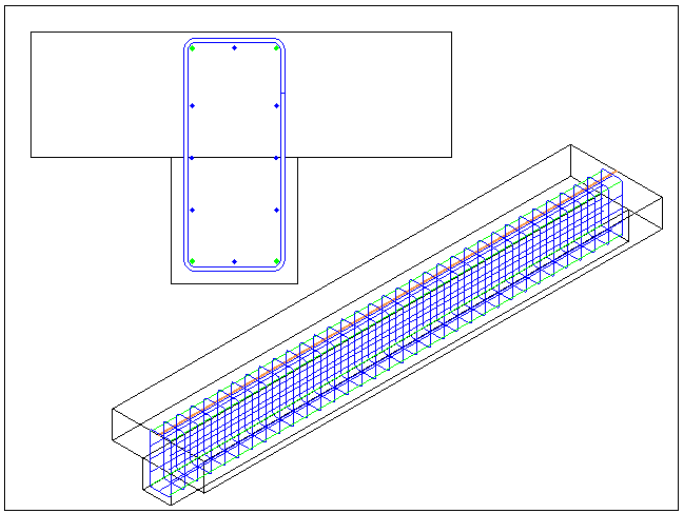
Creating an Image File

Once the Revit® detail has been created setup a Revit® Drawing Sheet to display the required views of the detail to capture as an image to display in the Smart Detailer.



1. The image needs to be created as a *.PNG file with the same name as the Revit® Smart Detail file and saved in the same folder.
2. An application such as Windows Snipping Tool can be used to capture and save the image.

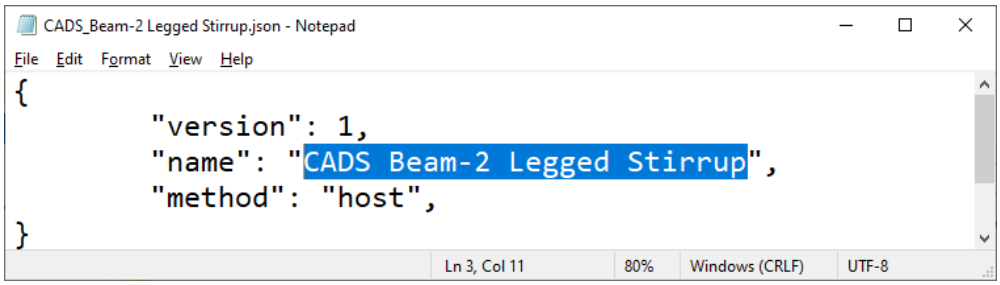
Copyright © Computer and Design Services Limited



Creating a Data File (*.JSON)

The data file contains the version of the Detailer file, its name and alignment method.

1. Open Windows file explorer and navigate to the Smart Detailer sub folder holding the image and Revit® file.
2. The default location is “C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\SmartDetailer\Beam”.
3. Make a copy of the *.JSON file for the original detail used to create the new detail.
4. Rename the copied *.JSON to match the name of the new detail.
5. Open the new *.JSON file with a text editor such as Windows Notepad.



6. Change the name of the detail to match the new name assigned to the Revit® and image file.
7. Save and Close the File.

When you load the RC3D for Revit® Smart Detailer command the new detail will appear in the list of images.

5.10.7 Creating New Details for Smart Detailer based on Align by Face

Creating a new Smart Detail is a three step process, creating the Revit® file, creating an image file and finally creating the supporting data file (*.JSON). Currently the rebar grades, diameters and centre to centre spacing will have to be edited after the detail has been imported into the Revit® project. In the instance detailed below the Rebar Arrangement is constrained to the face of the wall, hence the Alignment will be defined as Align to Face.

Copyright © Computer and Design Services Limited

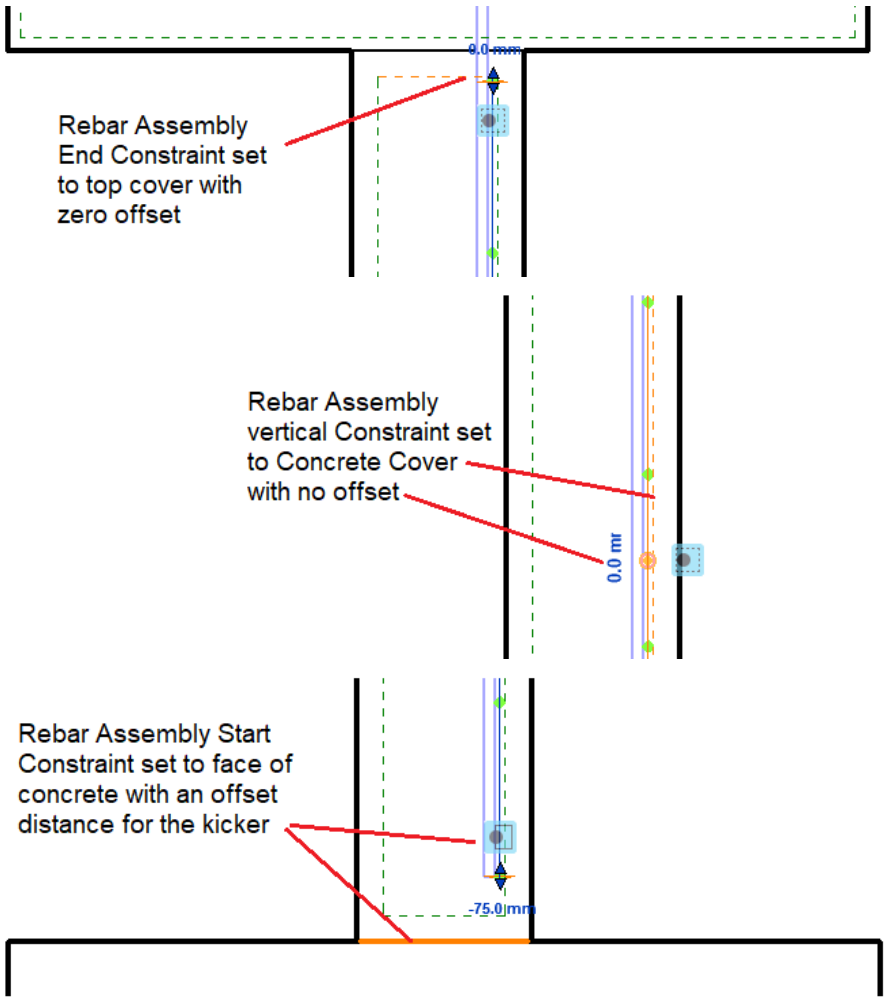
Creating a Smart Detailer Align by Face Revit® File

Where possible use the default Revit® Project Files shipped with RC3D / RebarCAD 3D for Revit® to create the new detail.

In this explanation the “CADS_Wall-Face Rebars” has been used as an example. This file is located in the “C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\SmartDetailer\Wall” folder.

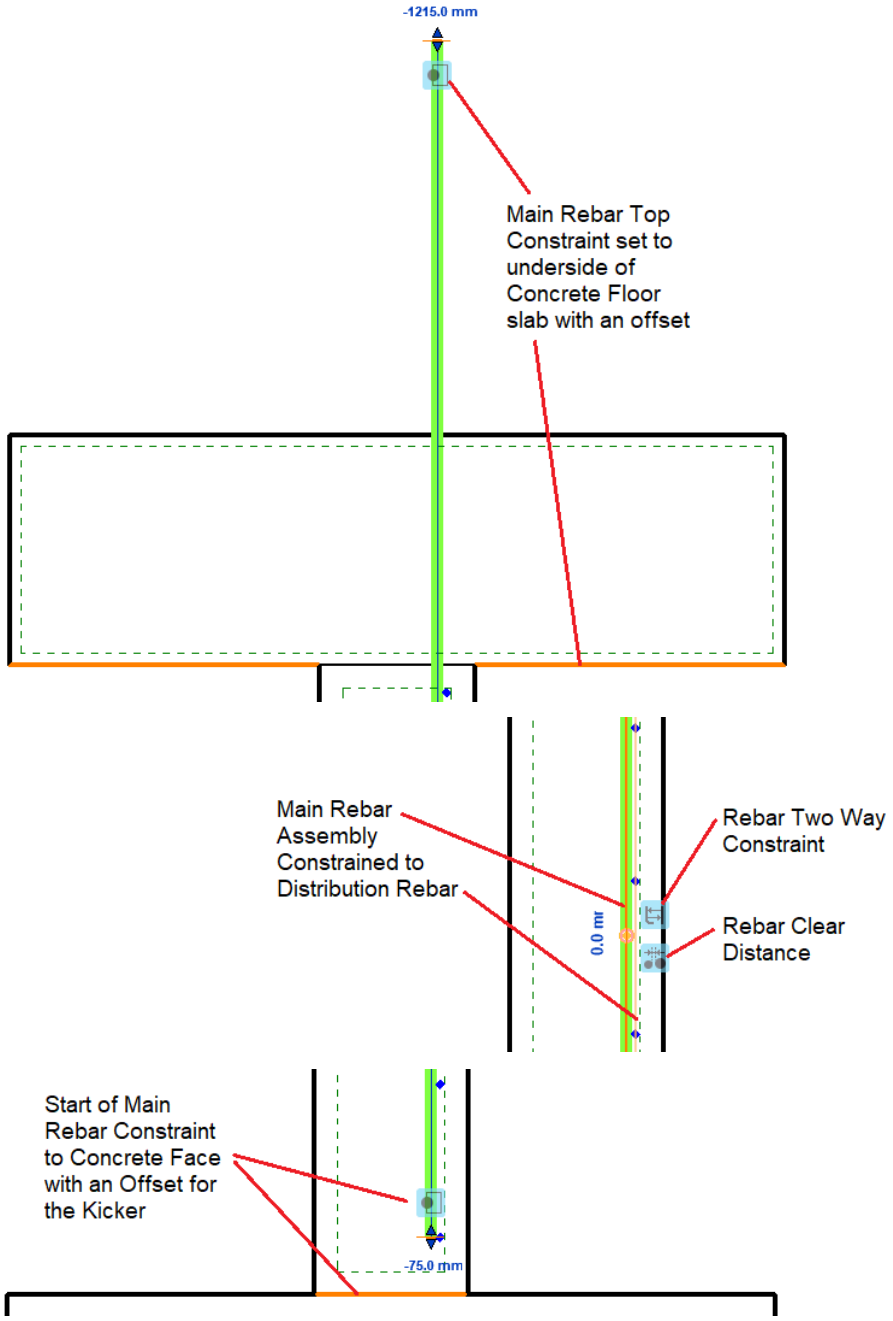
1. Open the Revit® Detail to be edited and save to a new name into the same folder.
2. Edit the detail to add any new rebar, change the centres, bar diameters etc.
3. Check the constraints of any new rebar to ensure they are assigned correctly, see the example illustrations below;
4. Where links/stirrups are specified constraint the rebar to the cover of the element.

Distribution Rebar Constraints



Main Rebar Constraints

Copyright © Computer and Design Services Limited

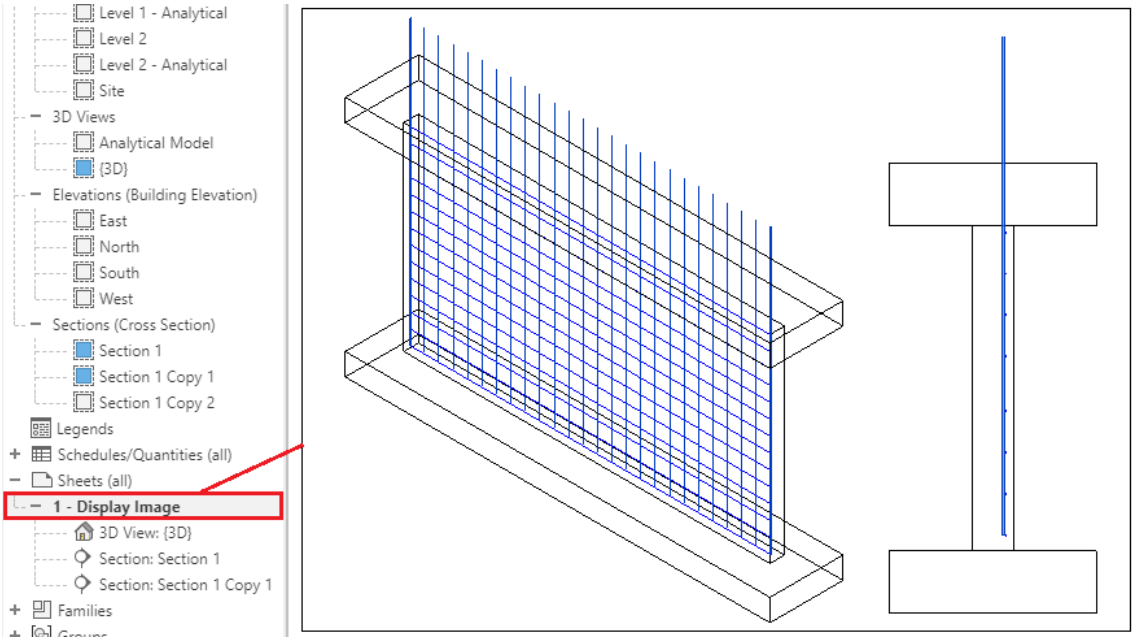


1. Creating an Image File

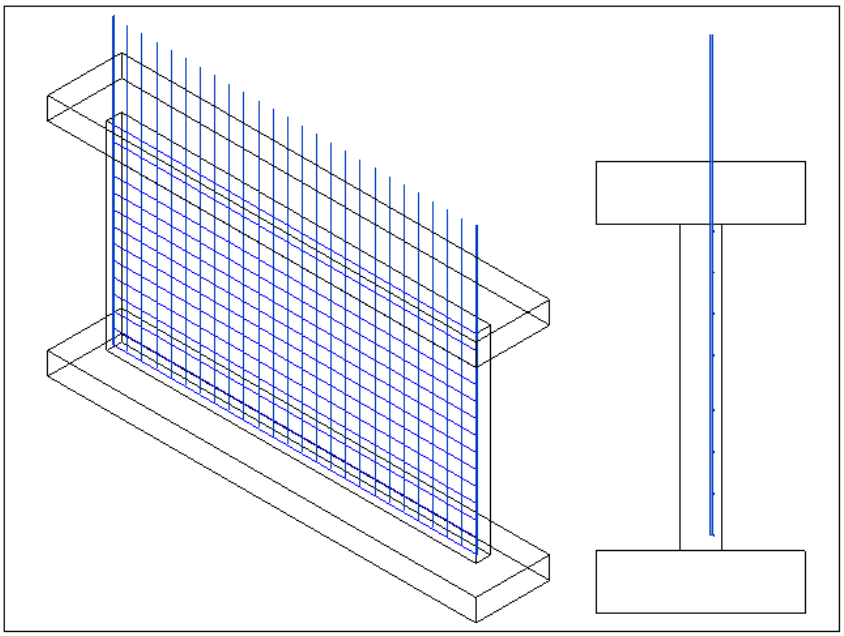
Once the Revit® detail has been created setup a Revit® Drawing Sheet to display the required views of the detail to capture as an image to display in the Smart Detailer.

2. The image needs to be created as a *.PNG file with the same name as the Revit® Smart Detail file and saved in the same folder.

Copyright © Computer and Design Services Limited



3. An application such as Windows Snipping Tool can be used to capture and save the image.

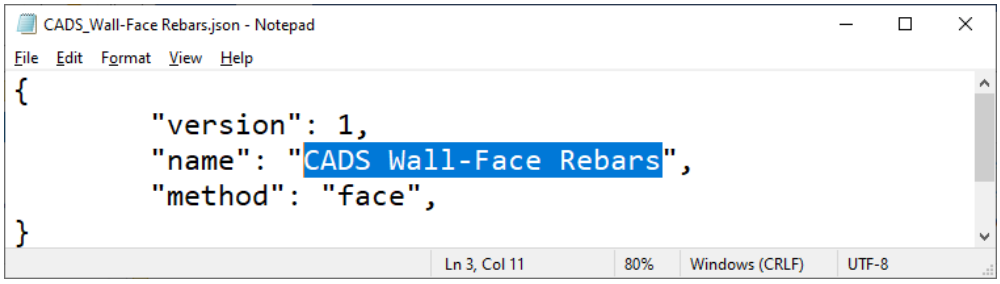
4. 

Creating a Data File (*.JSON)

The data file contains the version of the Detailer file, its name and alignment method.

1. Open Windows file explorer and navigate to the Smart Detailer sub folder holding the image and Revit® file.
2. The default location is “C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\SmartDetailer\Wall”.
3. Make a copy of the *.JSON file for the original detail used to create the new detail.
4. Rename the copied *.JSON to match the name of the new detail.
5. Open the new *.JSON file with a text editor such as Windows Notepad.

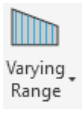
Copyright © Computer and Design Services Limited



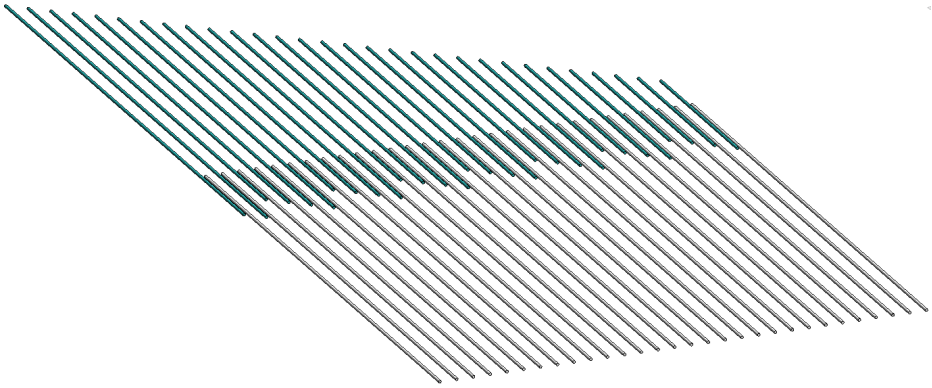
6. Change the name of the detail to match the new name assigned to the Revit® and image file.
7. Save and Close the File.

When you load the RC3D for Revit® Smart Detailer command the new detail will appear in the list of images.

5.11 Varying Range



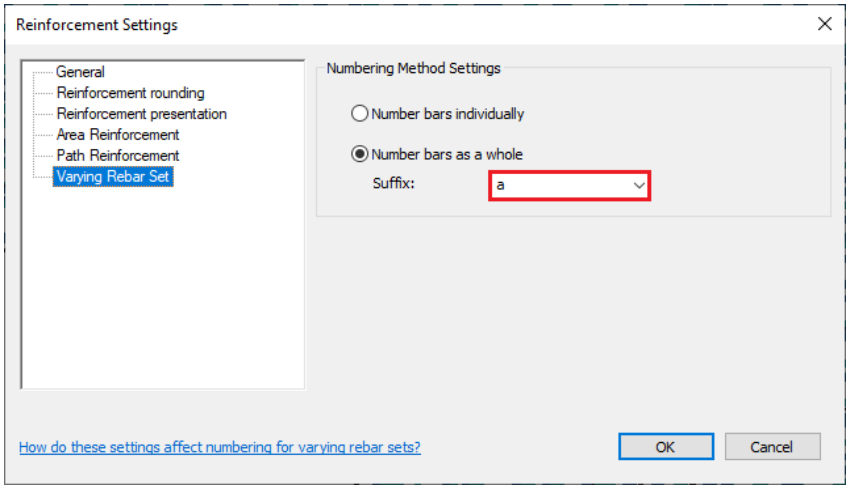
The Varying Range commands are used to group bars of the same shape, bar grade and bar diameter but different bar lengths into one varying bar mark. Varying Bar Marks can be numbered individually or grouped into one bar mark number with either a letter or number suffix. A Step Taper can be applied to a varying range and there are functions to change the visibility of the rebar within the range assembly. Rebar Visibility functions are included to display All, Selected, Middle or First and Last Rebar.



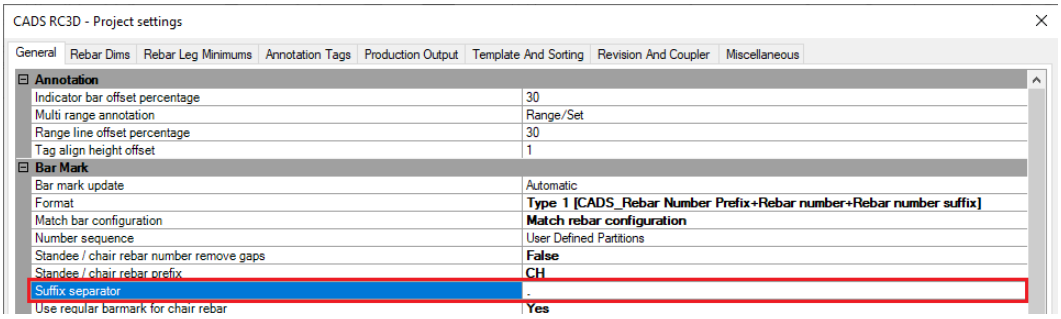
5.11.1 Varying Range Bar Mark Numbering

Configure the annotation for the Varying Rebar Set in the Revit® Reinforcement Settings dialog accessed from the Reinforcement Panel as shown below. The bars can be numbered individually or grouped into one bar mark with either a letter or number suffix.

Copyright © Computer and Design Services Limited

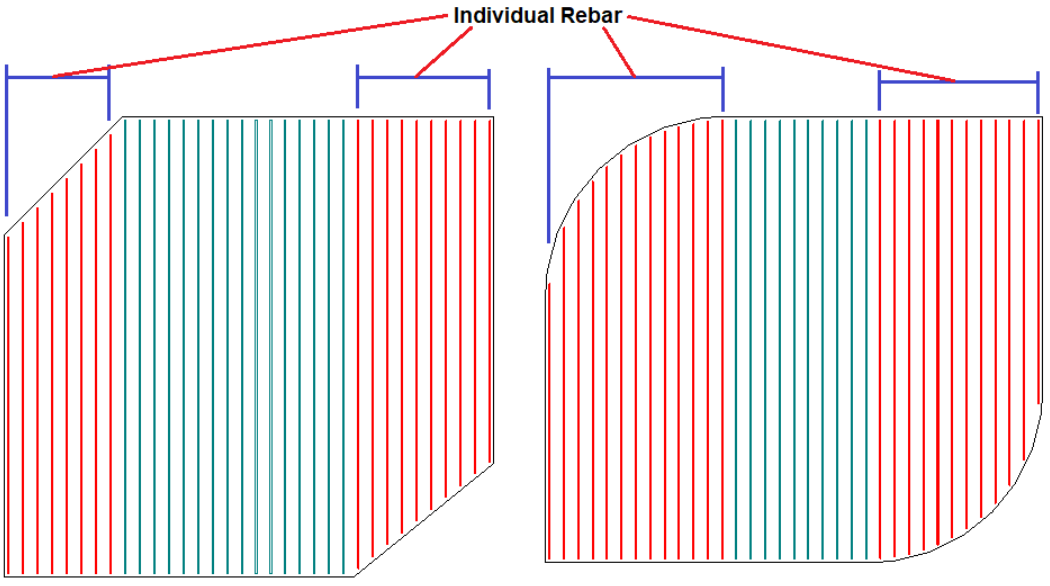


If the suffix is set to use a number such as 1.1 for example, enter the number in the suffix field in the Reinforcement Settings dialog. Then add the separator (.) in the Project Settings – General Tab – Bar Mark as shown below;

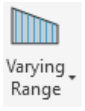


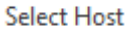
5.11.2 Select Host

Individual Rebar must be present as shown in the image below to be grouped into a varying range assembly. The rebar below were placed using the Revit® Reinforcement Area command.



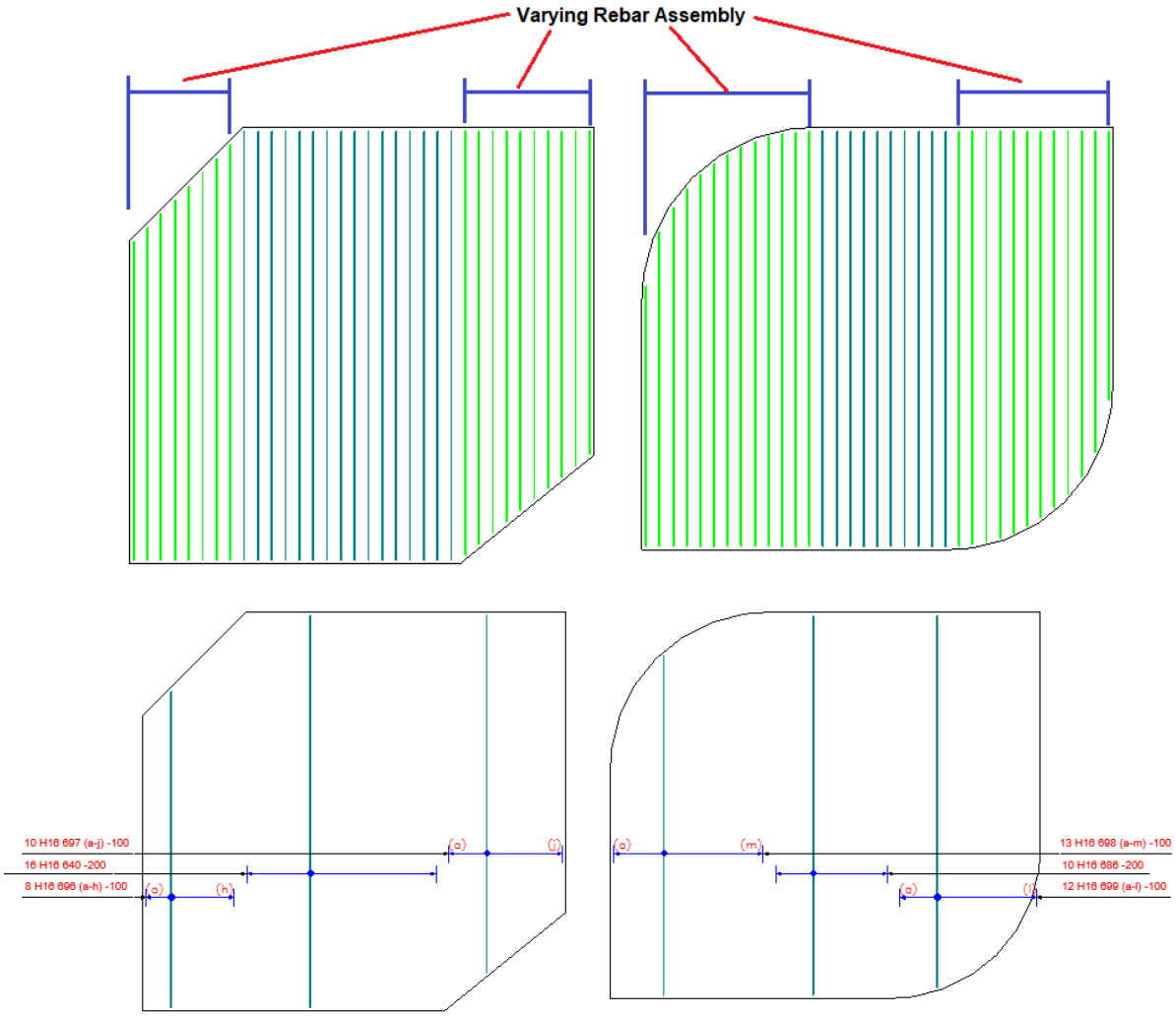
Copyright © Computer and Design Services Limited

1. Select the Varying Range 

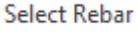
command from the Detailing Panel.
2. Click on the Select Host 

command from the drop-down menu.
3. Select the concrete host(s) containing the tapering rebars.
4. Click on the Finish 

button to convert to varying assembly.
5. The individual Varying Rebar within the selected host are converted to Varying range assemblies.



5.11.3 Select Rebar

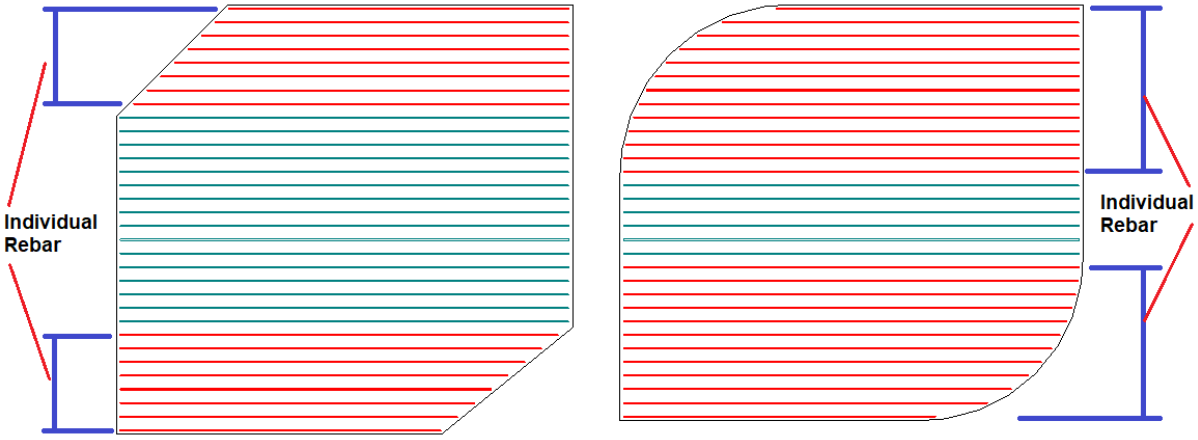
Use the Select Rebar 

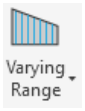
option to convert individual varying rebar into a rebar varying assembly. Select the first and last bar to create the varying range assembly in 2D Views. In 3D Views select all the rebar to convert to a varying range assembly and then specify the first bar in the assembly which will get the (a) or .1 mark.

Copyright © Computer and Design Services Limited

5.11.4 Select Rebar 2D View

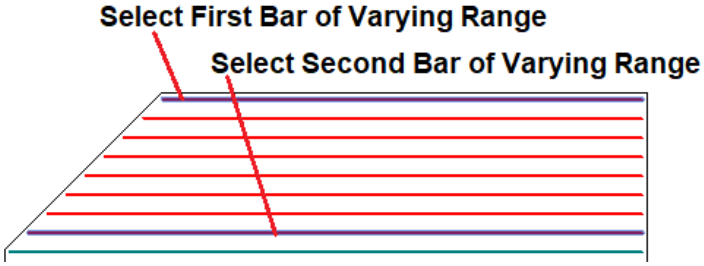
Individual Rebar must be present as shown in the image below to be grouped into a varying range assembly. The rebar below were placed using the Revit® Reinforcement Area command.



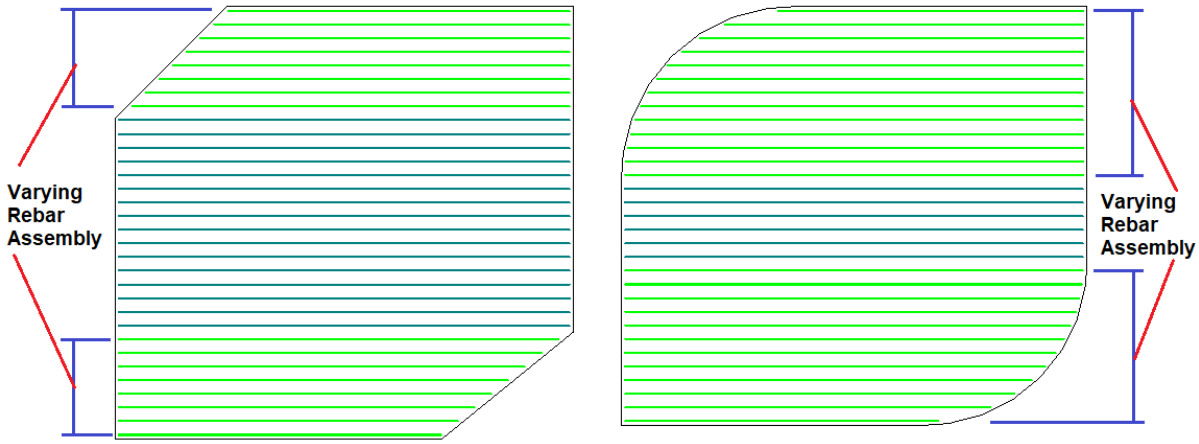


1. Select the Varying Range command from the Detailing Panel.
2. Click on the Select Rebar command from the drop-down menu.

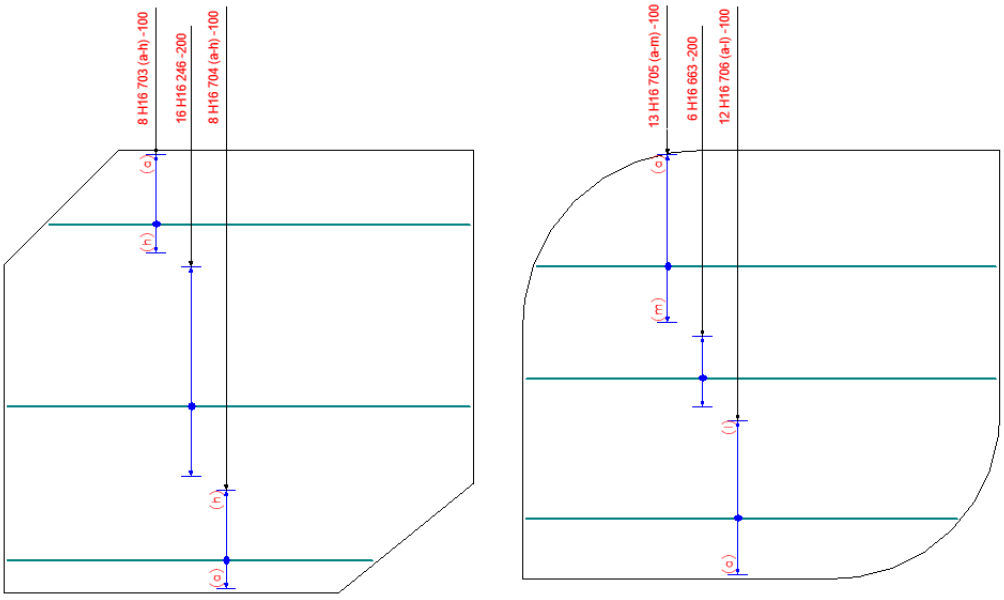




3. Select the first rebar in the varying group.
4. Select the last rebar of the varying group.
5. The command groups the rebar into a varying range.
6. You can continue selecting other varying range groups or press ESC to finish.
7. The command converts to individual rebar into an assembly (range).

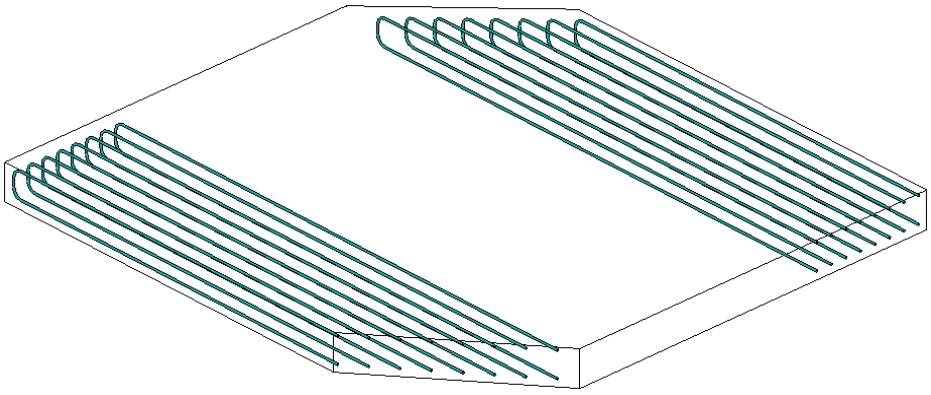


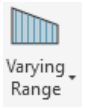
Copyright © Computer and Design Services Limited

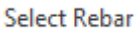


5.11.5 Select Rebar 3D View

Individual Rebar must be present as shown in the image below to be grouped into a varying range assembly.

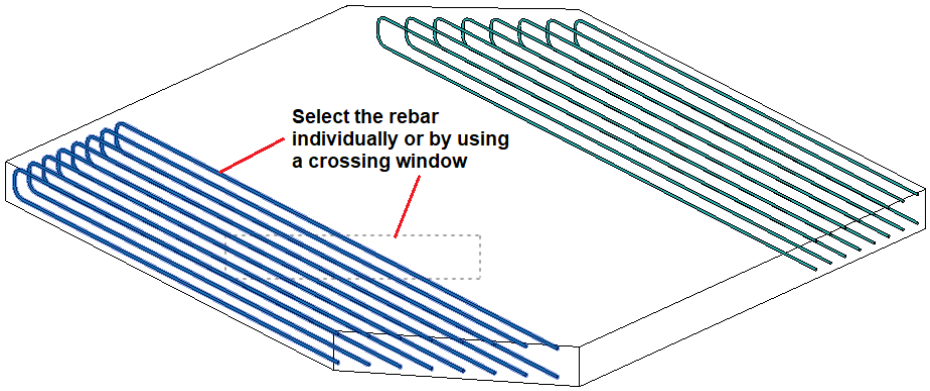


1. Select the Varying Range 

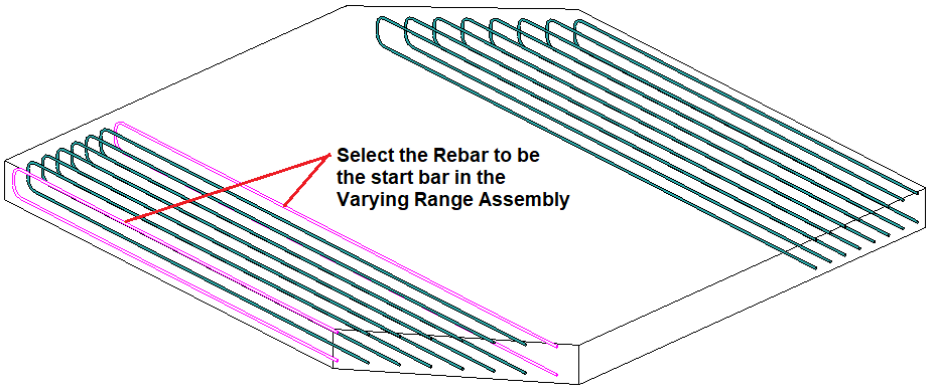
command from the Detailing Panel.
2. Click on the Select Rebar 

command from the drop-down menu.
3. Select the rebar that will form the varying rebar assembly either individually or with a crossing window.

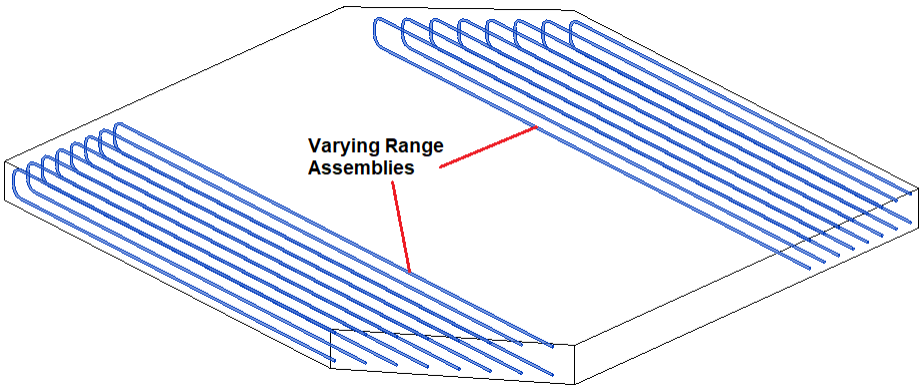
Copyright © Computer and Design Services Limited



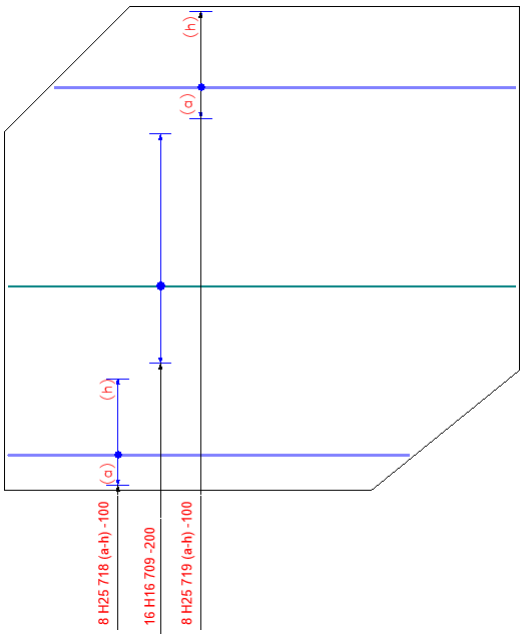
4. Click Finish.
5. Rebar at either end of the assembly are highlighted.
6. Select one of the highted rebar to be the first bar in the varying range assembly.



7. Click Finish.
8. You can continue selecting rebar to form additional varying range groups or press ESC to finish.

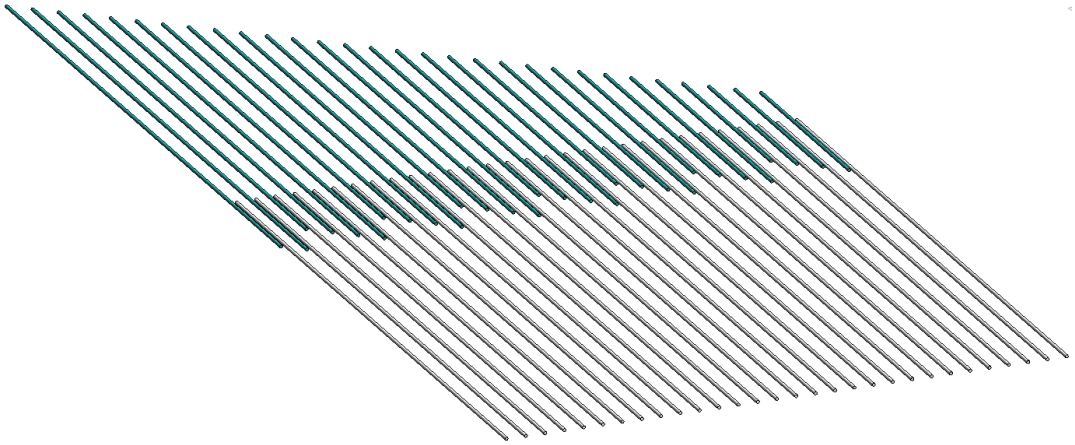


Copyright © Computer and Design Services Limited



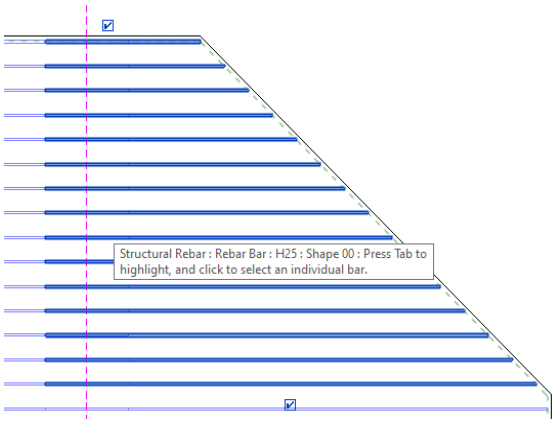
5.11.6 Step Taper

The Step Taper Step Taper function groups rebar into stepped lengths within a varying rebar assembly which reduces the numbers of cut bars. The command prompts the selection of the bar leg to apply the step taper, this is noted as the Varying Leg in the dialog.

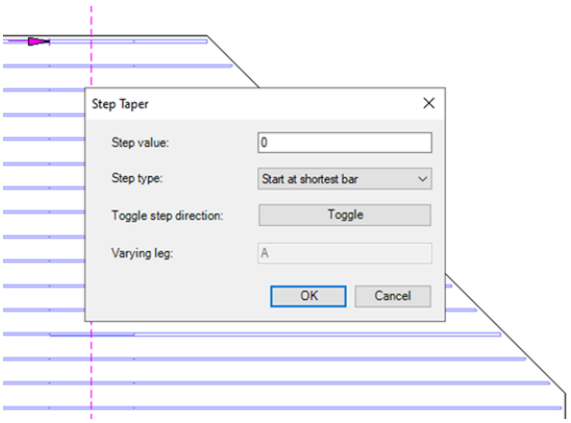


Use the Toggle option to choose which end of the assembly to apply the step and Step Type to apply the step taper starting at the Shortest or Longest bar to the rebar assembly to meet your requirements. The Step Taper command supports both straight and bent rebar. All the legs of the bar can have a step taper applied including the intermediate legs. Step Tapers can be applied to CADS Rebar Shapes and Free Form Rebar.

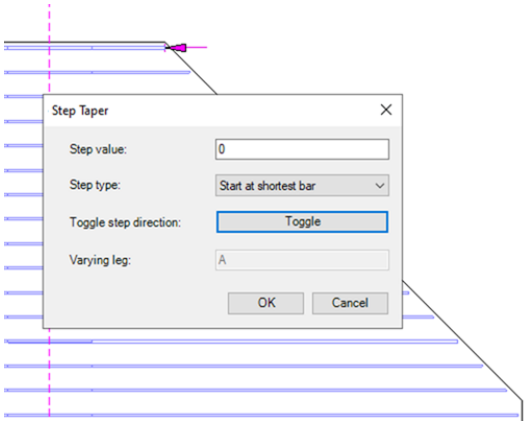
Copyright © Computer and Design Services Limited



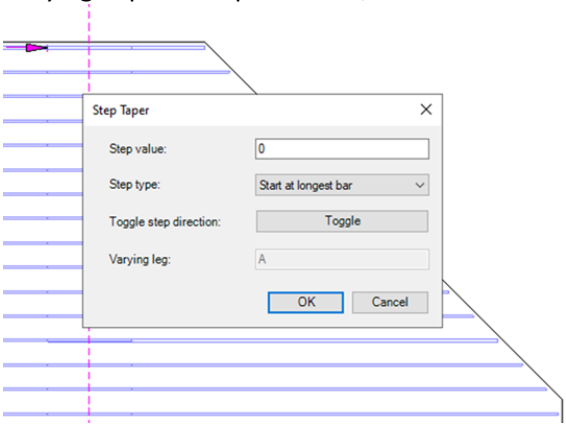
Varying Taper – No Step



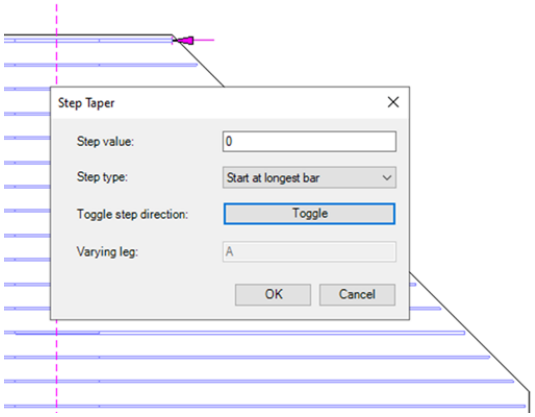
Varying Taper – Step from left, Start shortest bar



Varying Taper – Step right, start shortest bar



Varying Taper – Step from left, Start longest bar

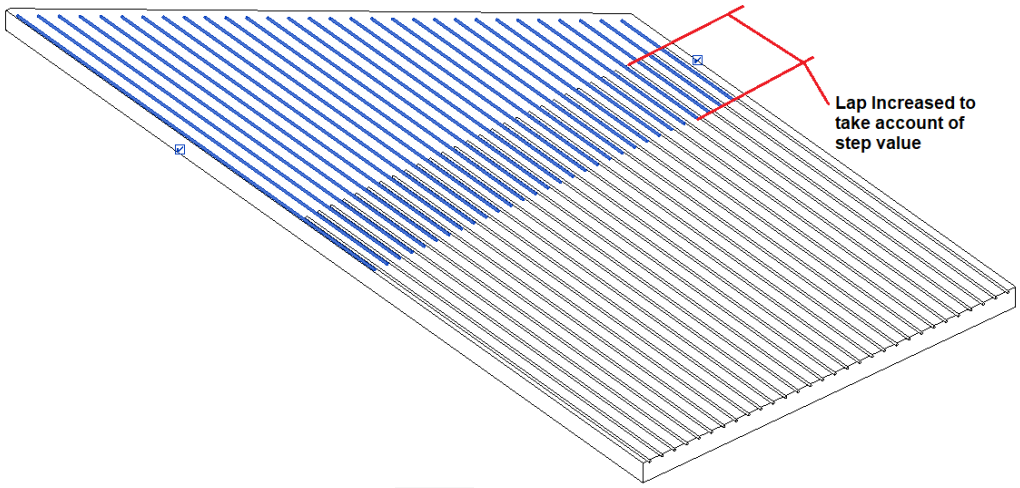


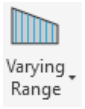
Varying Taper – Step from right, Start longest bar

5.11.7 Applying a Step Taper

A CADS Tapered Range needs to be added to the structure ready for the step taper to be applied. The lap between the rebar has been increased to take account of the step in the tapered range to allow for minimum lap plus step distance.

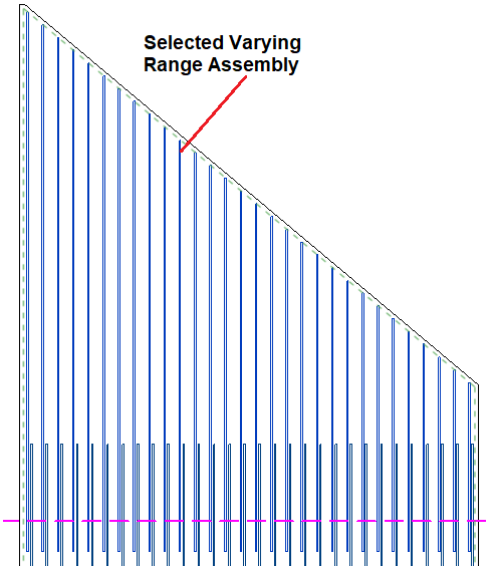
Copyright © Computer and Design Services Limited



1. Select the Varying Range 

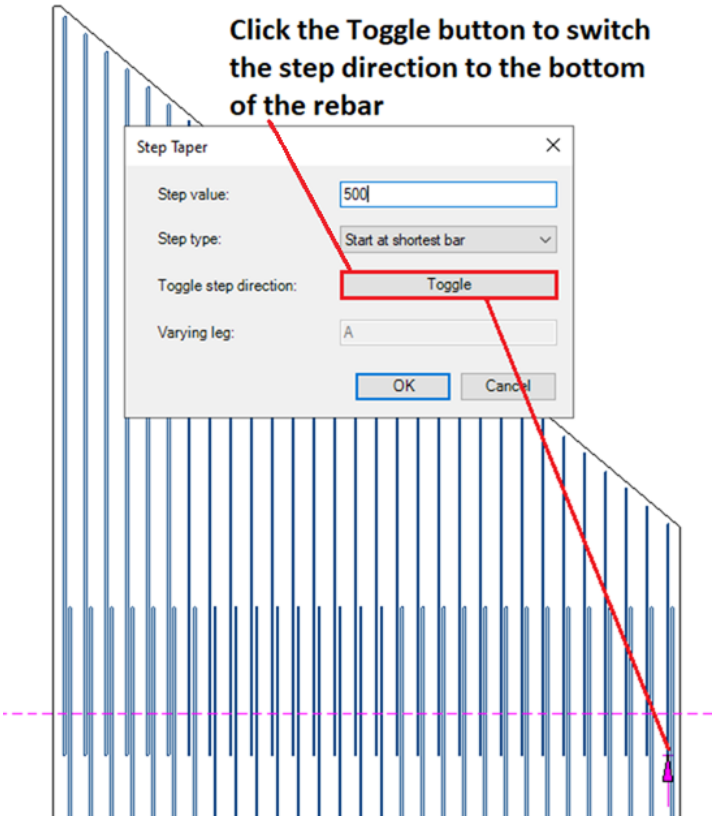
command from the Detailing Panel.
2. Click on the Step Taper 

command from the drop-down menu.
3. Select a CADS Varying Range assembly in a concrete host.

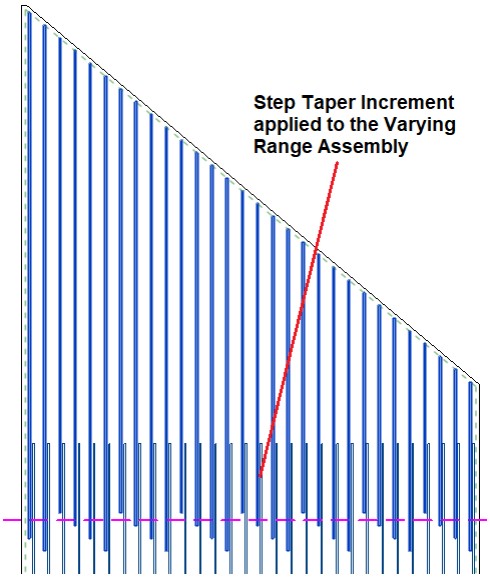


4. The Step Taper dialog is displayed on the screen.

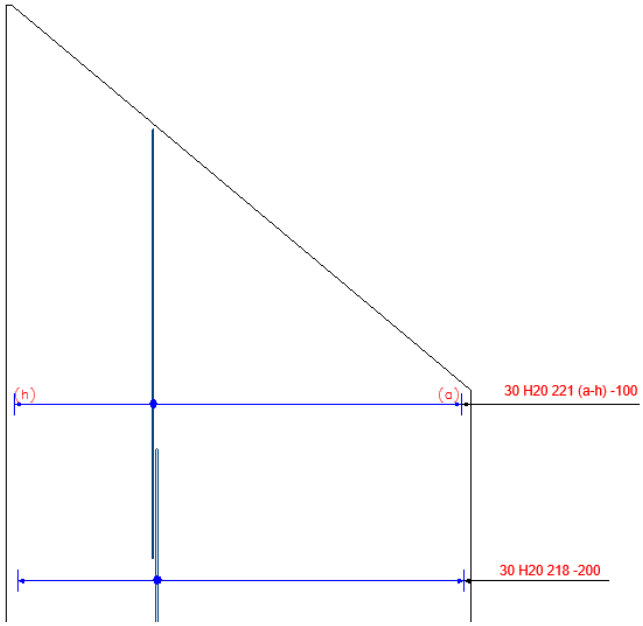
Copyright © Computer and Design Services Limited



5. Type in the Step Value.
6. Choose whether to apply the step taper value starting with the longest or shortest bar.
7. Click on the toggle button to switch the step direction
8. Click OK.



Copyright © Computer and Design Services Limited

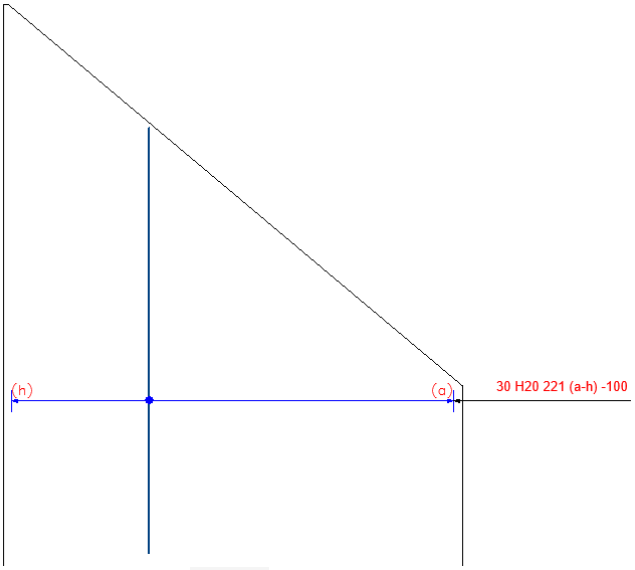


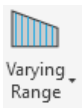
5.11.8 Varying Range Rebar Visibility

Rebar Visibility functions are included to display All, Selected, Middle or First and Last Rebar. For instance, if a Varying Taper Range needs to be edited all the rebar would need to be displayed and then use the Convert Free Form command to create individual rebar.

5.11.9 Show All

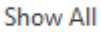
Use the Show Bars option to reveal all the Rebar in a Varying Assembly when the assembly has already been annotated.

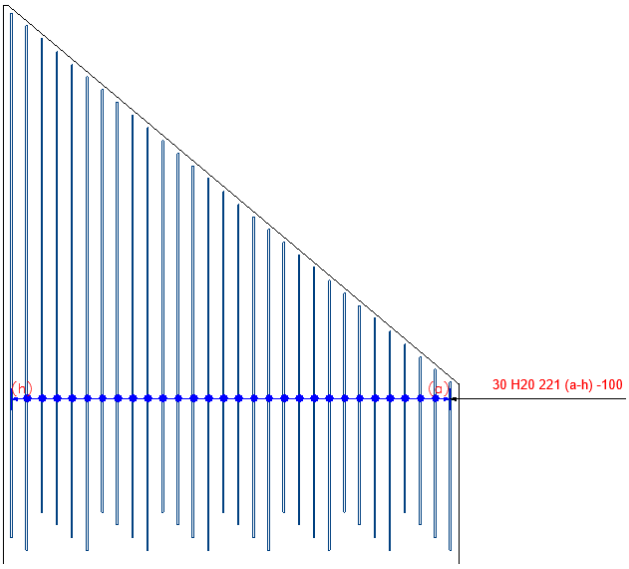


1. Select the Varying Range 

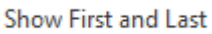
command from the Detailing Panel.

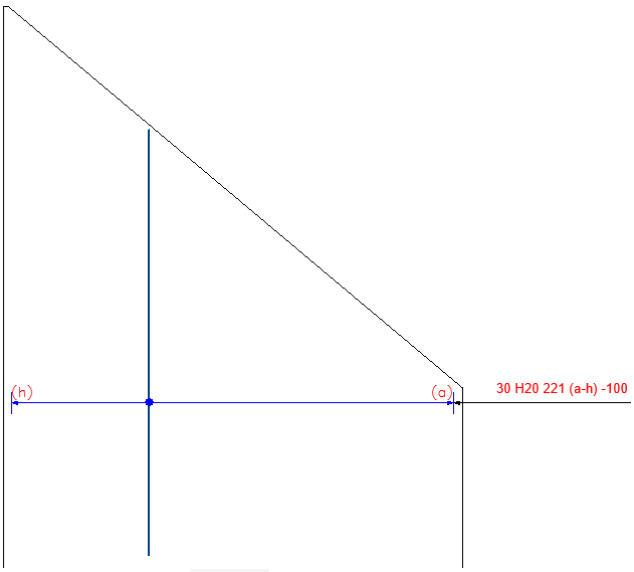
Copyright © Computer and Design Services Limited

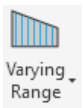
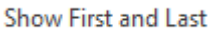
2. Click on the Show All  command from the drop-down menu.
3. Pick the rebar in the varying range assembly in the concrete host.
4. All the rebar are shown for the selected varying range assembly.



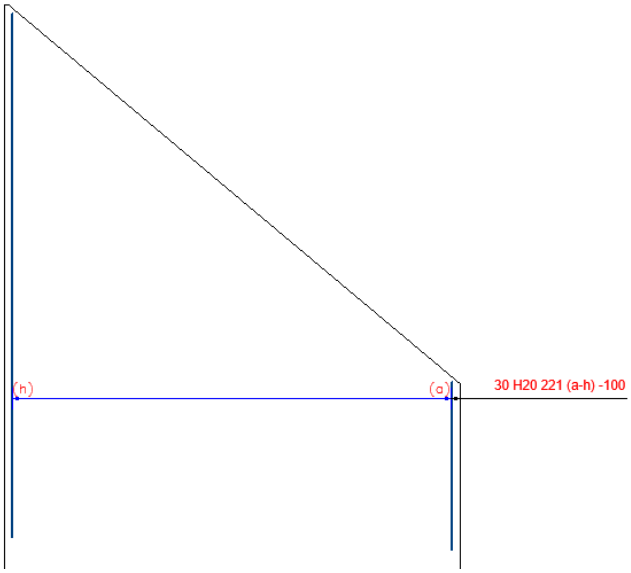
5.11.10 Show First and Last

Use the Show First and Last  option to reveal the first and last rebar in a Varying Assembly when the assembly has already been annotated.

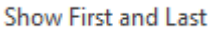


1. Select the Varying Range  command from the Detailing Panel.
2. Click on the Show First and Last  command from the drop-down menu.
3. Pick the rebar in the varying range assembly in the concrete host.
4. The first and last rebar are shown for the selected varying range assembly.

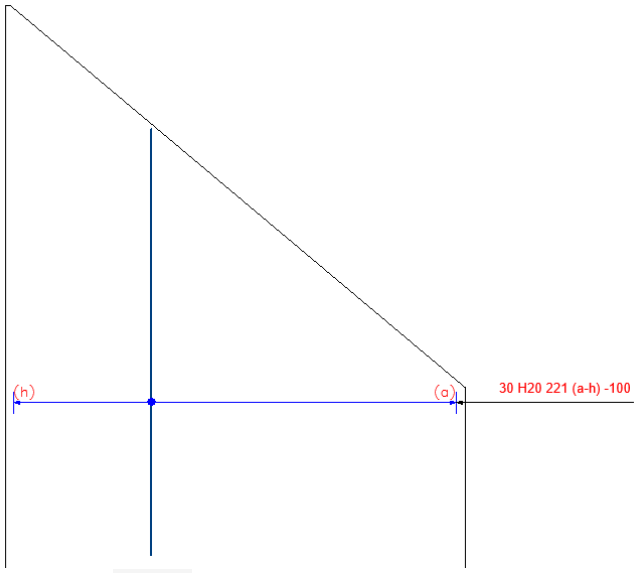
Copyright © Computer and Design Services Limited

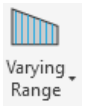


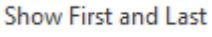
5.11.11 Show Middle

Use the Show First and Last 

option to reveal the first and last rebar in a Varying Assembly when the assembly has already been annotated.

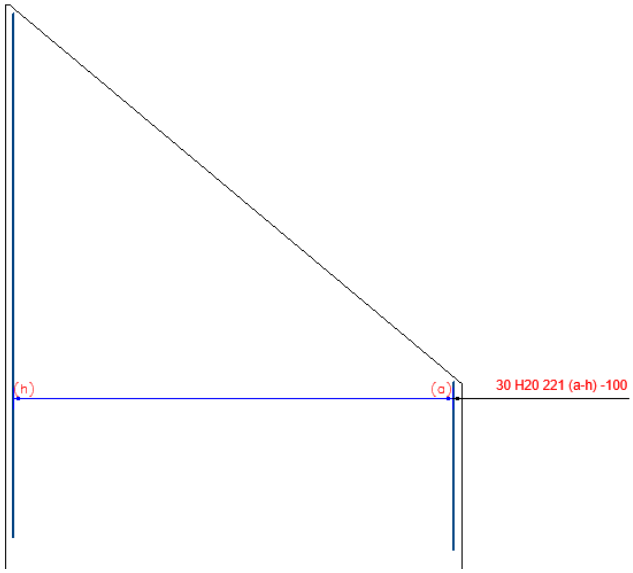


1. Select the Varying Range 

command from the Detailing Panel.
2. Click on the Show First and Last 

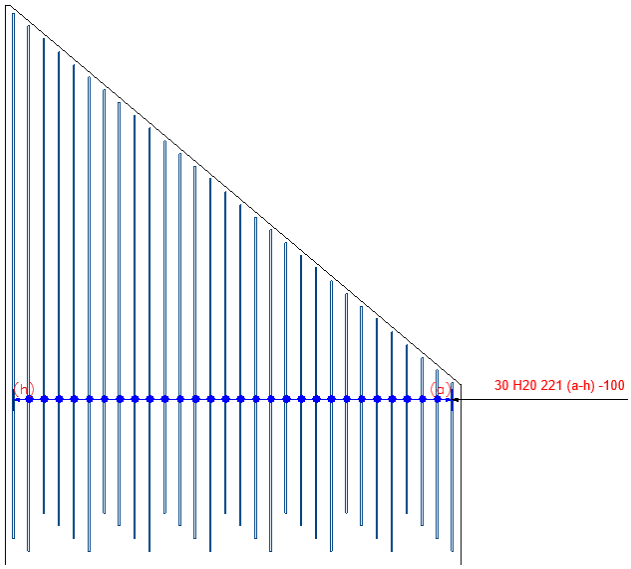
command from the drop-down menu.
3. Pick the rebar in the varying range assembly in the concrete host.
4. The first and last rebar are shown for the selected varying range assembly.

Copyright © Computer and Design Services Limited

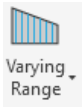


5.11.12 Show Selected

Use the Show Selected Show Selected option to reveal the selected rebar in a Varying Assembly when the assembly has already been annotated. Use this command on a Varying Assembly. If the Varying Range has freeform geometry use the Revit® rebar display tools.

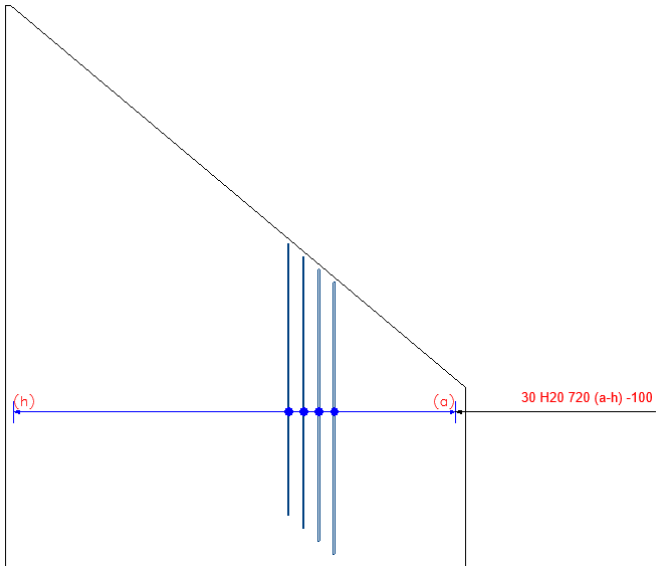


Taper Range Assembly

1. Select the Varying Range 

command from the Detailing Panel.
2. Click on the Show Selected Show Selected command from the drop-down menu.
3. Click on the rebar of the varying range, this displays all the rebar associated with the range.
4. Click on the rebar to display.

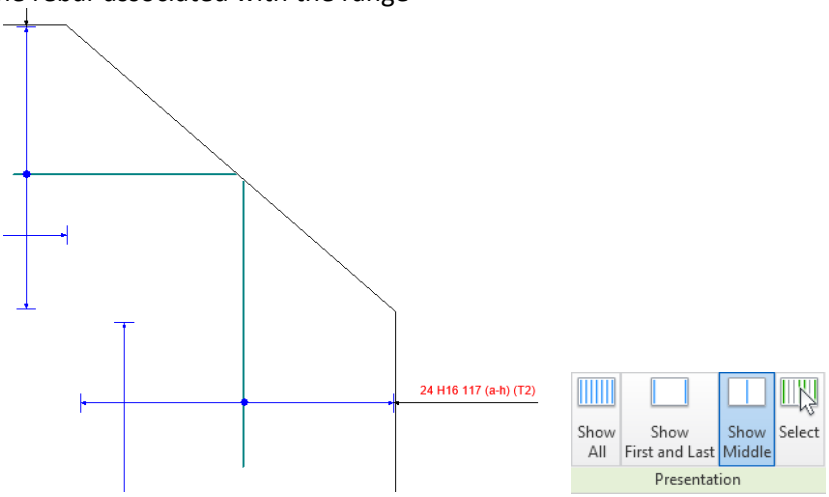
Copyright © Computer and Design Services Limited



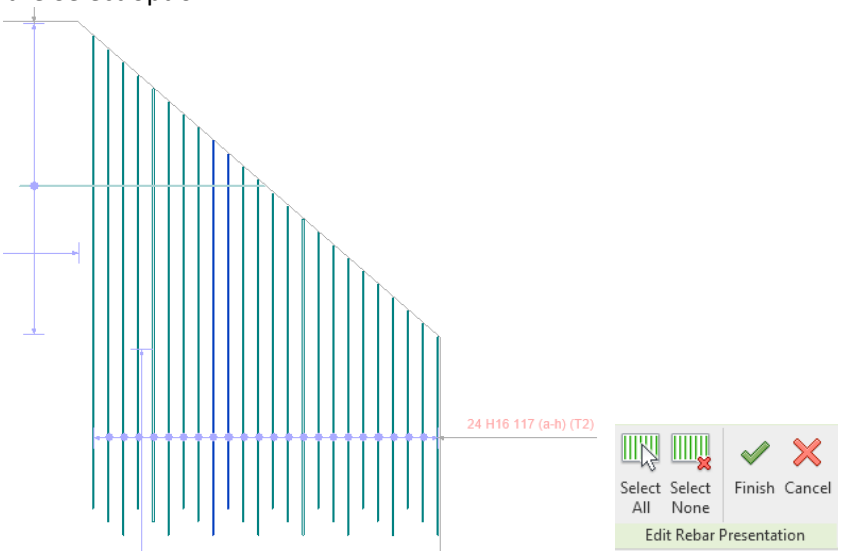
Free Form Taper Range

Uses the Revit® Presentation Tools

1. Select the rebar associated with the range



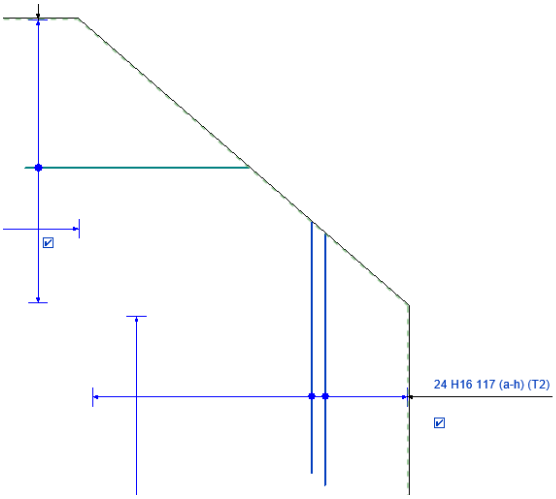
2. Click on the Select option



3. Click on the Select None option to clear the current rebar view.

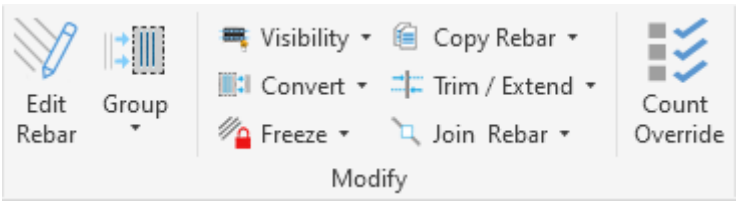
Copyright © Computer and Design Services Limited

4. Click on the rebar view to be shown
5. Click Finish



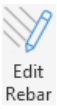
Copyright © Computer and Design Services Limited

6 Modify Panel



This section of the help provides information on the Modify Commands provided inside CADS RC3D with an explanation of how each command works. The Modify Panel contains commands to Edit, Group, Freeze, Copy, Join and Extend Trim Rebar. Rebar visibility in the Revit® model can be controlled and the number of host marks and partitions overridden. The commands are described in the order that they appear in the Modify Panel.

6.1 Edit Rebar

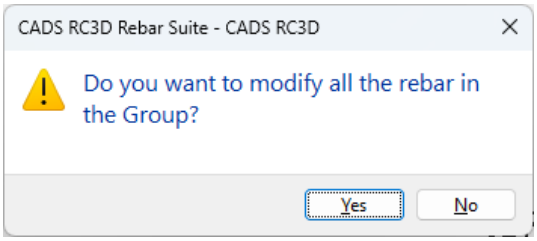


The Edit Rebar command is located in the CADS RC3D for Revit® / CADS RC3D Tab in the Modify Panel. Use this command to edit the parameters of a rebar or rebar assembly. The parameters that can be edited are the Bar Type, Dimensions, Layer, Spacing, Layout, Drawing and Release.

If the Dimensions or Bar Type are amended and other bars of the same bar mark exist the bar mark of the current selection will change bar mark. The bar mark will be retained if the centres, layer, layout, drawing or release are amended.

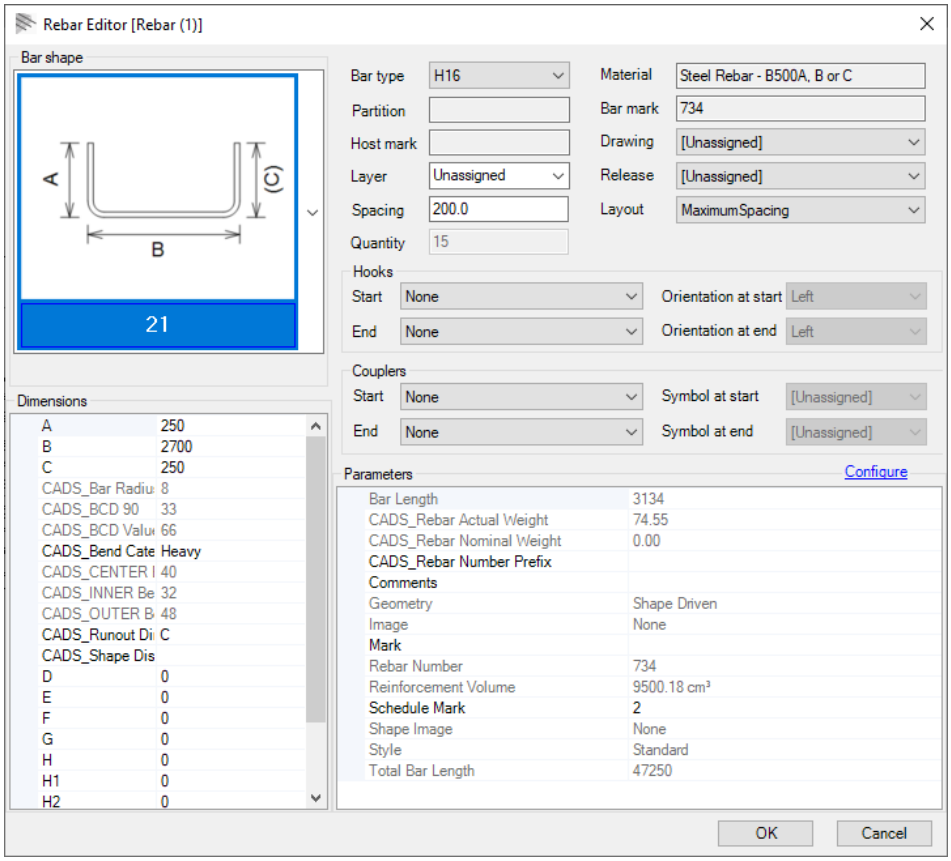
The Coupler Symbol Types are loaded into CADS RC3D for Revit inside the Project Settings dialog under the Revision and Coupler Tab.

If a CADS Rebar Group is selected with the Edit Rebar command the following dialog is displayed.



Answer Yes to modifying all the Rebar.

Copyright © Computer and Design Services Limited



- **Diagram** Use this option to change the shape code of the bar.
- **Bar Type** Select an alternative bar diameter from the drop down menu.
- **Material** Displays the Rebar Material, not editable.
- **Partition** Displays the Partition name if this has been assigned, not editable, see Partition command
- **Bar Mark** Displays the Bar Mark Number, not editable.
- **Host Mark** Displays the Host Mark of the Structural Element.
- **Drawing** Assign the selected Rebar to a predefined Drawing Sheet, see Assign to Drawing Sheet.
- **Layer** Assign the selected Rebar to a predefined Reinforcement Layer or type in a New Reinforcement Layer Name
- **Release** Assign the selected Rebar to a predefined Release or select the New option to Assign Release
- **Spacing** Use to edit the spacing between rebar.
- **Layout** Use the drop down menu to change the Spacing Rules, Single, Fixed Number, Maximum Spacing, Number with Spacing or Minimum Clear Spacing.
- **Hooks** Hooks can be added to the start and end of the Rebar using these options.

  Start Choose the angle of the hook from the drop down menu.
  Orientation Choose the orientation of the hook from the drop down menu.
  End Choose the angle of the hook from the drop down menu.
  Orientation Choose the orientation of the hook from the drop down menu.
- **Couplers** Use this option to define the coupler symbol that is displayed in the

Copyright © Computer and Design Services Limited

schedule. If a coupler is applied using the Revit® functionality, the symbol has to be added using the Edit Bar function to show the diagram in the schedule.

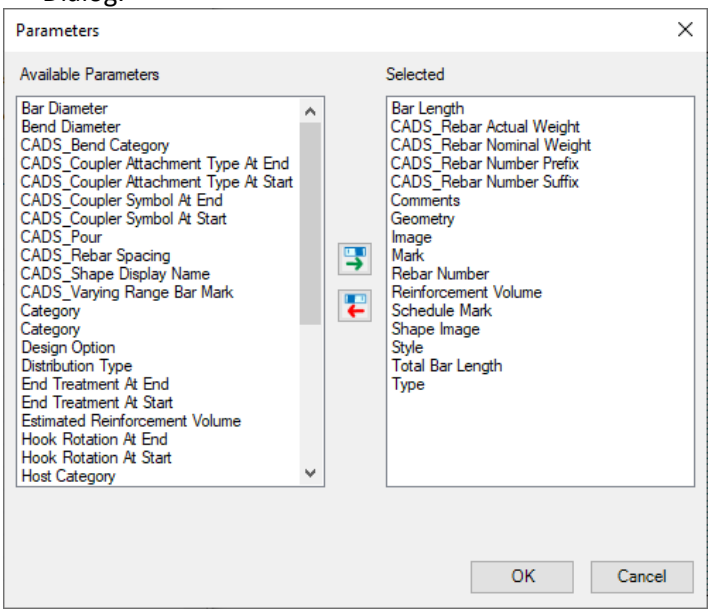
Start Symbol Choose the Coupler Type from the drop down menu.

End Symbol Choose the Coupler Symbol type from the drop down menu.

Choose the Coupler Type from the drop down menu.

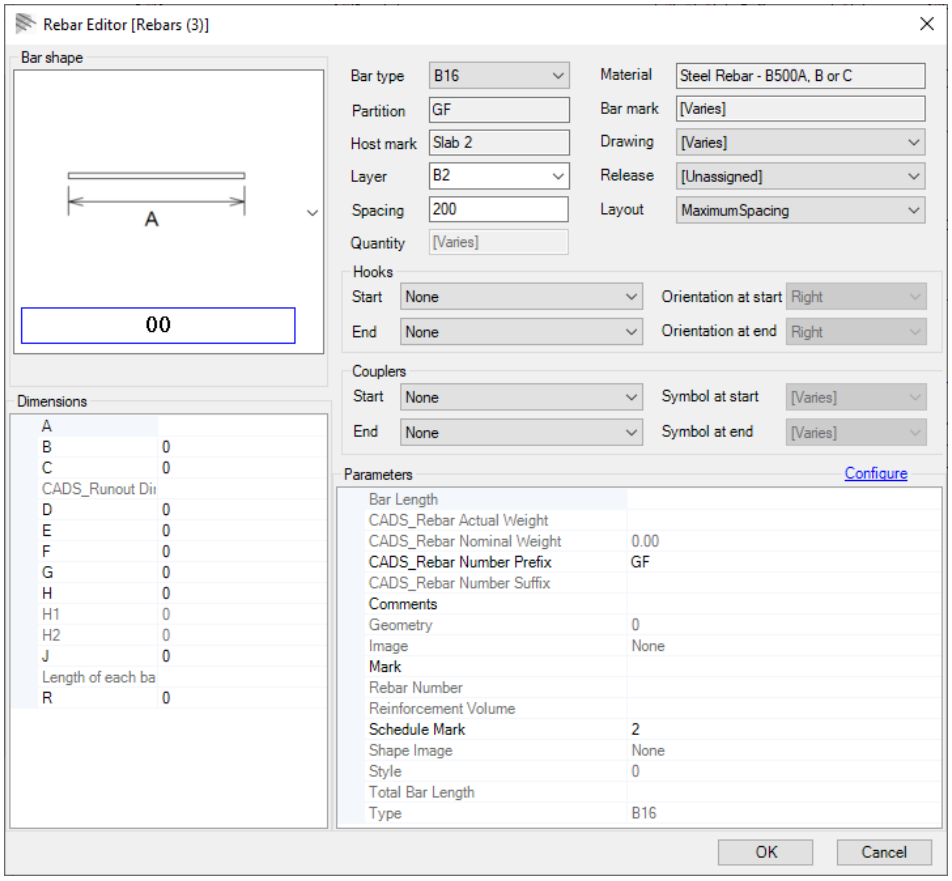
Choose the Coupler Symbol Type from the drop down menu.

- **Configure** Use the Configure option to access the parameters dialog to add / remove the parameters that are displayed in the Parameters Panel in the Edit Rebar Dialog.



The Edit Rebar function supports multiple rebar editing, common properties will be displayed in the dialog. 'Varies' will be displayed where the properties are different. Total number of rebar assemblies selected is shown on the top left of the dialog.

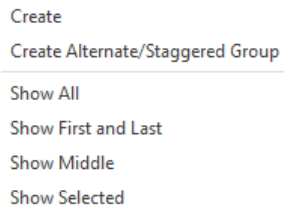
Copyright © Computer and Design Services Limited



6.2 Group

Use the Group Rebar 

commands to group rebar together to create additional range styles such as staggered, alternate, skewed ranges, and circular ranges. You can also add rebar to a group, rebar display tools are included to show the middle, selected, first, and last rebar in an assembly.

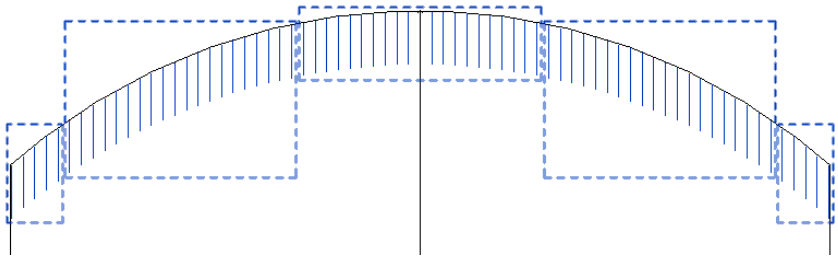


6.2.1 Create Group

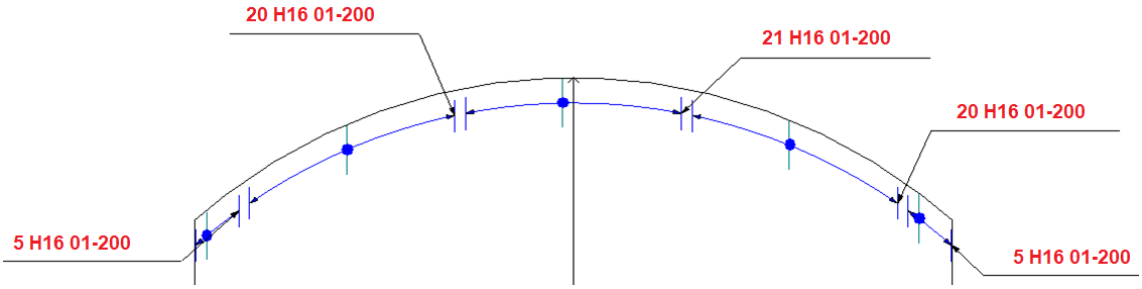
As an example of using the Create Group command, Rebar placed around a circular shape using the Edge Bar Placement tool will end up being grouped into several bar assemblies.
This is caused by the rebar being detailed with very slightly different leg values from the ones defined in the Edge Bar Placement dialog.

Copyright © Computer and Design Services Limited

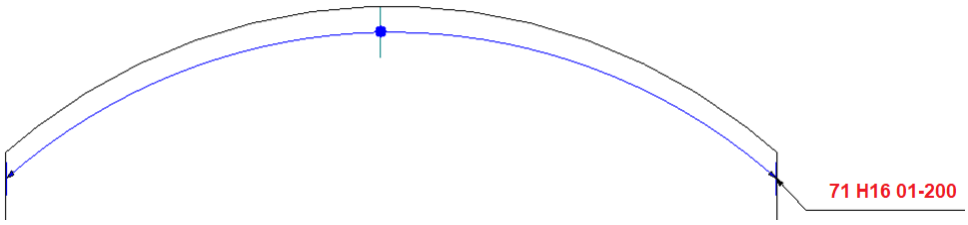
If the groups were annotated, they would show several circular ranges instead of one. The rebar can be ungrouped, the dimensions adjusted and then regrouped using the Create Create option.



Groups created with the Edge Placement

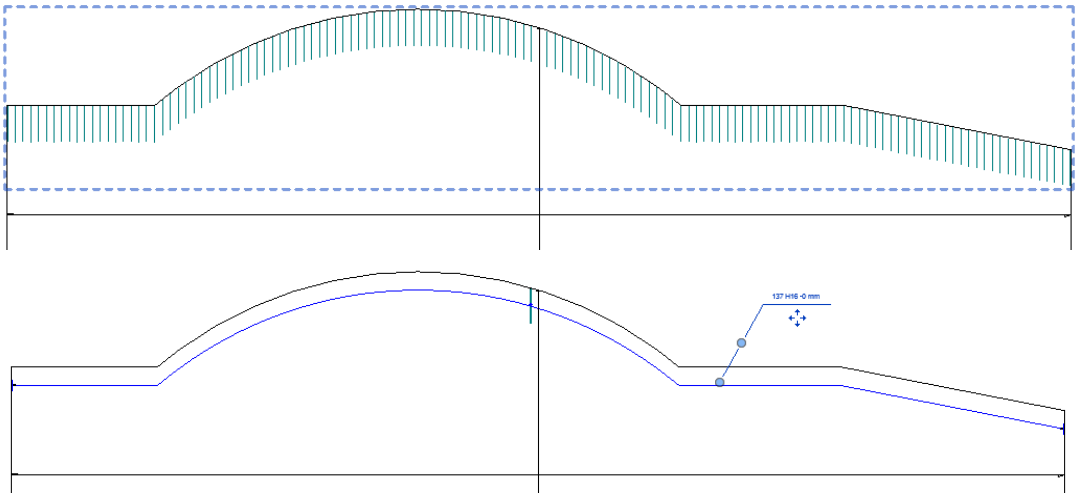


Resultant Annotation



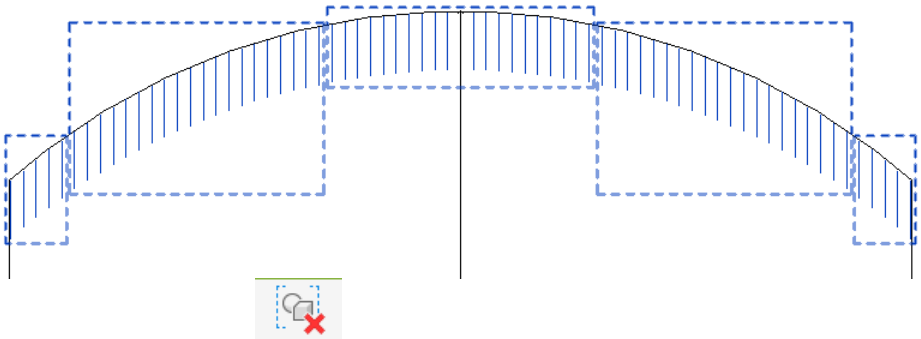
Annotation after properties adjusted and regrouped.

Create complex range styles by grouping several bar assemblies together once their rebar properties match. The function will prompt to select the indicator bar when several assemblies have been joined together to form one group.



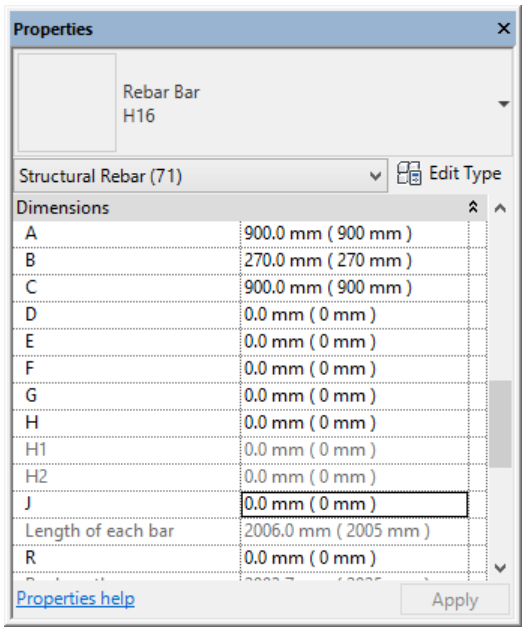
1. Use the Edge Bar Placement Tool to add rebar to the circular edge of a slab.
2. Select the rebar assembly groups using a crossing window.

Copyright © Computer and Design Services Limited



3. Click on the Ungroup tool

on the Modify Tab, this splits the groups into individual rebar.
4. The rebars are retained in a selection set.
5. Go to the Revit® Properties dialog and type in the correct A & C dimensions and click Apply.

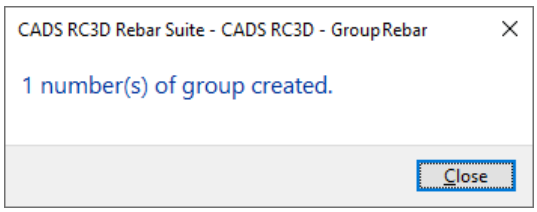


6. The rebars are retained in a selection set.
7. Go to the Modify Panel, and select the Group Rebar drop down menu 

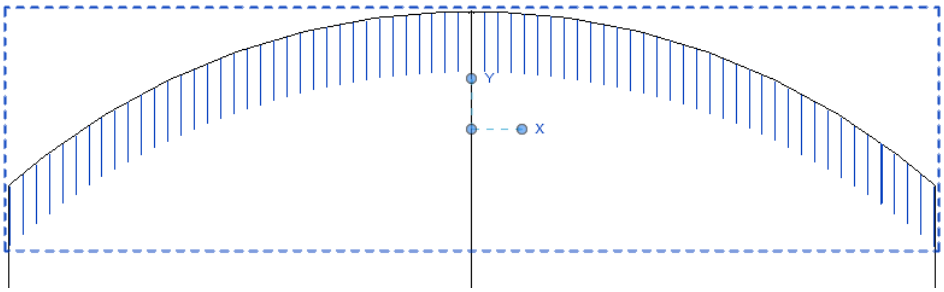
and click the Create 

option.
8. Select the rebar to add to the new group.
9. Click Finish 

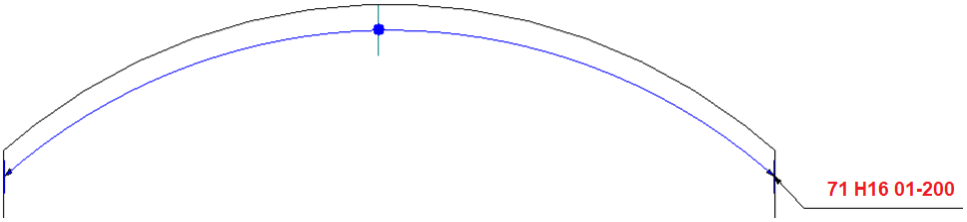
.
10. The rebars are now grouped as one bar assembly.



Copyright © Computer and Design Services Limited

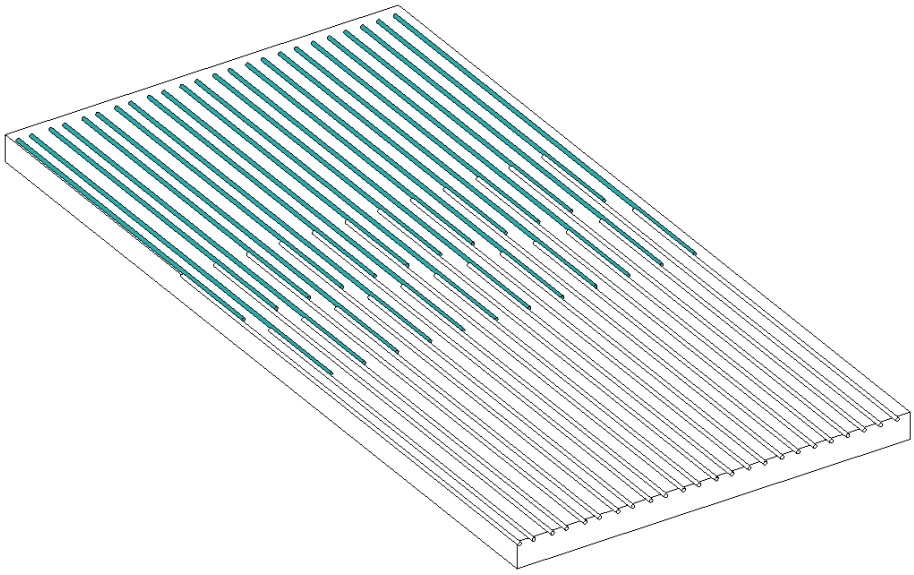


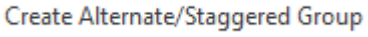
11. When the Annotation Command, is used on the rebar assembly above it will produce a circular range.



Note – Add the centres to bar assembly at this point before annotating in the Revit® Properties dialog in the CADS _Group Spacing field. This will prevent you having to edit the bar label later.

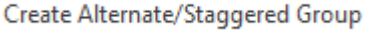
6.2.2 Create Alternate Group



Use the Create Alternate/Staggered Group 

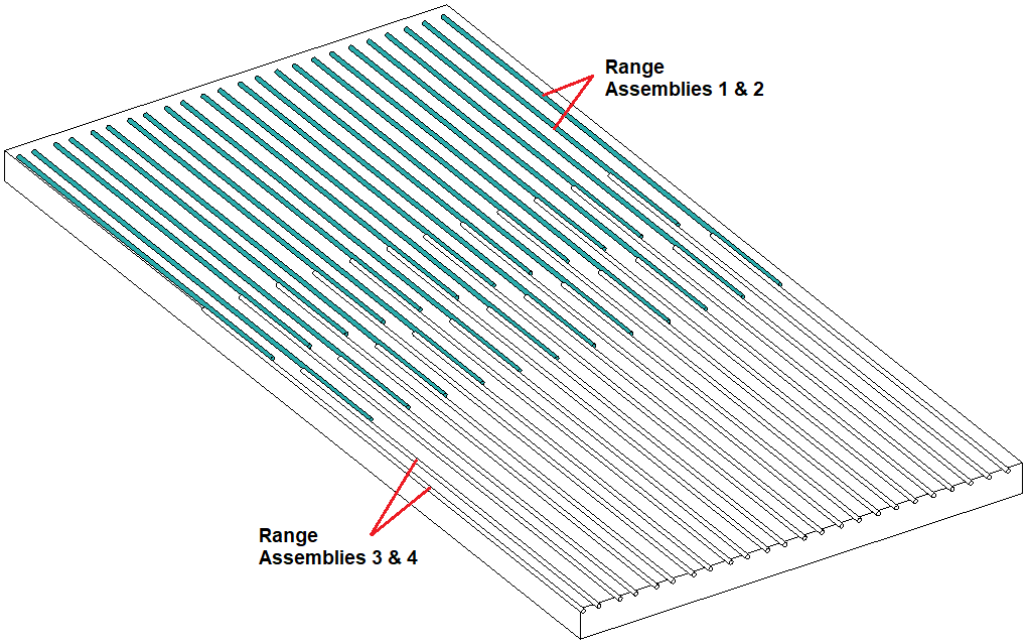
command to group rebar assemblies together to form either an alternate or staggered range assembly.
Use the Splice Rebar command with a Staggered Lap Line to create individual ranges that are alternating or staggered.

1. Select the Group Rebar drop down menu 

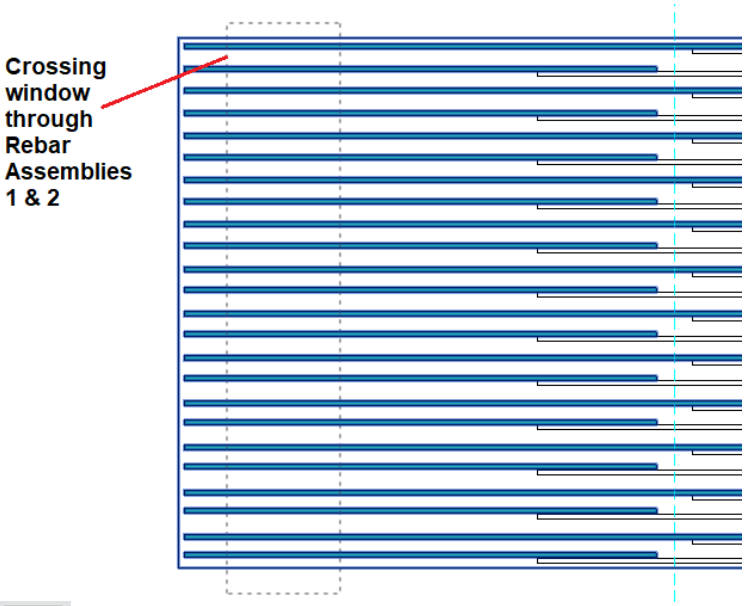
from the Detailing Panel and click the Create Alternate/Staggered Group 

command.

Copyright © Computer and Design Services Limited

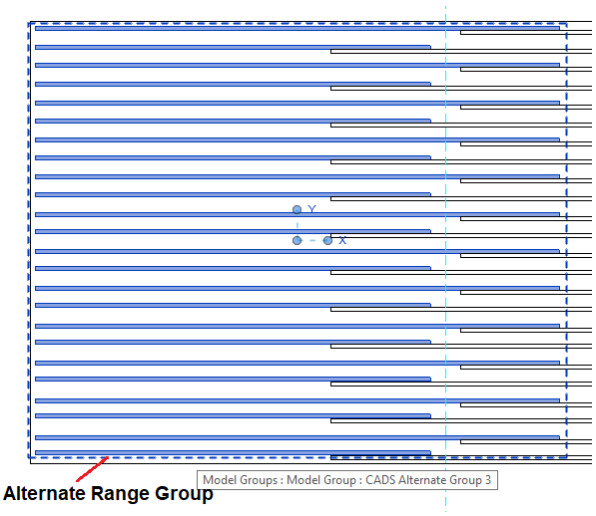


2. Make a crossing window through the Range Assemblies 1 & 2.

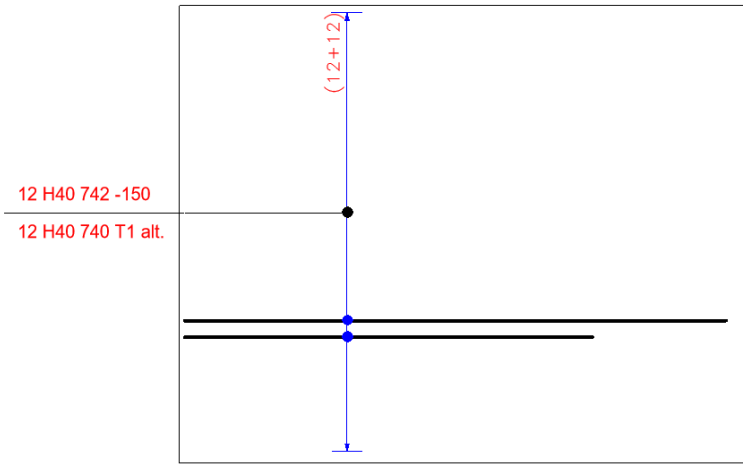


3. Click Finish  to create the Group.

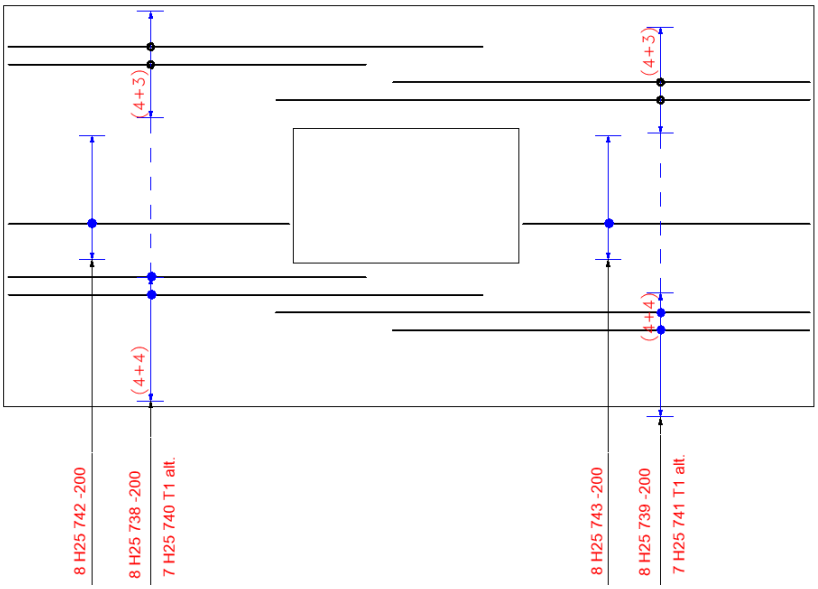
Copyright © Computer and Design Services Limited



4. Example below shows annotated Alternate Range.



5. You can create a multiple range group for an alternate/staggered range. In the example shown below there are alternating rebar assemblies either side of the opening with a standard rebar assembly below the opening.



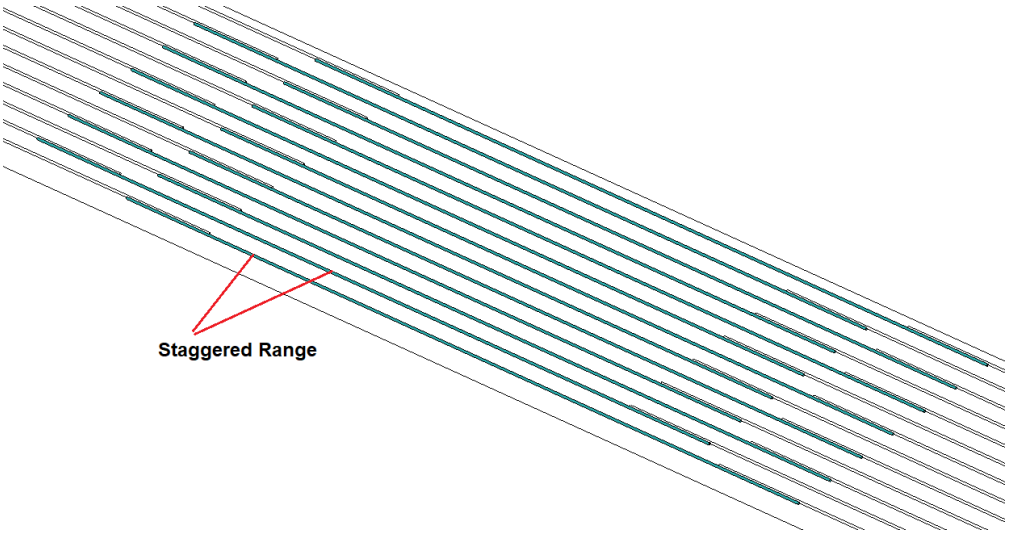
Copyright © Computer and Design Services Limited

6. When creating the Alternate Group make sure the rebar assembly below the opening is not selected. The easiest way to achieve this is to temporarily hide the rebar assembly below the opening and then create the Alternate Group.

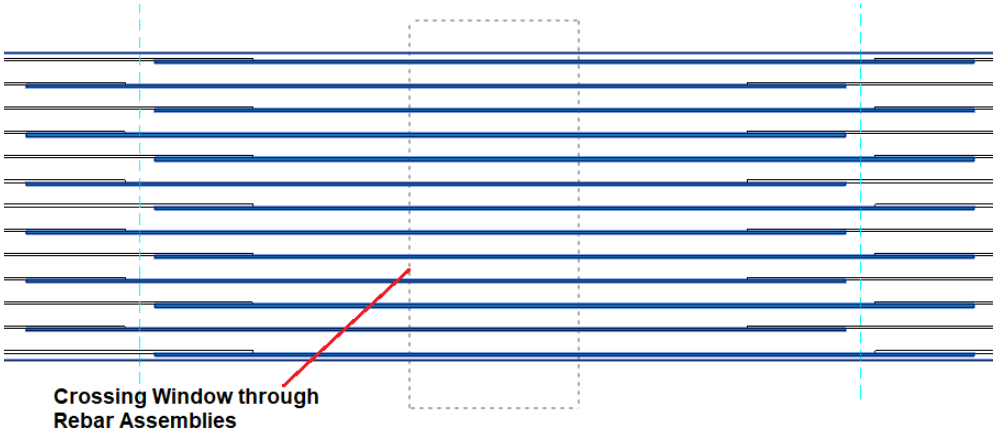
6.2.3 Create Staggered Group

Use the Create Alternate/Staggered Group command to group rebar assemblies together to form either an alternate or staggered range assembly.

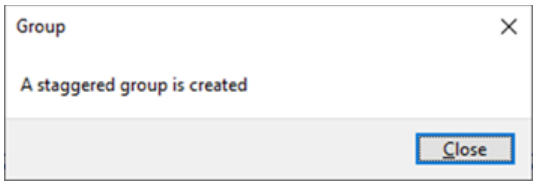
1. Use the Splice Rebar command with a Staggered Lap Line to create individual ranges that are alternating or staggered.



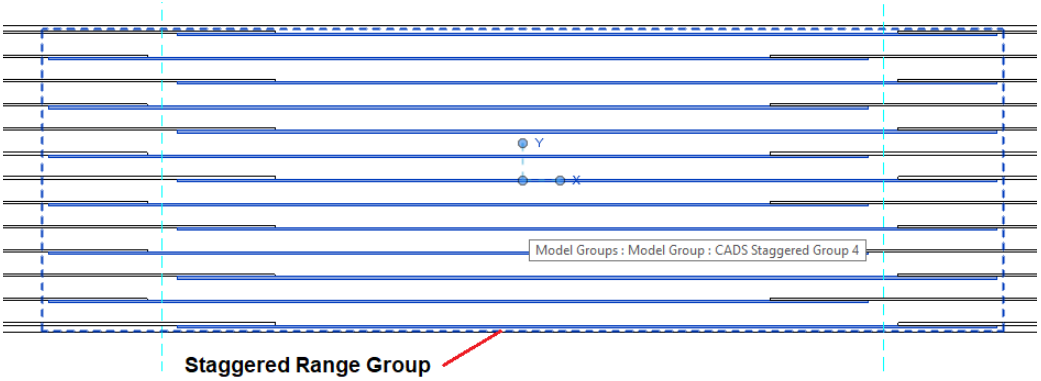
2. Make a crossing window through the Range Assemblies as indicated below.



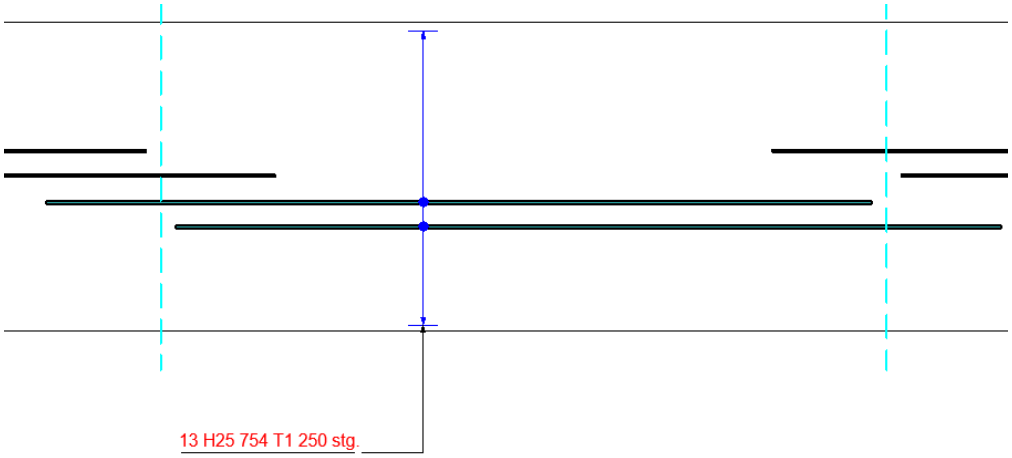
3. Click Finish to create the Group.



Copyright © Computer and Design Services Limited



4. Example below shows annotated Staggered Range.



6.2.4 Add / Remove Rebar to a Group

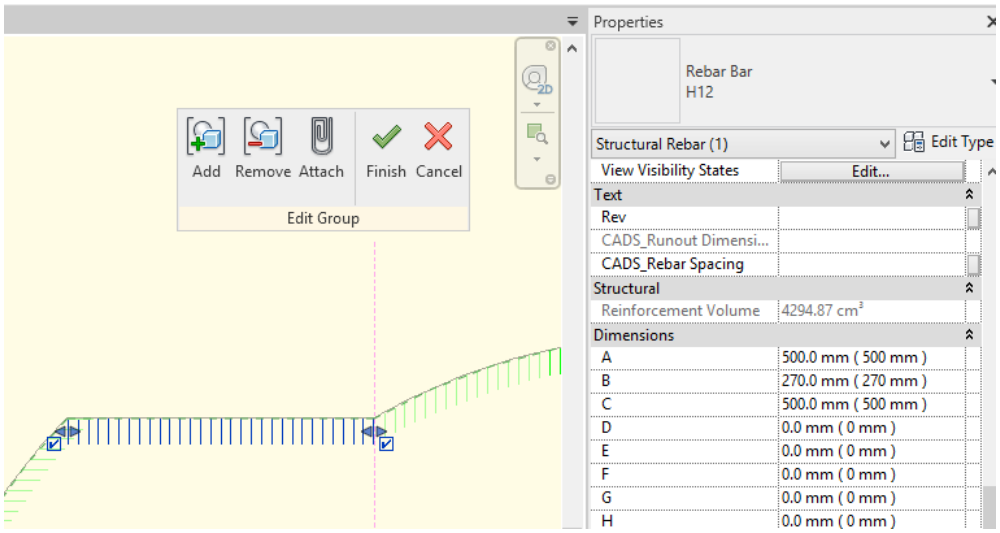
Use the Add Rebar to Group command to add range assemblies or individual rebar to an existing group. All the rebar to be added must have the same properties as the existing group.

The existing rebar group is a custom CADS group, use the native Revit® Edit Group 

command on the Modify Tab in the Edit Group panel to review the properties of the rebar.

1. Select the Group, click Edit Group.
2. Click on the Edge Rebar, and make a note of the dimensions.

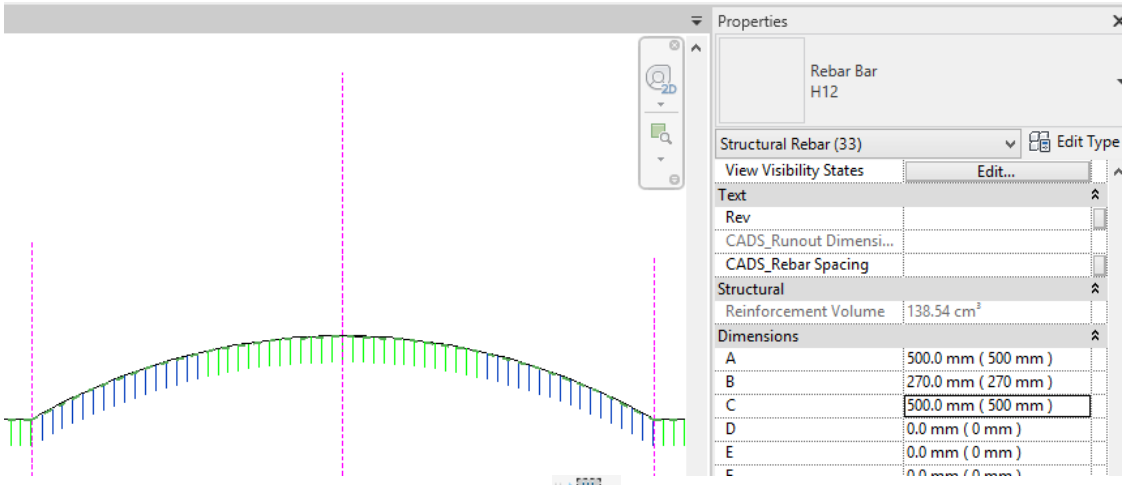
Copyright © Computer and Design Services Limited

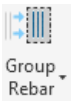


3. Click Cancel to return to the model.

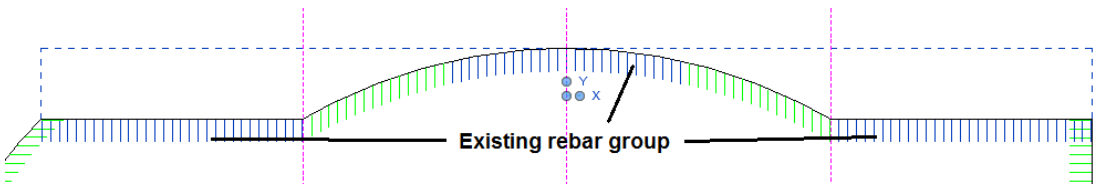


4. Click on one of the rebar groups to add to the existing group, select Edit Group command in the Modify menu.
5. Select the rebar and edit their properties, usually the leg lengths to match the existing rebar group.
6. Repeat this on the second group.



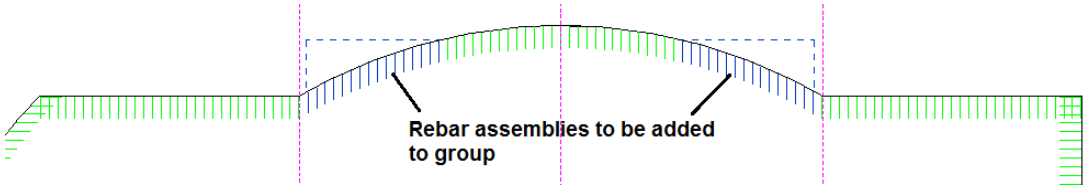


7. Select the Group Rebar drop down menu from the Detailing Panel and click on the Add rebar to group option.
8. Select Group to add rebar.



9. Select the two sets of rebar assemblies to add to the group.

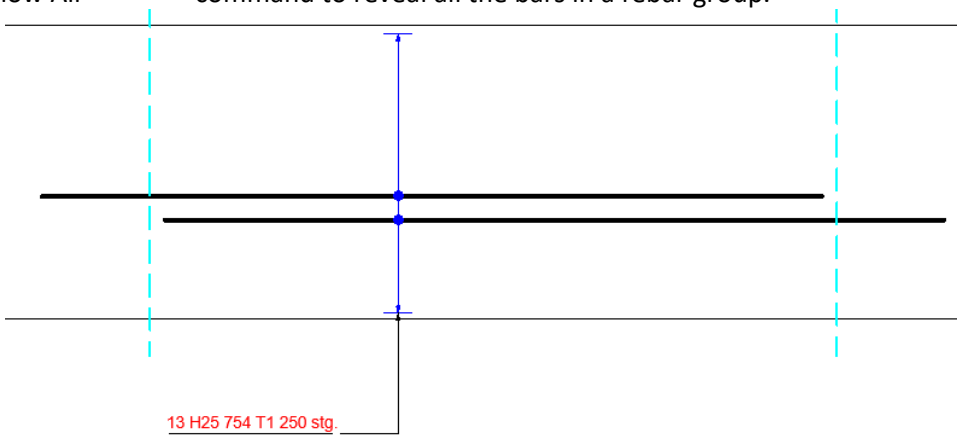
Copyright © Computer and Design Services Limited



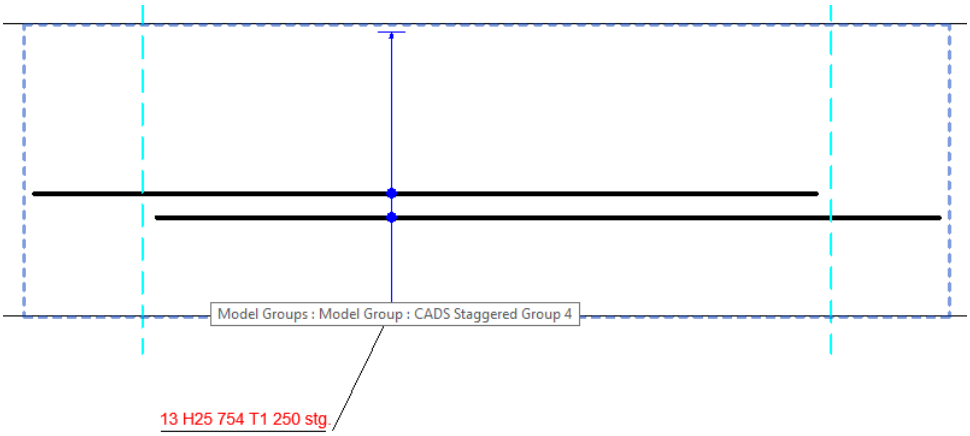
10. Click Finish .

6.2.5 Show All

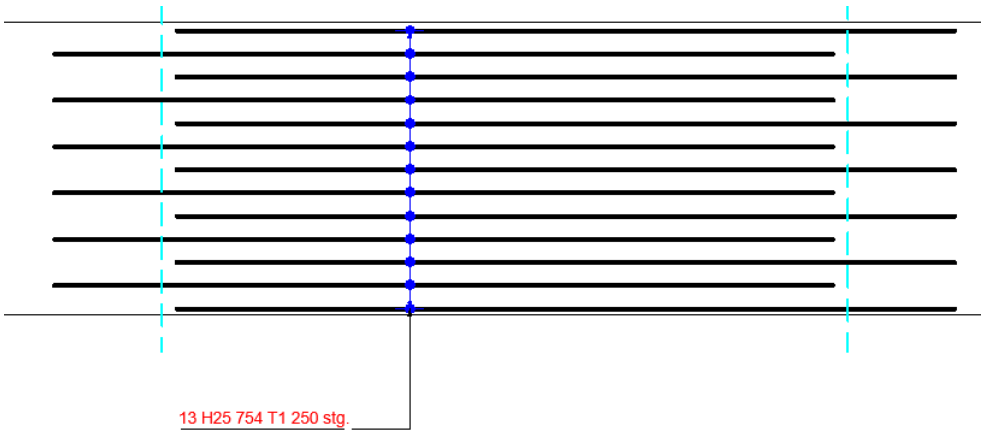
Use the Show All Show All command to reveal all the bars in a rebar group.



Select the Range Assembly Group to reveal all the rebar.

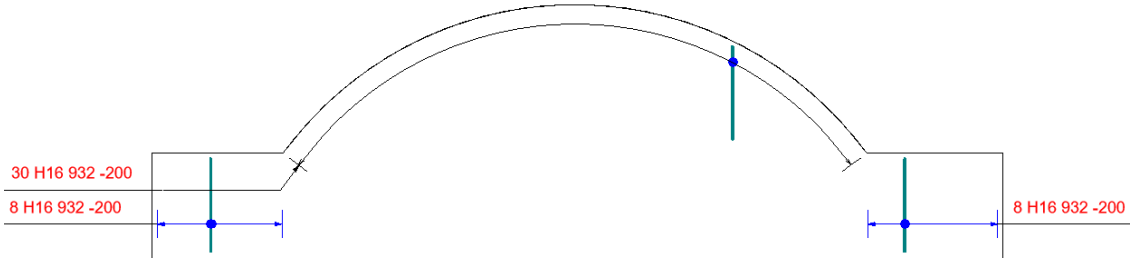


Copyright © Computer and Design Services Limited

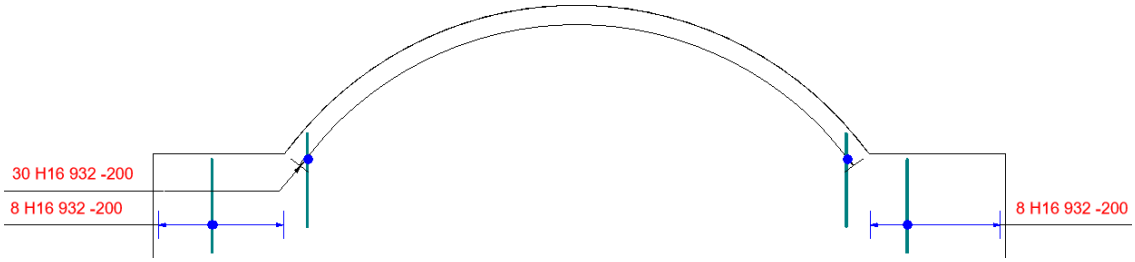


6.2.6 Show First and Last

Use the Show First and Last Show All command to show the first and last bars in a rebar group. Select the Range Group.

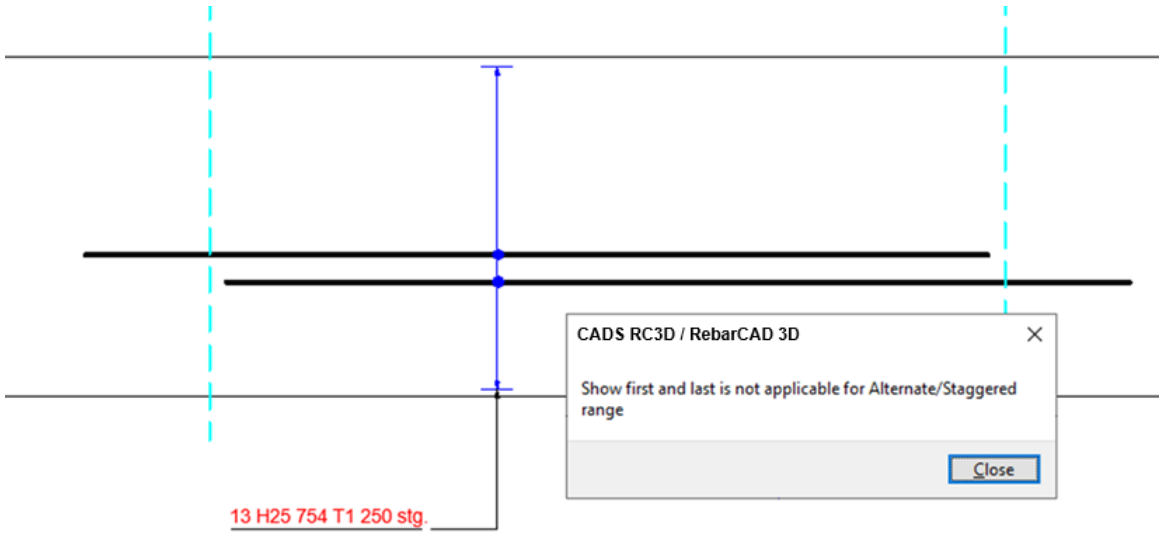


The First and Last Rebar will be displayed.



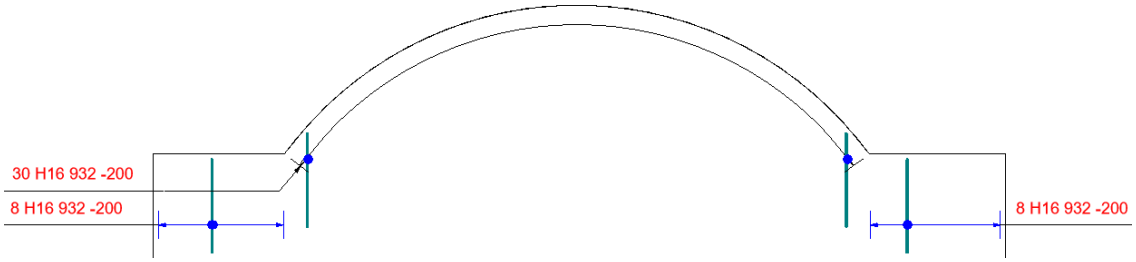
Note: Show First and Last cannot be used with either Alternate or Staggered Range Assemblies.

Copyright © Computer and Design Services Limited

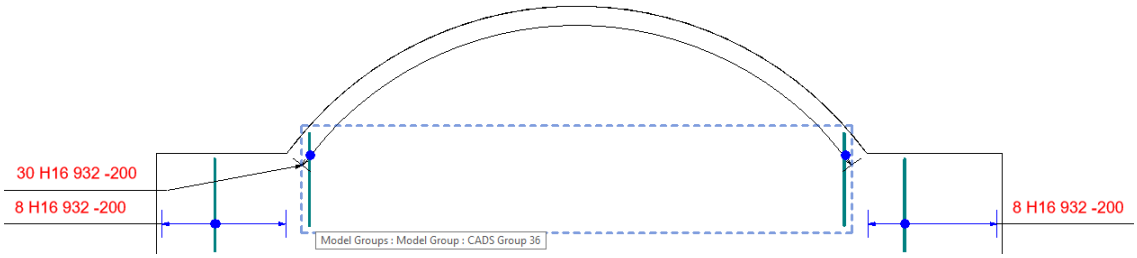


6.2.7 Show Middle

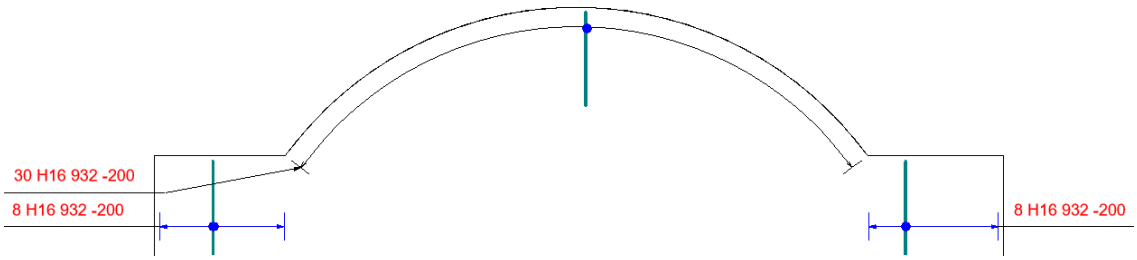
Use the Show Middle Show Middle command to reveal the middle bar only in a rebar group.



Select the Range Group



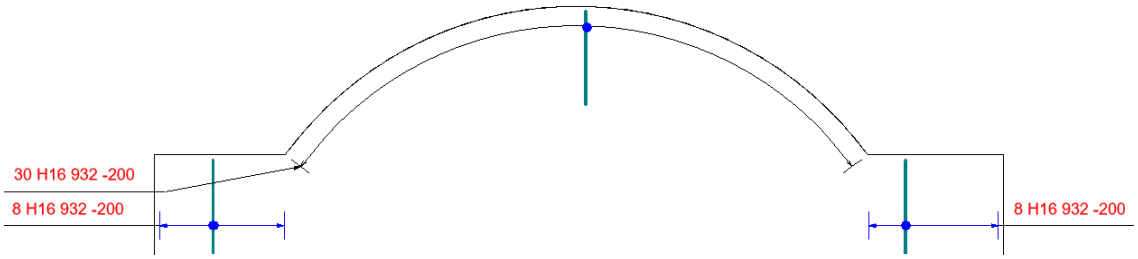
The rebar in the middle of the range is automatically displayed.



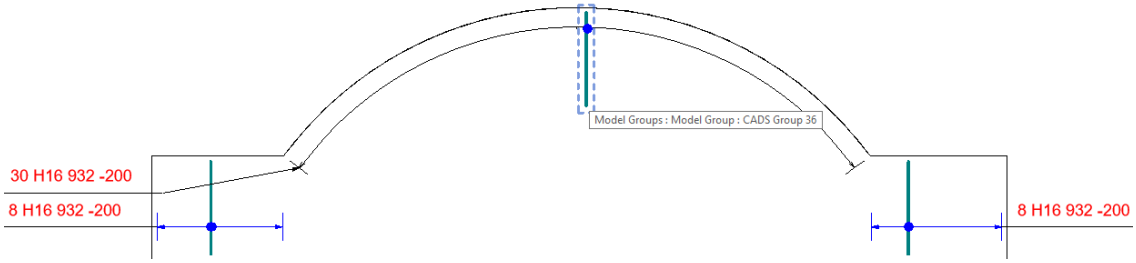
Copyright © Computer and Design Services Limited

6.2.8 Show Selected

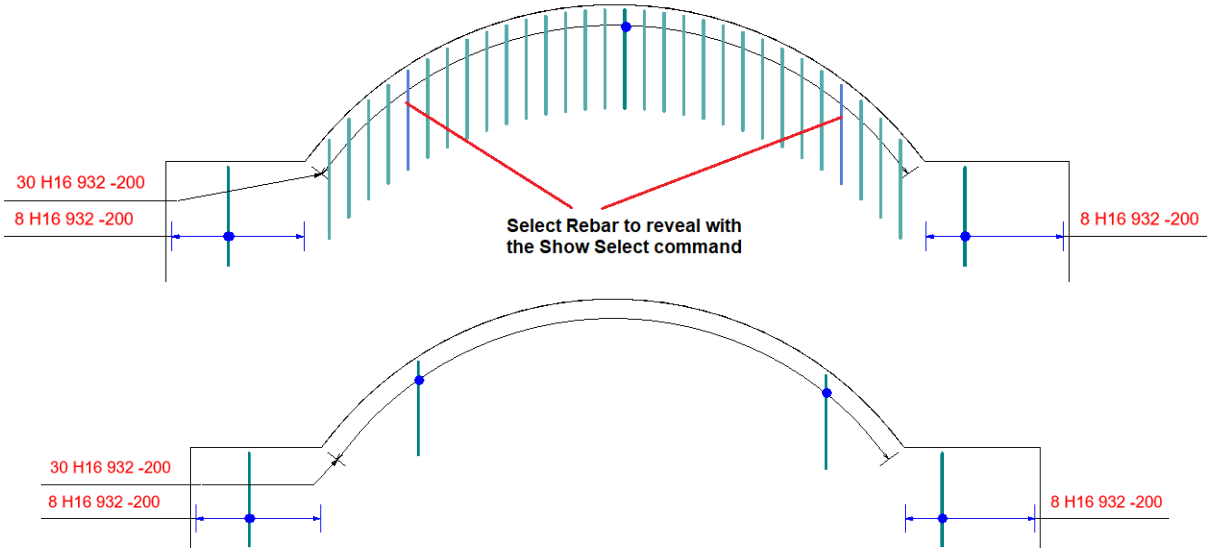
Use the Show Selected Show Selected command to pick which rebar to display in a rebar group.



Select the Range Group



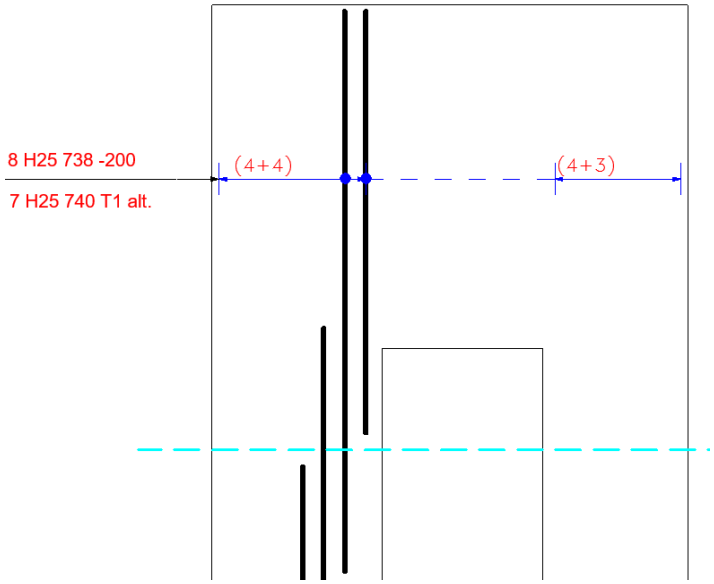
Select the rebar to display and pick Finish



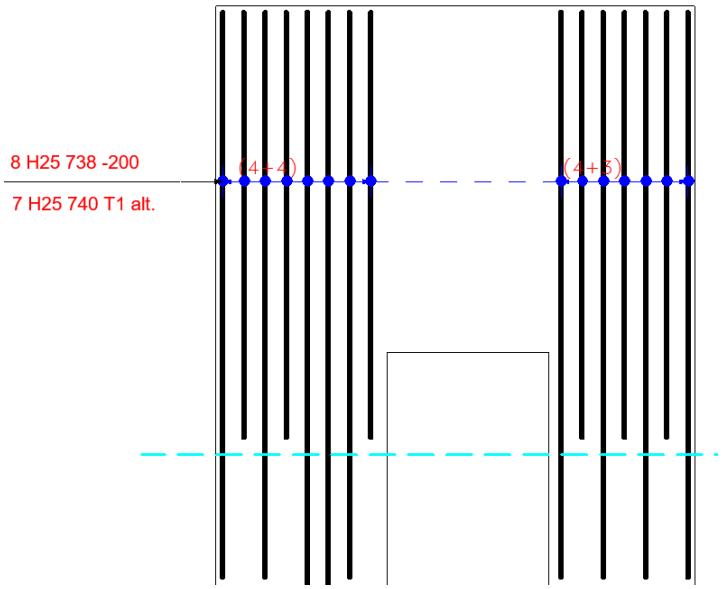
6.2.9 Hints & Tips On Multiple Group Rebar Visibility

Showing additional rebar in an Annotated Multiple Group of Rebar, the image below shows a multiple alternate range but the rebar are only display in the first range group. Follow the procedure below to show rebar in the other range group.

Copyright © Computer and Design Services Limited

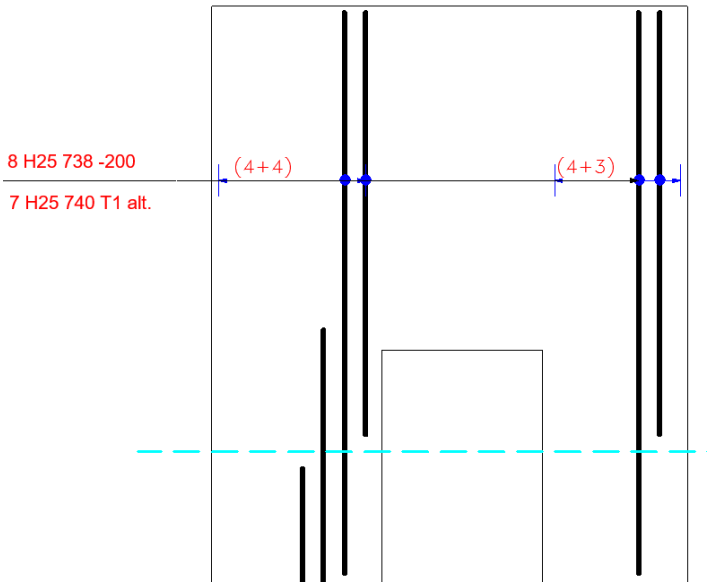


1. Use the Show All command to reveal all the rebar in an annotated group.



2. Then use Show Selected command to pick individual rebar to show on the annotated group of rebar.
3. Pick the Group first and then the individual rebar to reveal, as shown below;

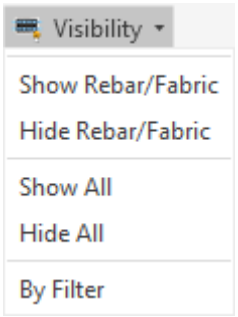
Copyright © Computer and Design Services Limited



6.2.10 Visibility

Use the Rebar Visibility 

commands to control the visibility of the Rebar in each of the views of the structure, making it easier to setup the detail in the Revit® Views. This command manages the Revit® view visibility states using several commands such as Hide / Show Rebar, Hide / Show All Rebar and Show Rebar By Filter.

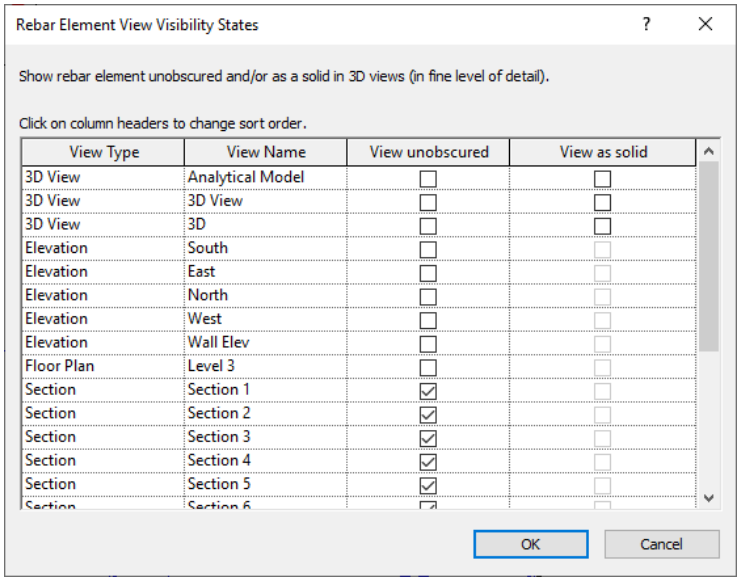


Revit® Rebar Element View Visibility States

You can control the visibility of the rebar using Revit® by selecting individual bars or several bars at once.
To access the Rebar Element View Visibility States dialog select rebar in the project. In the properties dialog select the Edit button alongside the View Visibility States option.



Copyright © Computer and Design Services Limited



To make rebar visible or invisible in 2D views, the “View unobscured” property of the selected rebar is ticked ON or OFF for the current 2D view.
To make rebar visible or invisible in 3D views, the “View unobscured” and the “View as solid” properties of the selected rebar are ticked ON or OFF for the current 3D view.

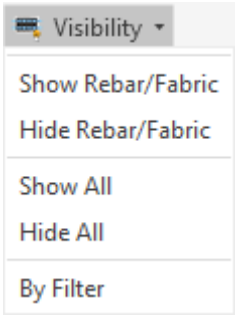
CADS RC3D / RebarCAD 3D Rebar Visibility

The Rebar Visibility 

command is available in the Detailing Panel it controls the Revit® “View visibility states” of the rebar automatically as explained in the next sections.

When selecting the Rebar Visibility 

drop down menu there are five different options available; Show Rebar/Fabric, Hide Rebar/Fabric, Show All, Hide All and By Filter.



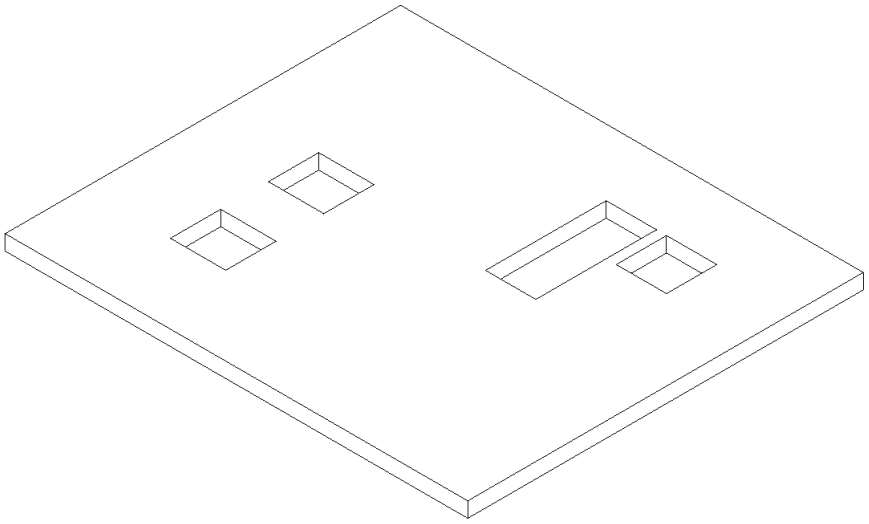
6.2.11 Show Rebar/Fabric

Use the Show Rebar/Fabric command to reveal hidden rebar within a host.

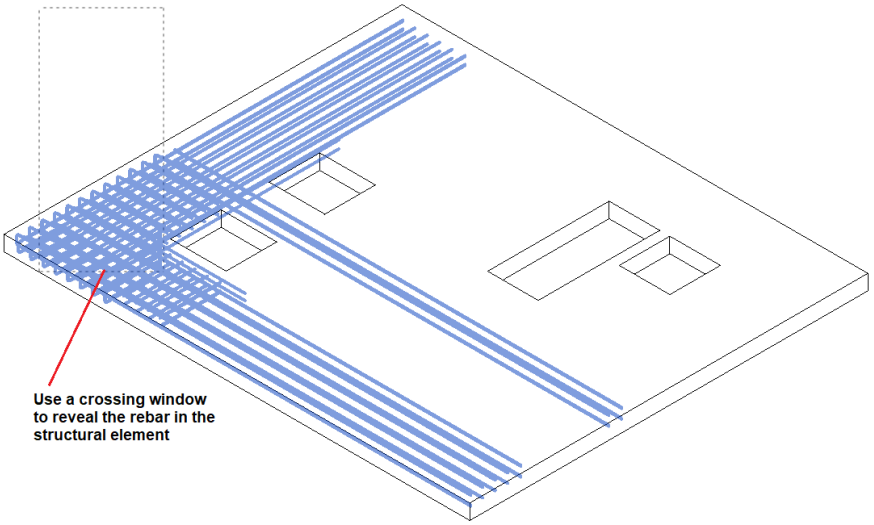
1. Selecting the Show Rebar 

command from the Visibility drop down menu in the Modify Panel prompts to select rebar or hosts containing rebar.

Copyright © Computer and Design Services Limited



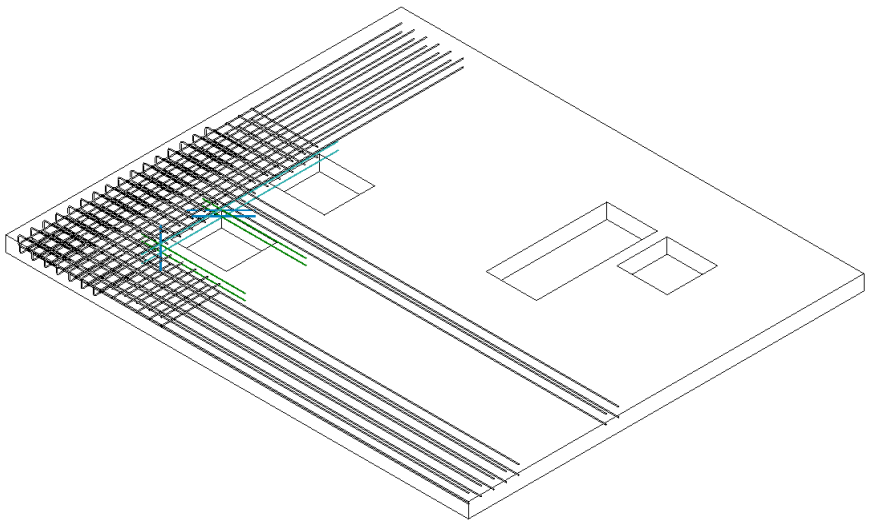
2. This allows the selection of some of the Rebar in the structure rather than all the Rebar.
3. Use either a window (only displays rebar totally enclosed within the window) or a crossing window (displays all rebar that crosses the selection window) to select the rebar to display.



4. Press the Finish 

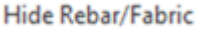
button to complete the selection and make the selected rebar visible.

Copyright © Computer and Design Services Limited

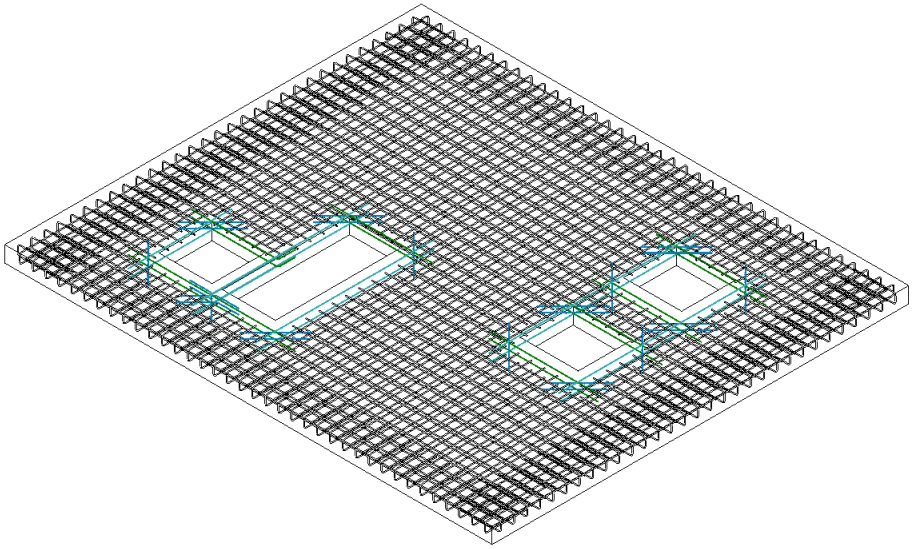


6.2.12 Hide Rebar/Fabric

Use the Hide Rebar/Fabric command to conceal rebar within a host.

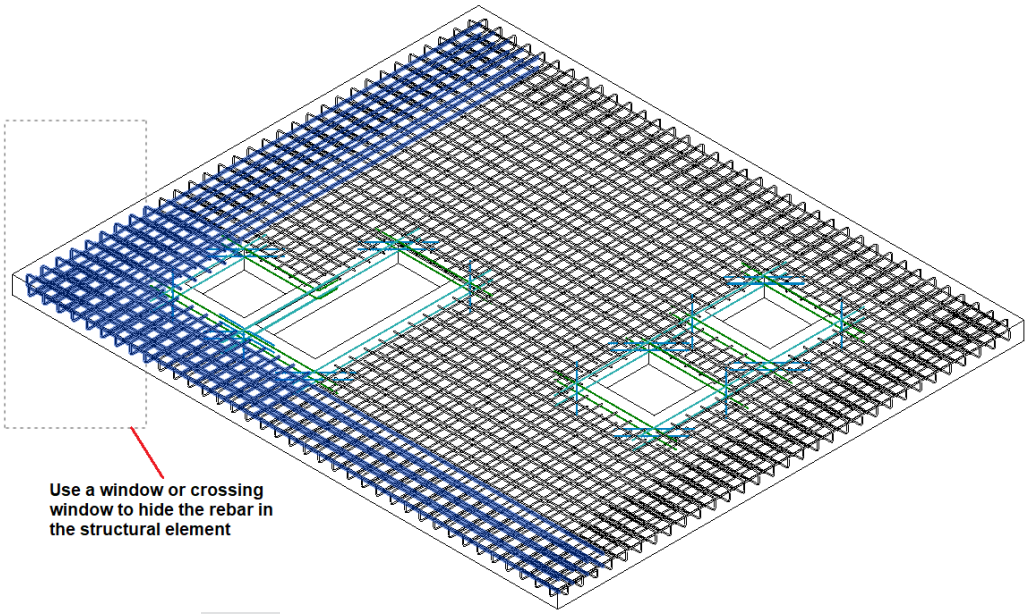
1. Select the Hide Rebar 

command, the command prompts the user to select rebar or host containing the rebar.

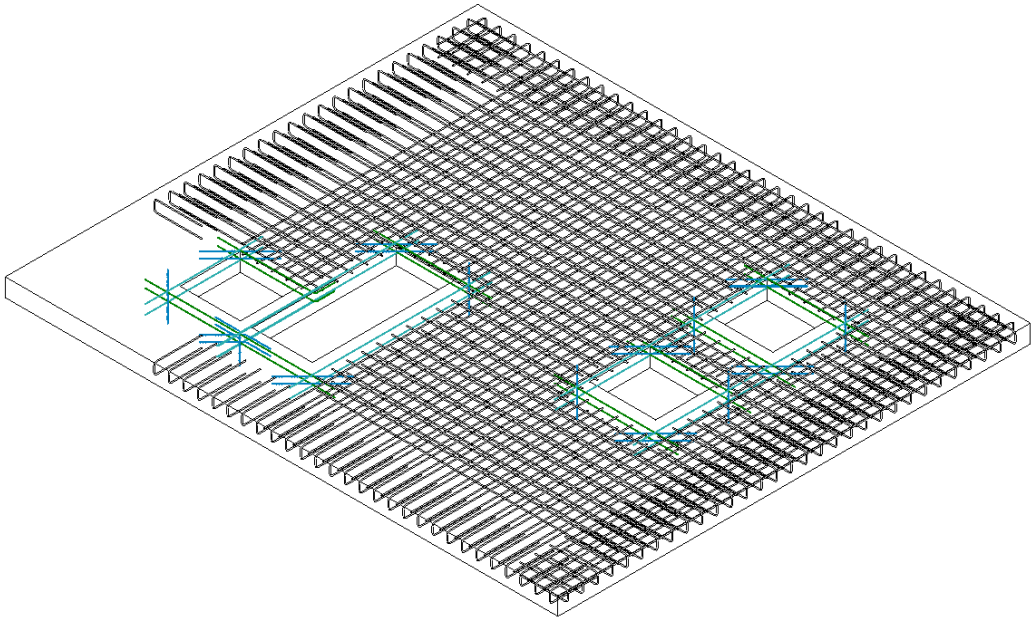


2. This allows the selection of some of the Rebar in the structure rather than all the Rebar.
3. Use either a window (only displays rebar totally enclosed within the window) or a crossing window (displays all rebar that crosses the selection window) to select the rebar to hide.

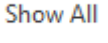
Copyright © Computer and Design Services Limited



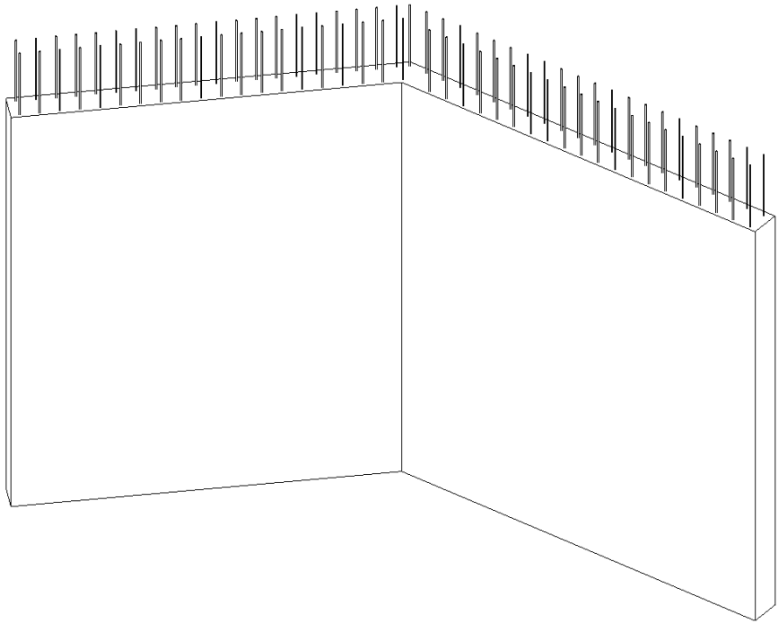
4. Press the Finish  button to complete the selection and make the selected rebar invisible.



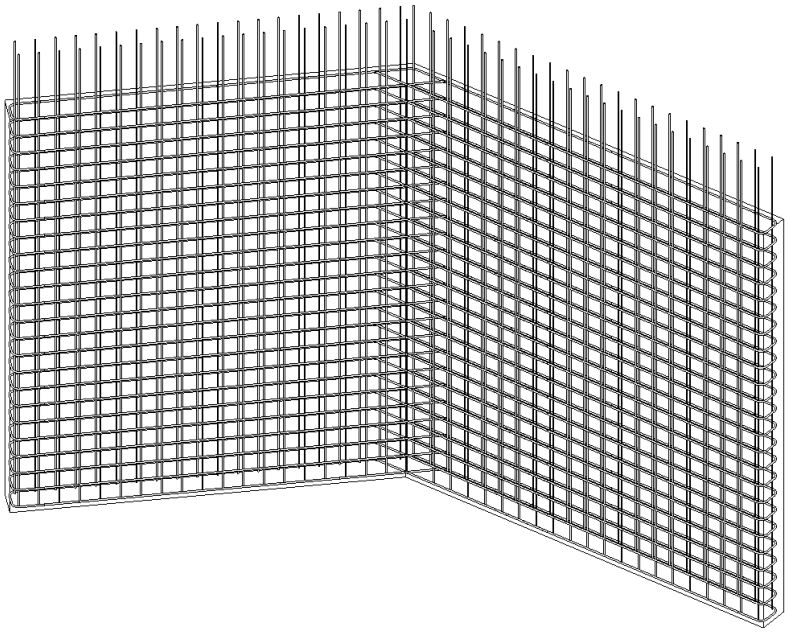
6.2.13 Show All

Select the Show All  command to make all the rebar or fabric in the current view visible depending on the transparency of the host element and the Visibility Style.
If the Host Transparency is set to 0% and the Visibility Style is set to Hidden, Shaded, Consistent Colours, Textures or Realistic uses the Show All command to reveal the Rebar hidden in the Host Elements.

Copyright © Computer and Design Services Limited



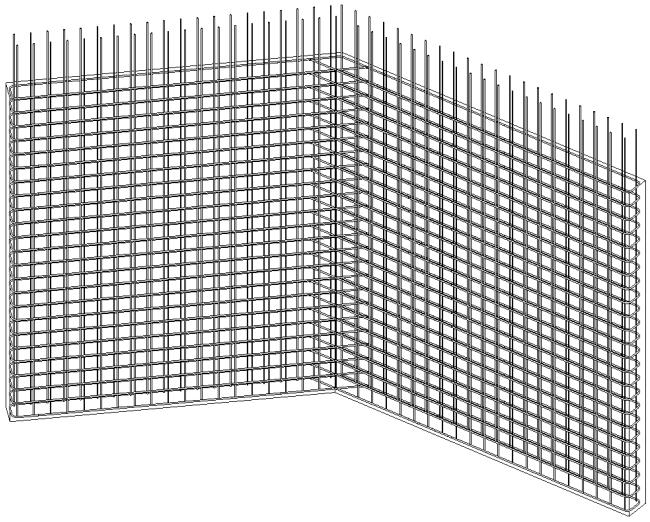
Use the Show All Rebar Show All to reveal all the rebar or fabric within the host.



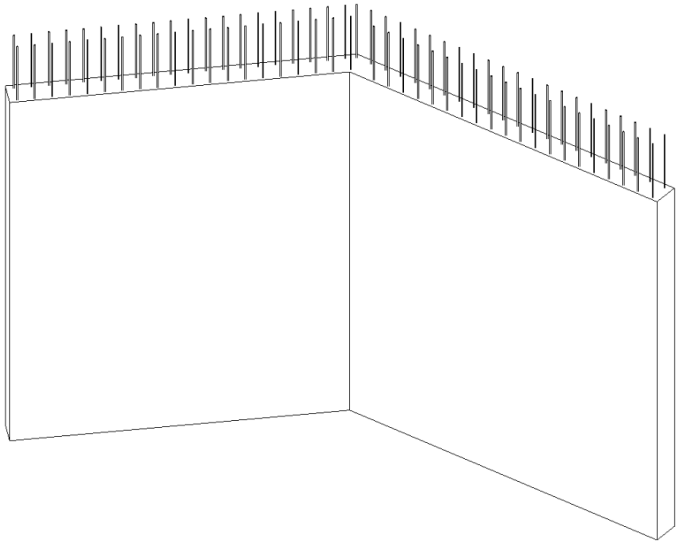
6.2.14 Hide All

Select the Hide All Hide All command to make all the rebar or fabric in the current view invisible depending on the transparency of the host element and the Visibility Style.
If the Host Transparency is set to 0% and the Visibility Style is set to Hidden, Shaded, Consistent Colours, Textures or Realistic uses the Hide All command to obscure the Rebar in the Host Elements.

Copyright © Computer and Design Services Limited



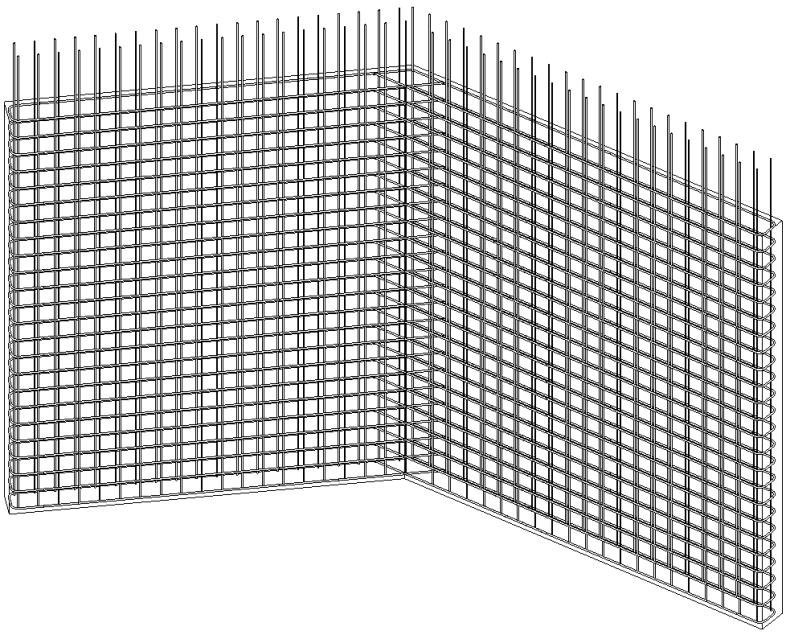
Use the Hide All Hide All to obscure all the rebar or fabric in within the host.

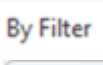


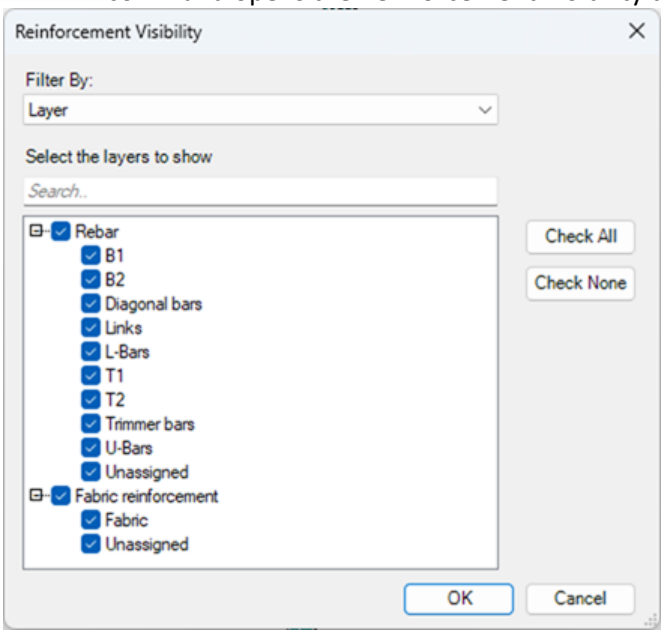
6.2.15 By Filter

Rebar and Fabric can be assigned to specific reinforcement layers such as Top and Bottom, Near Face & Far Face using the Assign Reinforcement Layer command. The By Filter Visibility tool can be used to display the rebar or fabric according to their Layer, Partition, Host Mark, Release or Drawing Sheet Assignment.

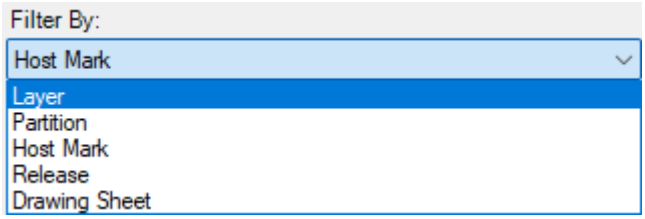
Copyright © Computer and Design Services Limited



Selecting the By Filter  command opens the Reinforcement Visibility dialog.



- **Filter By:** Use the Filter By option to choose the parameter to display rebar / fabric within the project view.



Layer Layer assigned when using the Assignment – Layer command

Partition Partition designation assigned when using the Assignment – Partition command

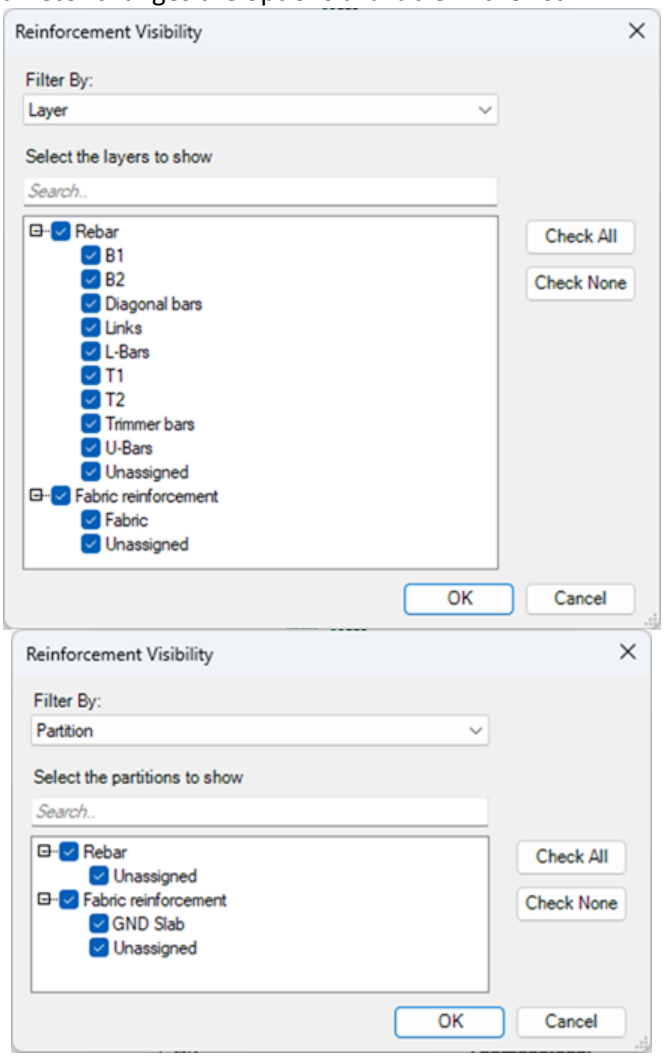
Host Mark Host Mark (Member Title) assigned in the Revit

Copyright © Computer and Design Services Limited

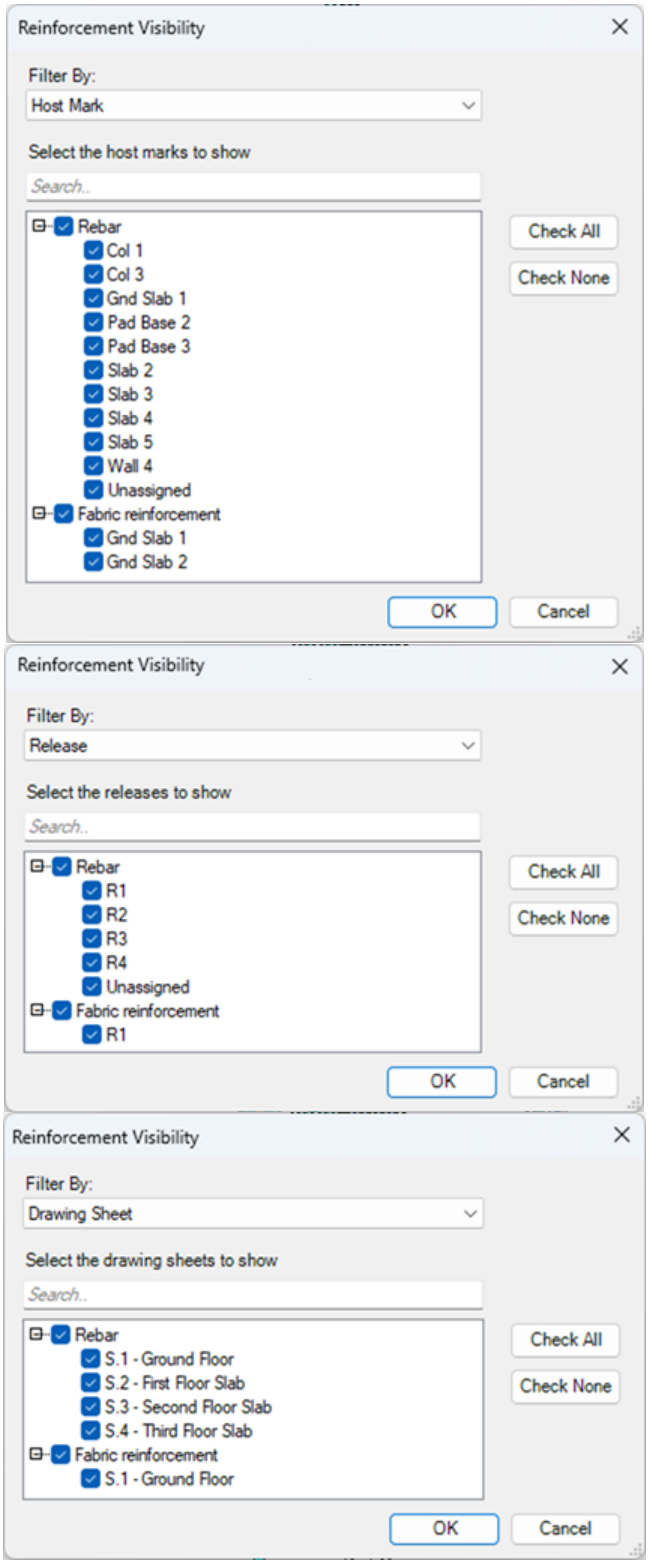
Release Release assigned when using the Assignment - Partition command
Drawing Sheet Drawing Sheet Number assigned when using the Assignment – Drawing Sheet command

- **Select** Select items on the list to display in the project view.
- **Search** Where an extensive list is shown in the dialog use the Search option to narrow down the list.
- **Check All** Select this option to select all the items in the list.
- **Check None** Select his option to deselect the previously selected items in the list.

Changing the Filter Parameter changes the options available in the list.

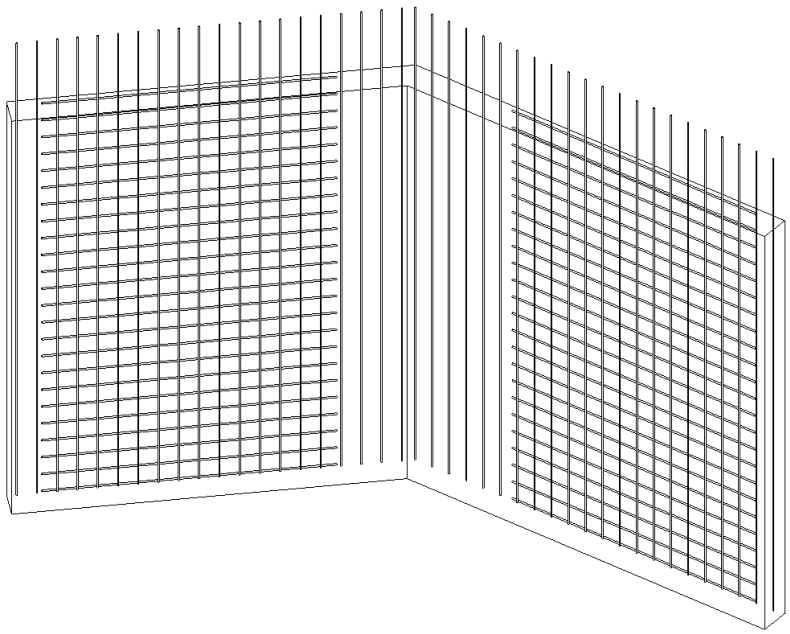


Copyright © Computer and Design Services Limited



Select which reinforcement layer/s (CADS reinforcement layer) are to be made visible and which reinforcement layers are to be set as invisible and then click ok. In the example below the Far Face Rebar Reinforcement layers have been ticked.

Copyright © Computer and Design Services Limited



Note: The rebar visibility tool commands, except the By Layer, which controls the visibility only through the View visibility states property of the rebar. This tool does not make the rebar visible if the rebar is deliberately hidden in the view through “Hide in view – by element/category” command of Revit®.

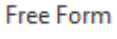
6.3 Convert

There are three Convert 

commands on the drop-down menu, Free Form, Split Rebar Set and Revit® Varying Set.



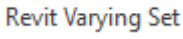
Free Form

The Free Form 

command can be used into two ways;
The first option will change a free form shape created in Revit® to an appropriate Rebar Shape. In the first instance, use the Revit® Free Form command to add Free Form Rebar to a concrete host.

The second use of this command is to ungroup varying rebar assemblies into individual rebar to allow them to be edited. Use this command to edit the rebar where the concrete outlines have changed. The rebar can then be recreated as a Varying Range.

Revit® Varying Set

The Revit® Varying Set 

command will convert an assembly of varying rebar created with Revit® into individual rebar. Use the Varying Range commands to convert the rebars into a Varying Range.

Split Rebar

Copyright © Computer and Design Services Limited

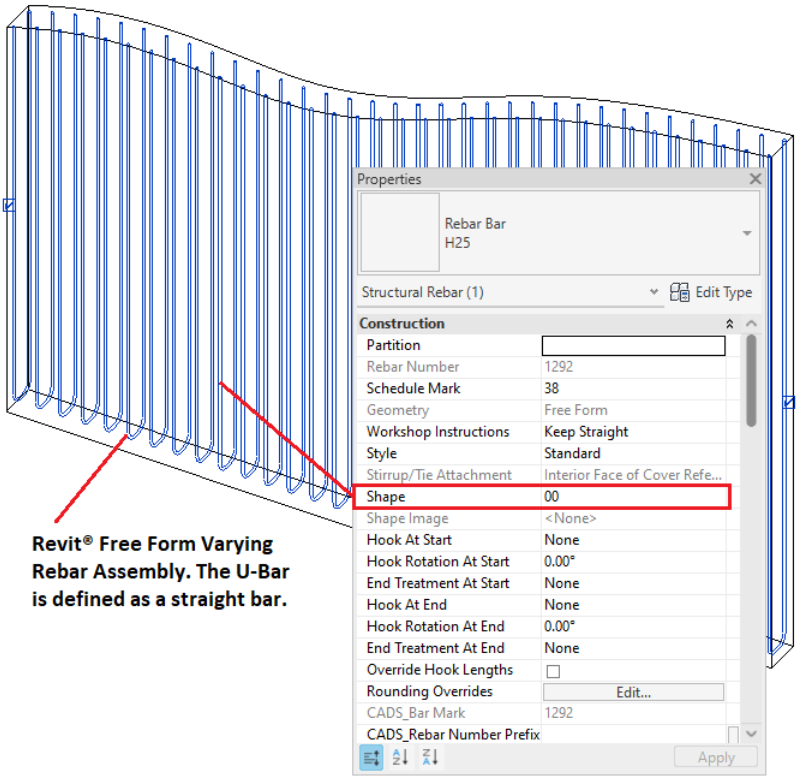
In some circumstances, you may need to split a range of bars into smaller segments. Split an existing range (assembly) of rebars into several segments, using the Split Rebar Split Rebar Set command. For instance, if applying couplers to join rebar together, the number of bars in each coupled range must be identical. The Split Rebar Set command allows the number of bars to matched in the adjoining rebar sets.

6.3.1 Free Form

The Free Form Free Form command can be used into two ways;

6.3.2 Convert Free Form to Standard Bar Shape

The first option will change a free form shape created in Revit® to the corresponding Rebar Shape, if available. In the first instance, use the Revit® Free Form command to add Free Form Rebar to a concrete host.

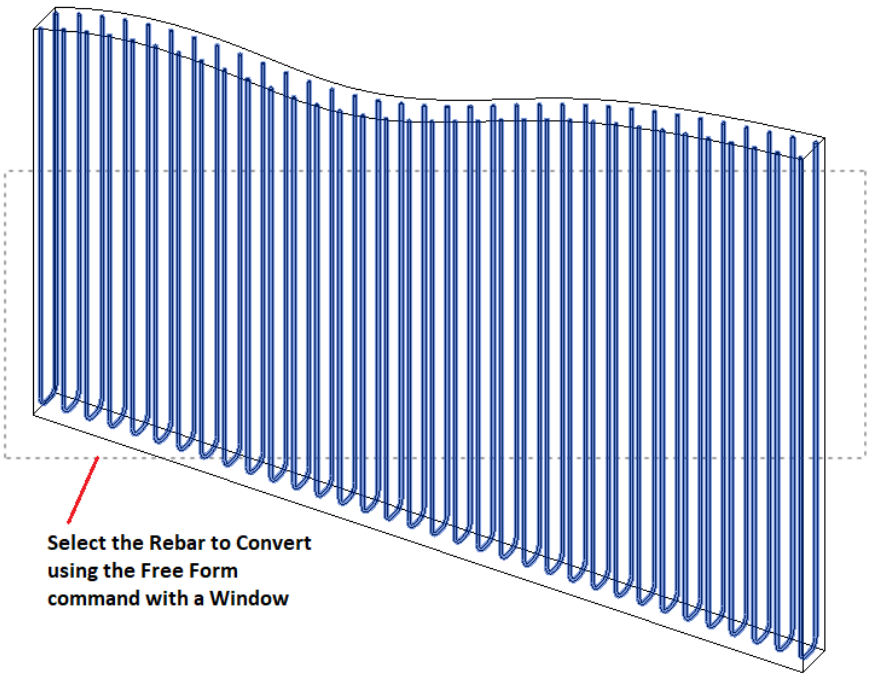


Revit® Free Form Varying Rebar Assembly. The U-Bar is defined as a straight bar.

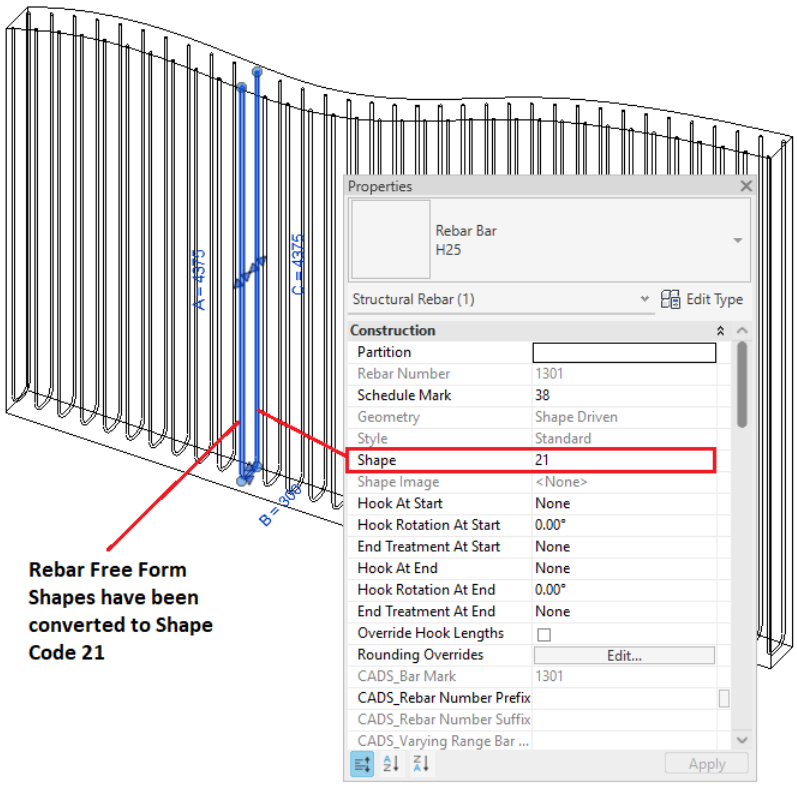
Use the Convert – Free Form command to match a Free Form shape to a recognised shape code.

1. Select the Convert Convert drop down menu from the Detailing Panel.
2. Select the Free Form Option Free Form .
3. Window all the rebar to convert.

Copyright © Computer and Design Services Limited



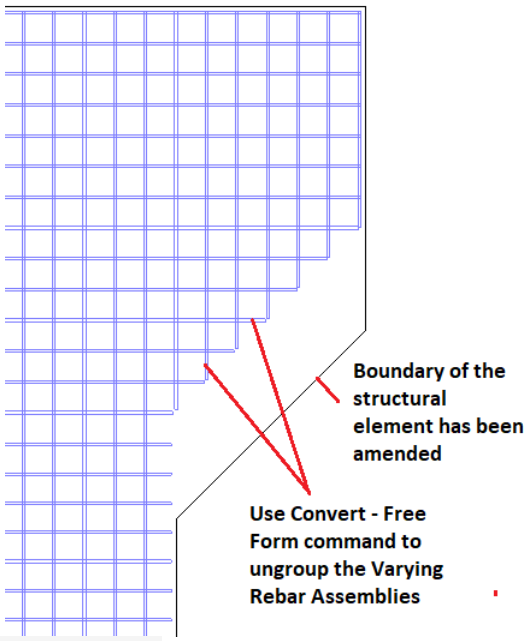
4. Click the Finish button to convert the rebar.



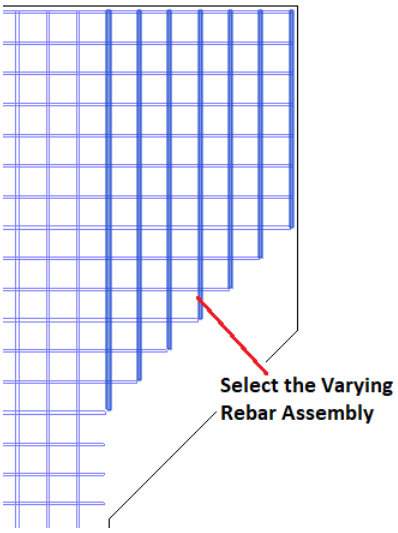
6.3.3 Convert Varying Assemblies to Individual Rebar

The second use of this command is to ungroup Varying Rebar Assemblies into individual rebar to allow them to be edited. Use this command to edit the rebar where the concrete outlines have changed. The rebar can then be recreated as a Varying Range .

Copyright © Computer and Design Services Limited

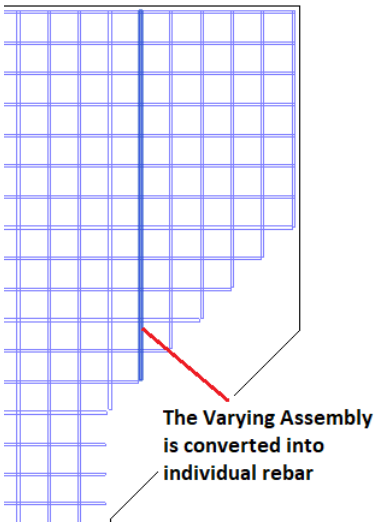


1. Select the Convert  drop down menu from the Detailing Panel.
2. Select the Free Form Option  .
3. Click on the varying rebar assembly to ungroup.

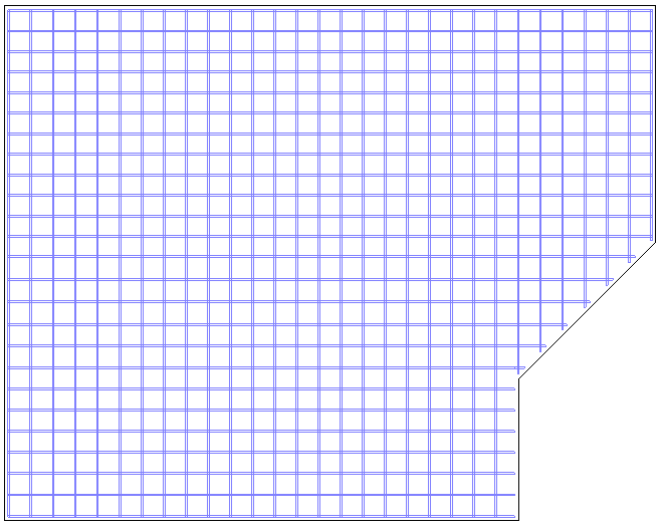


4. Click the Finish  button to convert the rebar assembly into individual rebar.

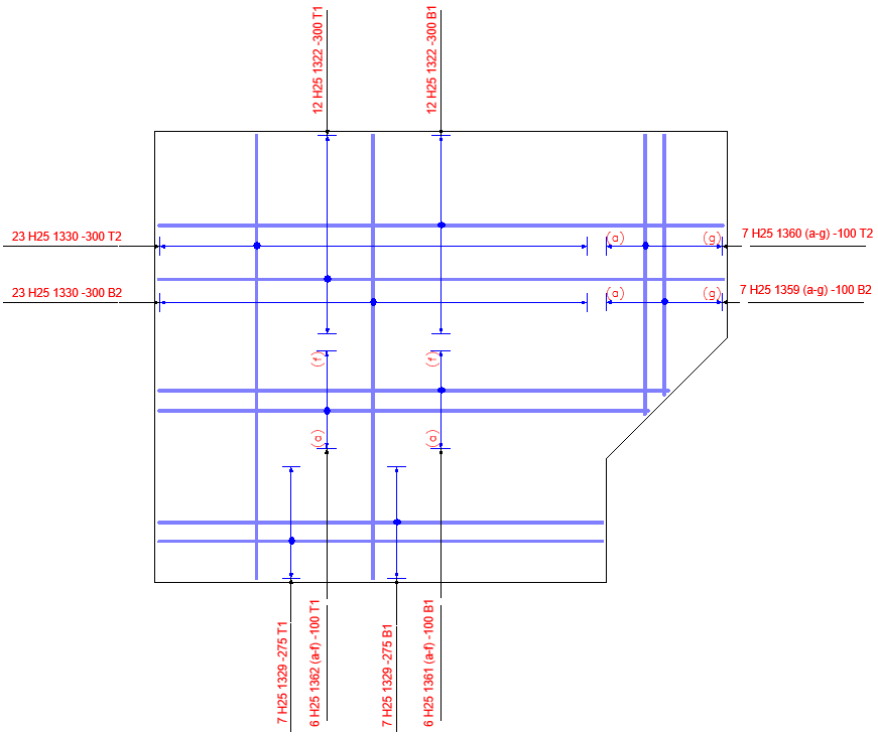
Copyright © Computer and Design Services Limited



Use the Trim / Extend Rebar commands amend the rebar to fit the new concrete shape.
Finally convert the individual rebar back into a varying assembly using the Varying Range Host or Rebar commands.

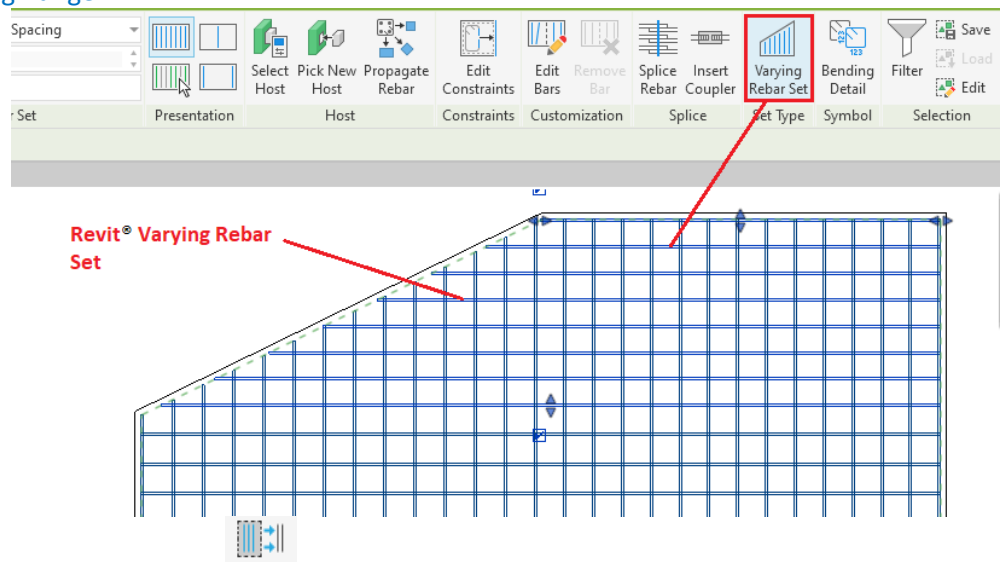


Copyright © Computer and Design Services Limited



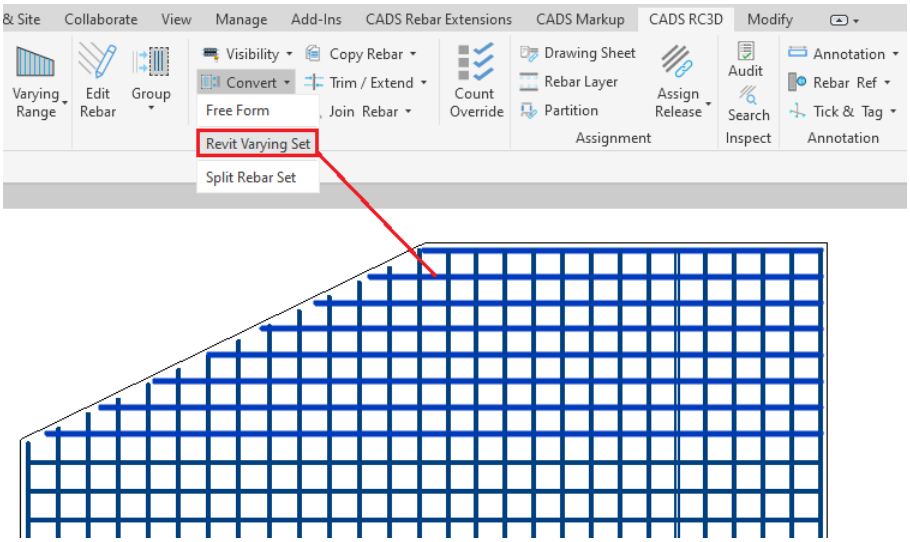
6.3.4 Revit® Varying Set

The Revit® Varying Set command will convert an assembly of varying rebar created with Revit® into individual rebar. Use CADS RC3D / RebarCAD 3D Varying Range commands to convert the rebars into a Varying Range .

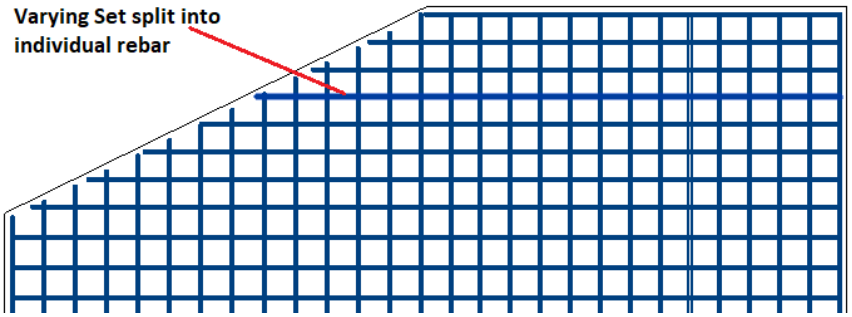


1. Select the Convert drop down menu from the Detailing Panel.
2. Select the Revit® Varying Set Revit Varying Set option from the drop-down menu.
3. Select the Revit® Varying Range Rebar on the model. Either an individual set or several sets.

Copyright © Computer and Design Services Limited



4. Then click the Finish button Finish, the Revit® Varying Set is split into individual rebars.

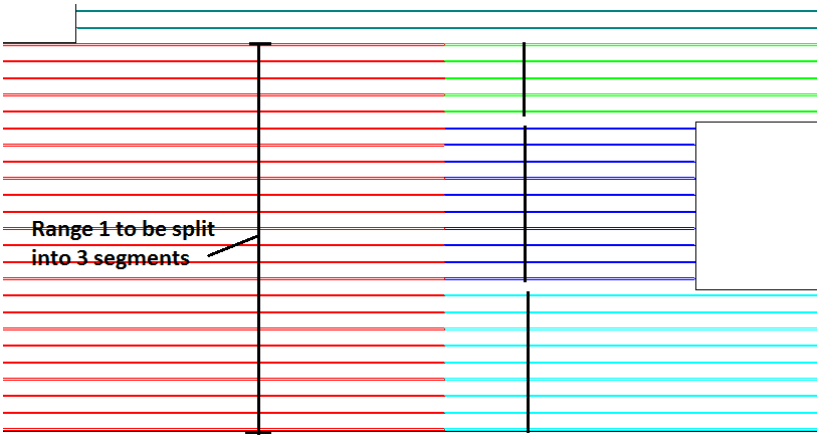


6.3.5 Split Rebar Set

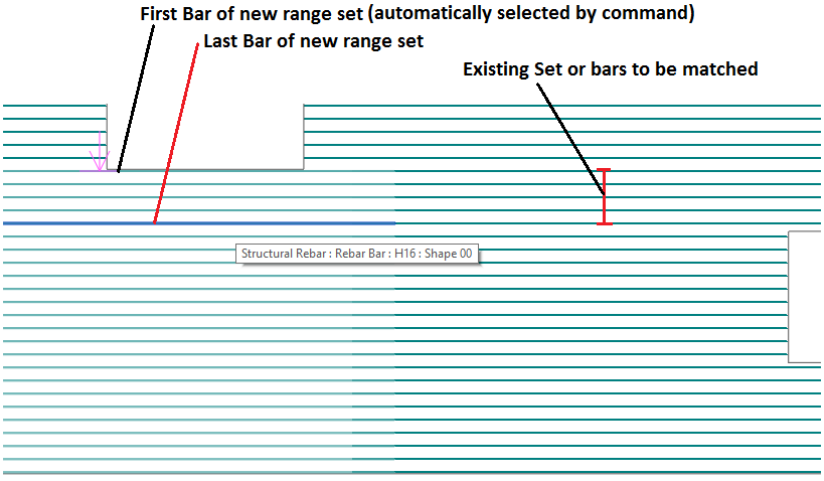
In some circumstances, you may need to split a range of bars into smaller segments. Split an existing range (assembly) of rebars into several segments, using the Split Rebar Split Rebar Set command. For instance, if applying couplers to join rebar together, the number of bars in each coupled range must be identical. The Split Rebar Set command allows the number of bars to matched in the adjoining rebar sets.

1. Select the Convert Convert drop down menu from the Detailing Panel.

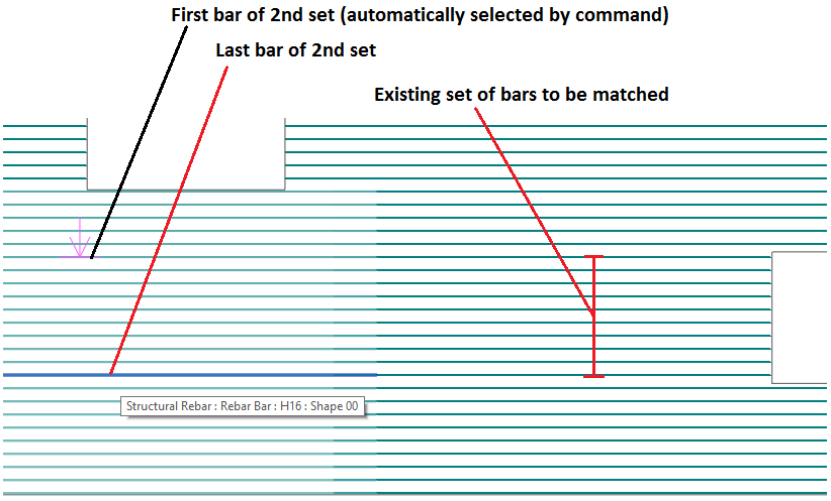
Copyright © Computer and Design Services Limited



2. Select the Split Rebar Split Rebar Set Option.
3. The first bar of the range is automatically selected as the first bar of the new range set.
4. Select the last rebar of the new rebar set: Select the last bar of the new range set as shown below. You can continue with the command to create other sub divisions of the existing range set as shown below or right mouse click and select cancel.

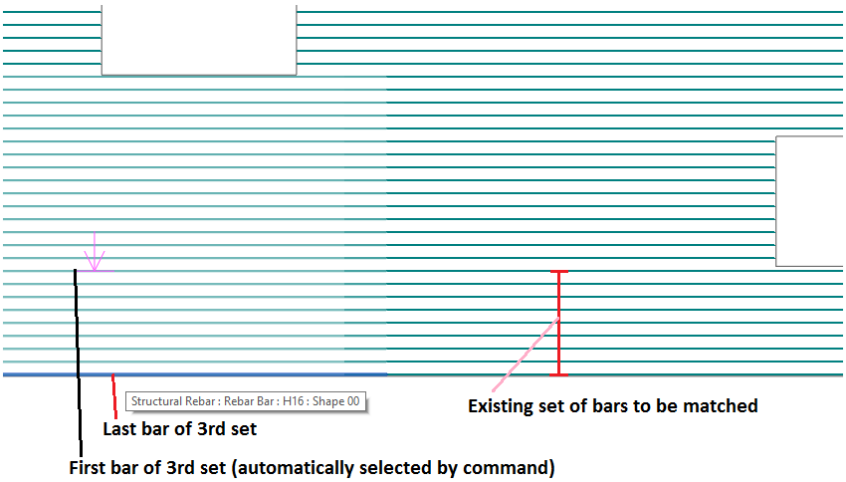


5. The first bar of the range is automatically selected as the first bar of the second range set.
6. Select the last rebar of the new rebar set: Select the last bar of the second range set as shown below.

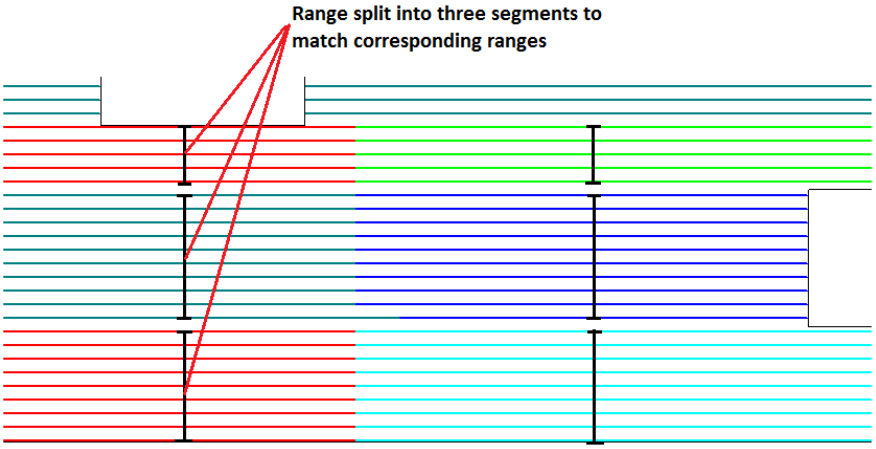


Copyright © Computer and Design Services Limited

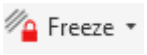
7. The first bar of the range is automatically selected as the first bar of the third range set.
8. Select the last rebar of the new rebar set: Select the last bar of the third range set as shown below.



9. To finish the function right mouse click and select Cancel.

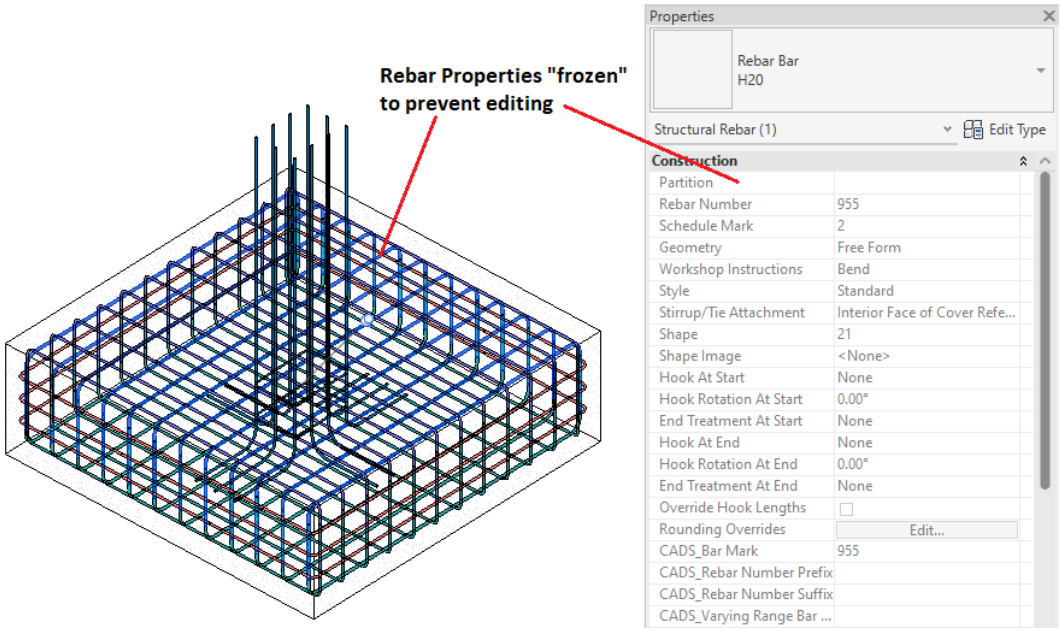


6.4 Freeze

Selected Rebar in the model can be 'frozen' 

using the Freeze Rebar Freeze command and cannot be edited once frozen. The rebar are converted to free form whilst being frozen.

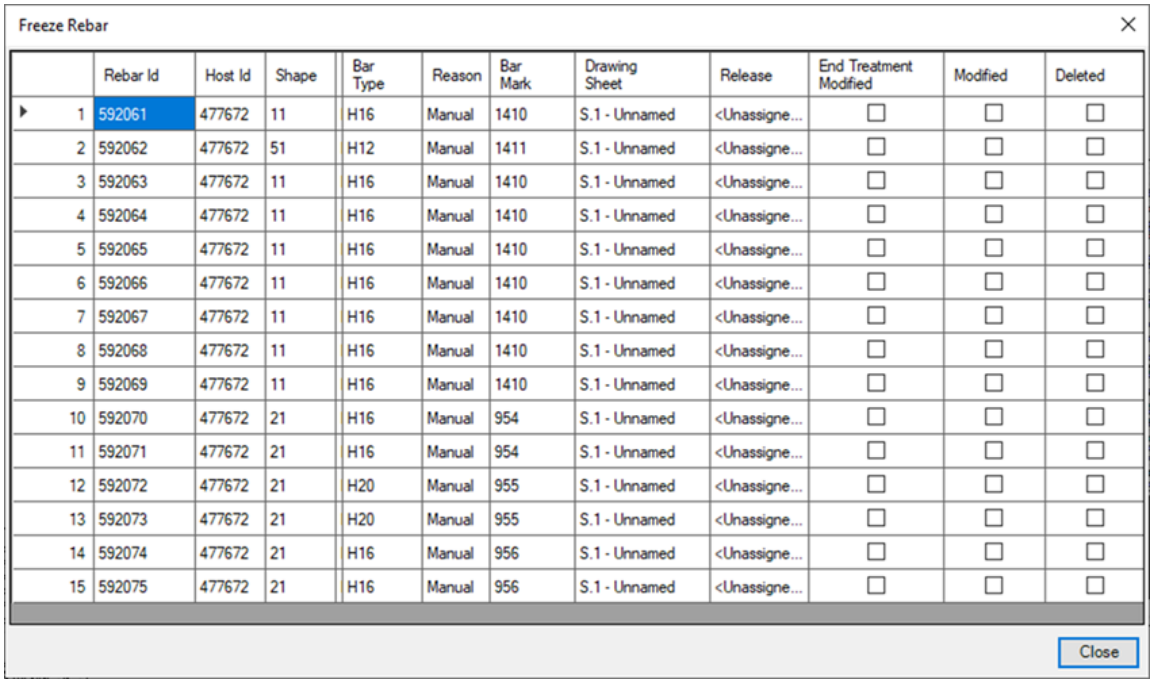
Copyright © Computer and Design Services Limited



Rebar Assigned to a Release can be configured to be automatically frozen when being assigned or ordered.

Selected Rebar can be “unfrozen” for editing using the Unfreeze Rebar Unfreeze Rebar command.

Use Freeze Rebar Status Freeze Rebar Status command to display a list of the frozen rebar and their current status.



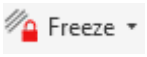
	Rebar Id	Host Id	Shape	Bar Type	Reason	Bar Mark	Drawing Sheet	Release	End Treatment Modified	Modified	Deleted
1	592061	477672	11	H16	Manual	1410	S.1 - Unnamed	<Unassigne...	☐	☐	☐
2	592062	477672	51	H12	Manual	1411	S.1 - Unnamed	<Unassigne...	☐	☐	☐
3	592063	477672	11	H16	Manual	1410	S.1 - Unnamed	<Unassigne...	☐	☐	☐
4	592064	477672	11	H16	Manual	1410	S.1 - Unnamed	<Unassigne...	☐	☐	☐
5	592065	477672	11	H16	Manual	1410	S.1 - Unnamed	<Unassigne...	☐	☐	☐
6	592066	477672	11	H16	Manual	1410	S.1 - Unnamed	<Unassigne...	☐	☐	☐
7	592067	477672	11	H16	Manual	1410	S.1 - Unnamed	<Unassigne...	☐	☐	☐
8	592068	477672	11	H16	Manual	1410	S.1 - Unnamed	<Unassigne...	☐	☐	☐
9	592069	477672	11	H16	Manual	1410	S.1 - Unnamed	<Unassigne...	☐	☐	☐
10	592070	477672	21	H16	Manual	954	S.1 - Unnamed	<Unassigne...	☐	☐	☐
11	592071	477672	21	H16	Manual	954	S.1 - Unnamed	<Unassigne...	☐	☐	☐
12	592072	477672	21	H20	Manual	955	S.1 - Unnamed	<Unassigne...	☐	☐	☐
13	592073	477672	21	H20	Manual	955	S.1 - Unnamed	<Unassigne...	☐	☐	☐
14	592074	477672	21	H16	Manual	956	S.1 - Unnamed	<Unassigne...	☐	☐	☐
15	592075	477672	21	H16	Manual	956	S.1 - Unnamed	<Unassigne...	☐	☐	☐

6.4.1 Freeze Rebar

CADS RC3D includes a function to Freeze Rebar Freeze in your model, this will disable editing in the properties dialog and it will also pin the rebar in place. Use this command to coincide with Issuing Drawing Sheets and Schedules. Any revisions in the project will need to be manually annotated using the Revit® native functionality from the Annotate Tab.

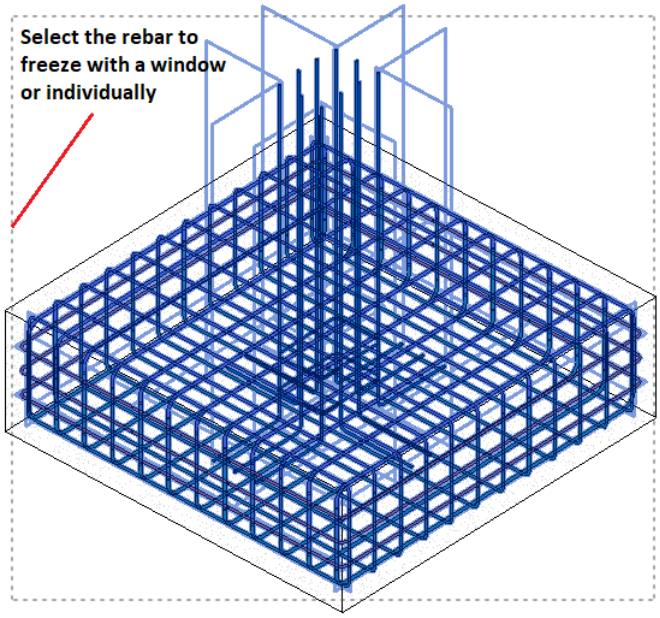
Copyright © Computer and Design Services Limited

Rebar associated with Release(s) can be frozen when either Assigning Rebar to a Release or when Ordering a Release for fabrication. This functionality is configured in the Project Settings dialog under the General Tab.

1. Select Freeze Rebar 

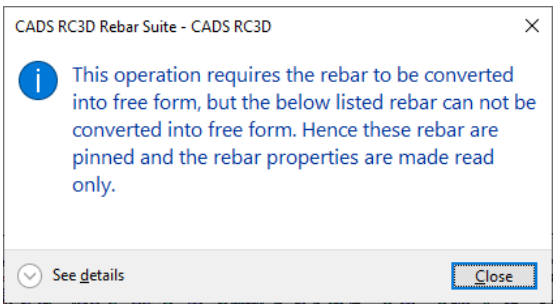
from the Detailing Panel and then select the Freeze Rebar 

command from the drop down menu.
2. Select the Rebar to Freeze: Select the Rebar individually or using a Crossing Window.



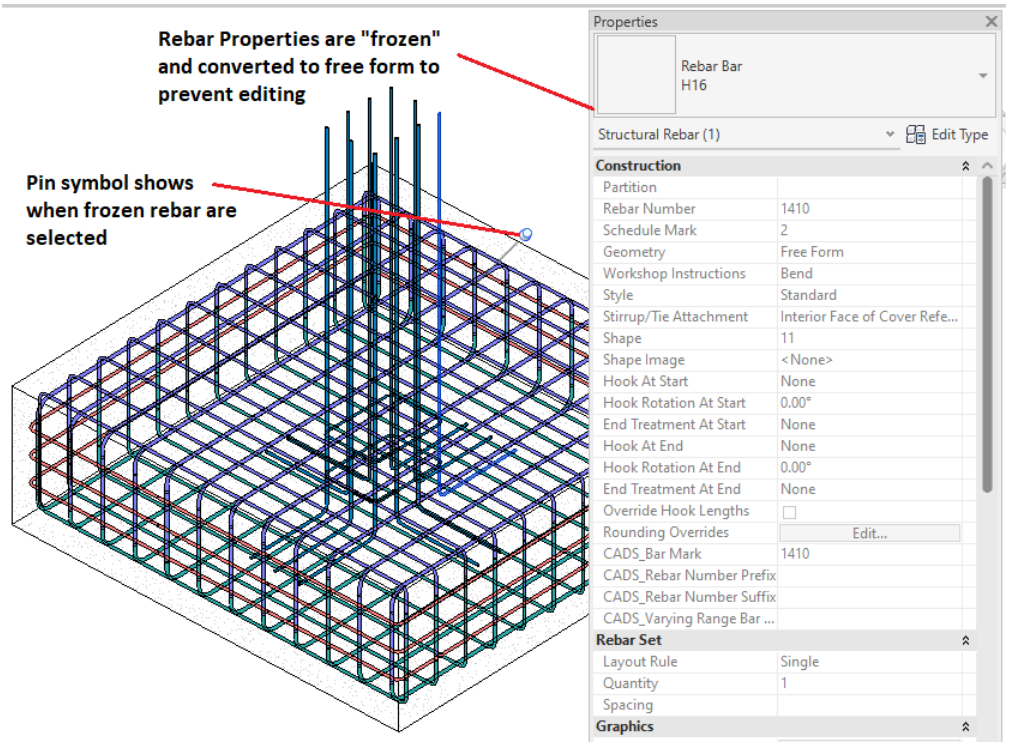
3. Click Finish 

.
4. The following warning message is displayed to indicate what actions are being taken to freeze the rebar.



5. When the frozen Rebar is selected it will show with a Pin symbol, the Properties dialog will be greyed out and not available for editing.

Copyright © Computer and Design Services Limited

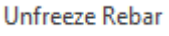


6.4.2 Limitations

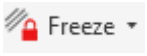
When the Rebar is Frozen, it is converted to pinned free form rebar and the properties disabled, this gives rise to certain limitations;
The spiral rebar and multi planar rebar cannot be converted as free form rebar since this is a limitation with Revit® API.
At present while converting the regular rebar to freeform rebar, the rebar profile matches to the first matching shape code among the loaded shapes in the project which is also limitation in Revit® API. For example if 00 shape which is a straight rebar shape and 01 which is also a straight rebar shape but assigned to those rebar detailed for stock length are present in a project, while freeze operation 01 shape rebar may be converted as 00 shape since this is the first matching profile. So, the software will not support matching of rebar with multiple shape codes.
The “Over ride Hook length” functionality available from Revit® 2021 is not supported for freeze rebar functionality. While converting a rebar which has over ridden hook value into free form rebar, Revit® API does not consider the over ridden hook value and converts it with standard hook value. This is a bug in Revit® API. This case is not applicable for Revit® 2020 and Revit® 2019.
For all the above cases, while freezing these rebar, only the property palette will be disabled which avoids editing manual editing of rebar. Also the rebar will be pinned to its location in the model so inadvertent movement of this rebar can be avoided. however, user can still unpin the rebar manually and edit . Also if the element profile is modified the rebar may update to the element changes due to rebar constraints present which cannot be avoided. This is the limitation in freeze rebar functionality.

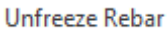
Copyright © Computer and Design Services Limited

6.4.3 Unfreeze Rebar

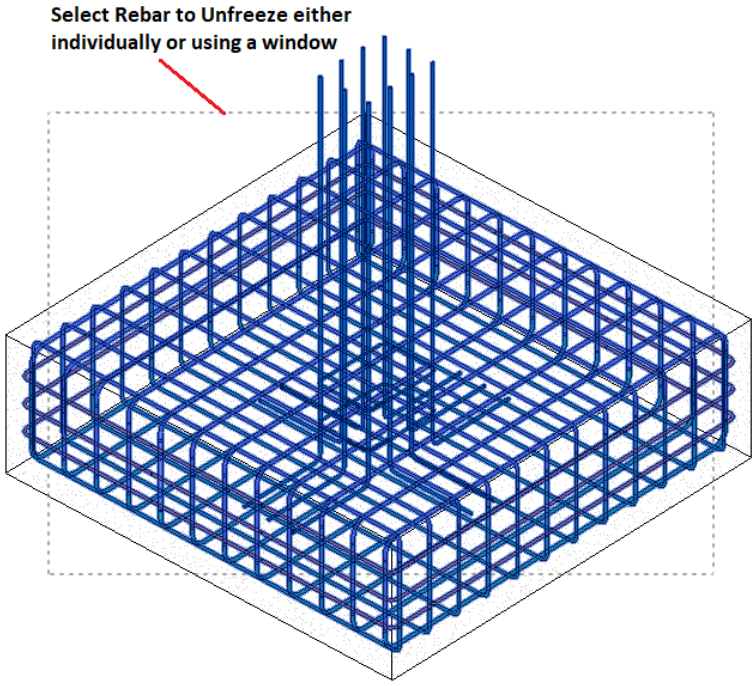
Selected Rebar can be “unfrozen” for editing using the Unfreeze Rebar 

command. This allows Issued rebar to be edited, annotated as revised and then refrozen afterwards.

1. Select Freeze Rebar 

from the Detailing Panel and then select the UnFreeze Rebar 

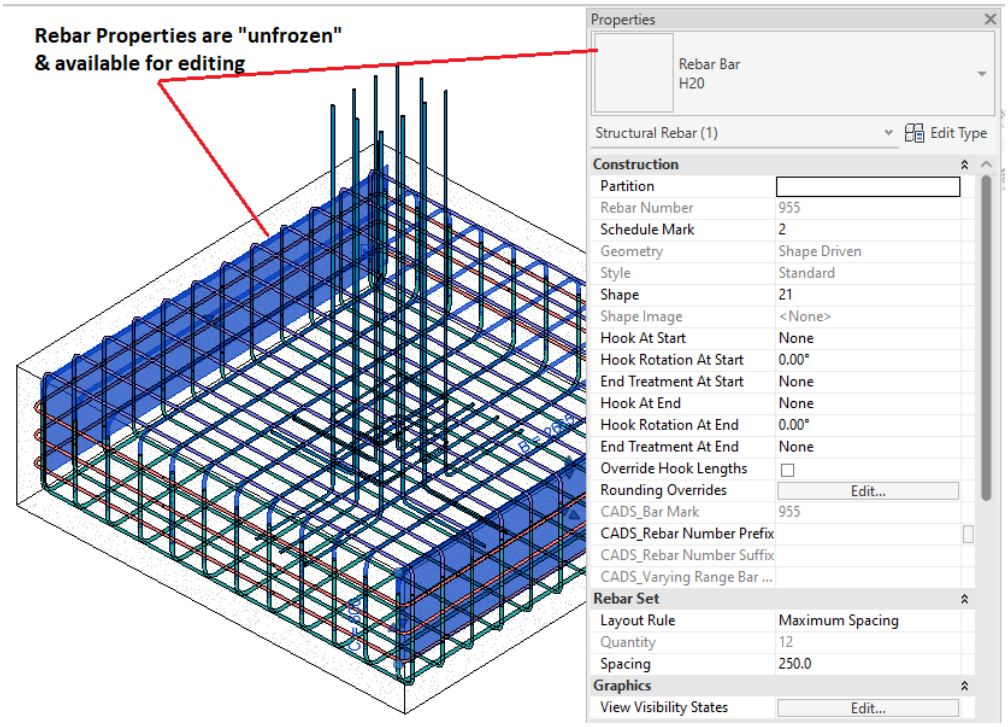
command from the drop down menu.
2. Select the Frozen rebar: Select the Rebar individually or using a Crossing Window.



3. Click Finish 

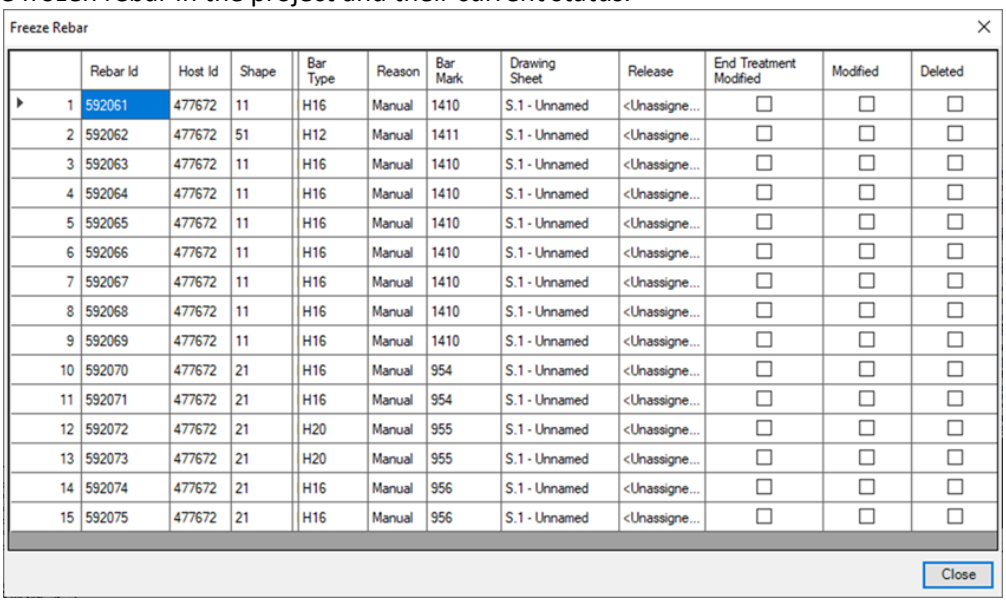
.
4. The Selected Rebar can now be edited.

Copyright © Computer and Design Services Limited



6.4.4 Freeze Rebar Status

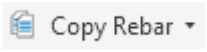
Use Freeze Rebar Status Freeze Rebar Status from the Freeze drop down menu Freeze to display a list of the frozen rebar in the project and their current status.

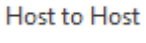


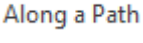
	Rebar Id	Host Id	Shape	Bar Type	Reason	Bar Mark	Drawing Sheet	Release	End Treatment Modified	Modified	Deleted
1	592061	477672	11	H16	Manual	1410	S.1 - Unnamed	<Unassigne...	☐	☐	☐
2	592062	477672	51	H12	Manual	1411	S.1 - Unnamed	<Unassigne...	☐	☐	☐
3	592063	477672	11	H16	Manual	1410	S.1 - Unnamed	<Unassigne...	☐	☐	☐
4	592064	477672	11	H16	Manual	1410	S.1 - Unnamed	<Unassigne...	☐	☐	☐
5	592065	477672	11	H16	Manual	1410	S.1 - Unnamed	<Unassigne...	☐	☐	☐
6	592066	477672	11	H16	Manual	1410	S.1 - Unnamed	<Unassigne...	☐	☐	☐
7	592067	477672	11	H16	Manual	1410	S.1 - Unnamed	<Unassigne...	☐	☐	☐
8	592068	477672	11	H16	Manual	1410	S.1 - Unnamed	<Unassigne...	☐	☐	☐
9	592069	477672	11	H16	Manual	1410	S.1 - Unnamed	<Unassigne...	☐	☐	☐
10	592070	477672	21	H16	Manual	954	S.1 - Unnamed	<Unassigne...	☐	☐	☐
11	592071	477672	21	H16	Manual	954	S.1 - Unnamed	<Unassigne...	☐	☐	☐
12	592072	477672	21	H20	Manual	955	S.1 - Unnamed	<Unassigne...	☐	☐	☐
13	592073	477672	21	H20	Manual	955	S.1 - Unnamed	<Unassigne...	☐	☐	☐
14	592074	477672	21	H16	Manual	956	S.1 - Unnamed	<Unassigne...	☐	☐	☐
15	592075	477672	21	H16	Manual	956	S.1 - Unnamed	<Unassigne...	☐	☐	☐

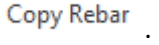
Copyright © Computer and Design Services Limited

6.5 Copy Rebar

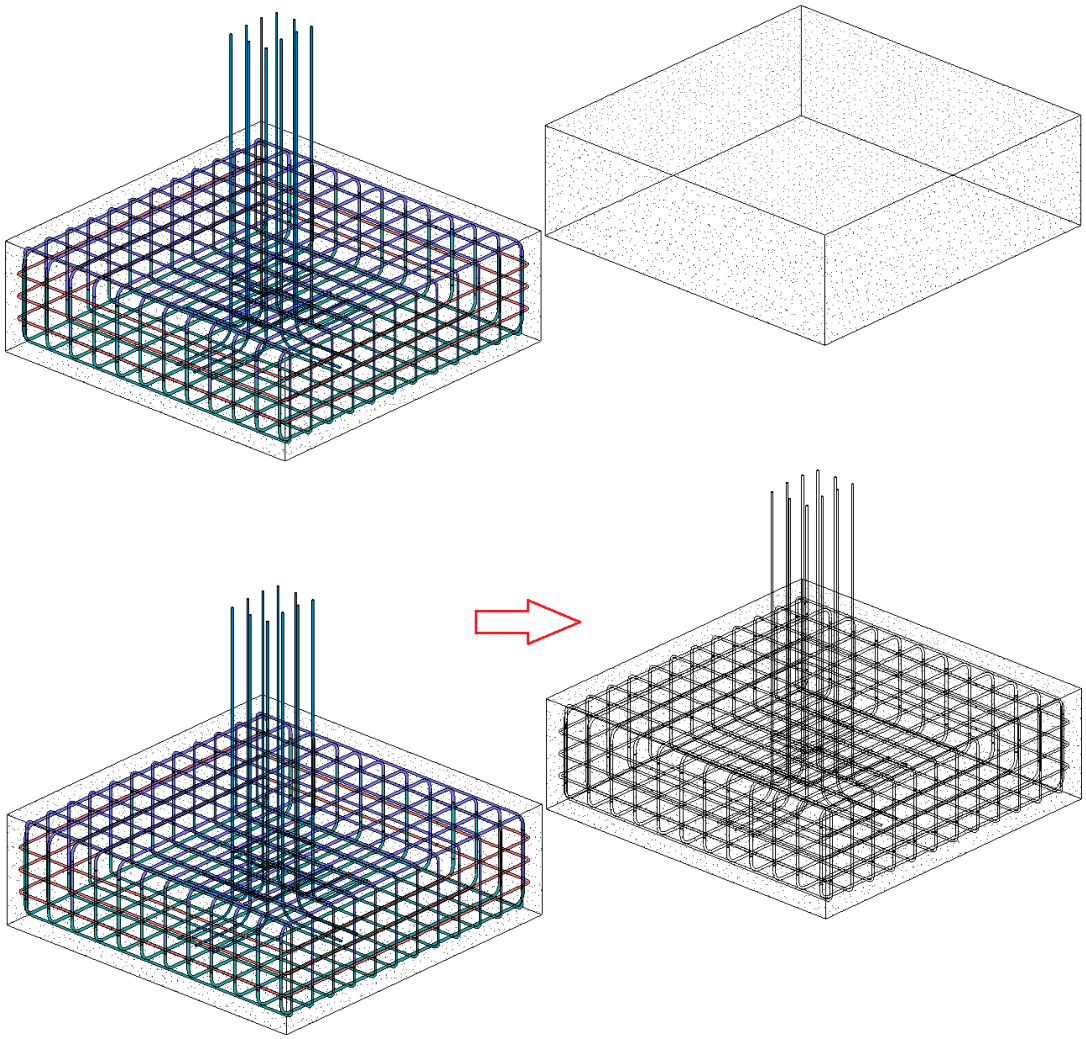
The Copy Rebars 

command is available in the Detailing Panel, there are three options Host to Host 

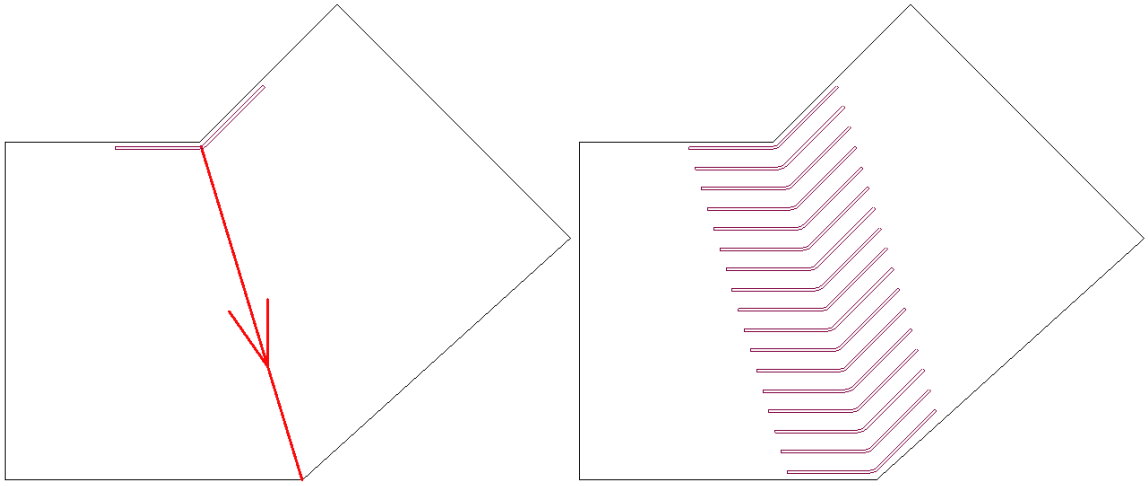
, Along a Path 

and Copy Rebar 

.
The Host to Host command is used to copy rebar from one identical host to another. The command will accommodate the second host to being at a different rotation to the original.

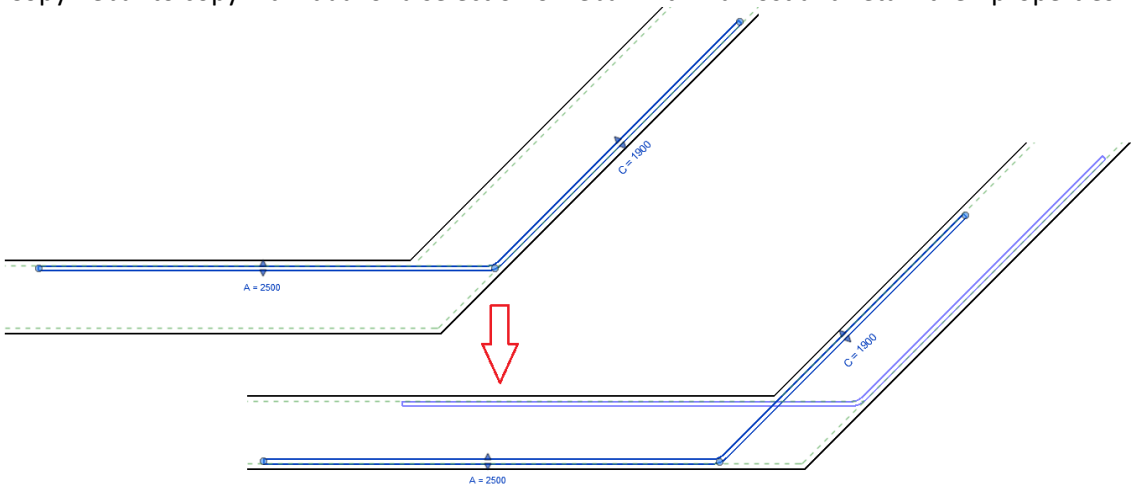


The Along a Path command is used to copy rebar along a path.

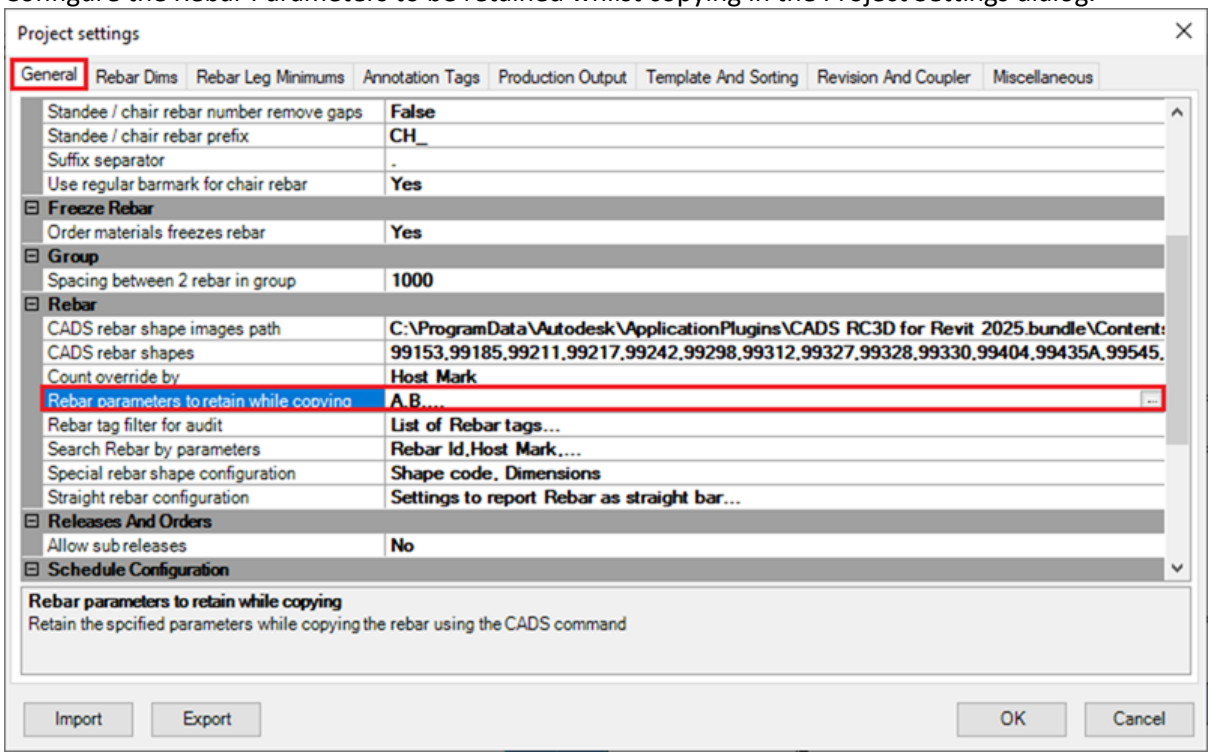


Copyright © Computer and Design Services Limited

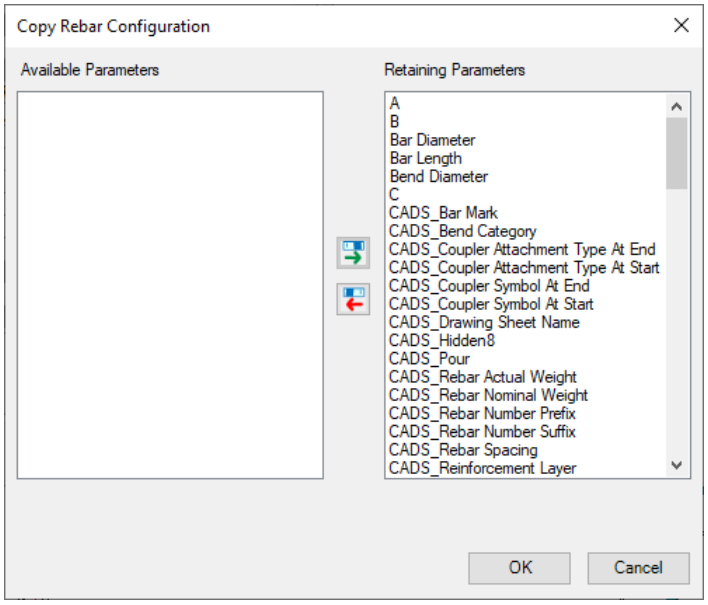
Use Copy Rebar to copy individual or a selection of rebar within a host and retain their properties.



Configure the Rebar Parameters to be retained whilst copying in the Project Settings dialog.

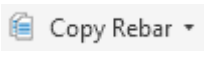


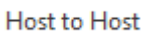
Copyright © Computer and Design Services Limited



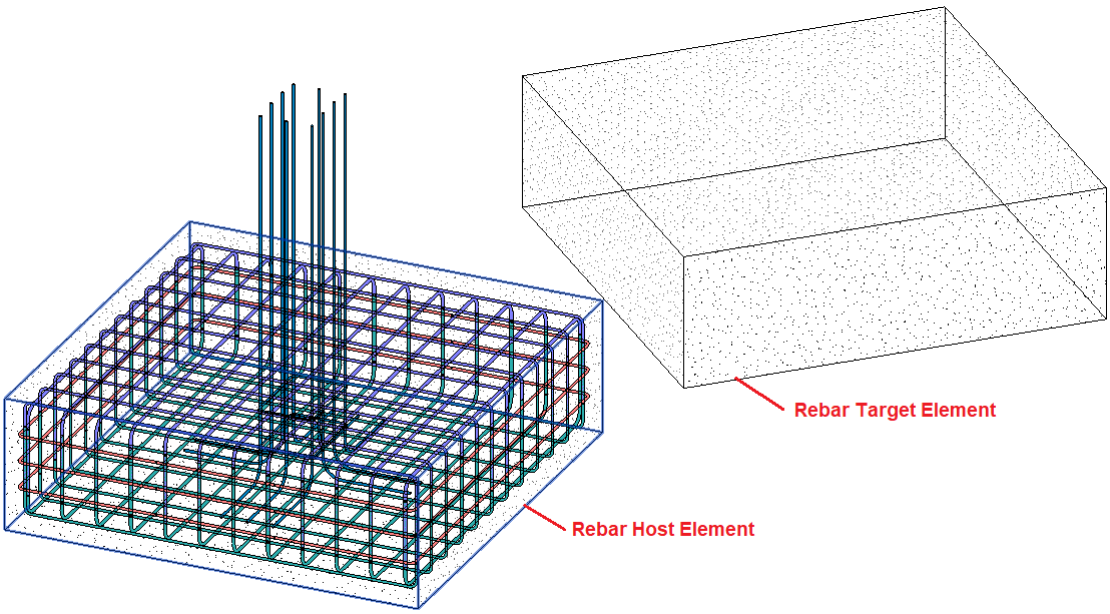
6.5.1 Host to Host

Use the Copy Rebars - Host to Host command to duplicate rebar cages from one host to another host of the same type and size.

1. Select the command Copy Rebars 

available from the Detailing Panel and then the Host to Host 

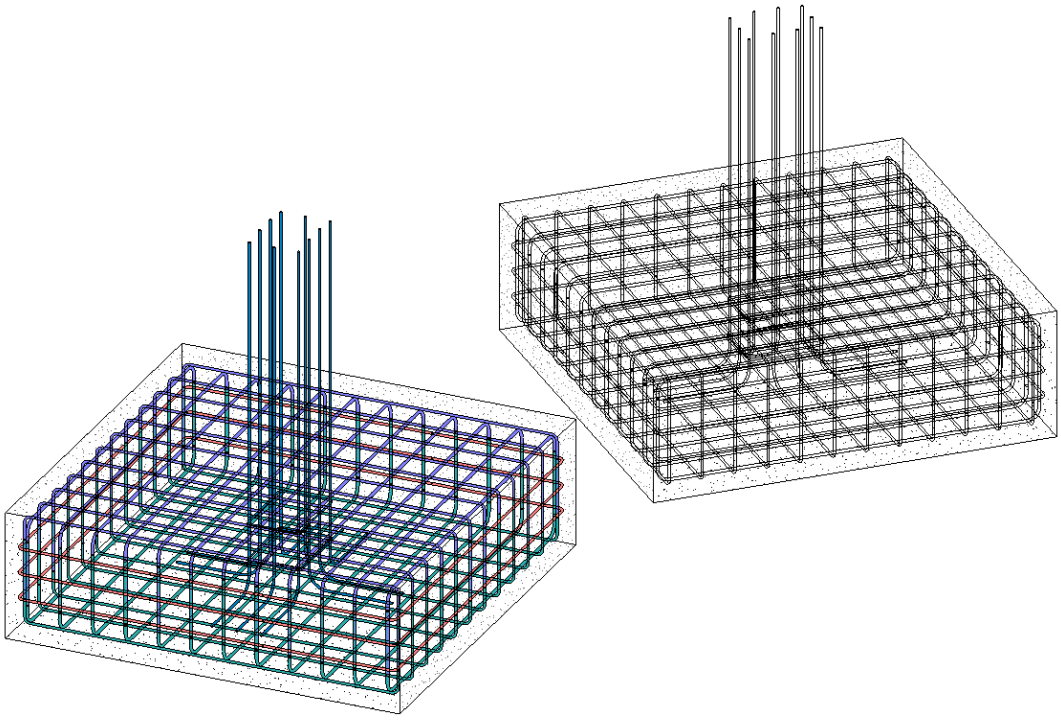
option.
2. The command prompts to select a host that contains the reinforcement to be copied.



3. Prompts to select a target host in which to place the copied reinforcement.
4. All the reinforcement that was associated with the original host will be copied to the new host.
5. Prompts to select an edge to rotate the rebar. This prompt is displayed when the target host is at a different rotation angle to the original host, press ESC if this option is not required.

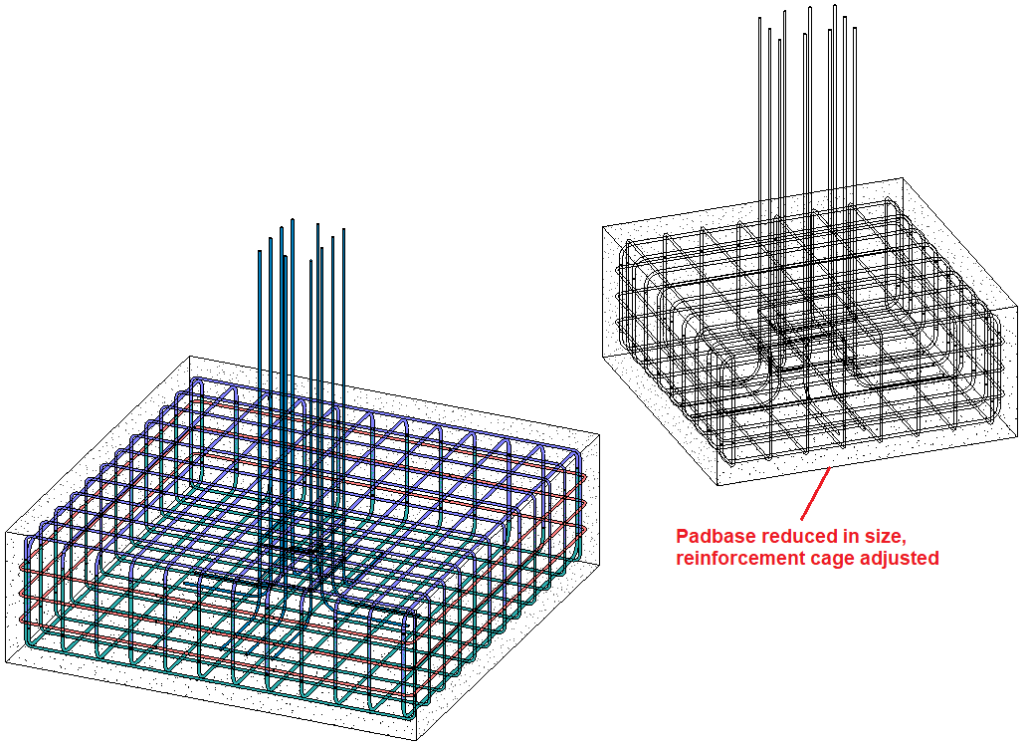
Copyright © Computer and Design Services Limited

6. The command will continue prompting for further selections, press ESC to terminate the command.



Hints & Tips Copy Rebar to Different Size Hosts of the same Type.

The rebar from the original host will not adjust itself to fit to the new host where the original host is different in size or category.
A work around to this problem would be to have all the concrete hosts the same size. Copy the rebar from host to host and then edit the host size. This will maintain the rebar layout inside the edited host.

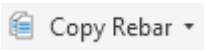


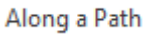
Copyright © Computer and Design Services Limited

The other alternative is to create a cage of rebar for the structural element type in the Smart Detailer.

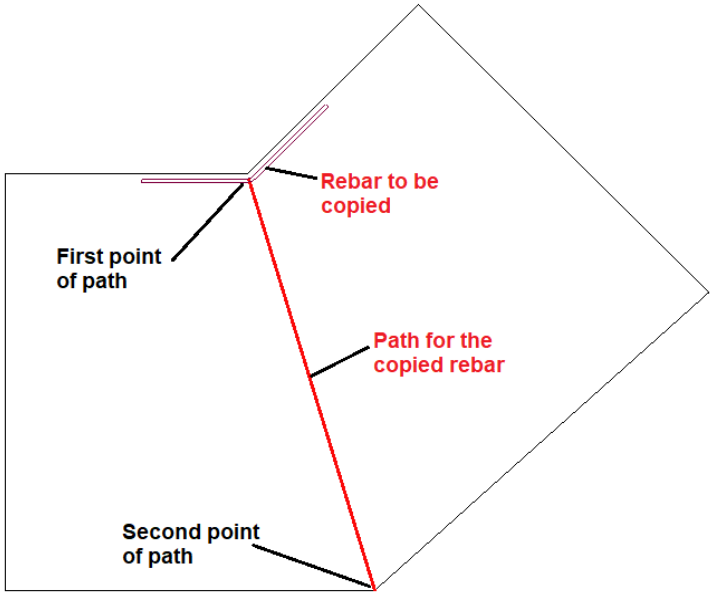
6.5.2 Along a Path

This command is similar to the Edge Bar Placement command except, you can copy an existing Bar along a predefined path and specify the centres of the rebar.

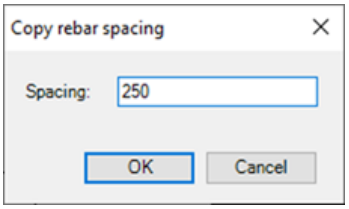
1. Select the command Copy Rebars 

available from the Detailing Panel and then the Along a Path 

option.
2. Pick Rebar to copy – select the rebar to be copied in the model.
3. Click Finish

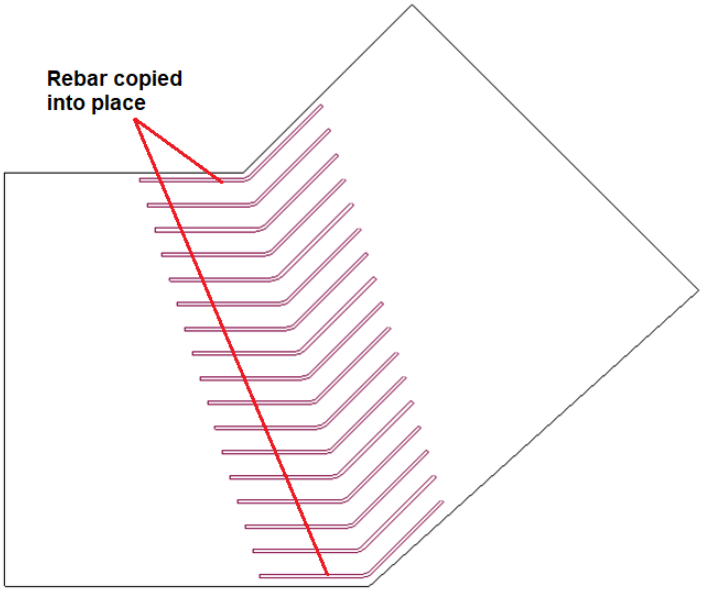


4. Click to enter line start point – Pick the first point of the path.
5. Enter line endpoint – Pick the end of the path.
6. Type in the spacing between the bars and click ok, the rebar are copied along the path.



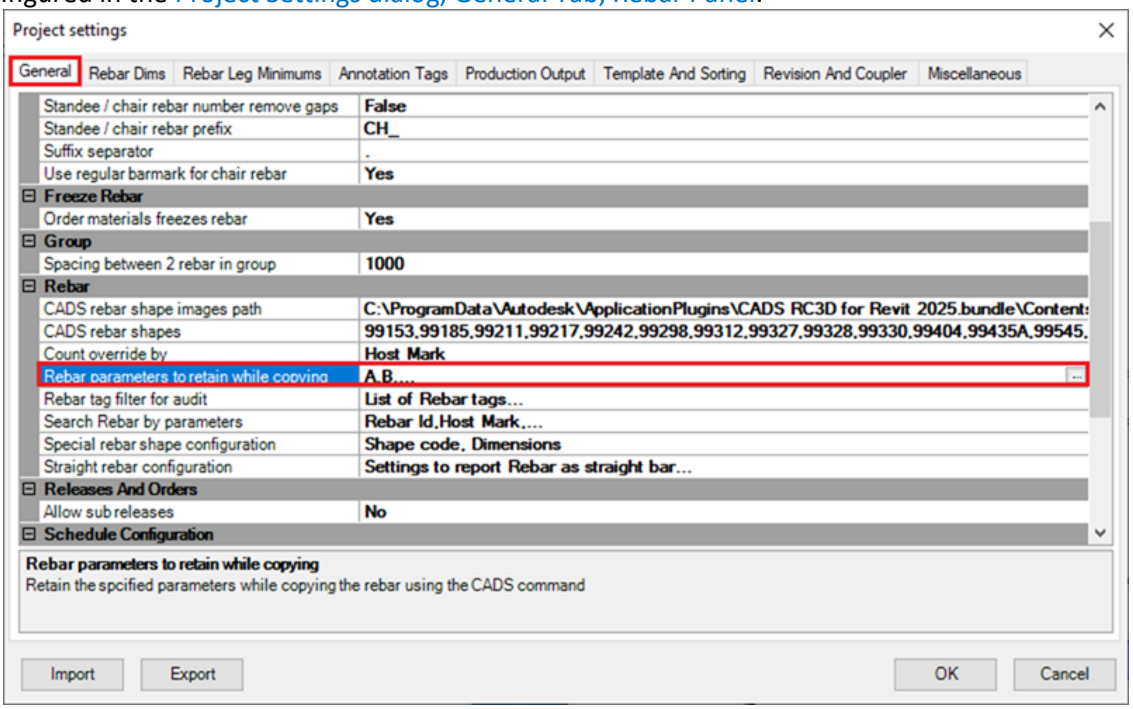
7. The command can be continued or press ESC to finish.

Copyright © Computer and Design Services Limited

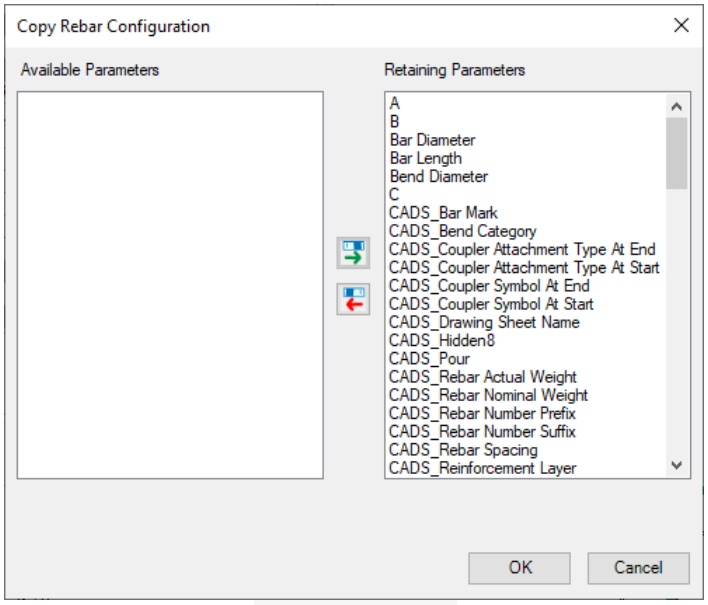


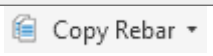
6.5.3 Copy Rebar

Copy individual rebar or assemblies within the same host. Copied rebar retains all its parameters including bar mark, dimensions and centres etc. The parameters to be retained whilst copying are configured in the Project Settings dialog, General Tab, Rebar Panel.



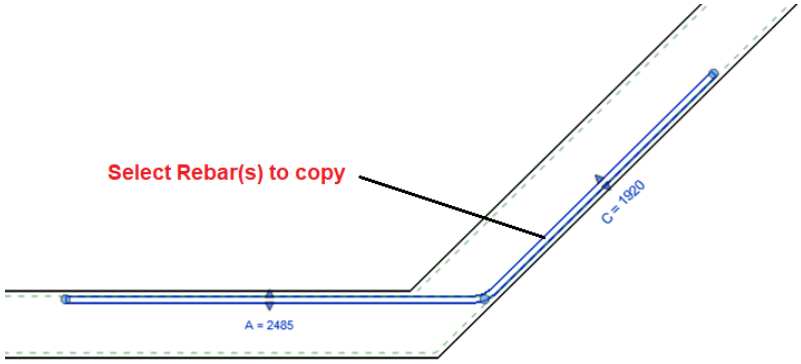
Copyright © Computer and Design Services Limited



1. Select the command Copy Rebars 

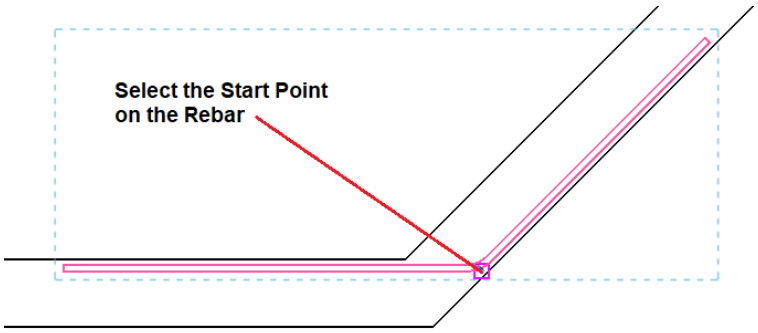
available from the Detailing Panel and then the Copy Rebar 

option.
2. Select the rebar individually or using a selection window to be copied.



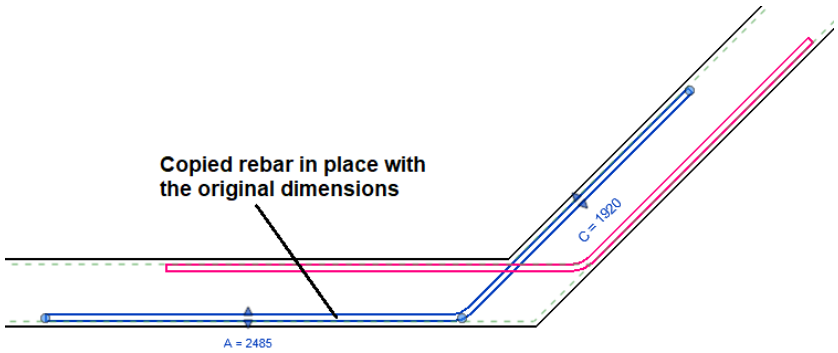
3. Click the Finish 

button.
4. Pick a start position for the Copy Rebars command.



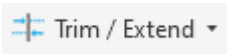
5. Pick an end position for the Copy Rebars command.

Copyright © Computer and Design Services Limited



6. The Rebar has been copied from top face to bottom face of structure. The copied rebar will retain their original properties.

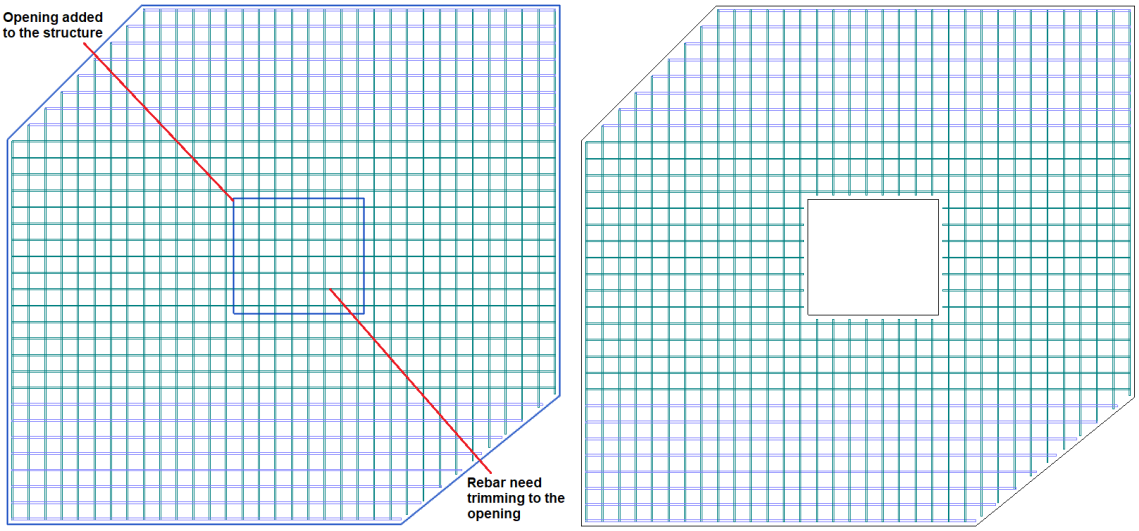
6.6 Trim/Extend

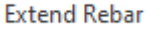
Use the Trim and Extend Rebar 

commands on rebars to change their overall length to a selected boundary. The boundary can be a concrete host, a detail or a model line.

Use the Trim Rebar 

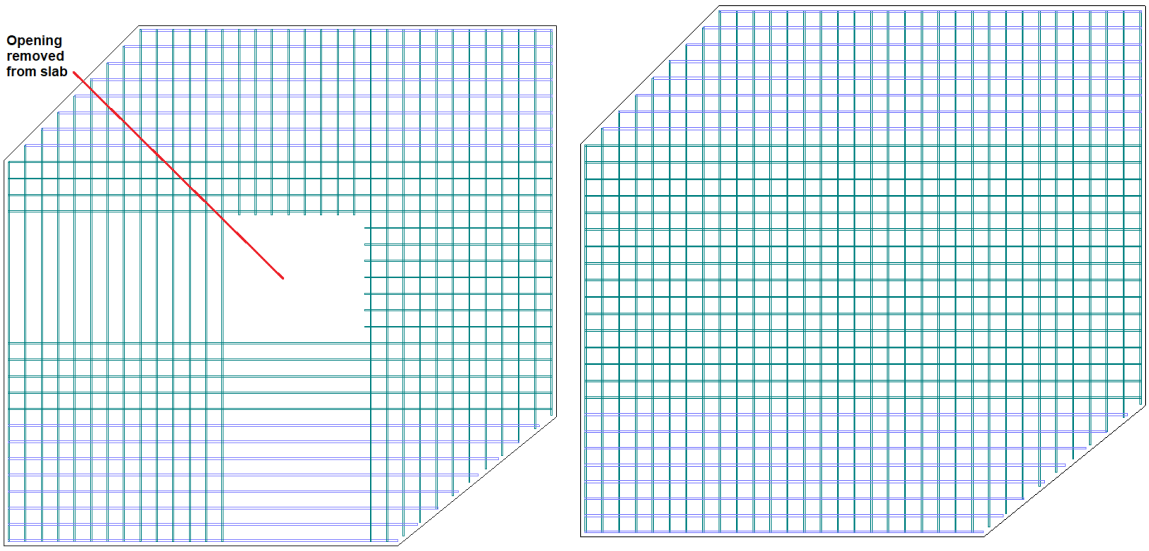
command to decrease the length of the rebar to a selected boundary. The boundary can be a concrete host, a detail or a model line. Select two boundaries to trim the rebar around an opening.



Use the Extend Rebar 

command to increase the length of the rebar to a selected boundary. The boundary can be a concrete host, a detail or a model line.

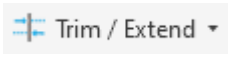
Copyright © Computer and Design Services Limited



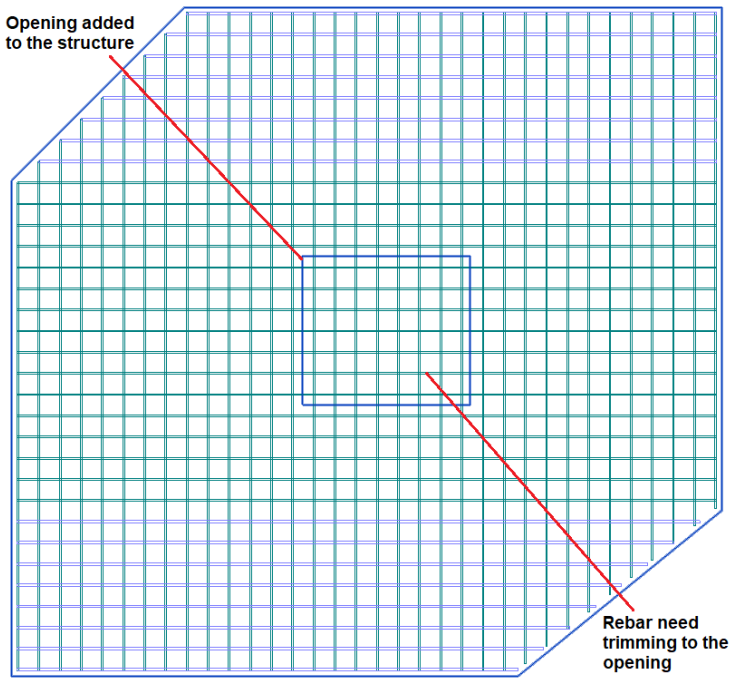
6.6.1 Trim Rebar

Use the Trim Rebar 

command to decrease the length of the rebar to a selected boundary. The boundary can be a concrete host, a detail or a model line. Select four boundaries to trim all the rebar around the opening.

1. Select the Trim/Extend Rebar drop down menu 

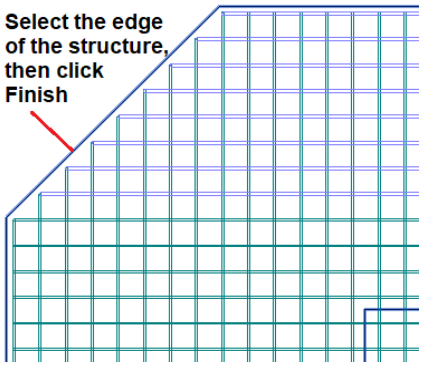
from the Detailing Panel.



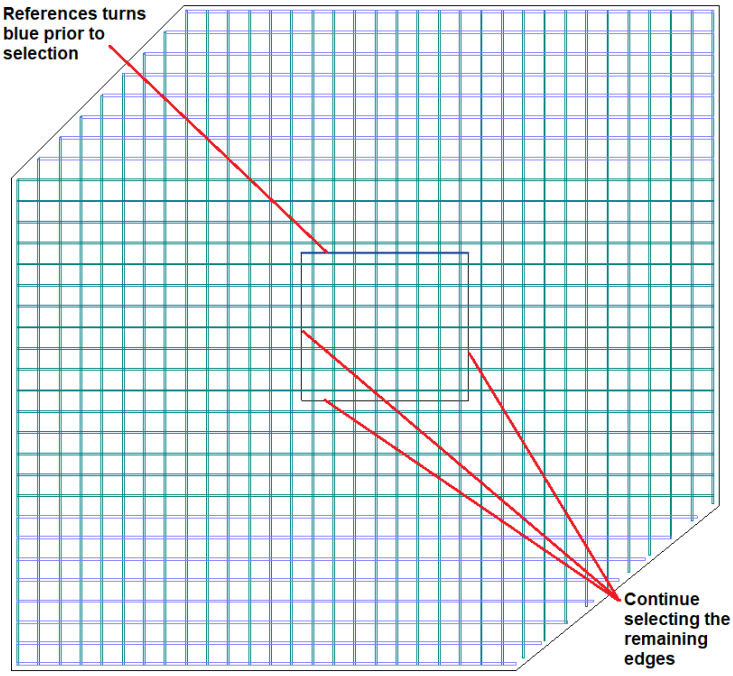
2. Choose the Trim Rebar 

option.

Copyright © Computer and Design Services Limited

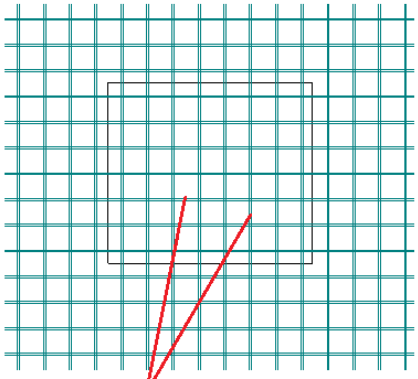


3. Select Host — Select the edge of a concrete host or the opening.
4. Click Finish — Finish
5. Select References as the trim boundary — Select a concrete edge, a model line or a detail line as the boundary for the trimming edge. The entity will turn blue prior to selection. With a rectangular opening all four edges can be selected to trim rebar in both directions at once.

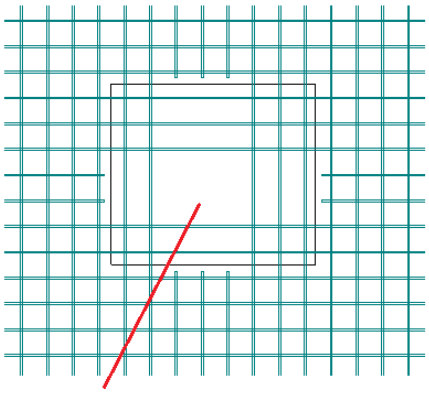


6. Click the Finish Finish button once the edges have been selected.
7. Select the rebar to trim by either picking the rebar individually or selecting the Multiple Multiple button and drawing a line through the rebar to be trimmed.
8. Pick Option — Pick each rebar individually inside the opening to trim.

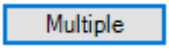
Copyright © Computer and Design Services Limited



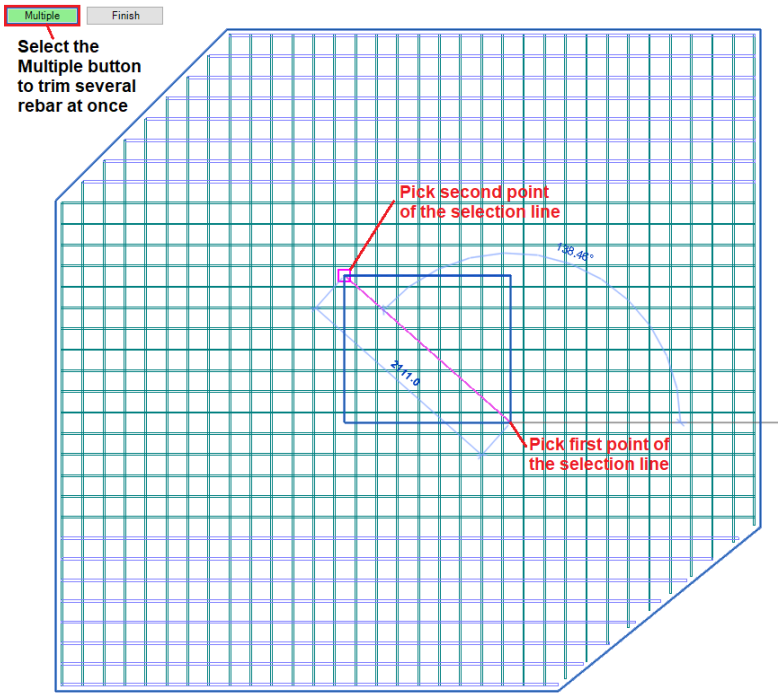
Select rebar to trim individually



Rebar partially trimmed inside the opening

9. Multiple option 

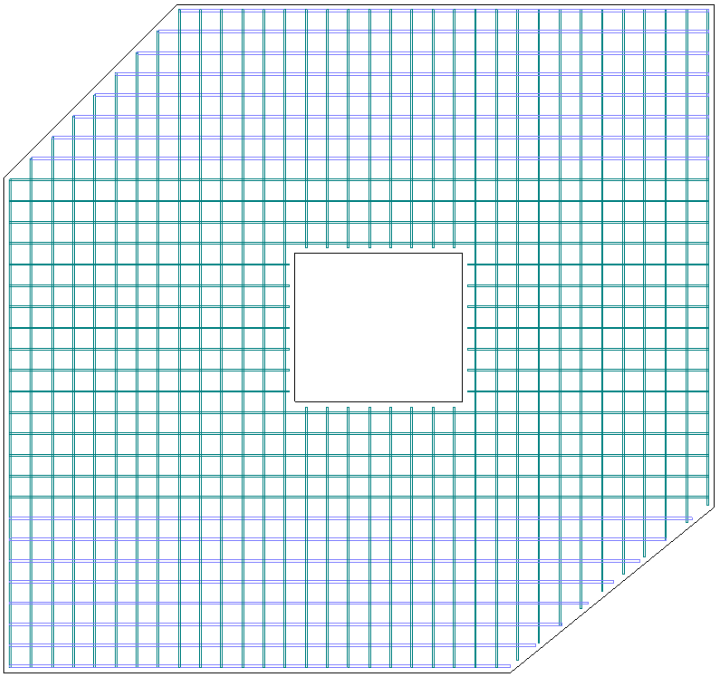
Pick two points diagonally to select all rebar in the opening.



10. Click the Finish 

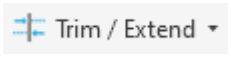
button to complete the command.

Copyright © Computer and Design Services Limited

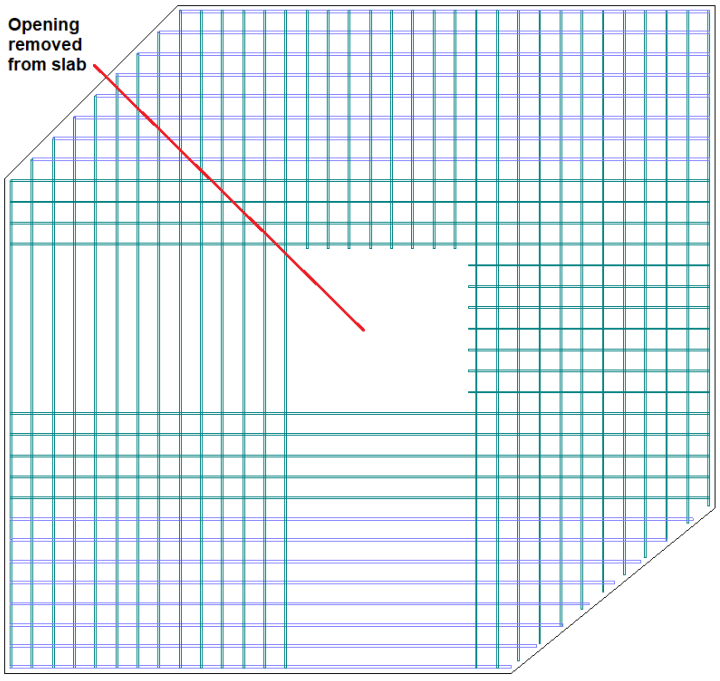


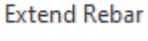
6.6.2 Extend Rebar

In this example, use the Extend Rebar command to extend the rebar where an opening has been.

1. Select the Trim/Extend Rebar drop down menu 

from the Detailing Panel.

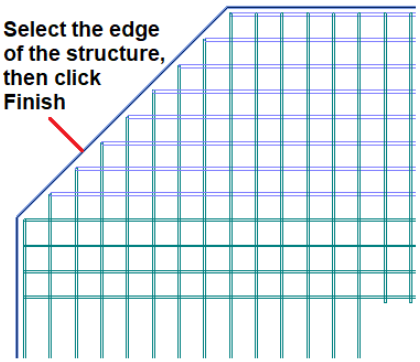


2. Choose the Extend Rebar 

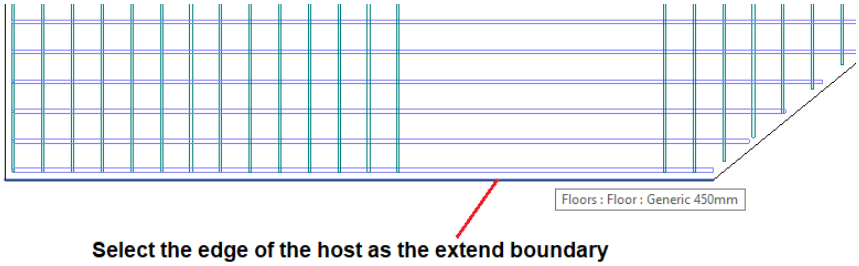
option.
3. Select Host Select the edge of a concrete host, the entity will turn blue prior to selection.

Copyright © Computer and Design Services Limited

4. Click Finish 

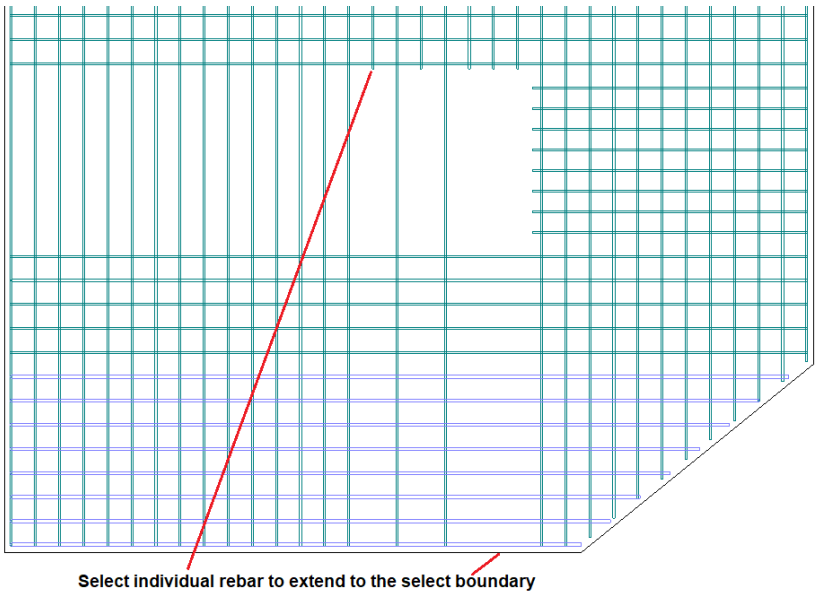


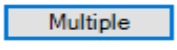
5. Select a reference as the extend boundary Select the edge of the host as the extend boundary



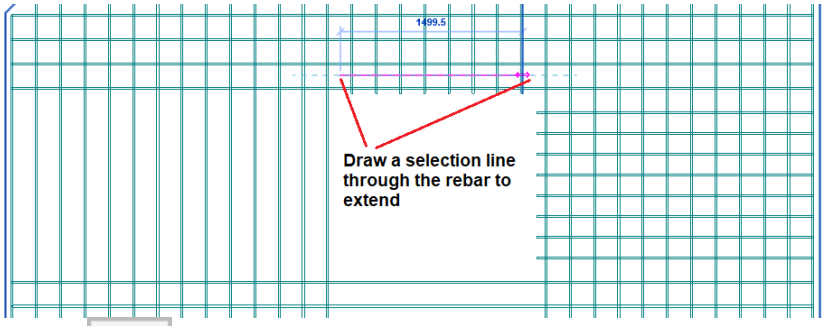
6. Select the rebar to extend by either picking the rebar individually or selecting the Multiple 

button and drawing a line through the rebar to be extended.
7. Pick Option

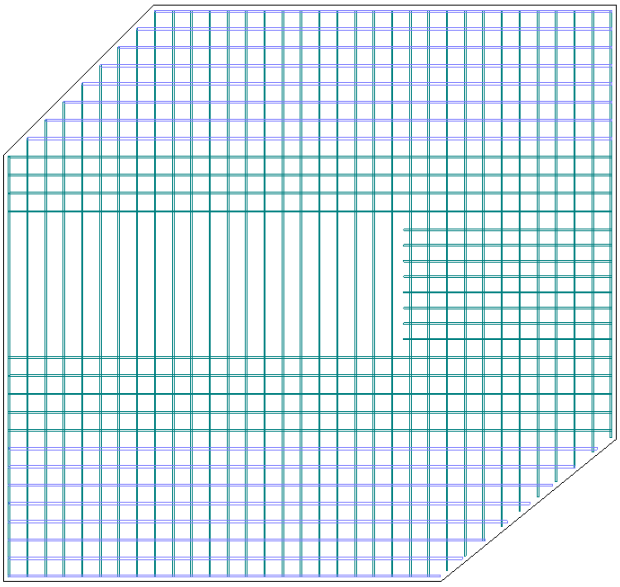


8. Multiple Option 

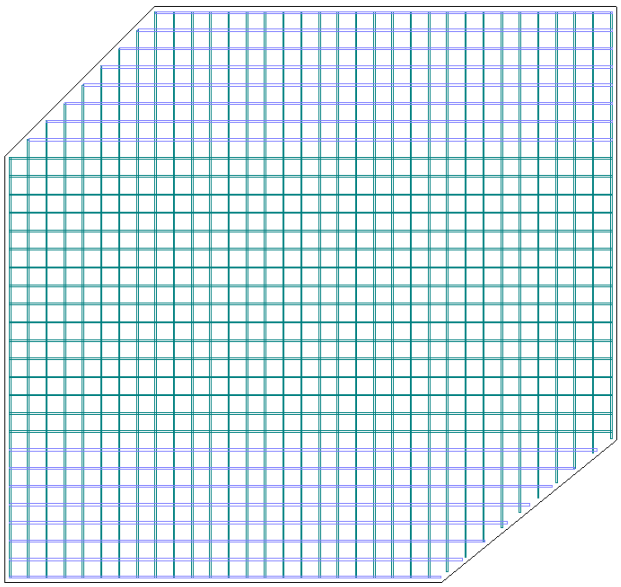
Copyright © Computer and Design Services Limited



9. Click the Finish  button to terminate the command.

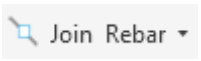


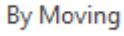
10. Repeat the Extend command to extend the horizontal rebar.

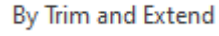


Copyright © Computer and Design Services Limited

6.7 Join Rebar

There are two commands available under the Join Rebar 

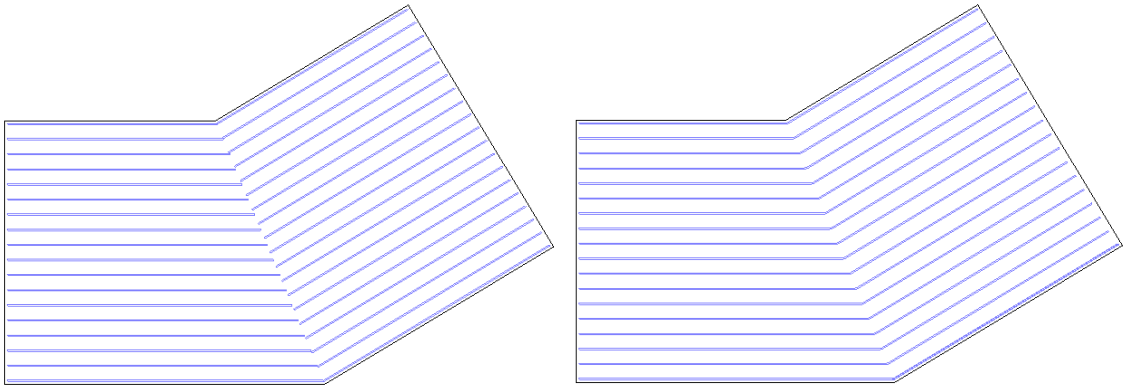
drop down menu, By Moving 

and By Trim & Extend 

. Both of these commands will join rebar together to form a new shape.

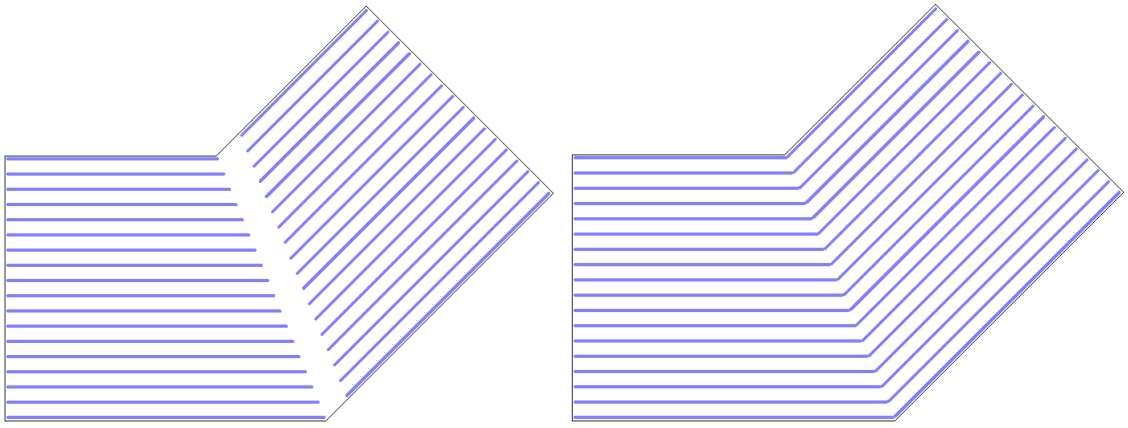
By Moving

Use the By Moving command to join rebar together, the primary rebar are maintained in position and the secondary rebar are moved to form the new shape. The command will automatically amend the shape code, in this case from Shape Code 00 to Shape Code 15. Rebar that has not been joined can be manually deleted to produce the finished detail.



By Trim and Extend

Use the By Trim & Extend command to select rebar in pairs to join together. The function will extend or trim the rebar to meet and automatically amend the shape code, in this case Shape Code 00 becomes Shape Code 15.

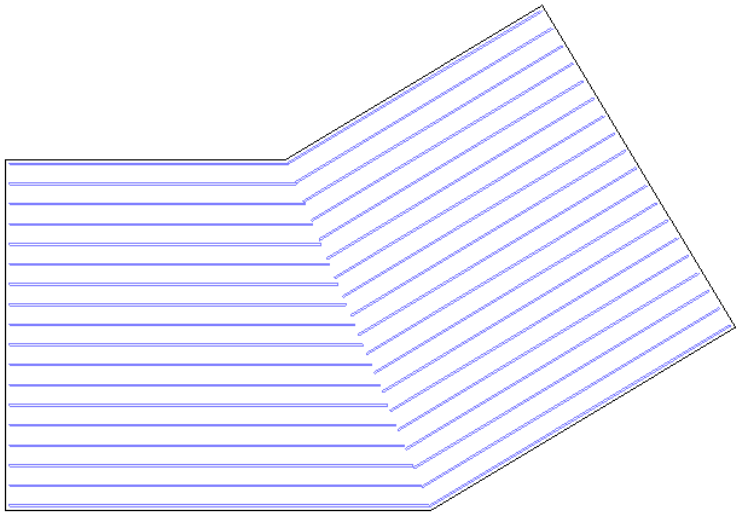


6.7.1 By Moving

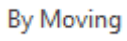
Use the By Moving command to join two bars together to form a new shape. In the example below, the straight bars have been placed in the structure using the Revit® Area Reinforcement command. The By Moving command will join the rebar together by moving the second bar selected to connect

Copyright © Computer and Design Services Limited

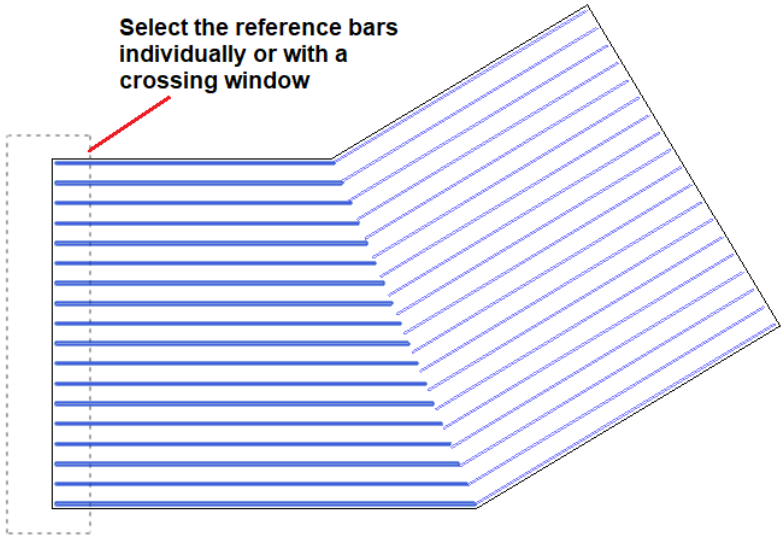
with the first bar selected. In the example below straight rebar have already been placed using the Revit® Area Reinforcement command.



1. Select the Join Rebar 

drop down menu from the Detailing Panel.
2. Choose the By Moving 

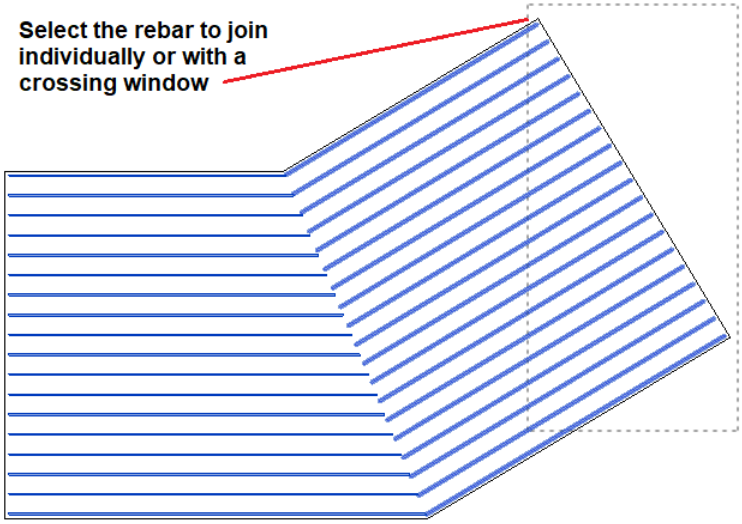
option.
3. Select the Reference Bar(s) – you can select bars individually or by using a crossing window.



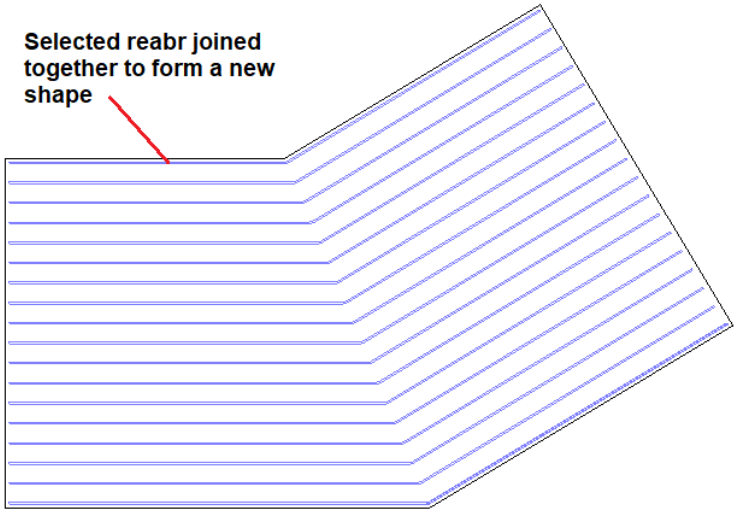
4. Once they have all been selected, click Finish 

button to move to the next stage of the function.
5. Select Rebar to join to Reference Bar(s) - you can select bars individually or by using a crossing window.

Copyright © Computer and Design Services Limited



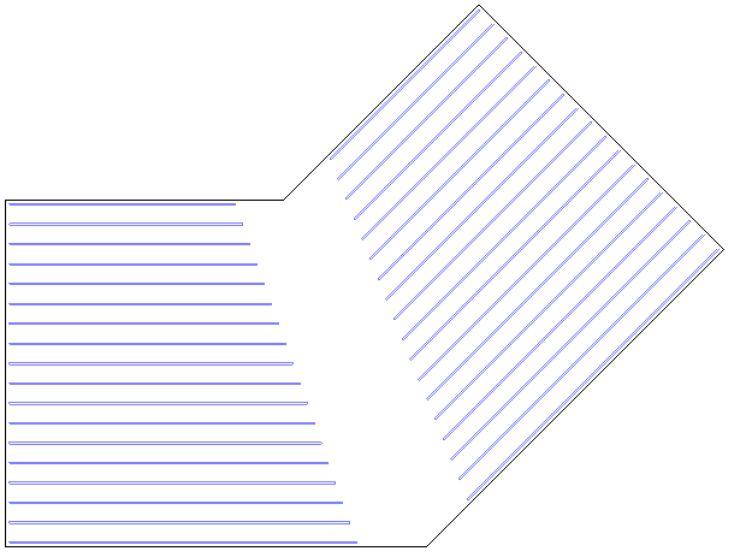
6. Once they have all been selected, click Finish  button to complete the function.



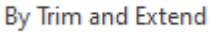
6.7.2 By Trim and Extend

Use the Trim & Extend command to join rebar together, possibly straight bars where there is a change of angle in the structure but a single shape code would still be suitable. In the example below straight rebar have already been placed using the Revit® Area Reinforcement command.

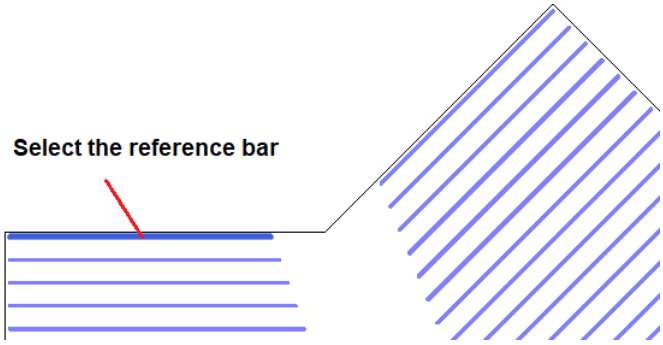
Copyright © Computer and Design Services Limited



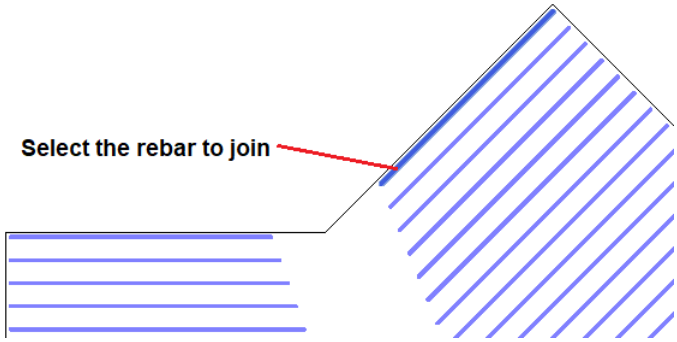
1. Select the Join Rebar 

drop down menu from the Detailing Panel.
2. Choose the By Trim and Extend option 

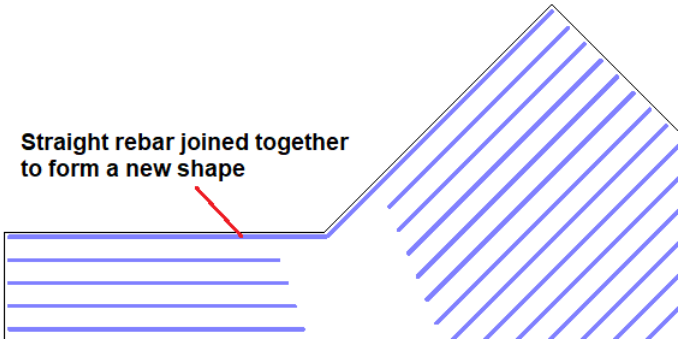
.



3. Select the Reference Bar.

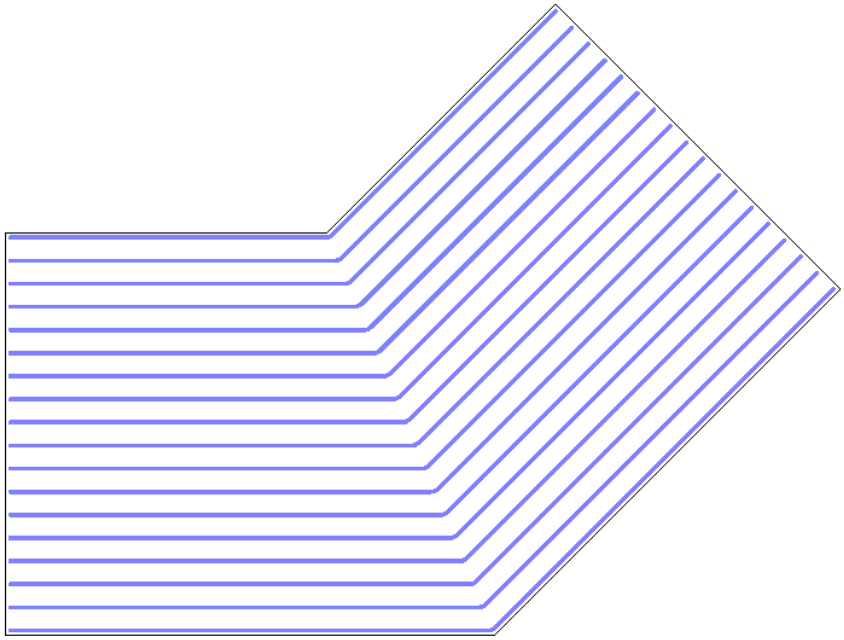


4. Select Rebar to join to Reference Bar.



Copyright © Computer and Design Services Limited

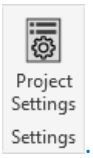
5. Continue selecting pairs of rebar to join together.



6. The command will continue until you press ESC.

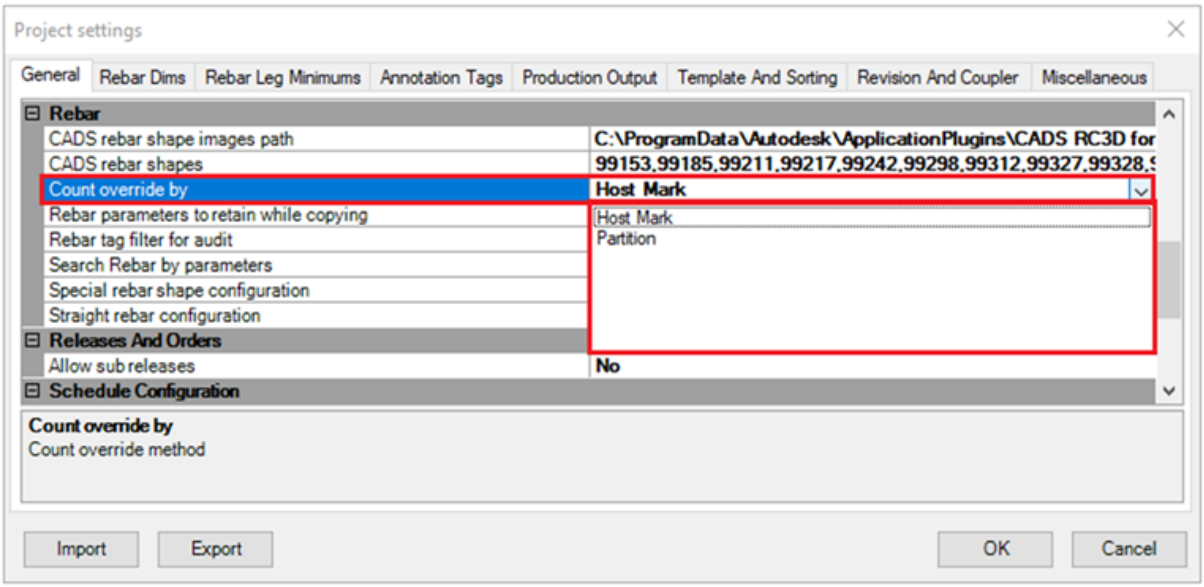
6.8 Count Override

The Count Override 

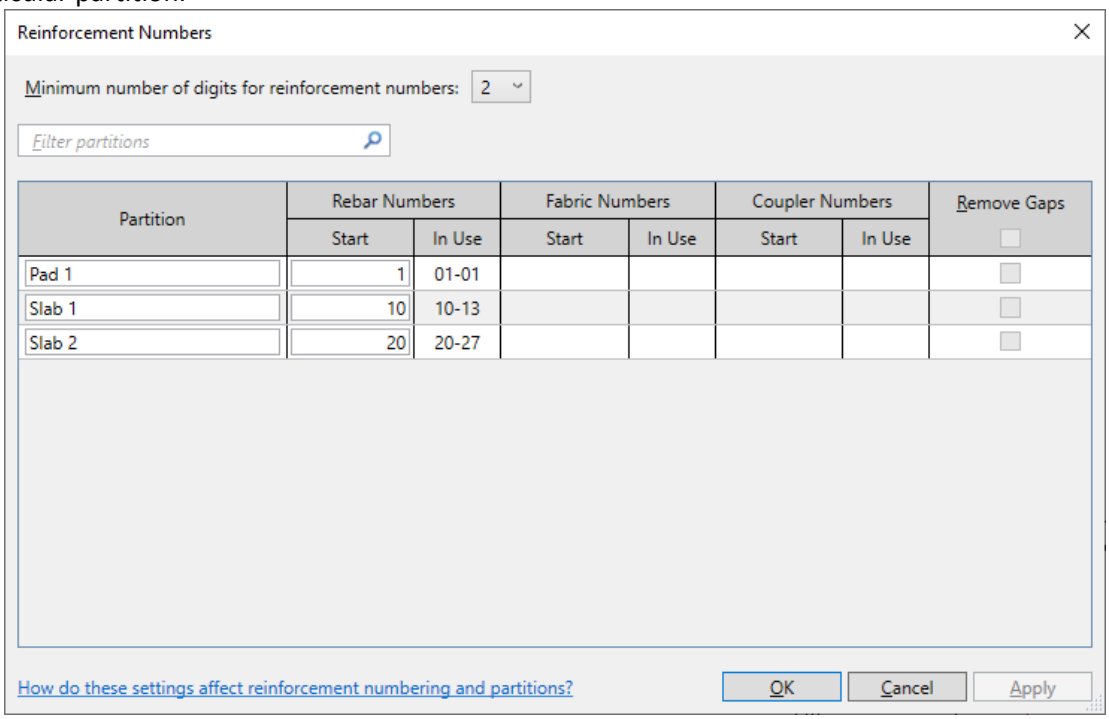
command is located in the Detailing Panel. Use this command to override either the number of hosts (member titles) or partitions counted in the schedule in the number of members column and increase the amount of rebar without placing them in the project. Configure the software to apply the Count Override by either Partition or Host in the Project Settings dialog 

.

Copyright © Computer and Design Services Limited

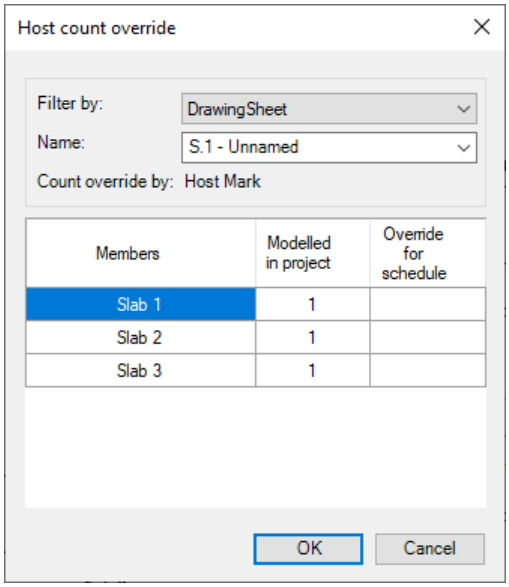


When the Count override is set to Host, this command can be used where several identical hosts exist in a model and it has been decided to add rebar to only one of them. The override is used to multiply the rebar from one host to taking account of the unreinforced hosts in the schedule.
The command can also be used in combination with Partitions to multiply the quantity of Rebar in a particular partition.



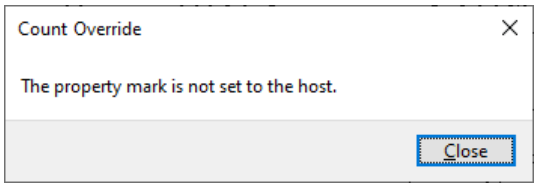
Copyright © Computer and Design Services Limited

Count Override Dialog



- Filter By: All, Drawing Sheet, or Release.
- Name: Displays the names of the item type selected in the Filter By.
- Count Override by: Reads configuration from CADS RC3D Project Settings as either Host Mark or Partition.
- Members: Concrete Host name assigned in Revit® or the Partition Names assigned to Rebar.
- Modelled in Project: No of items with the same host name with rebar added.
- Override for schedule: Type in the total number of hosts with the same host name to be scheduled.

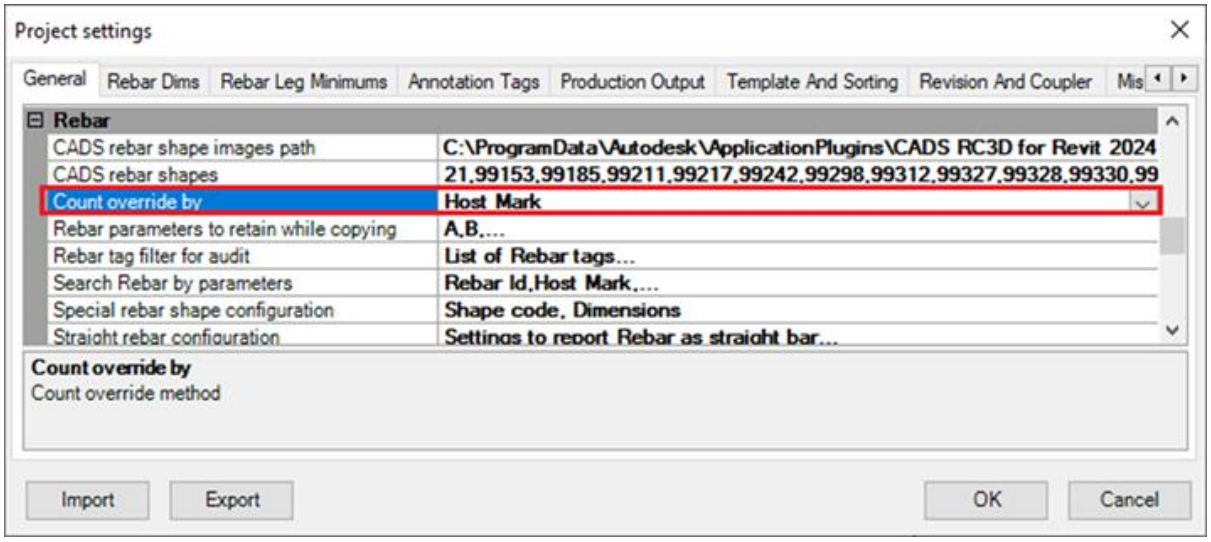
Warning messages will appear if no Host names or Partitions have been defined in the Revit® model and the command is selected.



6.8.1 Count Override by Host Mark

1. Open the Project Setting dialog from the Settings Panel and ensure the Count Override is set to Host Mark.

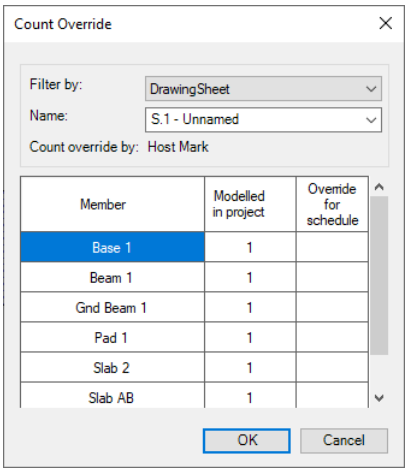
Copyright © Computer and Design Services Limited



2. Click Ok.

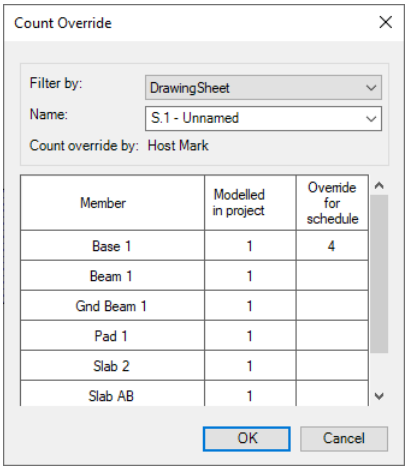


3. Select the Count Override command.
4. The Count Override dialog is displayed, note the Count override by field is set to Host Mark.

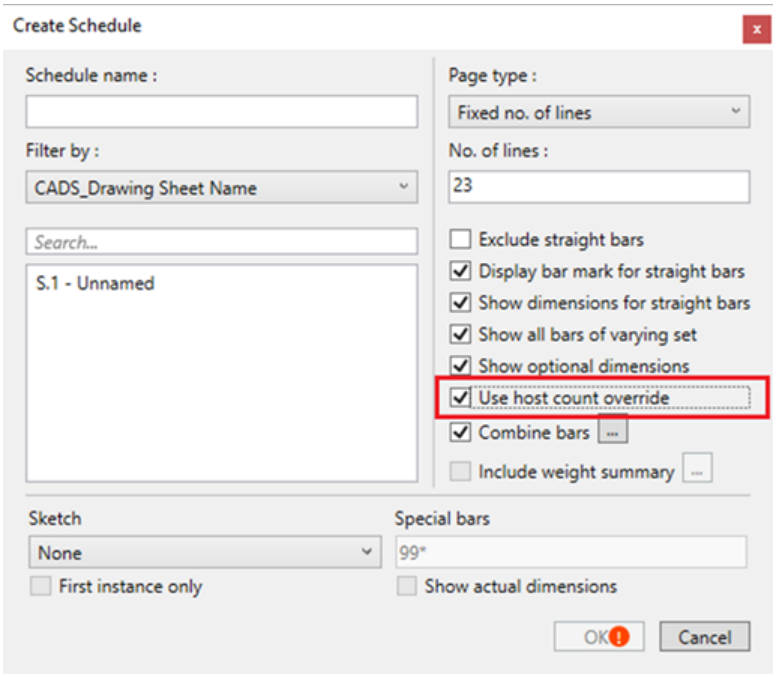


5. Set the Filter by: as required, in this instance Drawing Sheet. This means the Count Override will be applied when the schedule is created for the specific drawing sheet and the Use Count override option is selected in the schedule dialog
6. Type in the Override for the displayed Host Marks / Members, in this instance 4 for the Footing.

Copyright © Computer and Design Services Limited

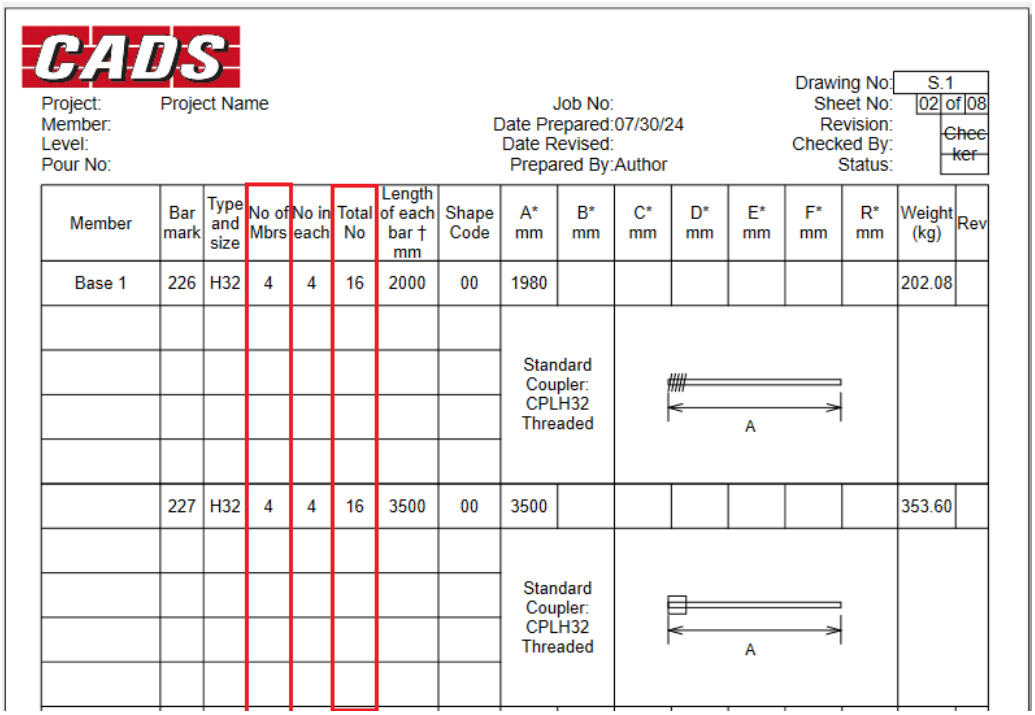


7. Click OK.
8. Open the RC3D for Revit® Schedule dialog.
9. When you place/print/export the schedule for the specific drawing sheet, select the Use Host count override option.



10. The number of members reflects the values in the Count Override dialog.

Copyright © Computer and Design Services Limited



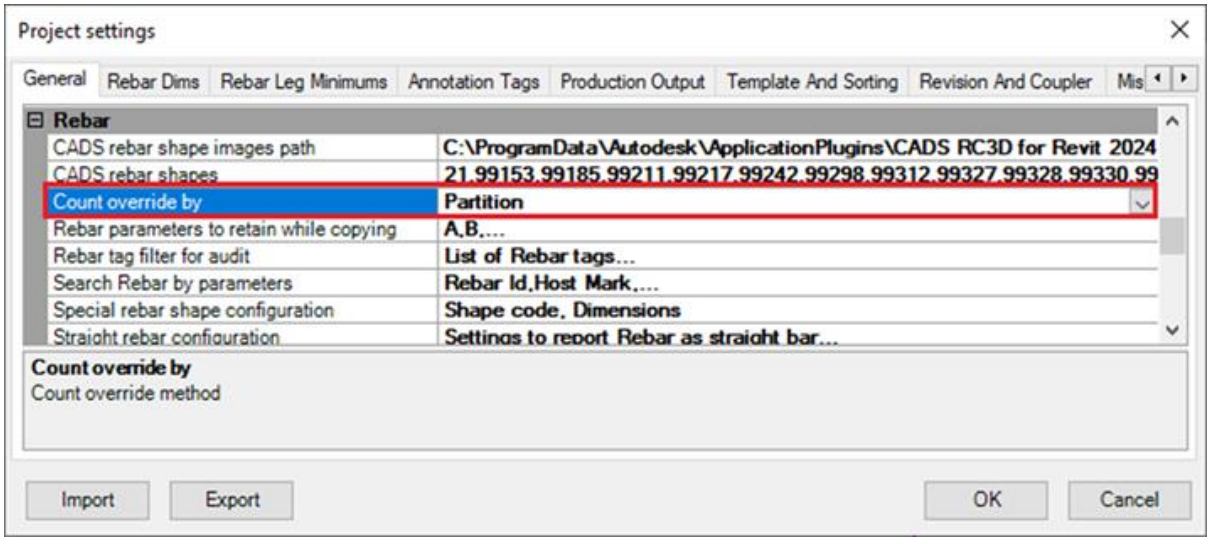
Project: Project Name
Member:
Level:
Pour No:
Job No:
Date Prepared:07/30/24
Date Revised:
Prepared By:Author
Drawing No: S.1
Sheet No: 02 of 08
Revision:
Checked By: Checker
Status:

Member	Bar mark	Type and size	No of Mbrs	No in each	Total No	Length of each bar † mm	Shape Code	A* mm	B* mm	C* mm	D* mm	E* mm	F* mm	R* mm	Weight (kg)	Rev
Base 1	226	H32	4	4	16	2000	00	1980							202.08	
								Standard Coupler: CPLH32 Threaded		A						
	227	H32	4	4	16	3500	00	3500							353.60	
								Standard Coupler: CPLH32 Threaded		A						

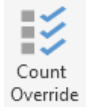
6.8.2 Count Override by Partition Workflow

Prior to using the Count Override refer to information on Assigning Rebar to a Partition as well

1. Open the Project Setting dialog from the Settings Panel and ensure the Count Override is set to Partition.

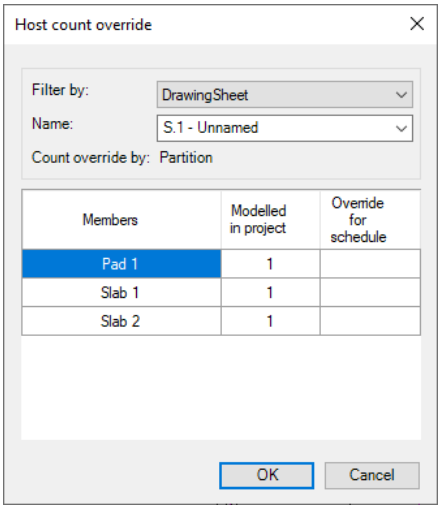


2. Click Ok.

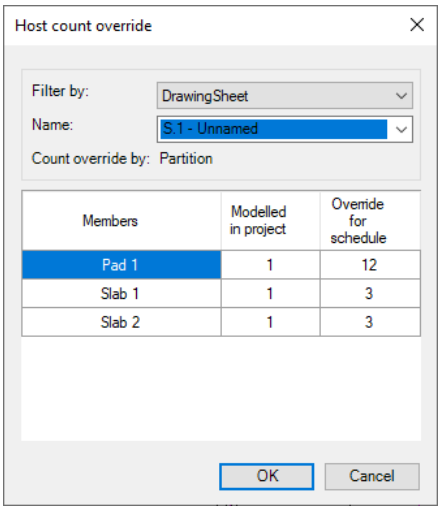


3. Select the Count Override command from the Modify Panel.
4. The Count Override dialog is displayed, note the Count override by field is set to Partition

Copyright © Computer and Design Services Limited

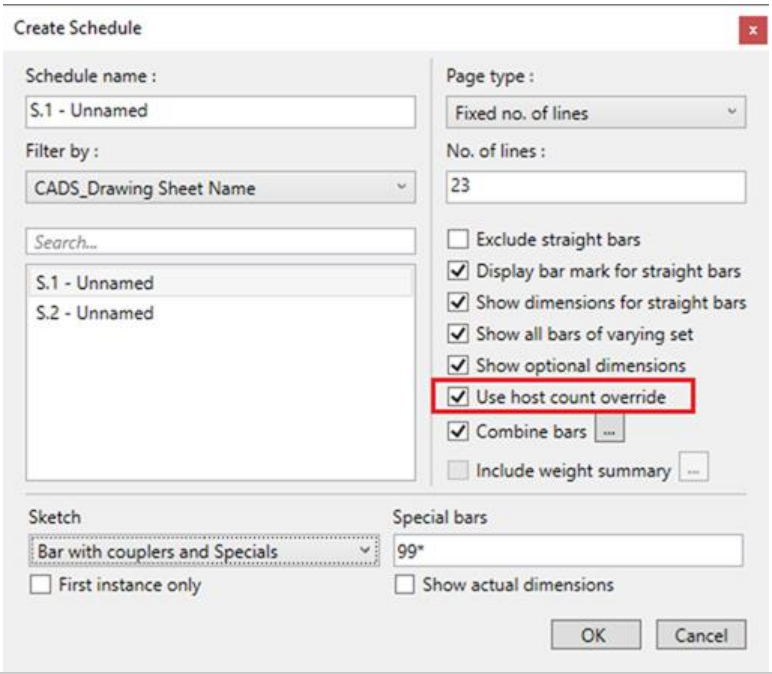


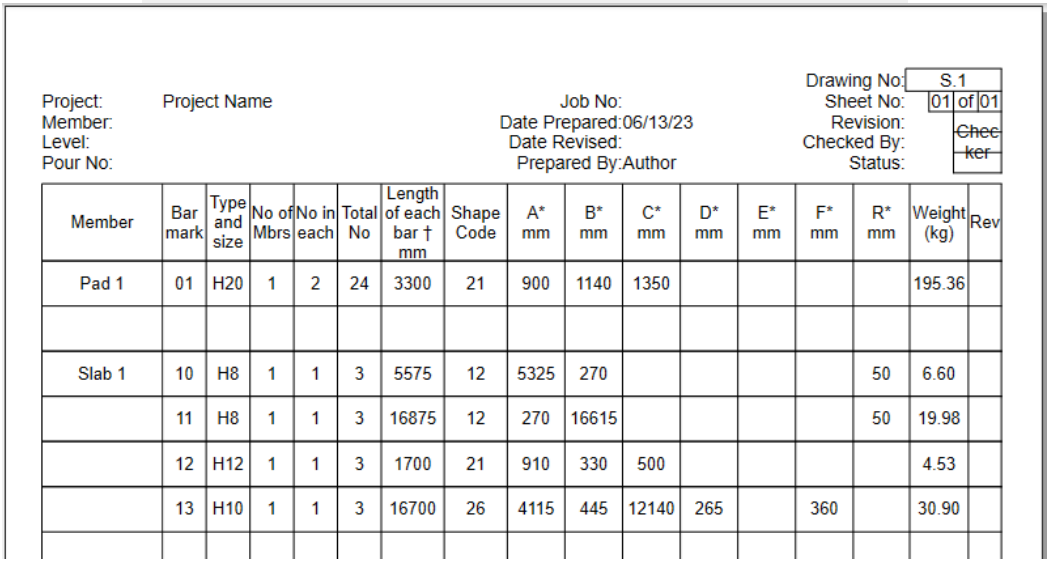
5. Set the Filter by: as required, in this instance Drawing Sheet. This means the Count Override will be applied when the schedule is created for the specific drawing sheet and the Use Count override option is selected in the schedule dialog.
6. Type in the Override for the Partitions displayed in the List, in this instance the Number has been set to 12 for the Pad partition and 3 for the Slab Partitions.



7. Click ok.
8. Open the Schedule dialog and Create a New Schedule
9. Even if you use the Use Count Override option in the Create / Edit Schedule dialogs the Number in Each column will not update.

Copyright © Computer and Design Services Limited

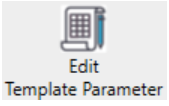




Project: Project Name
Member:
Level:
Pour No:
Job No:
Date Prepared:06/13/23
Date Revised:
Prepared By:Author
Drawing No: S.1
Sheet No: 01 of 01
Revision:
Checked By:
Status:

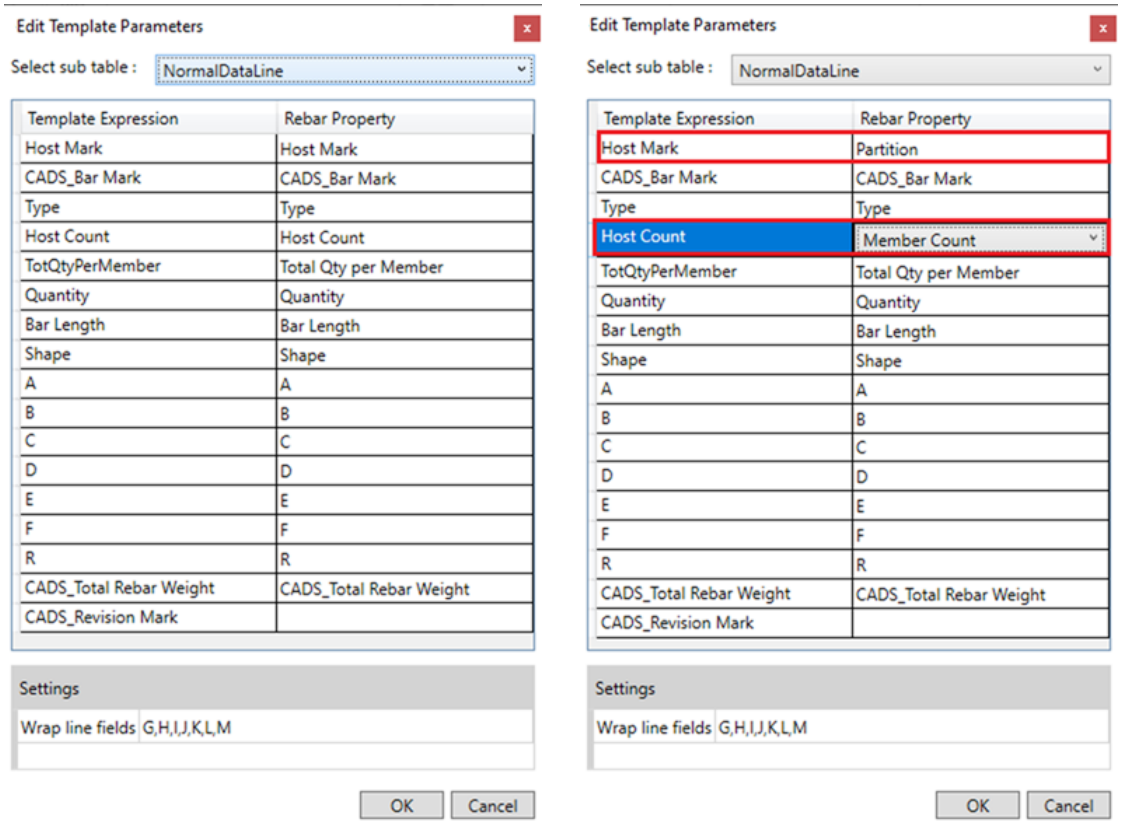
Member	Bar mark	Type and size	No of Mbrs	No in each	Total No	Length of each bar † mm	Shape Code	A* mm	B* mm	C* mm	D* mm	E* mm	F* mm	R* mm	Weight (kg)	Rev
Pad 1	01	H20	1	2	24	3300	21	900	1140	1350					195.36	
Slab 1	10	H8	1	1	3	5575	12	5325	270					50	6.60	
	11	H8	1	1	3	16875	12	270	16615					50	19.98	
	12	H12	1	1	3	1700	21	910	330	500					4.53	
	13	H10	1	1	3	16700	26	4115	445	12140	265		360		30.90	

10. The Parameters for the Member and No of Members columns will need amending to display the Partition name and the Override Count for the Partition.



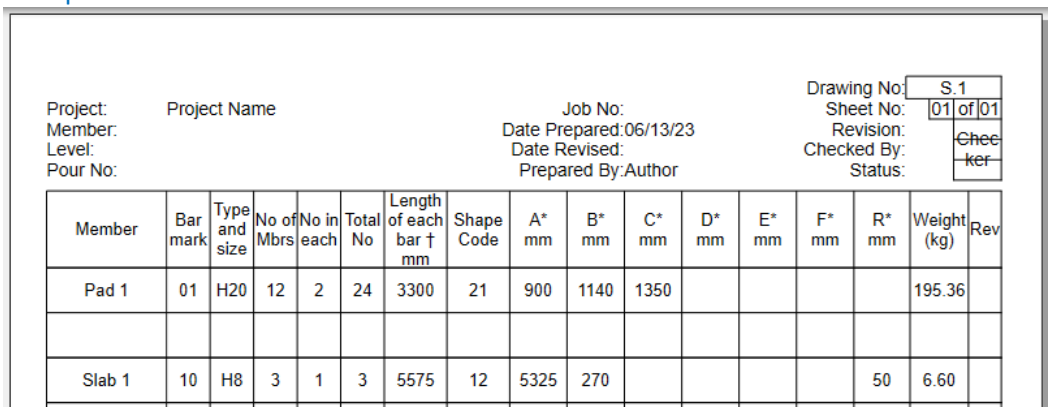
11. Select the Edit Template Parameter command
12. Set the Sub Table to show NormalDataLine
13. Change Host Mark to read Partition
14. Change Houst Count to read Member Count
15. Click OK

Copyright © Computer and Design Services Limited



16. The schedule updates to show the Partition Name and the Count Override.

Note: The Partition title will show on every line unless you have a specific template customised to display **Partitions** instead of **Host Marks** in the members Column refer to Customising RC3D Excel Report Templates for details.

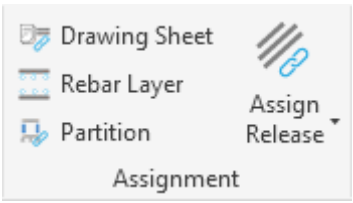


Project: Project Name
Member:
Level:
Pour No:
Job No:
Date Prepared:06/13/23
Date Revised:
Prepared By:Author
Drawing No: S.1
Sheet No: 01 of 01
Revision:
Checked By: ~~Checker~~
Status:

Member	Bar mark	Type and size	No of Mbrs	No in each	Total No	Length of each bar † mm	Shape Code	A* mm	B* mm	C* mm	D* mm	E* mm	F* mm	R* mm	Weight (kg)	Rev
Pad 1	01	H20	12	2	24	3300	21	900	1140	1350					195.36	
Slab 1	10	H8	3	1	3	5575	12	5325	270					50	6.60	

Copyright © Computer and Design Services Limited

7 Assignment Panel

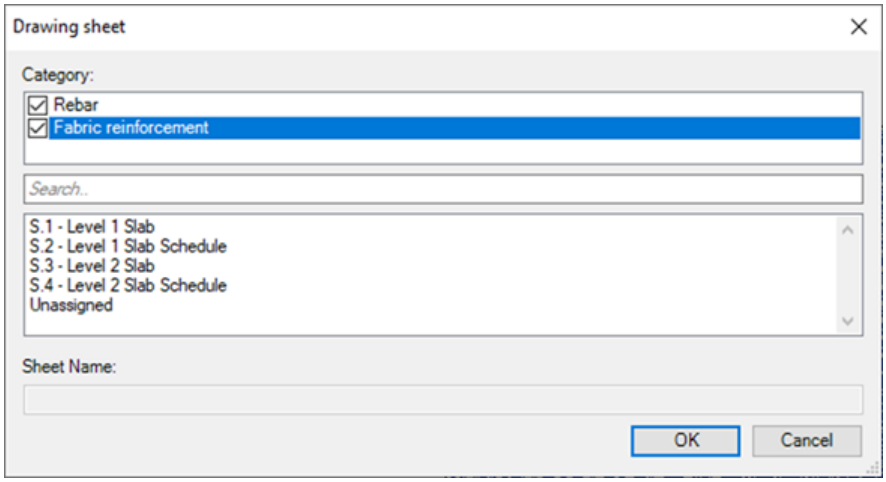


The commands on the Assignment Panel are used to Assign rebar to Drawing Sheets, Reinforcement Layers in the Structure and Rebar Bar Mark Numbering Partitions. Rebar can be assigned to Production Releases and those Production Releases Managed.

7.1 Drawing Sheet

The Drawing Sheet 

command is located in the Assignment Panel.



Use this command to Assign Rebar or Fabric Reinforcement in the project to a predefined Drawing Sheet. This allows the rebar or fabric reinforcement to be divided between different drawing sheets across the project. Rebar and fabric reinforcement can be selected and assigned to the same or different Drawing Sheets, the layout of the data will differ accordingly. The dialog allows the user to deselect either rebar or fabric reinforcement if they are accidentally selected and not to be assigned to the drawing sheet. A search function has been included to aid the location of a Drawing Sheet.

The schedules can then be created in the Schedule dialog based on the Drawing Sheet Assignment, printed, exported to PDF or Excel; placed on a drawing sheet as required, Show Schedule.

7.1.1 Assign Rebar or Fabric Reinforcement to a Drawing Sheet

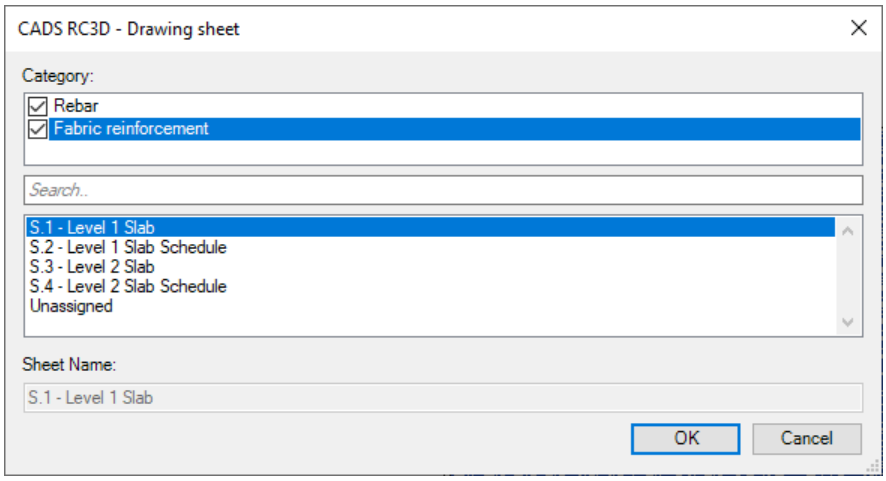
1. Select the Drawing Sheet 

command.
2. The command prompts the user to select the Rebar and/or Fabric Reinforcement to Assign to the Drawing Sheet. Select Rebar individually or use a window selection.
3. Press the Finish 

button to terminate selection.

Copyright © Computer and Design Services Limited

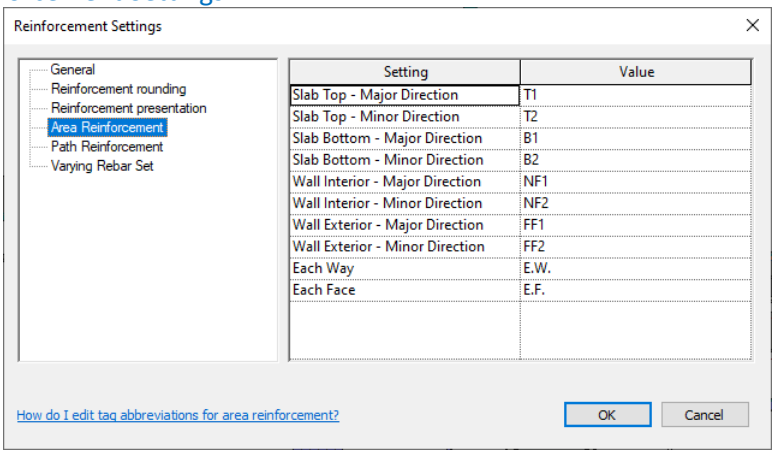
4. The dialog box shown below is displayed. Select one of the predefined drawing sheets from the list.



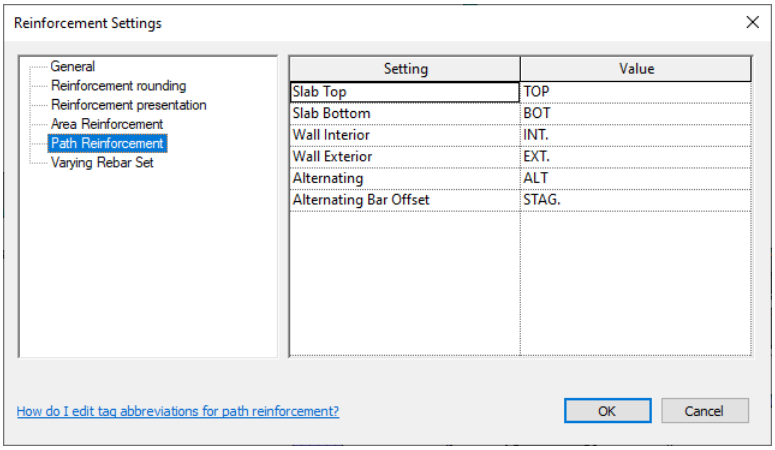
5. If no Revit drawing sheets have been predefined, then the only selection will be the “Unassigned” option.
6. Press OK to assign selected rebar to the drawing sheet.
7. Rebar property “CADS Drawing Sheet Name” will be updated with the selected drawing sheet name for the rebar.

7.2 Rebar Layer

The Rebar (Rebar set, Area Reinforcement and Path Reinforcement) and Reinforcement Fabric can be assigned to a specified or preconfigured reinforcement layer.
The Revit® Reinforcement Settings configuration allows the user to specify layer names for the Area and the Path Reinforcement Settings.

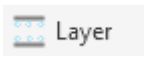


Copyright © Computer and Design Services Limited

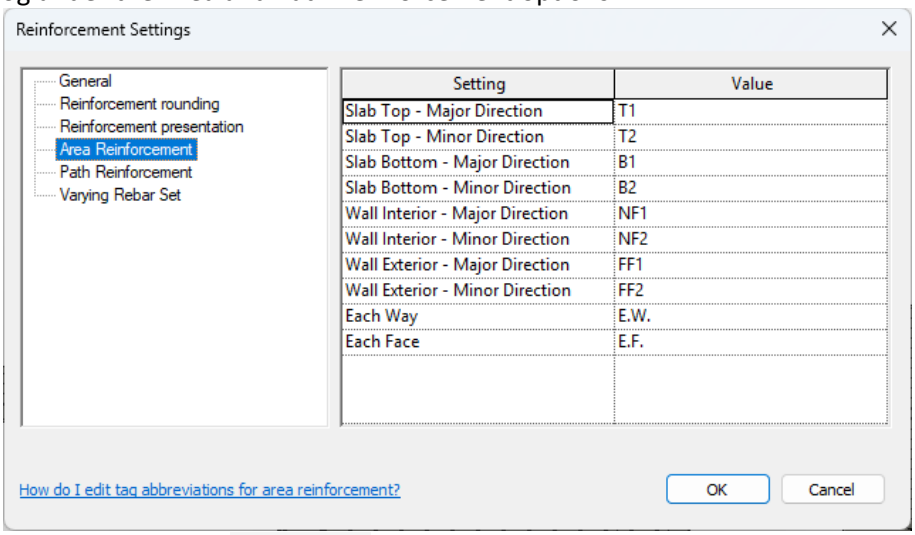


If individual rebar or a selection of rebar are selected that have been added to the model manually a dialog is displayed where an existing layer can be assigned or a new layer typed in.

7.2.1 Assigning Layers to Area and Path Reinforcement

Use the Layer command 

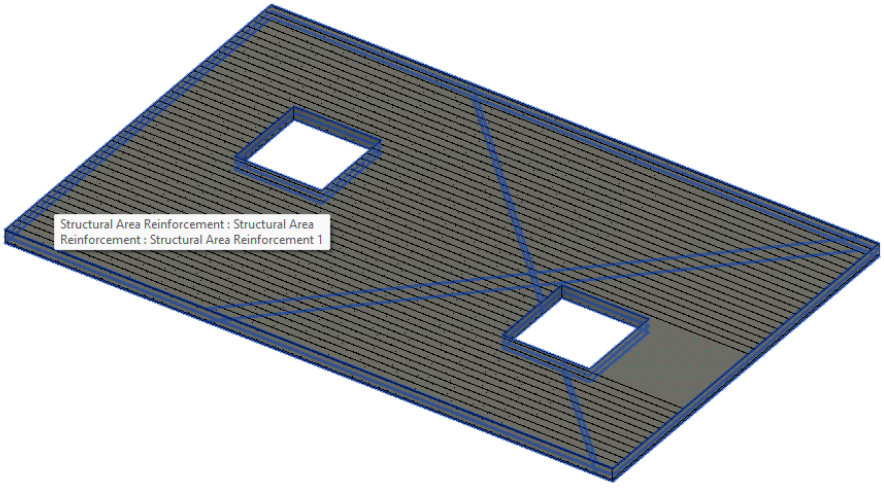
to assign Area and Path Reinforcement Layers to allow easy control of the visibility settings. The Layer names have been predefined in the Revit Reinforcement Settings dialog under the Area and Path Reinforcement options.



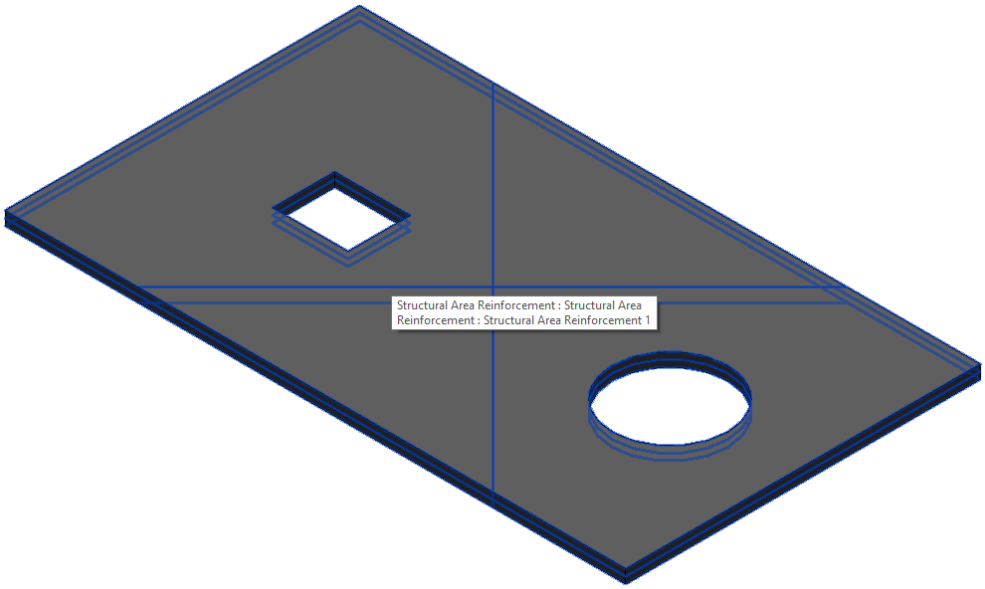
1. Select the Assign Layer 

option.
2. Select one or more reinforcement systems in the same plane of the structure, such as bottom or top layer.

Copyright © Computer and Design Services Limited

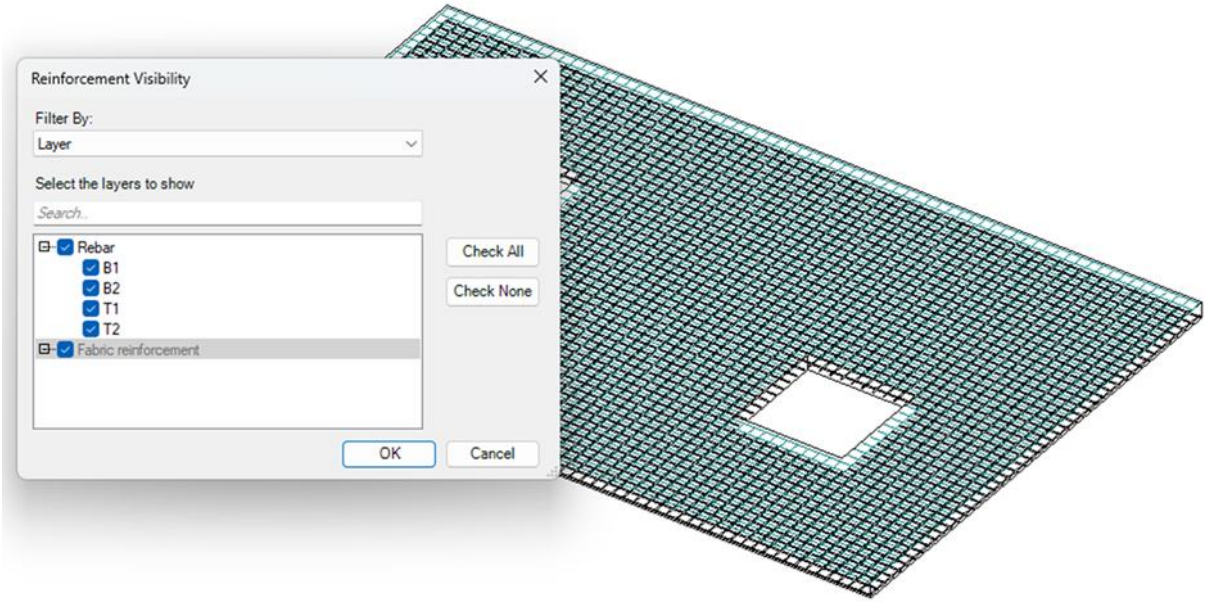


3. Click Finish  button to complete the command.
4. The layers defined in the Revit® reinforcement settings are automatically assigned to the rebar when the system is selected using the Assign Reinforcement Layer command.



5. The Area System and Path Systems are automatically removed, as shown below.
6. Select the By Filter – Visibility command from the RC3D for Revit Modify Panel.
7. Set the Filter By: to Layer.
8. This reveals the Rebar Layers as shown in the dialog below;

Copyright © Computer and Design Services Limited



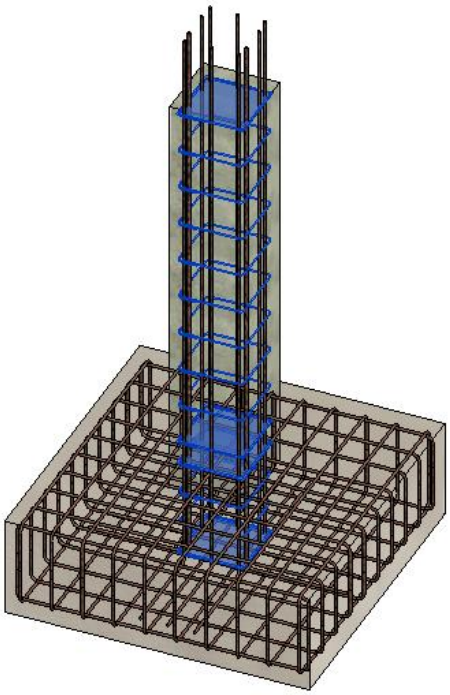
7.2.2 Assigning Layers to Regular Rebar

Use the Layer command 

to assign Rebar to Reinforcement Layers to allow easy control of the visibility settings.

1. Select the Assign Reinforcement Layer 

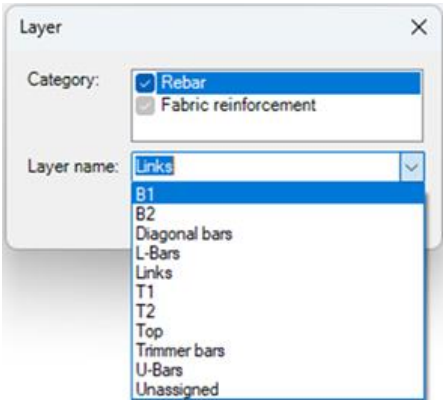
option.
2. Select one or more reinforcement sets in the same plane of the structure.



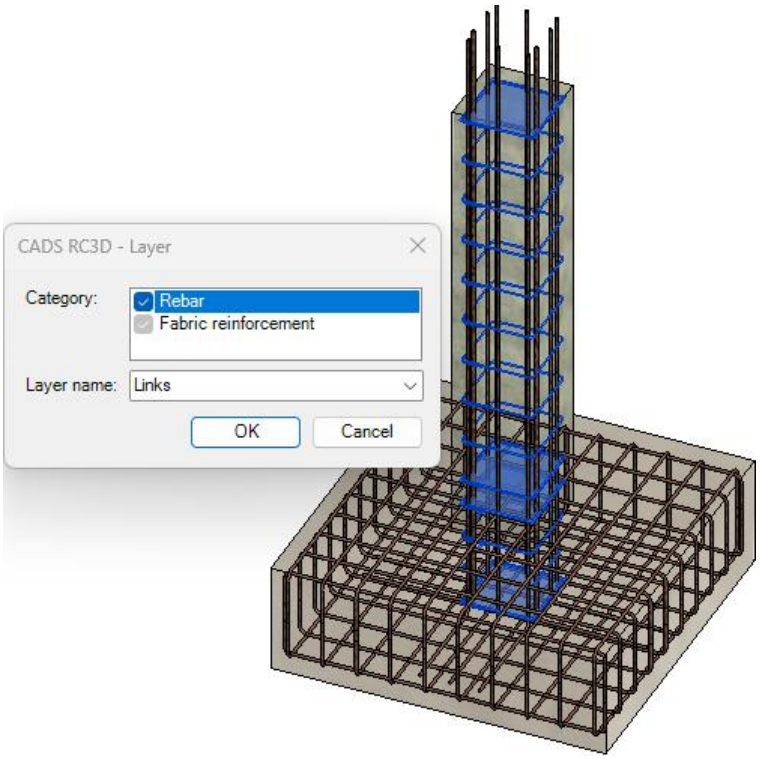
3. Click Finish.

Copyright © Computer and Design Services Limited

4. If the Rebar selected was created using the Revit® Structural Rebar command the dialog box below is displayed.

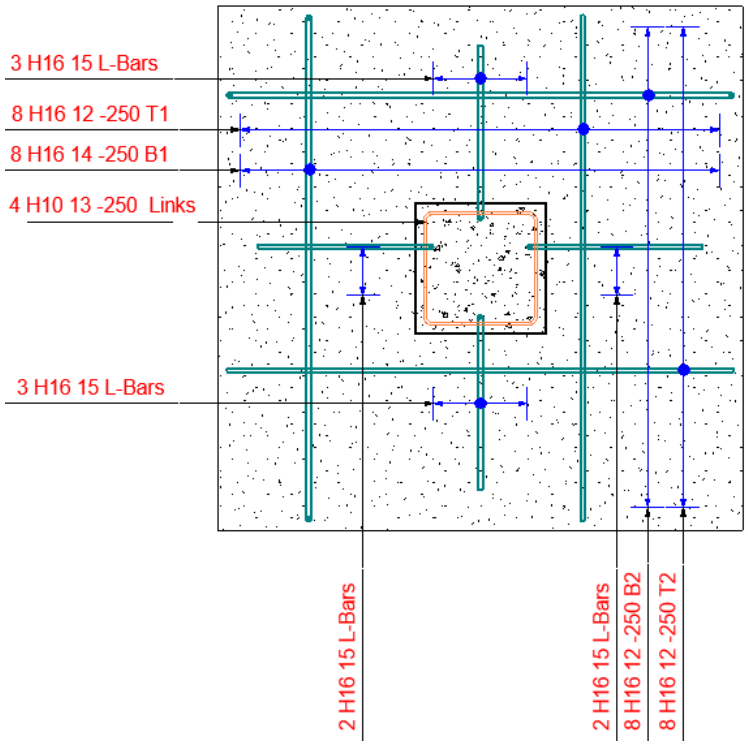


5. Select an existing layer from the drop-down menu or type in a new layer assignment.



6. Click OK to complete the command.
7. The Bar Annotation Labels include the Rebar Layer

Copyright © Computer and Design Services Limited



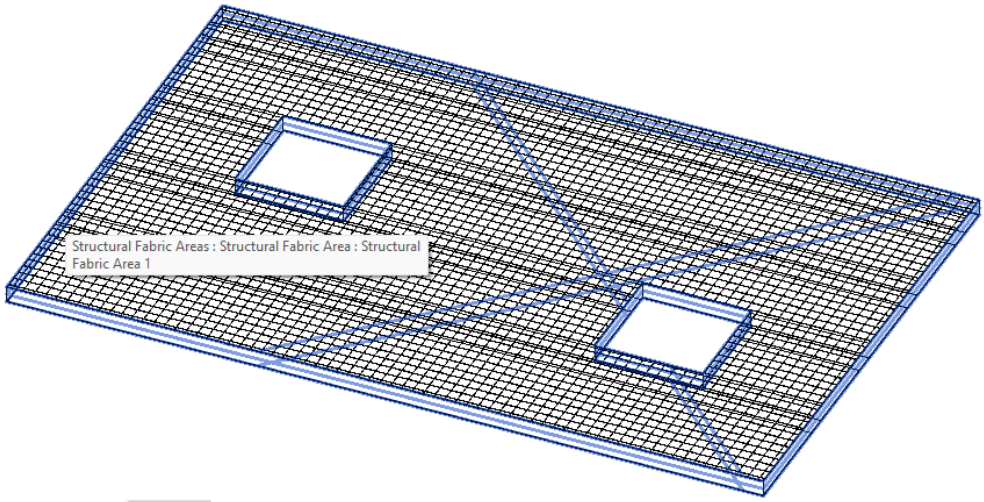
7.2.3 Assigning Layers to Fabric Reinforcement

Use the Layer command 

to assign Fabric to Reinforcement Layers to allow easy control of the visibility settings.

1. Select the Assign Reinforcement Layer 

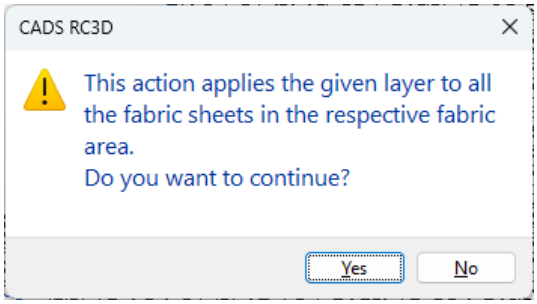
option.
2. Select one or more fabric systems in the same plane of the structure.



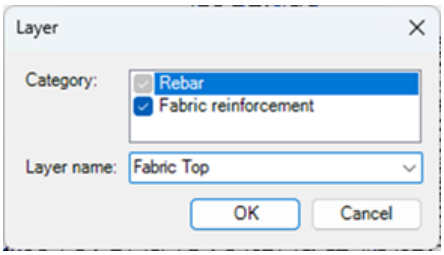
1. Click Finish 

2. If the Fabric selected was created using the Revit® Fabric Area command the dialog box below is displayed.

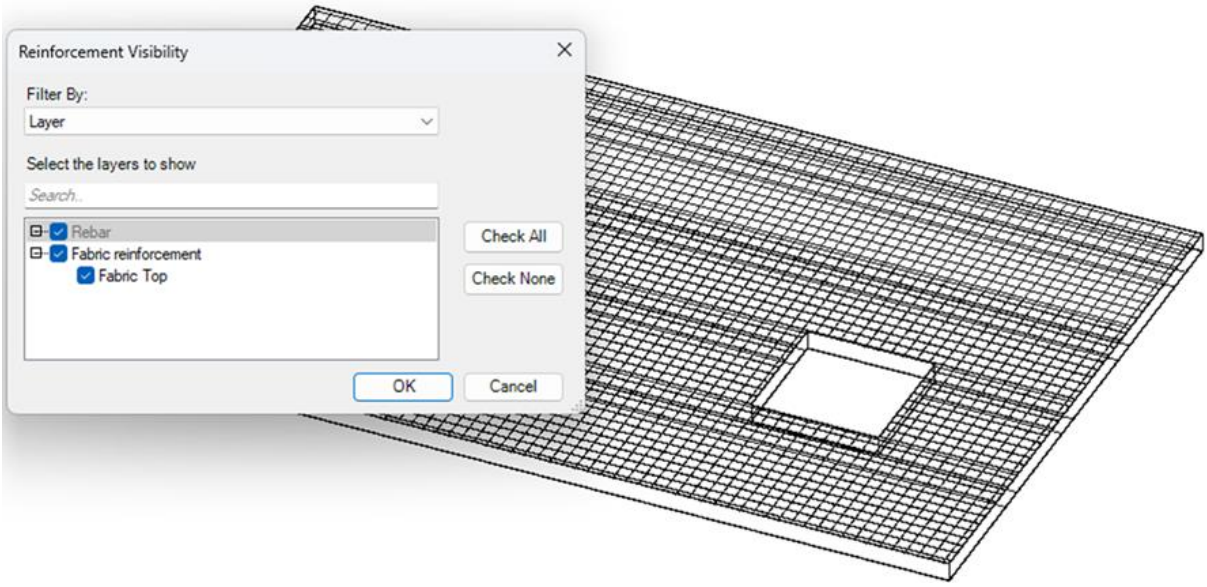
Copyright © Computer and Design Services Limited



3. Answer No to cancel the function
4. Answer Yes to continue



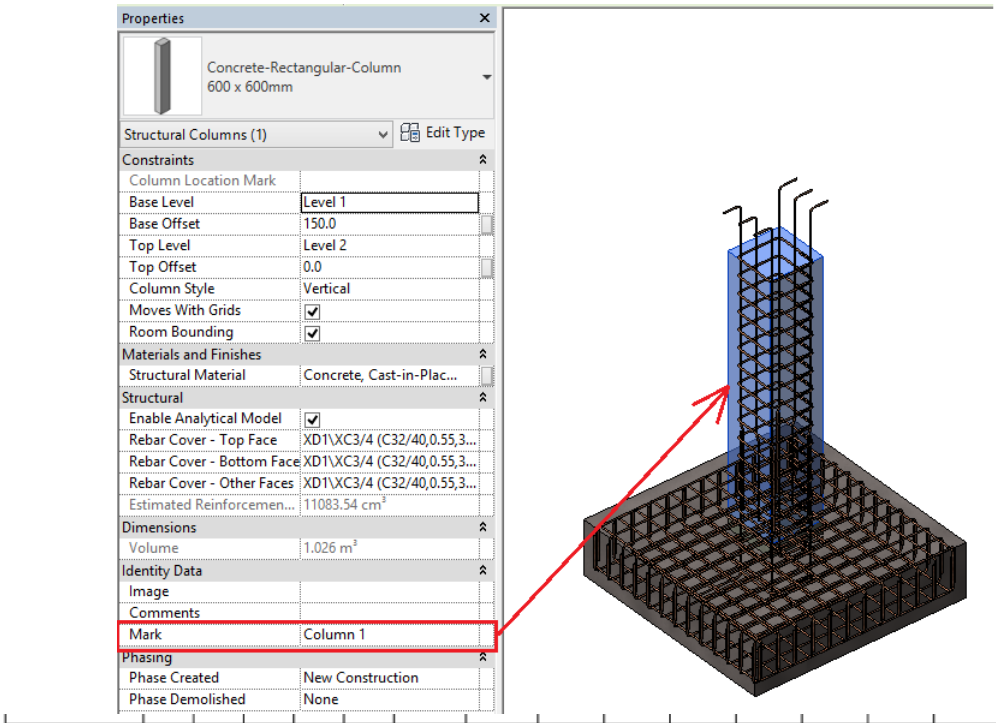
5. The Layer dialog is displayed, type in the Layer Name to assign and click OK.
6. Select the By Filter – Visibility command from the RC3D for Revit Modify Panel.
7. Set the Filter By: to Layer
8. This reveals the new Fabric Reinforcement Layer “Fabric Top”.



7.3 Assigning Member Titles (Host Mark) for Scheduling

Select a Structural Element in the Model, go to the Properties Panel and type in a Description into the Host Mark Field. This parameter will be used to populate the Member Title that will appear in the Schedule. Any bars modelled in the structure will be automatically assigned to the Host Mark (Member Title).

Copyright © Computer and Design Services Limited



Column 1	1412	H10	1	26	26	2025	51	390	540	(130)	(130)				32.50
	1413	H16	1	10	10	4025	11	550	(3500)						63.60

7.4 Partition

Use the Assign to Partition 

command to assign a partition to selected Rebar and/or Fabric Reinforcement in the project. New Rebar Partition & Fabric Partition names can be typed into the dialog they so not exist on the list of Partitions on the drop-down menu. Rebar and Fabric can be assigned to the same Partition name if required.

The command will assign a Partition to Grouped rebar as well. The bar marks of the rebar can be controlled by Partition in the Reinforcement Numbers dialog.

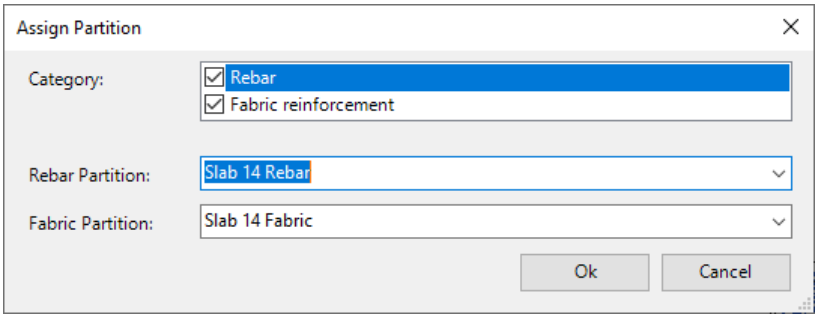
7.4.1 Assign Rebar to Partitions

1. Select the Partitions 

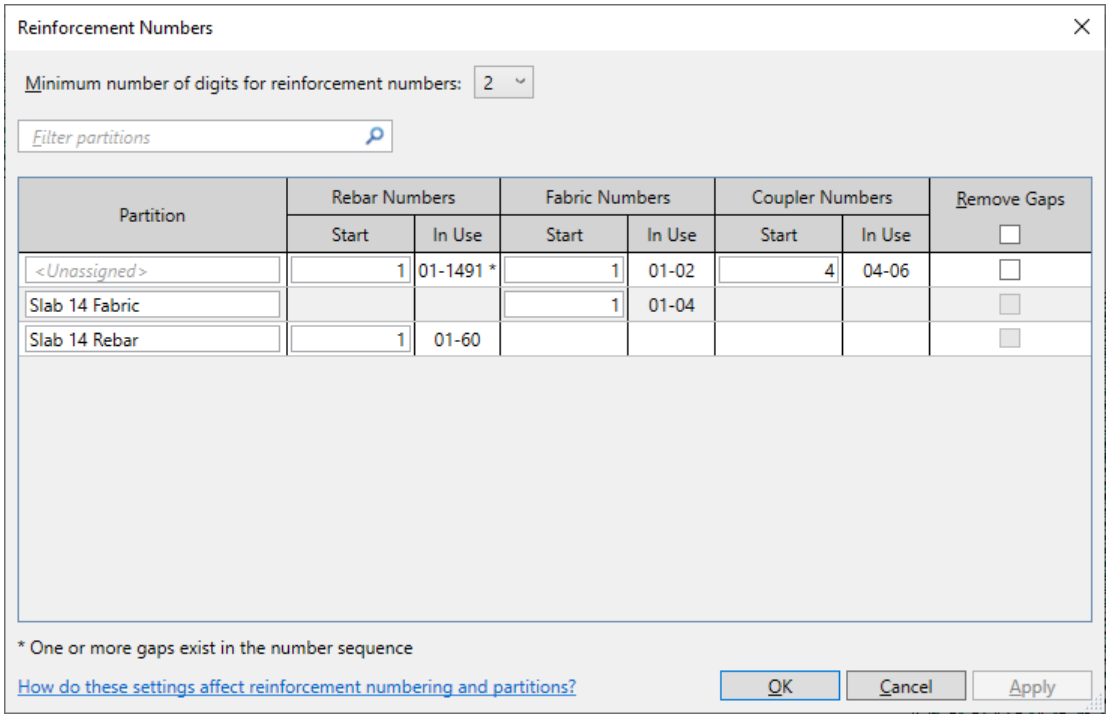
command from the Assignment Panel.
2. Select the Rebar and/or Fabric Reinforcement to assign to a Partition
3. Click Finish 

.
4. The Assign Partition dialog is displayed.
5. Under the Category, if required deselect either Rebar or Fabric Reinforcement if one or the other has been accidentally selected.
6. Select the Partition from the drop down list or type in a new partition name.

Copyright © Computer and Design Services Limited



7. Click OK.
8. The Partitions will be displayed in the Revit Reinforcement Numbers dialog. The start numbers of the reinforcement in each Partition can be edited so no duplicate bar mark numbers are present in the project.



9. The Partitions can be used in conjunction with the Count Override Command to reduce the amount of rebar detailed in a project.

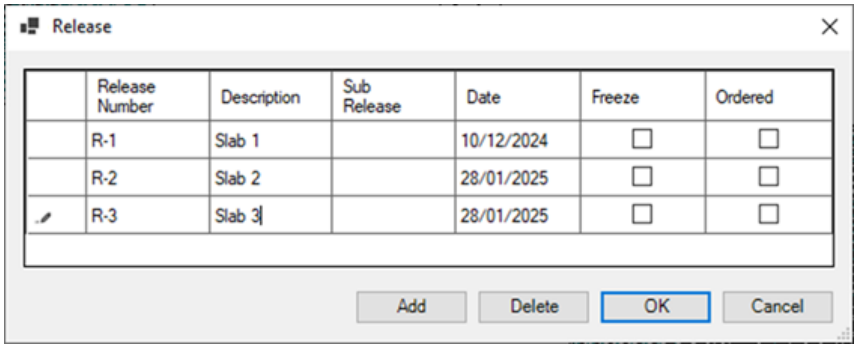
7.5 Assign Releases

Assign & Manage Rebar Releases using the Assign Release 

commands, so that the Rebar and/or Reinforcement Fabric can be ordered for production.

The Manage Release command is used to create Releases, assign the release a name, a description and a release date.

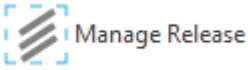
Copyright © Computer and Design Services Limited



The Assign Rebar to Release can be configured in the Project Settings dialog to Freeze Rebar in the model when the Rebar and/or Fabric Reinforcement is assigned to the Release or when the Release is ordered.

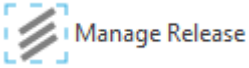
When the Rebar and/or Fabric Reinforcement is ordered, the release is locked to prevent further Rebar and/or Fabric Reinforcement being assigned. The user can generate Bar Lists and Production Output files based on Releases.

7.5.1 Manage Release

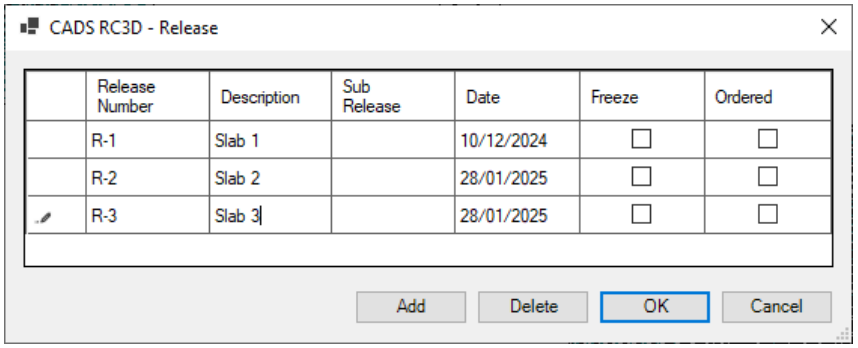
Use Manage Releases 

command to create Releases for the Rebar Production Output. The command is located in the Assign Releases 

drop down menu inside the Assignment Panel.

1. Select the Manage Assign Releases 

command.



- **Release Number:** Specify release name.
- **Description:** Specify release description.
- **Sub Release:** The additional “sub release” field in the release dialog allows releases to be split based on the sub releases.
- **Date:** Specify date the release is ordered. By default, the date displays the release created date.
- **Freeze:** Tick to freeze Rebar when assigning the release.
- **Ordered:** Specify whether the release is ordered for production or not.
- **Add:** Select the Add Button to create a new Release in the list.
- **Delete:** Select the Delete Button to remove a Release from the list. If Rebar

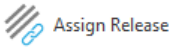
Copyright © Computer and Design Services Limited

has already been assigned to the Release it cannot be removed.

Please Note: This is currently a manual update. Once the status is set as ordered the release properties or rebar assigned to the release cannot be edited.

2. Create the Releases using the Add button
3. Type in the Release Number, Description, Sub-Release if required, select the date and whether the Rebar should be frozen when the rebar is assigned to the release.
4. Click OK to close the dialog.

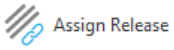
7.5.2 Assign Release

The Assign Release 

command is located in the Assign release 

drop down menu inside the Assignment Panel. Use this command to assign Rebar and/or Fabric Reinforcement to a release, ready for rebar production.

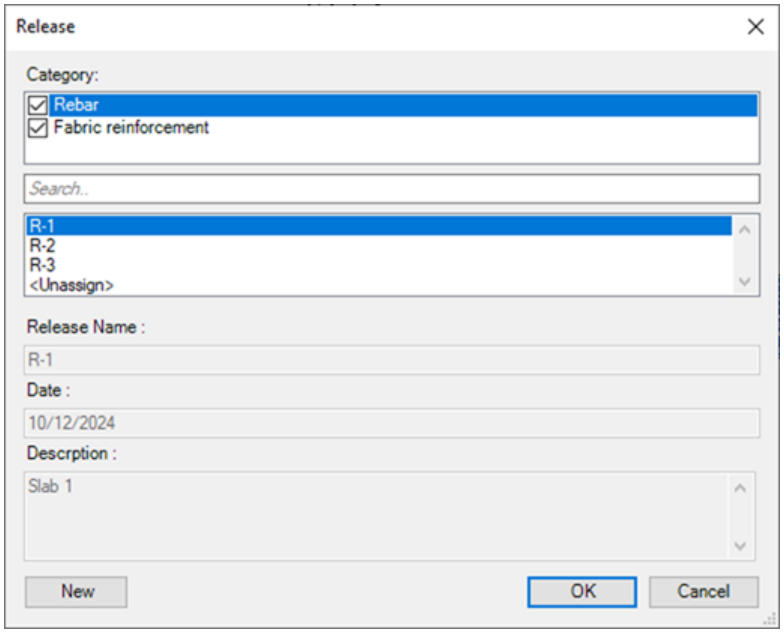
The dialog allows the user to deselect either rebar or fabric reinforcement if they are accidentally selected and not to be assigned to the Release. A search function has been included to aid the location of a Release where there is a long list.

1. Select the Assign release 

command from the Assign Release 

drop down menu on Assignment Panel.
2. The command prompts to select Rebar and/or Fabric Reinforcement in the project to Assign to the Release. Select Rebar and/or Fabric Reinforcement individually or use a window selection.
3. Press the Finish 

button to complete the selection.
4. The dialog box shown below is displayed.
5. Under the Category if required deselect either Rebar or Fabric Reinforcement if one or the other has been accidentally selected.
6. Select a release from the list of predefined releases.



Copyright © Computer and Design Services Limited

7. If no Releases have been predefined, select the “<New…> option to open the “Releases” dialog to create a new release for the assignment see Manage Release for further information.
8. Press “OK” to assign rebar to the selected release that updates the rebar property “CADS Release Name”.

Copyright © Computer and Design Services Limited

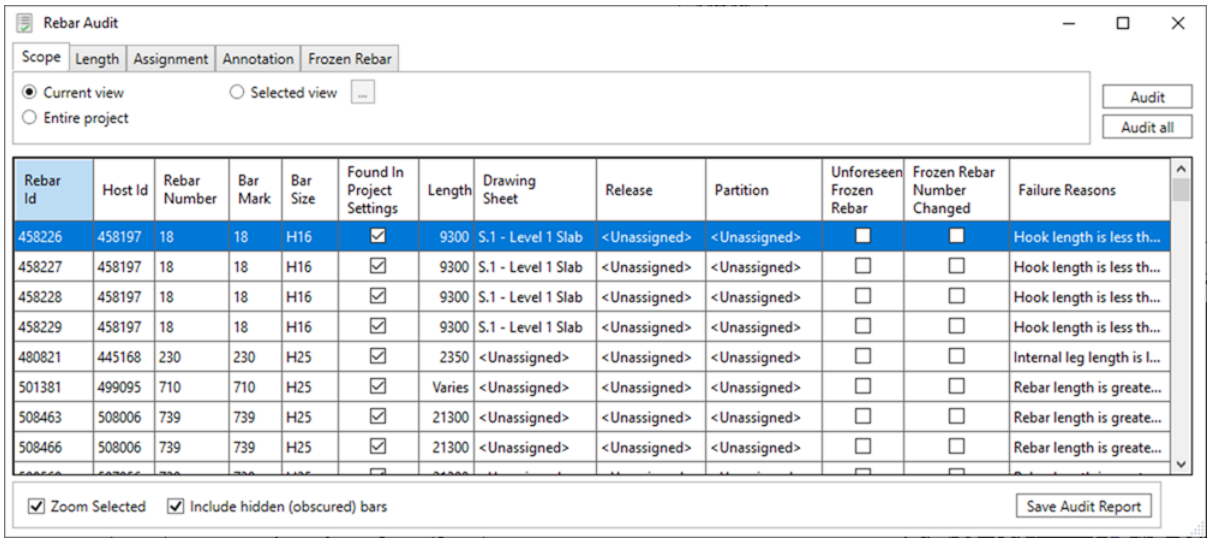
8 Inspect Panel



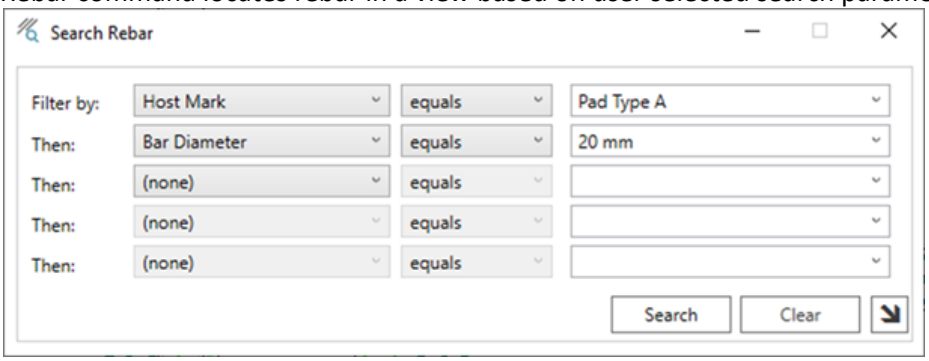
The Inspect Panel includes the Audit 

and Search Rebar 

commands.
Use the Audit command to check bars are assigned to drawing sheets, rebar over length, leg dimensions below minimum etc.



The Search Rebar command locates rebar in a view based on user selected search parameters.

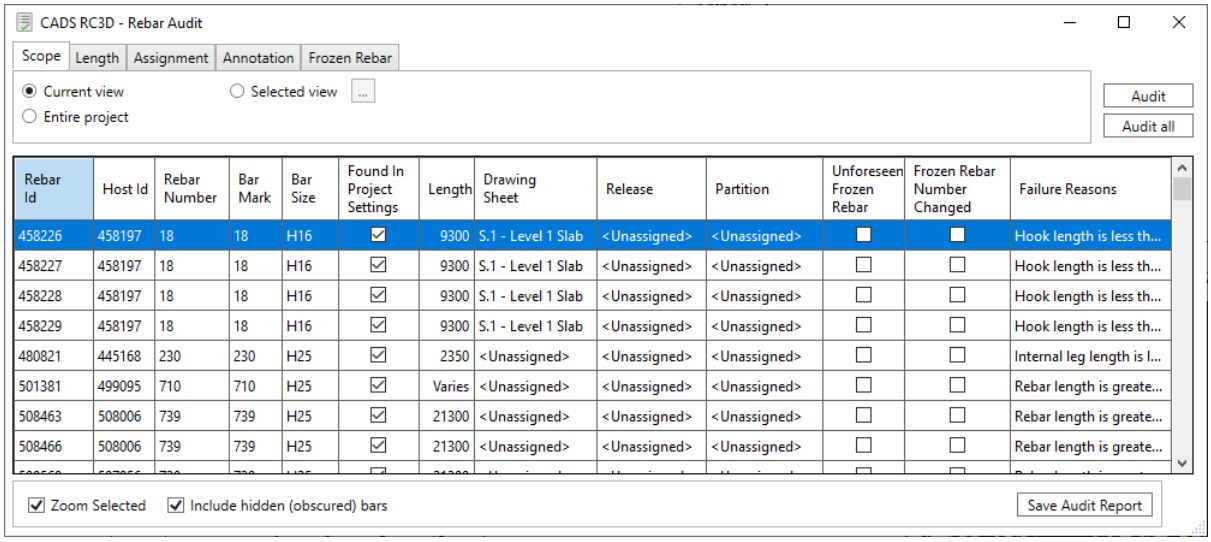


8.1 Audit

Use the Audit 

command to identify rebars which are not assigned to a drawing sheet, partition or release. To also, identify rebars that are below the specified minimum bar length, or are above the maximum specified stock length. The command can identify the rebar for the whole model or the current view by a selected drawing sheet or release. Rebar without bar labels/tags can be identified; a report can be saved of the rebar identified to allow their ID numbers to be searched in the model.

Copyright © Computer and Design Services Limited

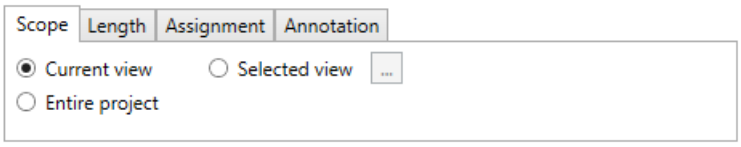


Rebar Id	Host Id	Rebar Number	Bar Mark	Bar Size	Found In Project Settings	Length	Drawing Sheet	Release	Partition	Unforeseen Frozen Rebar	Frozen Rebar Number Changed	Failure Reasons
458226	458197	18	18	H16	☑	9300	S.1 - Level 1 Slab	<Unassigned>	<Unassigned>	☐	☐	Hook length is less th...
458227	458197	18	18	H16	☑	9300	S.1 - Level 1 Slab	<Unassigned>	<Unassigned>	☐	☐	Hook length is less th...
458228	458197	18	18	H16	☑	9300	S.1 - Level 1 Slab	<Unassigned>	<Unassigned>	☐	☐	Hook length is less th...
458229	458197	18	18	H16	☑	9300	S.1 - Level 1 Slab	<Unassigned>	<Unassigned>	☐	☐	Hook length is less th...
480821	445168	230	230	H25	☑	2350	<Unassigned>	<Unassigned>	<Unassigned>	☐	☐	Internal leg length is l...
501381	499095	710	710	H25	☑	Varies	<Unassigned>	<Unassigned>	<Unassigned>	☐	☐	Rebar length is greate...
508463	508006	739	739	H25	☑	21300	<Unassigned>	<Unassigned>	<Unassigned>	☐	☐	Rebar length is greate...
508466	508006	739	739	H25	☑	21300	<Unassigned>	<Unassigned>	<Unassigned>	☐	☐	Rebar length is greate...

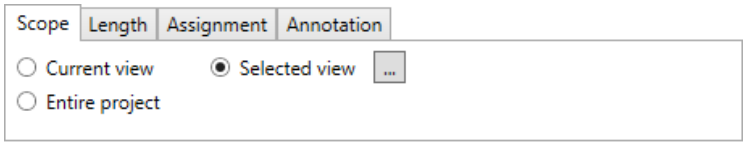
General Options on All Tabs

- **Audit:** Select the Audit option to run the Audit command once all the required options have been selected.
- **Audit All:** Select Audit All to run the Audit command with all options selected.
- **Zoom Selected:** With this option ticked, when a line is selected in the list of identified bars the command will zoom to the Rebar in the screen on the left-hand side of the dialog.
- **Include hidden (obscured) bars:** With this option ticked the Audit command will include hidden Rebar in the report.
- **Save Audit Report:** Creates a CSV (comma separated file) of the information shown in the Audit dialog in a chosen location .

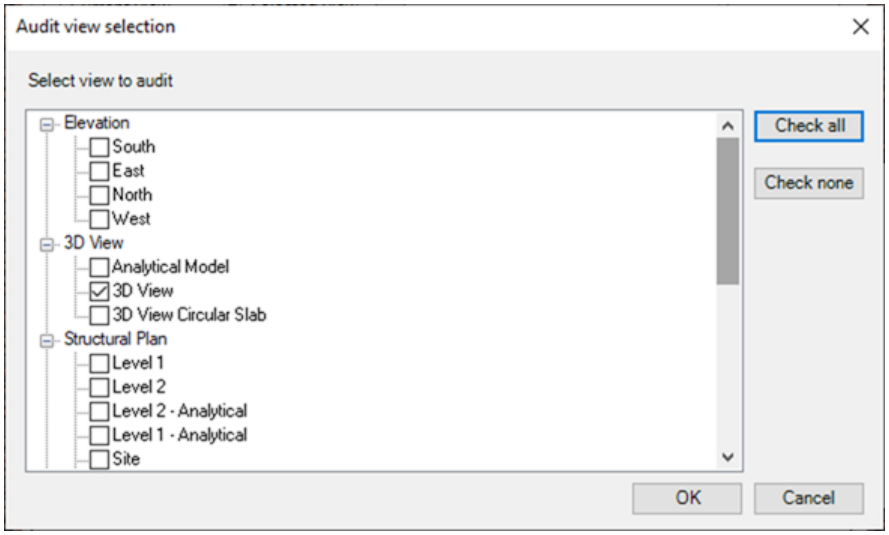
8.1.1 Scope Tab



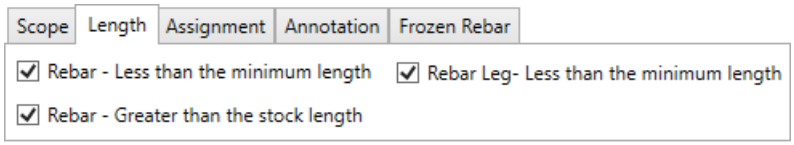
- **Current View:** Use this option to restrict the Audit command to the current view.
- **Entire Project:** Use this option to audit all the Rebar in the whole project.
- **Selected View:** Use this option to restrict the Audit command to one or more selected views. Where more than one view is selected and the Duplicate Tags option is selected in the Annotation tab, CADS RC3D will identify duplicate tags for the same Rebar Assembly across several views.



Copyright © Computer and Design Services Limited

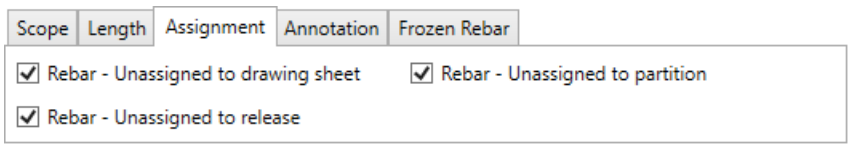


8.1.2 Length Tab



- **Rebar:– Less than minimum length:** Tick this option to identify any Rebar below the minimum length specified in the Project Settings in the Rebar Leg Minimums Tab .
- **Rebar Leg – Less than the minimum length:** Tick this option to identify any Rebar with a leg length less than the minimum length specified in the Project Settings in the Rebar Leg Minimums Tab .
- **Rebar – Greater than stock length:** Use this option to identify any Rebar above the stock length specified in the Project Settings in the Rebar Leg Minimums Tab .

8.1.3 Assignment Tab

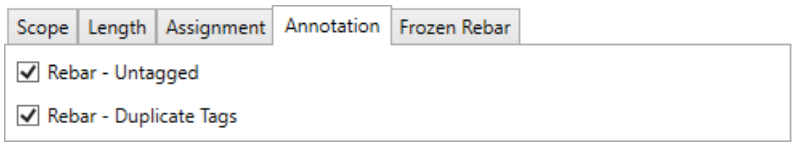


- **Category:** Select either or both categories of Rebar and/or Fabric Reinforcement.
- **Unassigned to Drawing Sheet:** Use this option to identify Rebar not assigned to a Drawing Sheet.
- **Unassigned to Release:** Use this option to identify Rebar not assigned to a Release.

Copyright © Computer and Design Services Limited

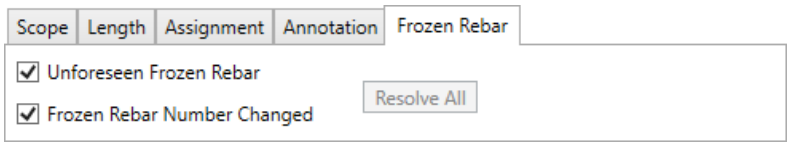
- **Unassigned to Partition:** Use this option to identify Rebar not assigned to a Partition.

8.1.4 Annotation Tab



- **Rebar – Untagged:** Use this option to identify Rebar without bar labels/tags.
- **Rebar – Duplicate Labels:** Use this option to identify Rebar assemblies with more than one bar label on the annotated view. Use the View option on the Scope Tab to select several annotated views to check to see if a Rebar Assembly has been annotated more than once.

8.1.5 Frozen Rebar Tab



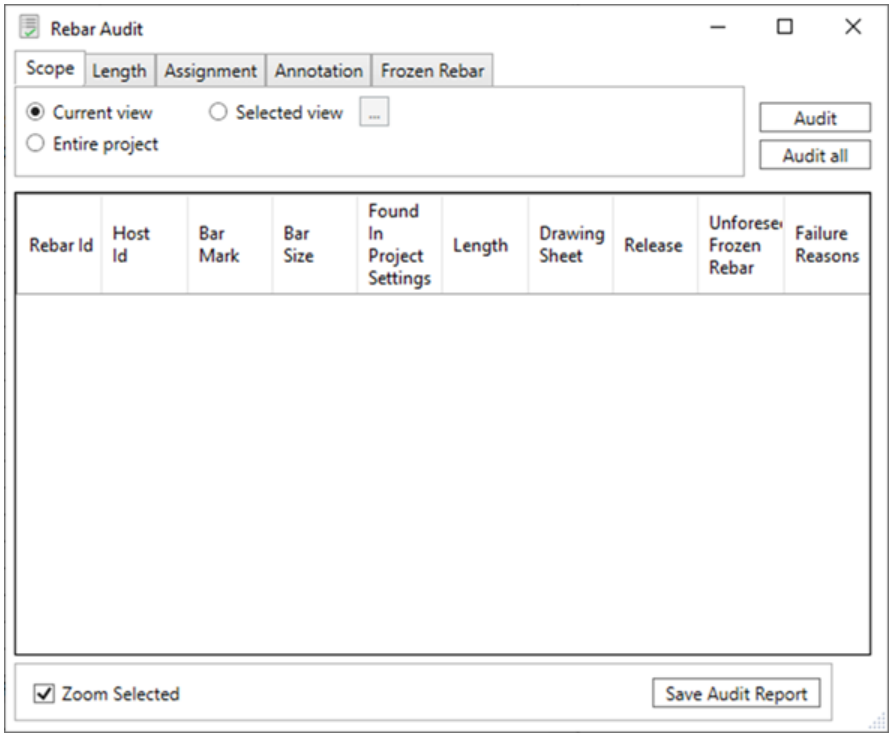
- **Unforeseen Frozen Rebar:** Use this option to identify and automatically correct the Rebar status which has been falsely frozen due to the duplication done in vanilla Revit® (without RC3D loaded) from an existing frozen rebar.
- **Frozen Rebar Number Changed:** Use this option to identify if the bar mark of frozen Rebar has been changed
- **Resolve All:** If this option is available, the search command has found some unforeseen frozen Rebar, tick the option to resolve the issue.

8.1.6 Audit Example

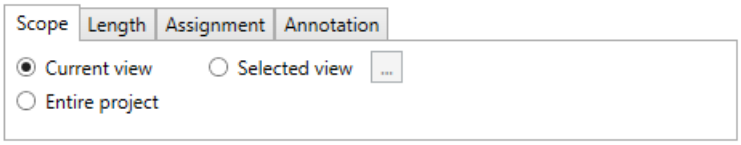
1. In the Revit® Project Browser select the Structural Plan to be audited.
2. Select the Audit 

command from the Inspect Panel.

Copyright © Computer and Design Services Limited



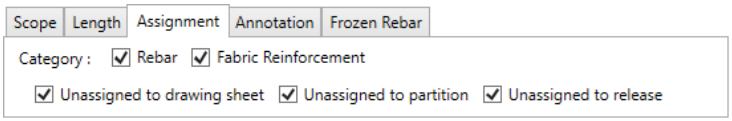
3. Under the Scope Tab, choose either current view or entire project.



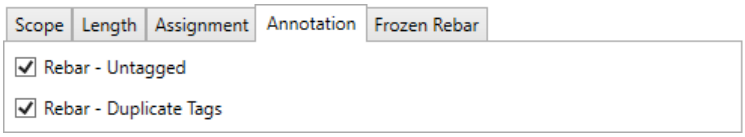
4. Click on the Length Tab, select the options required for checking the minimum and maximum length.



5. Select the Assignment Tab, select the options required to check for rebar unassigned to a drawing sheet, partition or release.

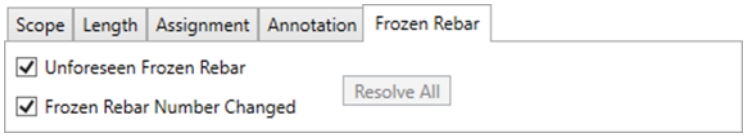


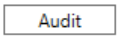
6. Click on the Annotation Tab, if required tick the Rebar – Untagged & the Rebar – Duplicate Labels options.



7. Click on the Frozen Rebar Tab, if required tick the Unforeseen Frozen Rebar & Frozen Rebar Number Changed options.

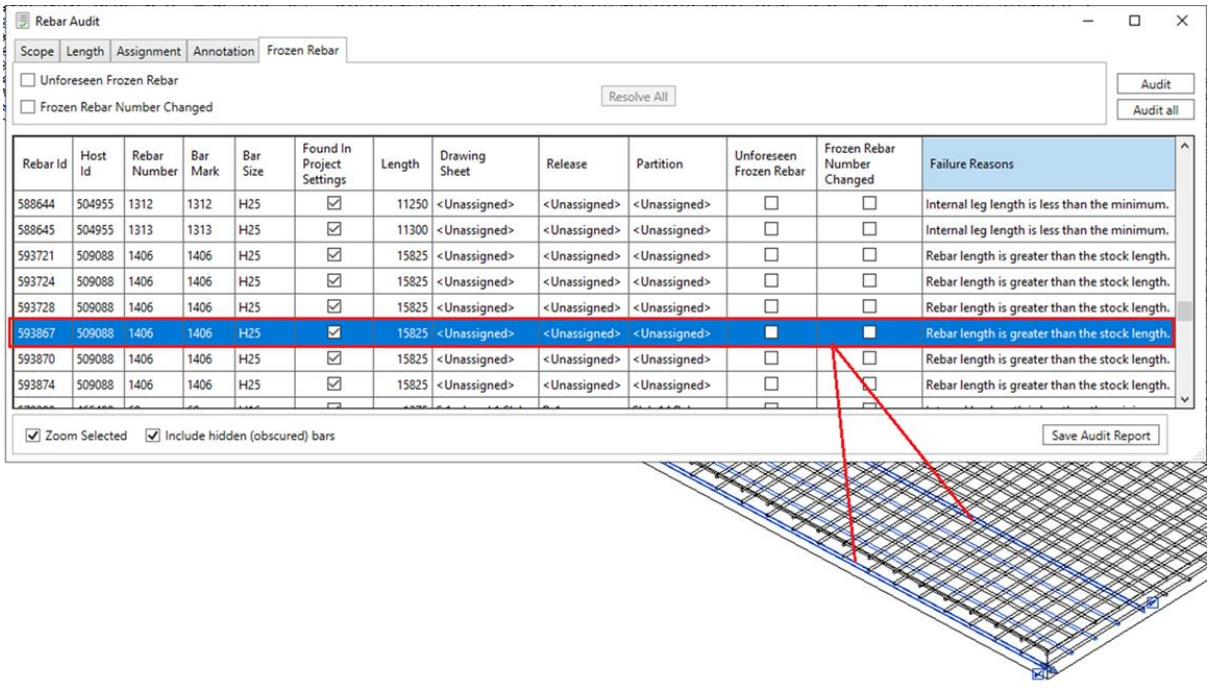
Copyright © Computer and Design Services Limited



8. Click the Audit  button. A report is displayed in the Audit dialog matching the selected criteria.

Rebar Id	Host Id	Rebar Number	Bar Mark	Bar Size	Found In Project Settings	Length	Drawing Sheet	Release	Partition	Unforeseen Frozen Rebar	Frozen Rebar Number Changed	Failure Reasons
458226	458197	18	18	H16	☑	9300	S.1 - Level 1 Slab	<Unassigned>	<Unassigned>	☐	☐	Hook length is less th...
458227	458197	18	18	H16	☑	9300	S.1 - Level 1 Slab	<Unassigned>	<Unassigned>	☐	☐	Hook length is less th...
458228	458197	18	18	H16	☑	9300	S.1 - Level 1 Slab	<Unassigned>	<Unassigned>	☐	☐	Hook length is less th...
458229	458197	18	18	H16	☑	9300	S.1 - Level 1 Slab	<Unassigned>	<Unassigned>	☐	☐	Hook length is less th...
480821	445168	230	230	H25	☑	2350	<Unassigned>	<Unassigned>	<Unassigned>	☐	☐	Internal leg length is l...
501381	499095	710	710	H25	☑	Varies	<Unassigned>	<Unassigned>	<Unassigned>	☐	☐	Rebar length is greate...
508463	508006	739	739	H25	☑	21300	<Unassigned>	<Unassigned>	<Unassigned>	☐	☐	Rebar length is greate...
508466	508006	739	739	H25	☑	21300	<Unassigned>	<Unassigned>	<Unassigned>	☐	☐	Rebar length is greate...

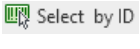
9. Select an item on the list of identified rebar, the Audit command will zoom into the item in the Revit® view behind the dialog. The dialog below shows rebar that is over the stock length; highlighted in blue on the list and red in the preview pane.



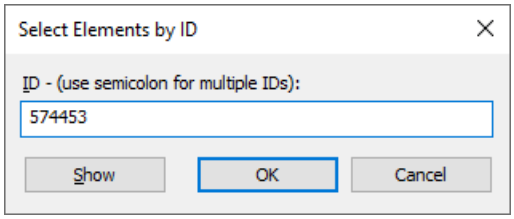
10. Click the Save Audit Report to create a CSV file and open it in either a text editor or import into a spreadsheet application such as Excel.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	Id	HostId	Bar Mark	Bar Size	Found In	Length	Drawing S	Release	Failure Re	Failure Message								
2	572817	570913	106	H16	True	2324.83	<Unassigr	<Unassigr	DrawingS	Rebar is not yet assigned to any drawing sheet.; Rebar is not yet assigned to any release.;								
3	574452	537154	108	H16	True	6026.67	<Unassigr	<Unassigr	DrawingS	Rebar is not yet assigned to any drawing sheet.; Rebar is not yet assigned to any release.								
4	574453	537154	109	H16	True	16674.01	<Unassigr	<Unassigr	GreaterTh	Rebar length is greater than the stock length.; Rebar is not yet assigned to any drawing she								
5	574476	537154	108	H16	True	6026.67	<Unassigr	<Unassigr	DrawingS	Rebar is not yet assigned to any drawing sheet.; Rebar is not yet assigned to any release.								
6	574503	537154	112	H16	True	3207.68	<Unassigr	<Unassigr	DrawingS	Rebar is not yet assigned to any drawing sheet.; Rebar is not yet assigned to any release.								
7	574527	537154	113	H16	True	6812.32	<Unassigr	<Unassigr	DrawingS	Rebar is not yet assigned to any drawing sheet.; Rebar is not yet assigned to any release.								
8	574555	537154	116	H16	True	Varies	<Unassigr	<Unassigr	DrawingS	Rebar is not yet assigned to any drawing sheet.; Rebar is not yet assigned to any release.								
9	574556	537154	117	H16	True	Varies	<Unassigr	<Unassigr	DrawingS	Rebar is not yet assigned to any drawing sheet.; Rebar is not yet assigned to any release.								

11. Click the cross on the top right to exit the command.

12. Use the Revit® 'Select by ID' command  on the Inquiry Panel of the Revit® Manage Tab to locate the identified rebar.

Copyright © Computer and Design Services Limited

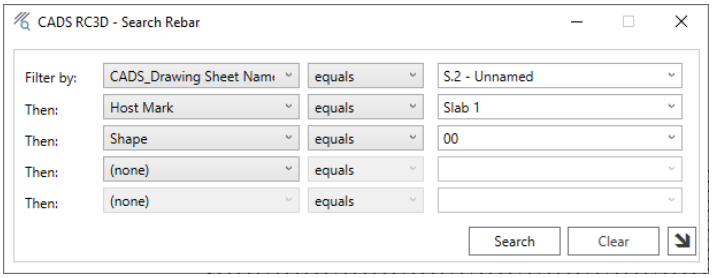


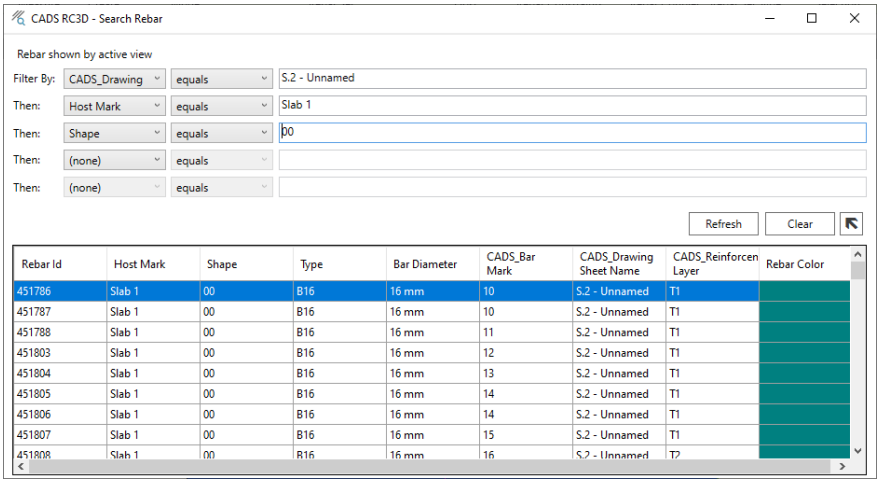
8.2 Search Rebar

Use the Search Rebar 

command to locate rebar in the current view based on the filters, operators and parameters selected in the dialog, several filters can be used in conjunction. Create a selection set of selected entities in the advanced option dialog. Edit the properties of the selected entities in the Advanced Option dialog or the Revit® Properties dialog.

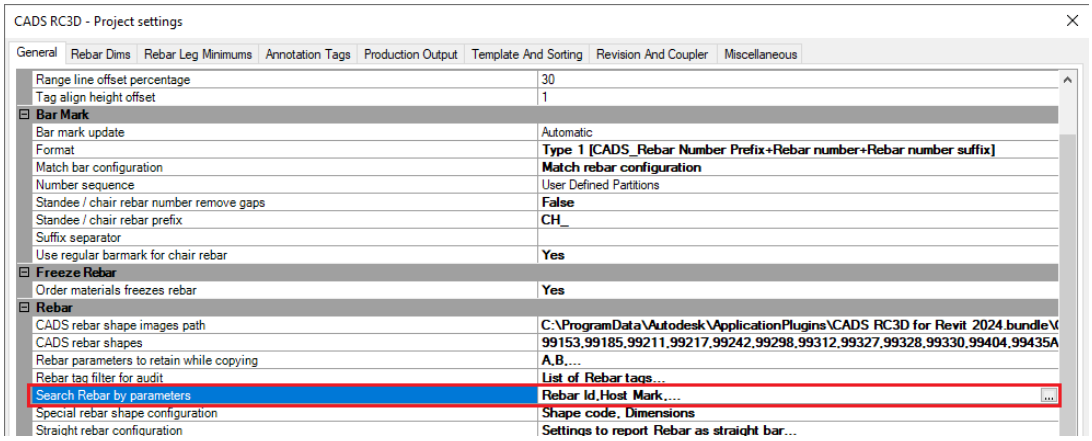
The Search Rebar dialog is a floating dialog and can be kept open during the detailing and annotation processes. Periodically, use the Refresh button to update the dialog.



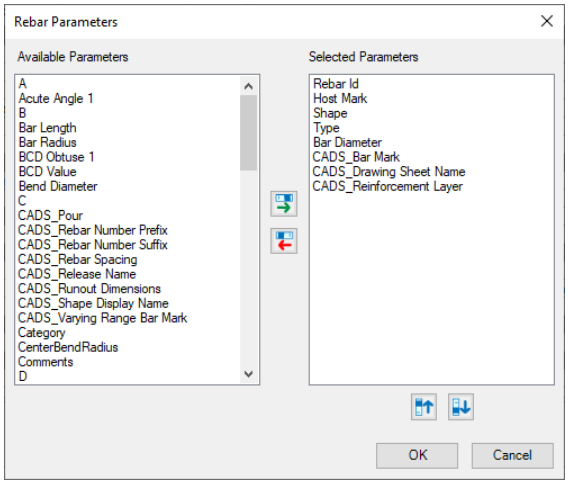


The Search parameters can be amended in the Project Settings dialog by selecting the browse button on the “Search Rebar by parameters option”.

Copyright © Computer and Design Services Limited



To expand the list of searchable parameters in the Search command, use the move right button to add them. If using Partitions in the project moves this Parameter into the right hand side.



8.2.1 Setting the Search Parameters

Filter

Use the Filter drop down menus to build up a simple or complex search. Up to five filters can be selected to locate specific rebar in the project.

The default search options are:

- **(none)** No parameter selected
- **Rebar ID** Lists the Revit® ID No for all the rebar in the current view.
- **Host Mark** Lists the Host Mark(s) (member titles) in the current view.
- **Shape** Lists the bar shape(s) used in the current view.
- **Bar Diameter** Lists the bar diameter(s) used in the current view.
- **CADS Bar Mark** Lists the bar mark number(s) in the current view.
- **CADS Drawing Sheet Name** Lists the drawing sheet(s) assigned in the current view.
- **CADS Reinforcement Layer** Lists the rebar layer(s) assigned in the current view.
- **CADS Release Name** Lists the release(s) assigned in the current view.

Copyright © Computer and Design Services Limited

Operator (second column)

Set the Operator to either Equals, Does Not Equal, Has Value or Has No Value

- **Equals**
- **Does Not Equal**
- **Has Value**
- **Has No Value**

Search Value (third column)

Choose a value on the Parameter drop down menus for each filter, the selection will vary depending on the filter selected.

Adding further parameters to the Search Command

Please refer to Chapter Project Settings – General Settings - Rebar

8.2.2 Search

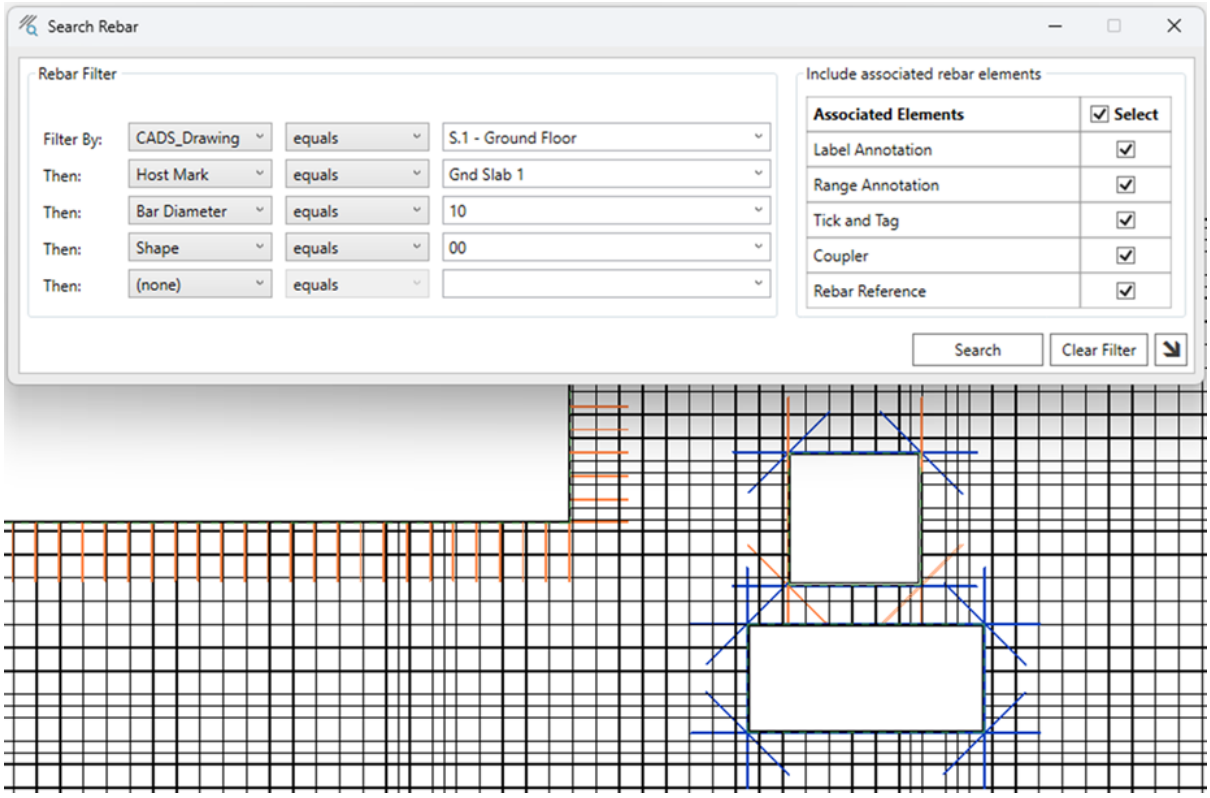
Select the Search Rebar 

command from the Inspect Panel to locate the rebar on the current view based on the selected search parameters.

For instance, in the example below;

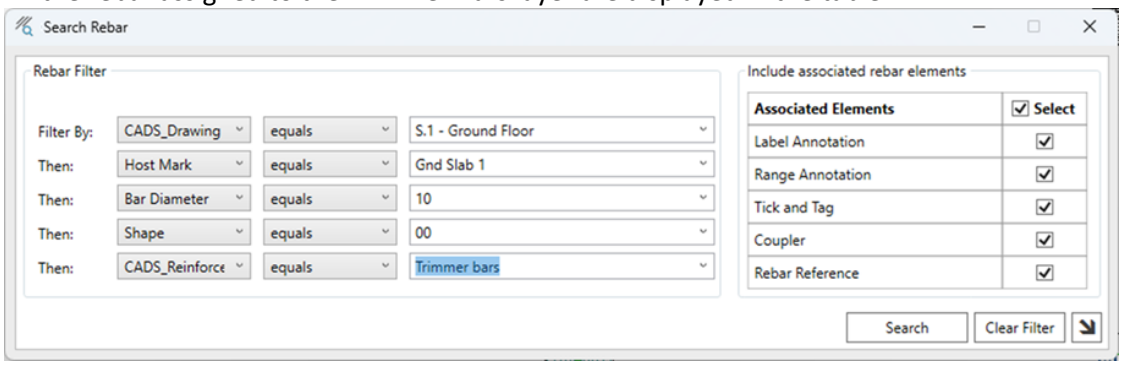
1. The Filters have been set to CADS Drawing Sheet Number, Host Mark, Bar Diameter & Shape.
2. The Operators have all been set to 'Equals'.
3. The Properties have been set S.1 – Ground Floor, Gnd Slab 1, 10mm & 00.
4. Selecting the Search button highlights all the shape code 00 rebar in Gnd Slab 1 assigned to Drawing Sheet S.1.

Copyright © Computer and Design Services Limited

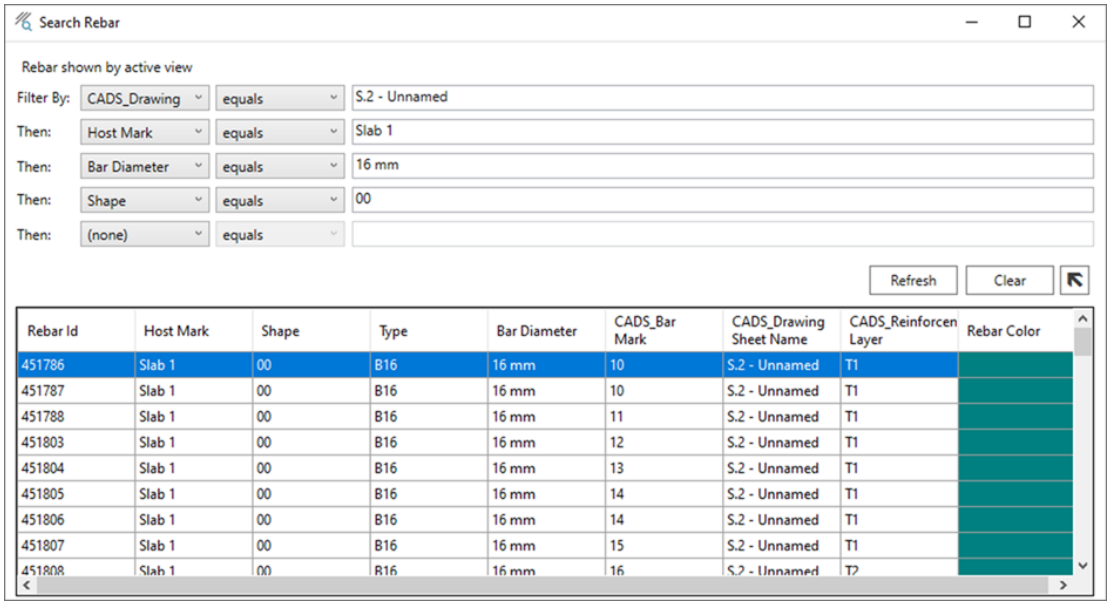


8.2.3 Show Advanced Option

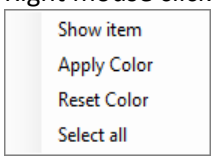
Click on the arrow  to expand the dialog to show the Advanced Option dialog.
In the example below an additional filter has been set for CADS Reinforcement Layer, Trimmer Bars
All the rebar assigned to the Trimmer Bars layer are displayed in the table.



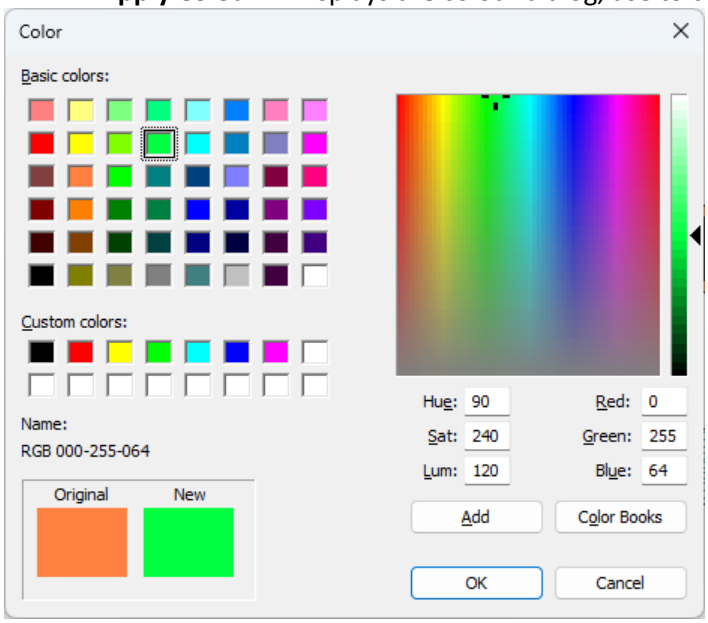
Copyright © Computer and Design Services Limited



Right mouse click on the table in the Advanced option to display a pop menu.

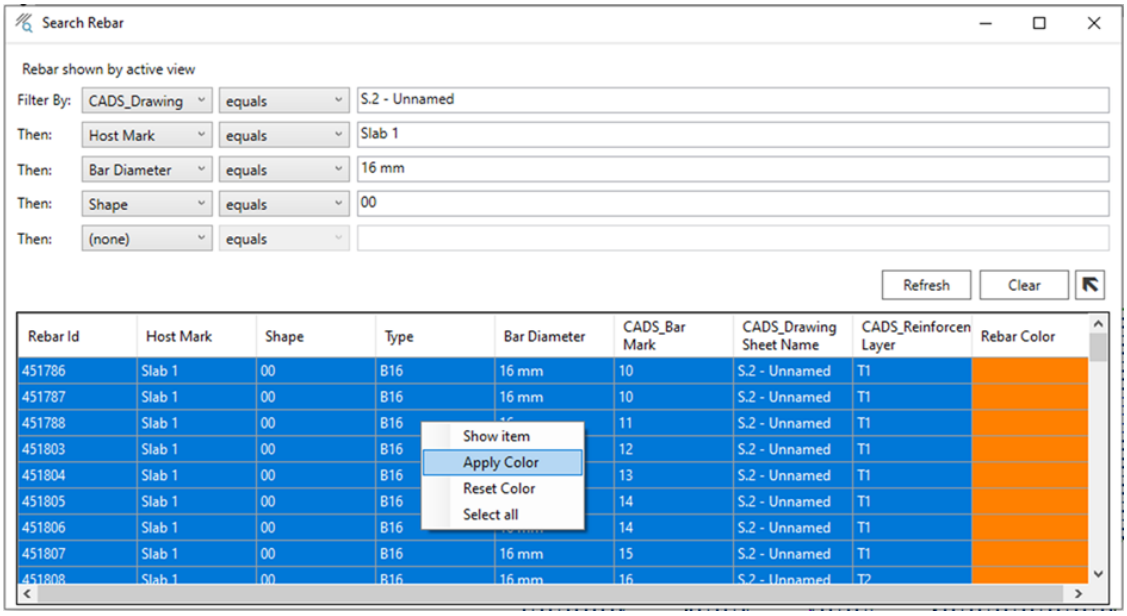


- **Show Item:** Click show item to zoom into to the highlighted entity.
- **Select All:** Click to select all the entities in the list.
- **Apply Colour:** Displays the colour dialog, use to change the colour of the selected entities.

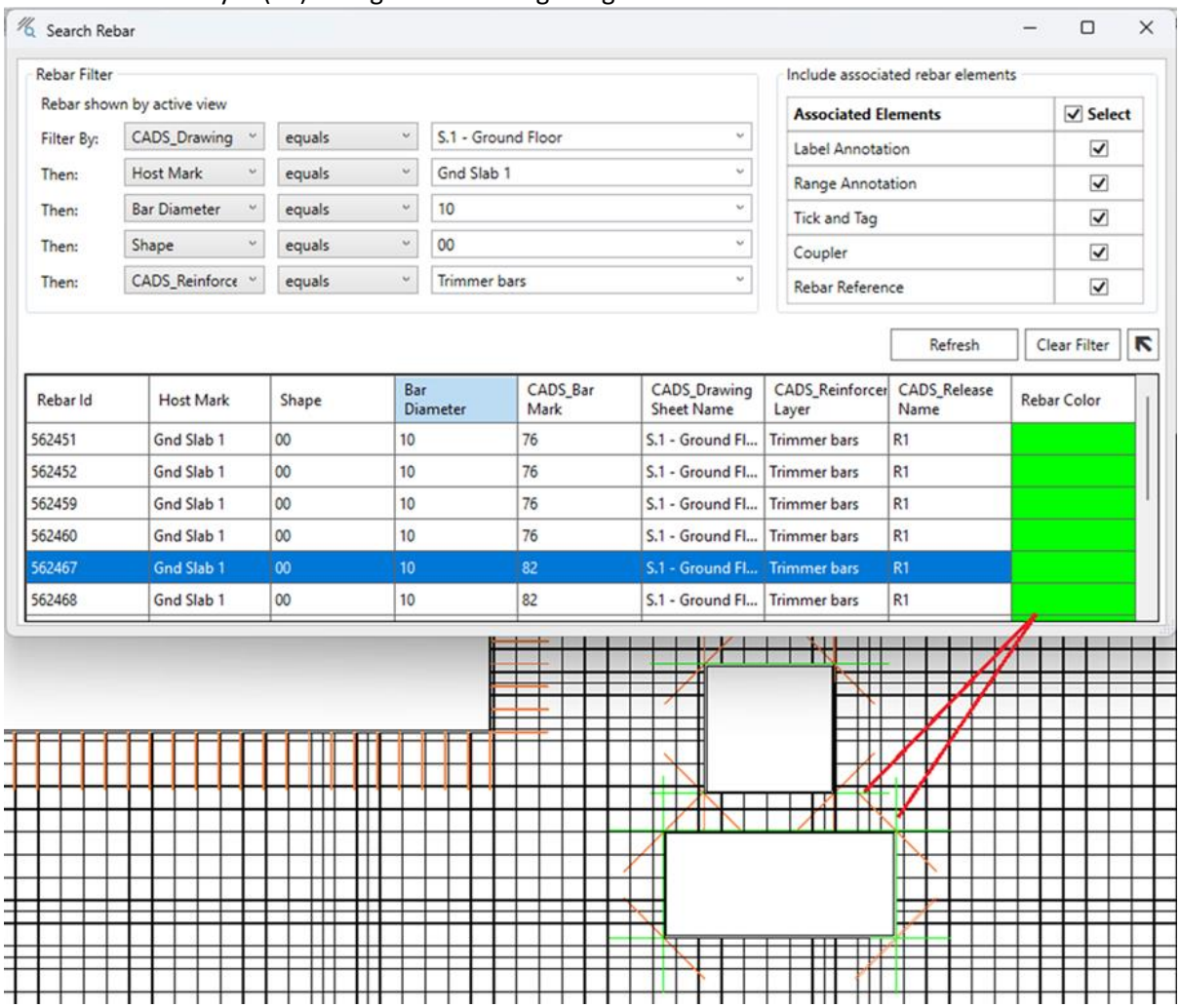


- **Reset Colour:** Reset the colour of the selected entities in the table to their original value.

Copyright © Computer and Design Services Limited



Colour of Rebar Layer (T1) changed from orange to green.



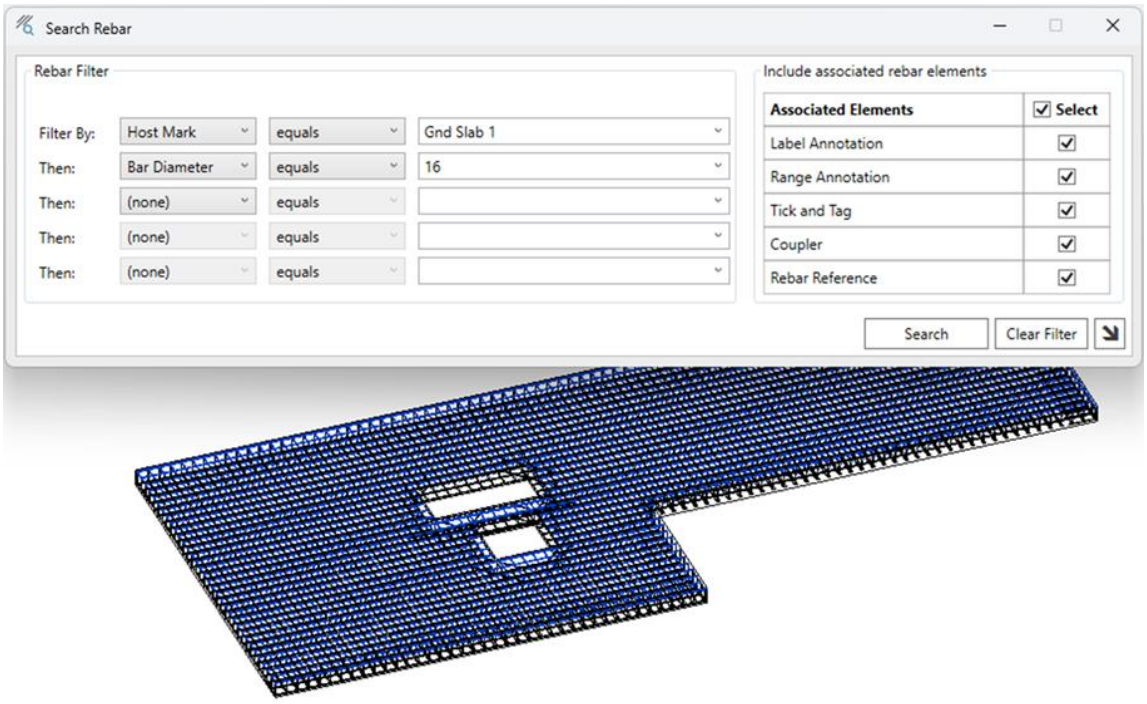
Copyright © Computer and Design Services Limited

8.2.4 Search Example 1

In this example workflow, use the Search command to locate all the rebar of one bar diameter associated with a particular host and change it to another bar diameter.

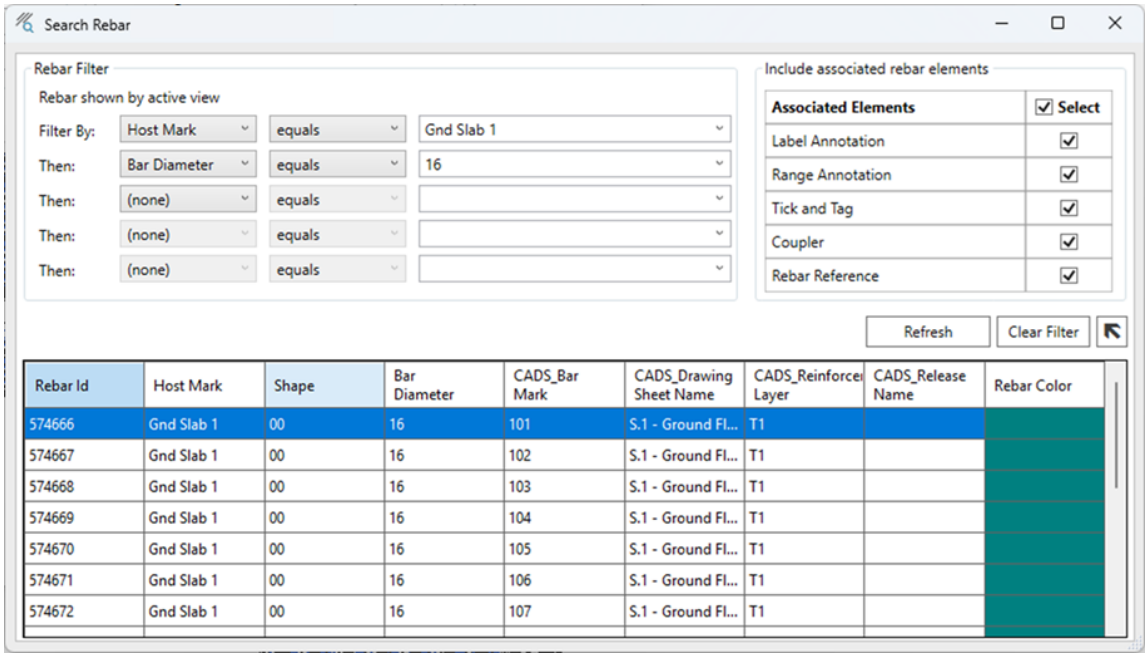
1. In the Revit® Project Browser select the Structural Plan/Elevation etc to be searched.
2. Select the Search 

command from the Inspect Panel.
3. Set the Filter By to Host Mark, then equals and select a Host Mark from the drop-down menu.
4. Set the next Filter to Bar Diameter, then equals and choose a bar diameter from the drop-down menu.
5. Set the search value to 16mm in this example.
6. Click Search

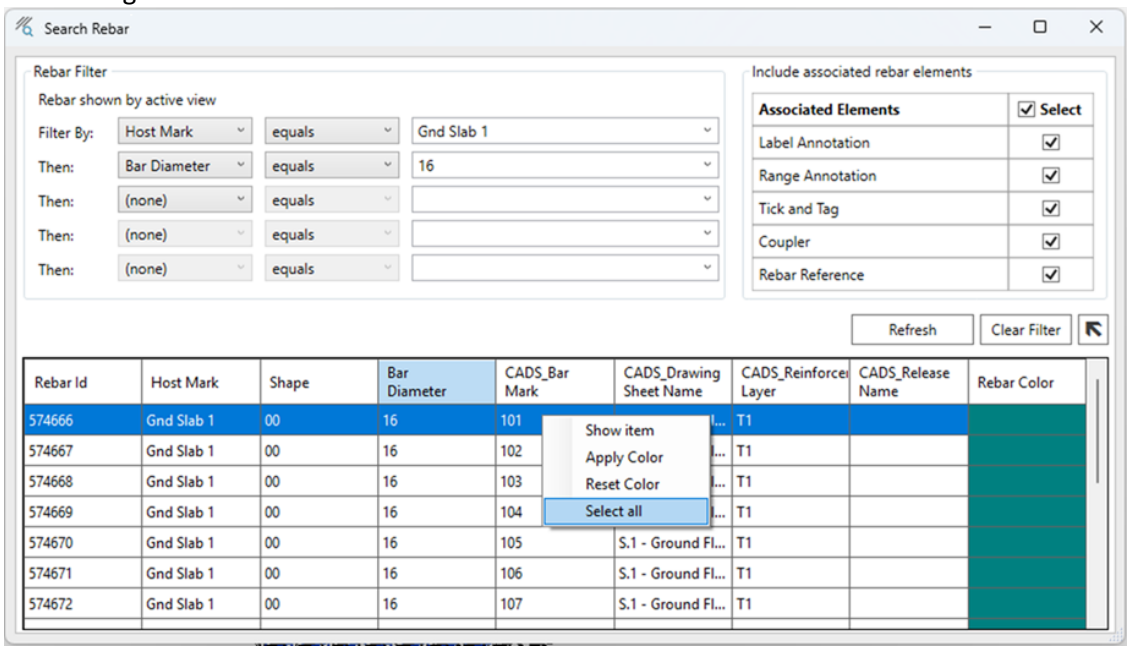


7. Click on the Advanced Option  .

Copyright © Computer and Design Services Limited

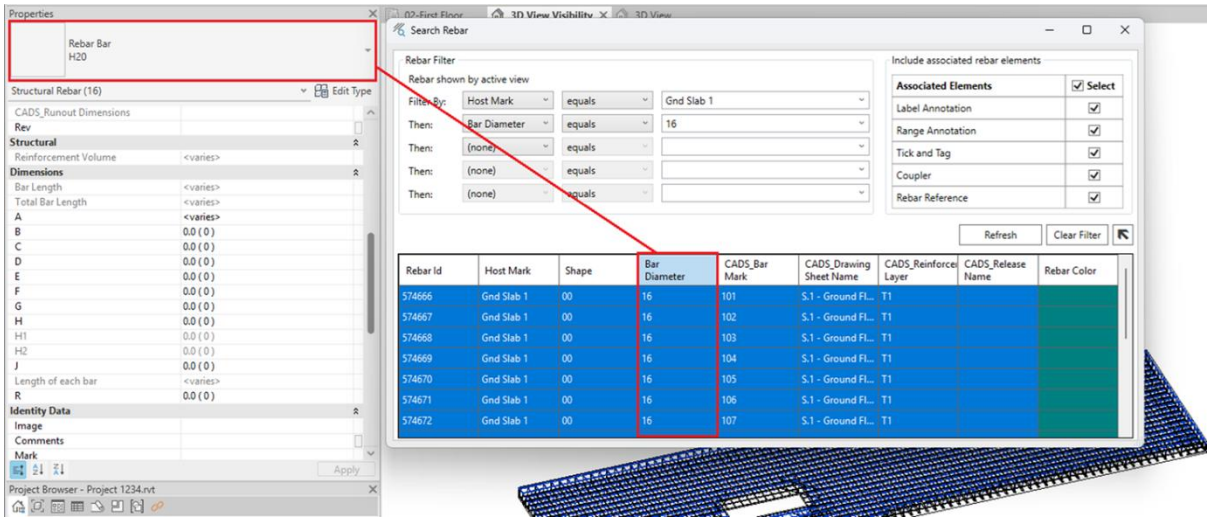


8. Right mouse click on the table and click on Select All.



9. All the rebar with 16mm diameter has been added to a selection set.
10. Right mouse click on the table again and click on Show Item.
11. Change the rebar diameter in the Revit® Properties dialog.

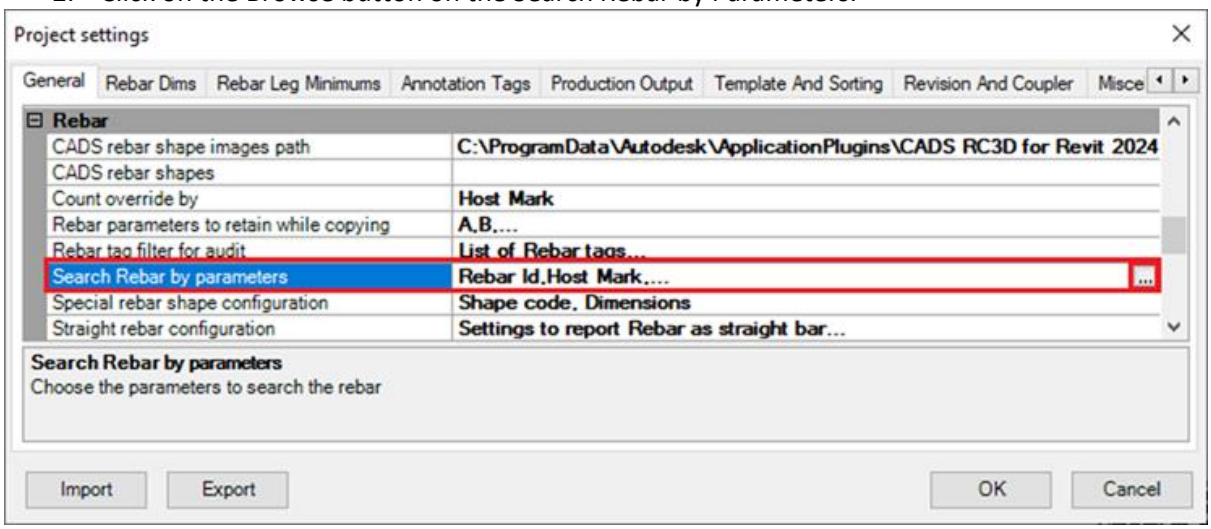
Copyright © Computer and Design Services Limited



8.2.5 Search Example 2

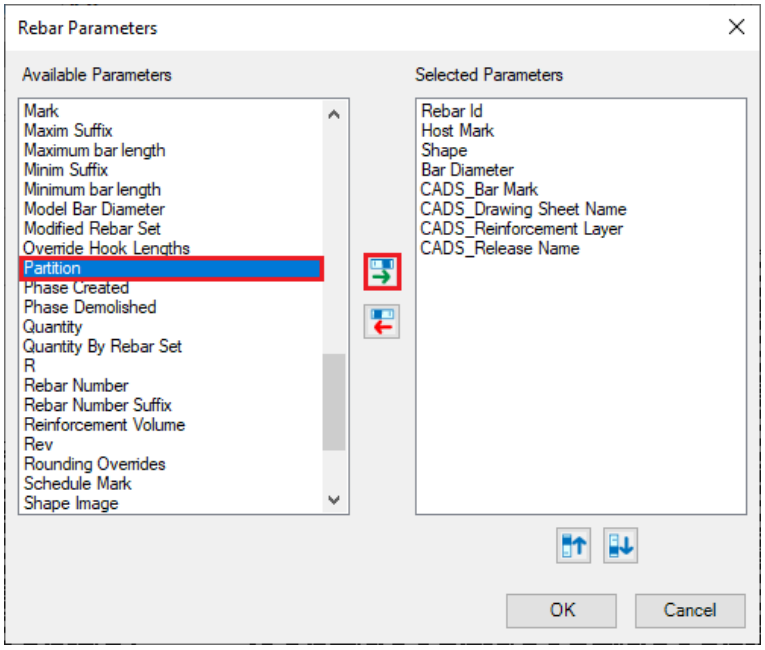
In this second example of the Search Workflow use the “Has No Value” parameter to locate rebar that are not assigned to a Partition.

1. Add the Partition Parameter to the Search Parameters, open the Project Settings dialog from the Settings Panel and go to the General Tab.
2. Click on the Browse button on the Search Rebar by Parameters.



3. Highlight the Partition Parameter on the left and click the Move Right button to add the parameter to the list of Selected Parameters.

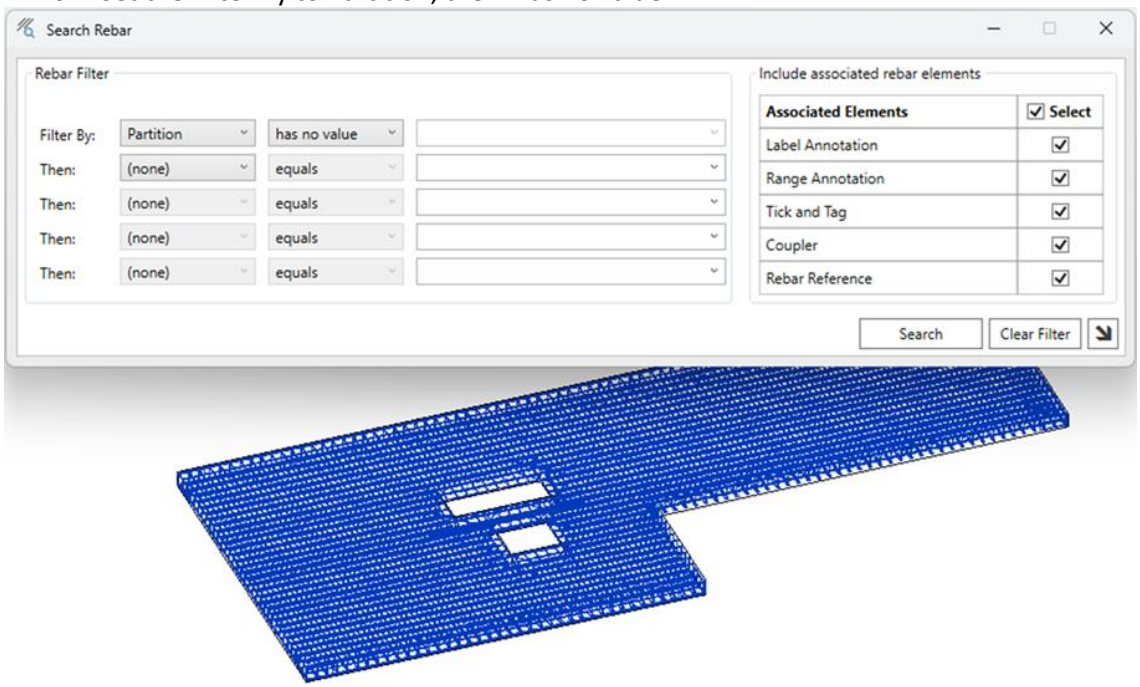
Copyright © Computer and Design Services Limited



4. Click ok twice to exit the Project Settings.

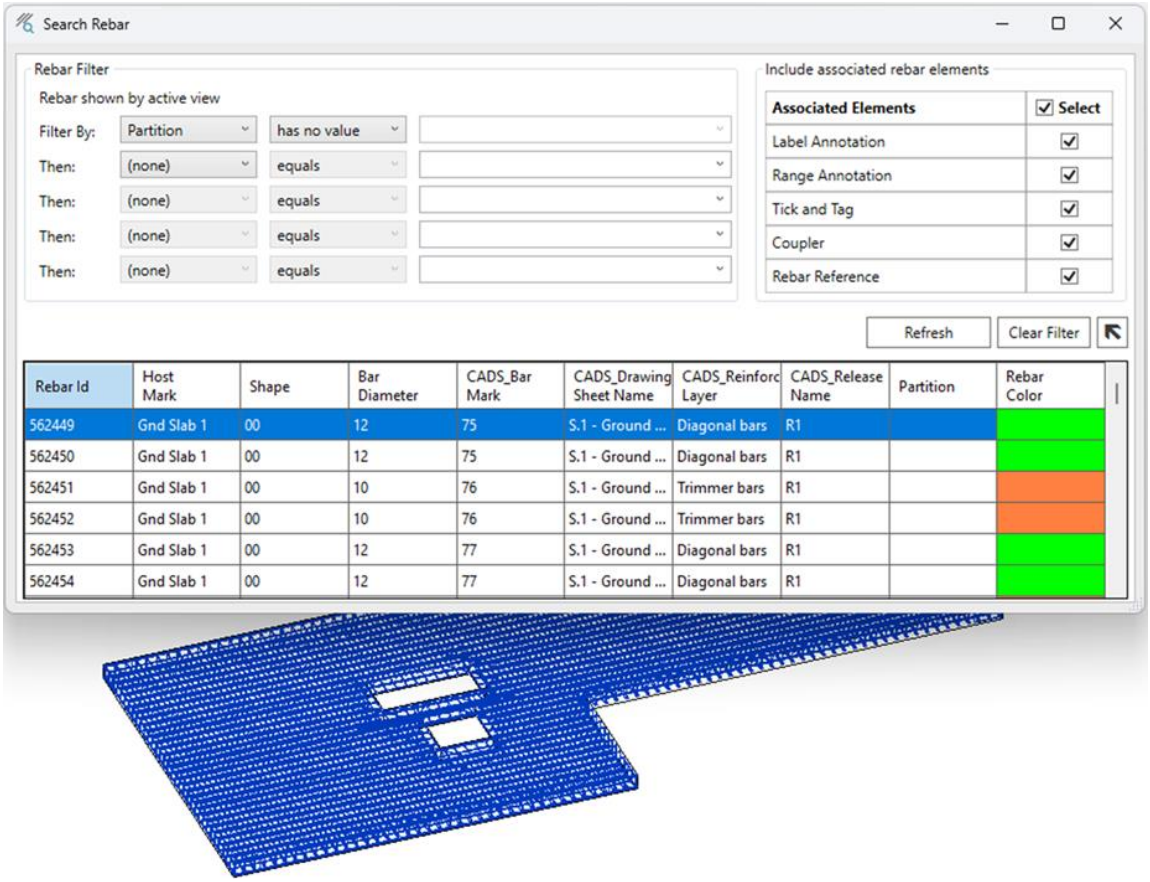
5. From the Inspect Panel on the CADS RC3D Tab select the Search 

command.
6. Set the Filter By to Partition, then 'has no value'.

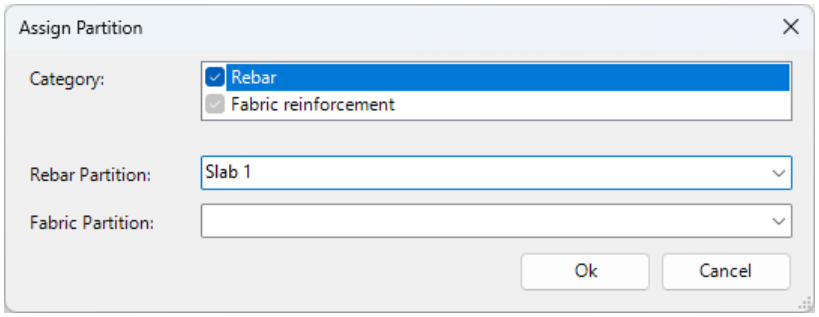


7. Click Search.
8. All the Rebar not associated with Partition parameter will be highlighted in the structure.
9. Click the Advanced Arrow to display the list of Rebar.

Copyright © Computer and Design Services Limited



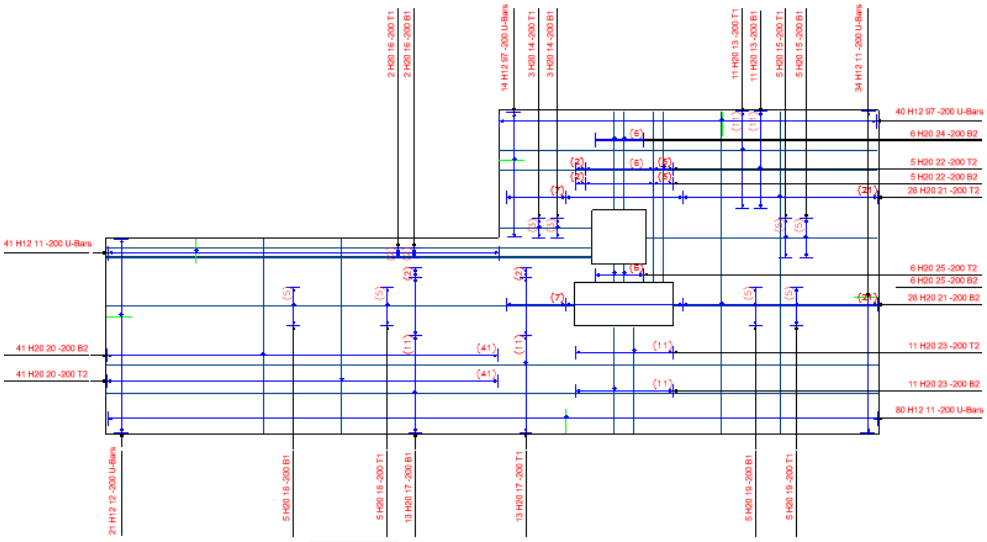
10. Right mouse click on the list and Select All.
11. The rebar are part of the current selection set.
12. Select Assignment Panel – Partition  and assign the selected rebar to the correct Partition.



8.2.6 Search Example 3

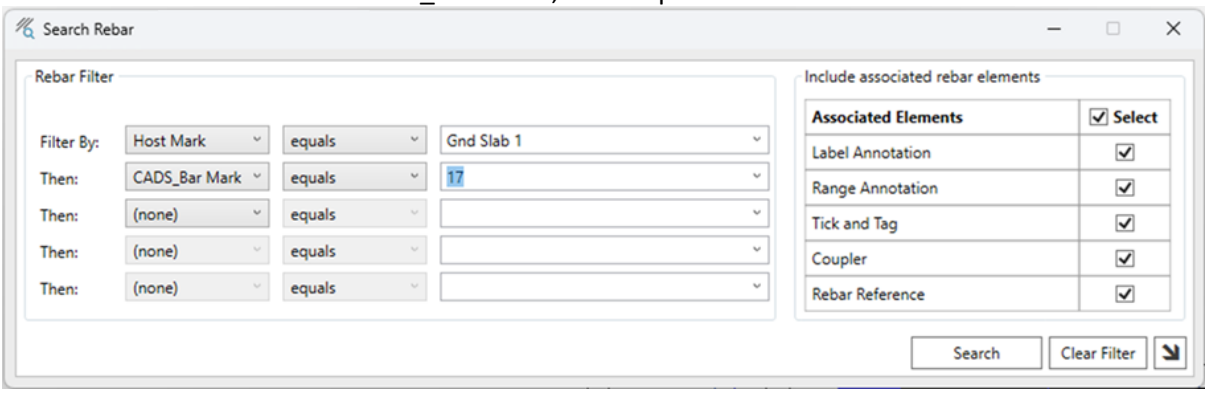
In this example workflow, use the Search command to locate all the rebar of one bar mark number and its associated entities associated with a particular host and change it to another bar diameter on an annotated view.

Copyright © Computer and Design Services Limited

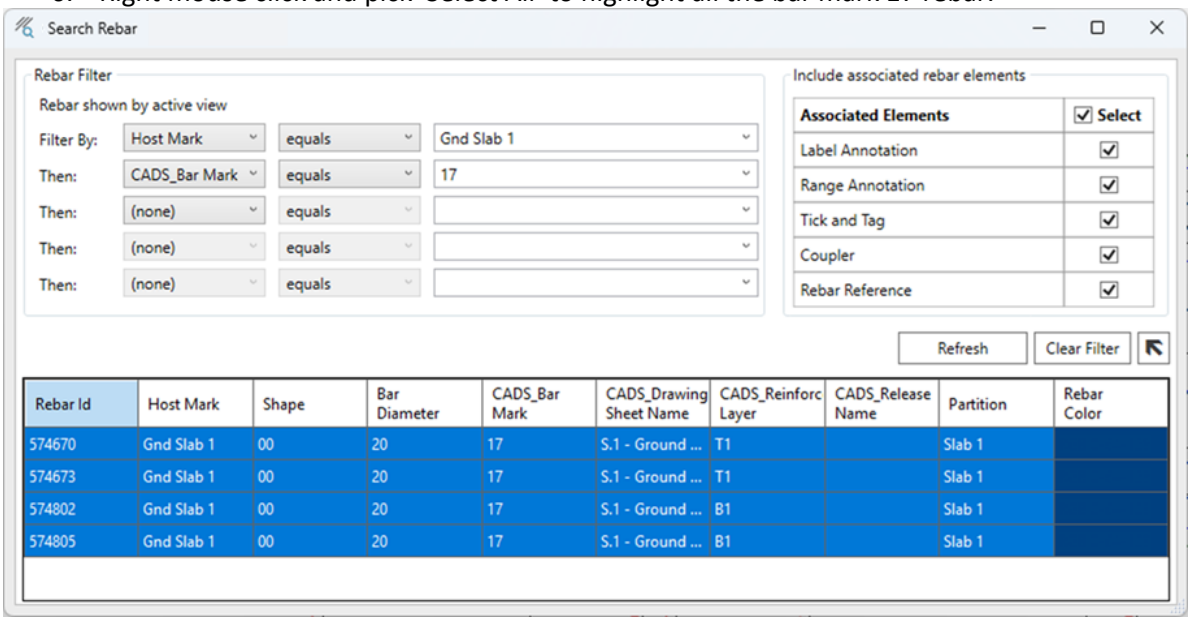


1. Select the Search 

command from the Inspect Panel.
2. Set the Filter By to Host, then ‘equals’ and select Gnd Slab 1.
3. Set the next Filter to ‘CADS_Bar Mark’, then ‘equals’ and select 17.

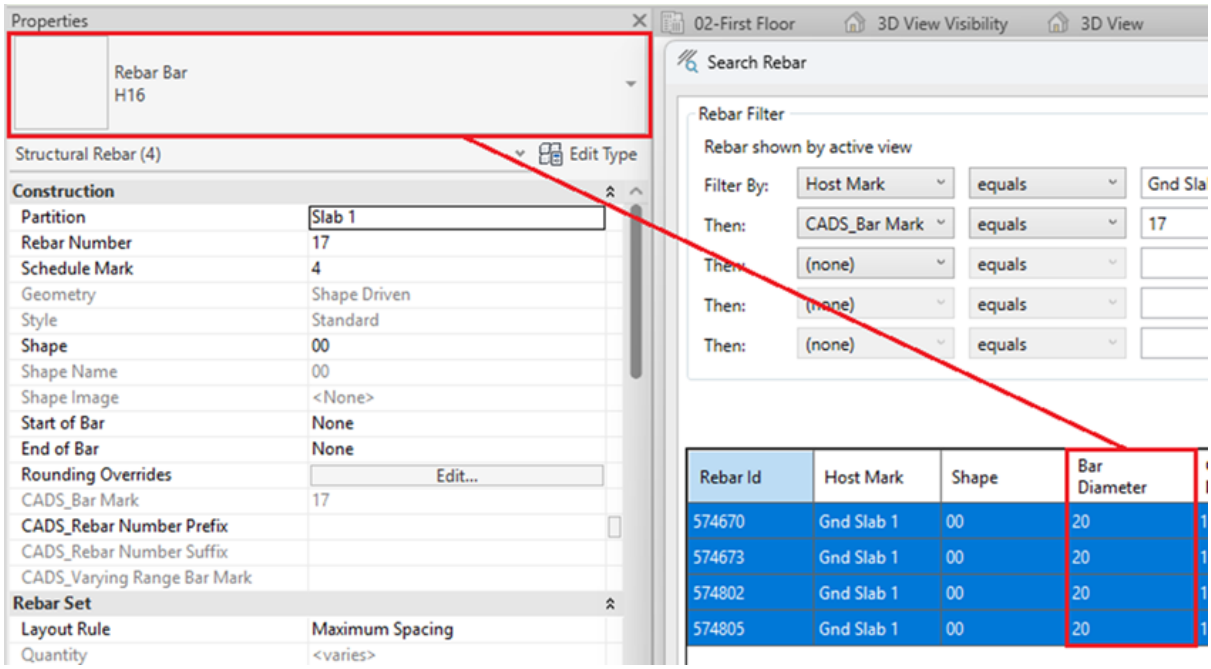


4. Click the Search button
5. Expand the Advanced option
6. Right mouse click and pick ‘Select All’ to highlight all the bar mark 17 rebar.

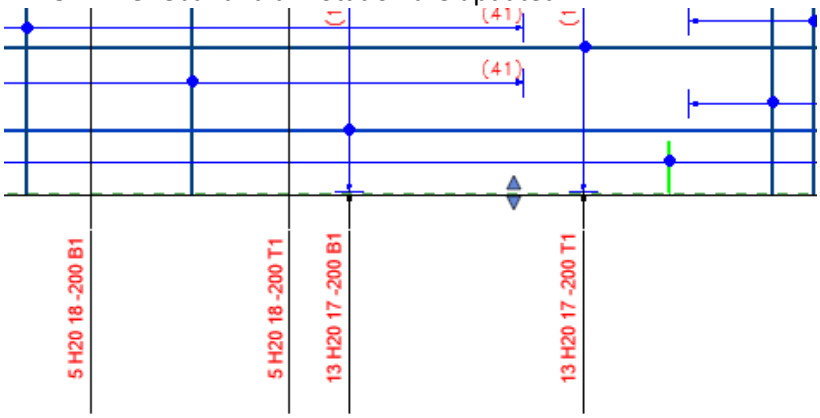


7. In the Revit Properties dialog change the Bar Diameter to H16 and click Apply.

Copyright © Computer and Design Services Limited



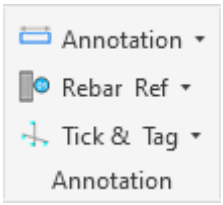
8. The rebar and annotation are updated.



Copyright © Computer and Design Services Limited

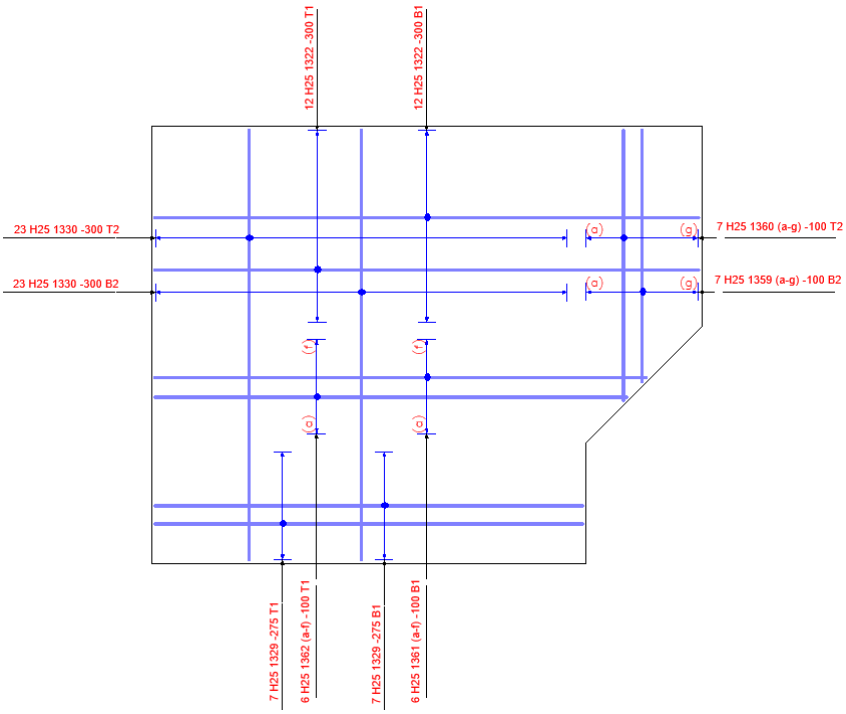
9 Annotation Panel

The Annotation Panel contains commands to add annotation to rebar assemblies, bar mark references and Ticks & Tags to the end of rebar.



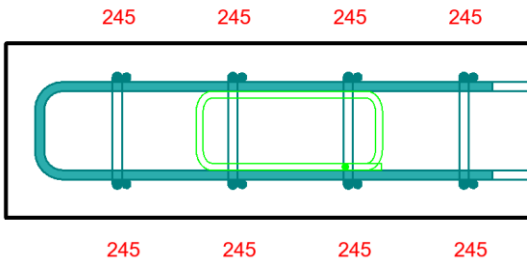
Annotation

Use the Annotation commands to show the industry standard 2D representations of rebar assemblies in 2D Views and editing their layout.



Rebar Ref

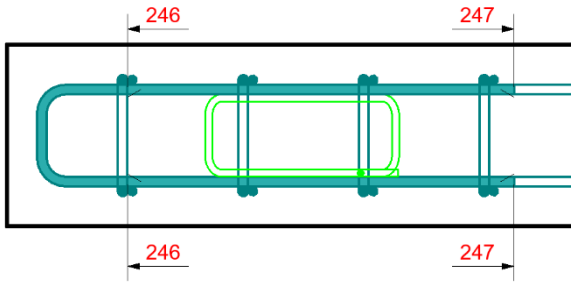
Use the Bar Ref command to place Bar Mark Number annotation to reference rebar and cut bars.



Tick and Tag

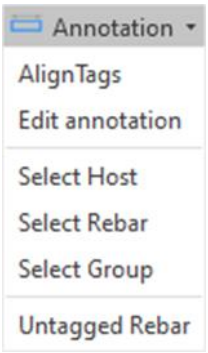
Use the Tick and Tag command to indicate the start and end of rebar in plans, sections and elevations.

Copyright © Computer and Design Services Limited



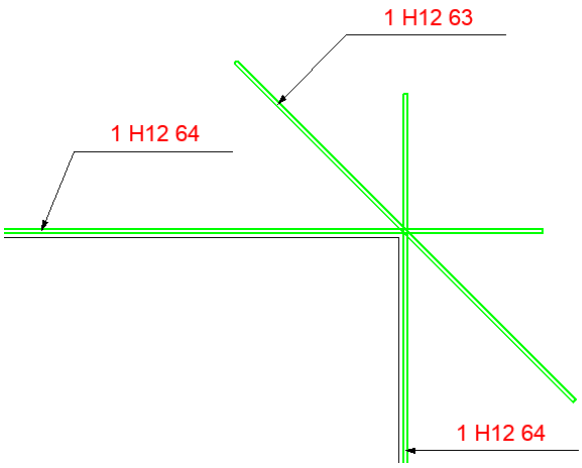
9.1 Annotation

The Annotation commands are used to change the representation of the rebars assemblies to the standard 2D industry graphical format for the different styles of range. Instead of showing all the bars associated with a range, a single or double indicator bar is shown with a range line, a leader and its associated bar label. If an individual bar is being annotated it will be shown with a leader and a bar label.
Use the Annotation command on individual rebar / ranges of rebar, a selection of rebar / ranges of rebar, all the rebar in one or multiple hosts.
The Annotation families, types and range text can be configured in the Project Settings dialog in the Annotation Tab.
The position of the rebar and range annotation can be configured in the Project Settings in the General Tab – Annotation Panel



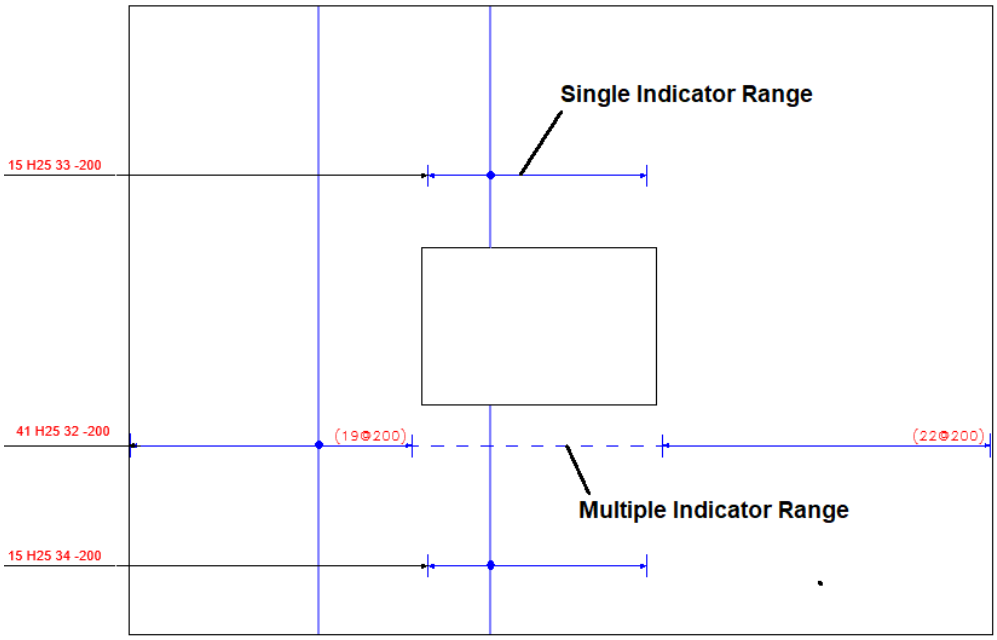
The following Annotations are currently supported in this version of CADS RC3D / RebarCAD3D for Revit®.

- **Single rebar with a leader and a bar label.**



Copyright © Computer and Design Services Limited

- **Single indicator ranges with a leader and a bar label.** The command will automatically hide all the rebar except the indicator bar.



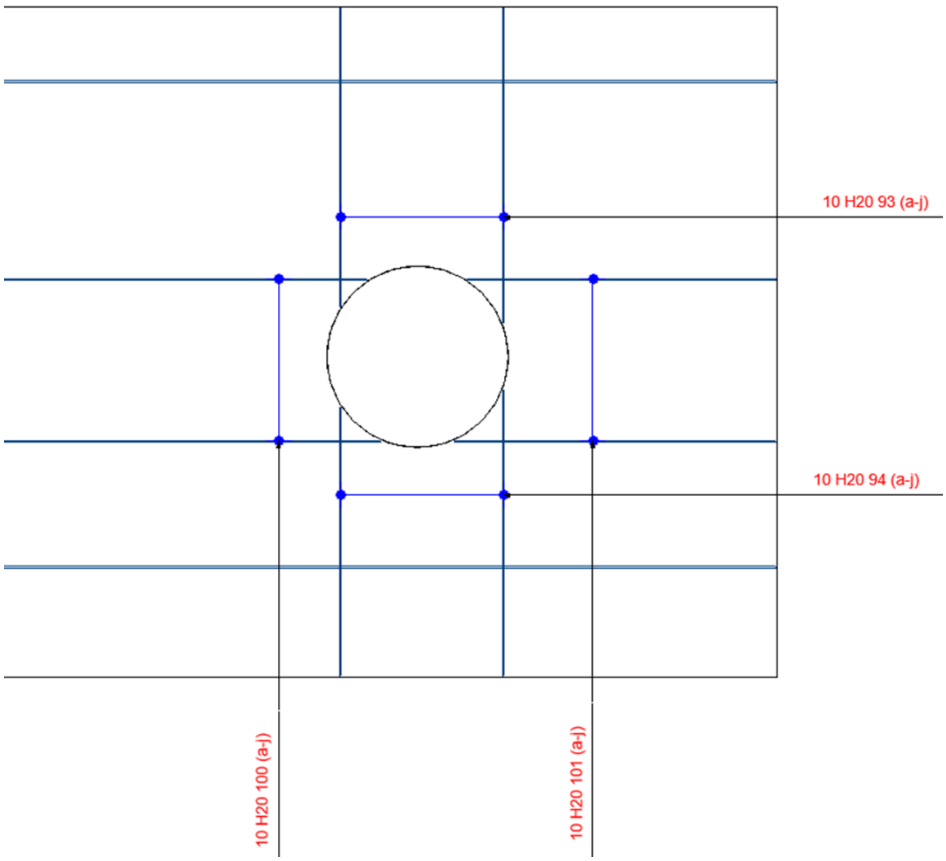
- **Multiple Indicator Range with a leader and a bar label**.

This option groups together Rebar Assemblies of same bar mark in one multiple range. The line between the range groups can be shown as dashed or solid which can be configured in Project Settings – General Tab – Multi Range Annotation .

- **Linear Tapered Range with a leader and a bar label.**

This option annotates Varying Rebar Assemblies, the suffix on the end of the label can be configured to display letters (a – x) or numbers (1.1 – 1.x) in the Revit Reinforcement Settings .

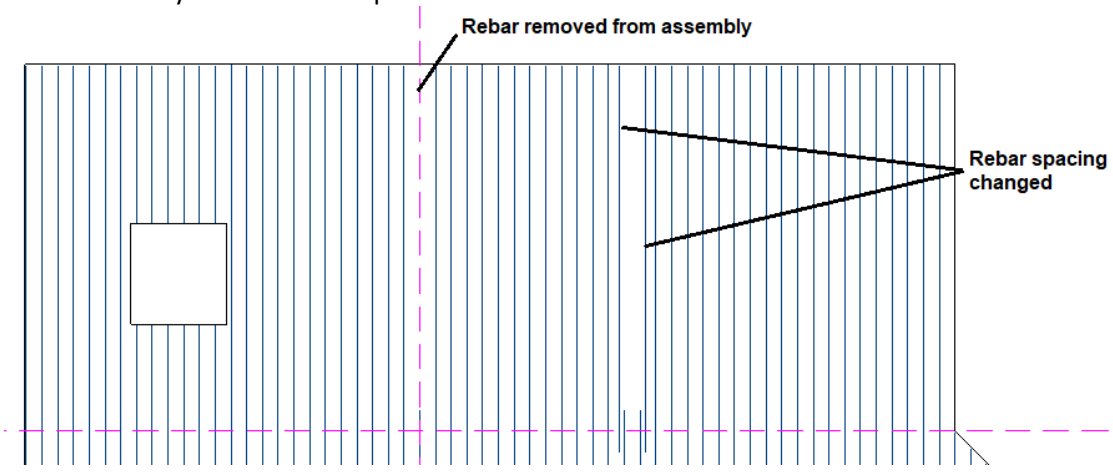
Copyright © Computer and Design Services Limited



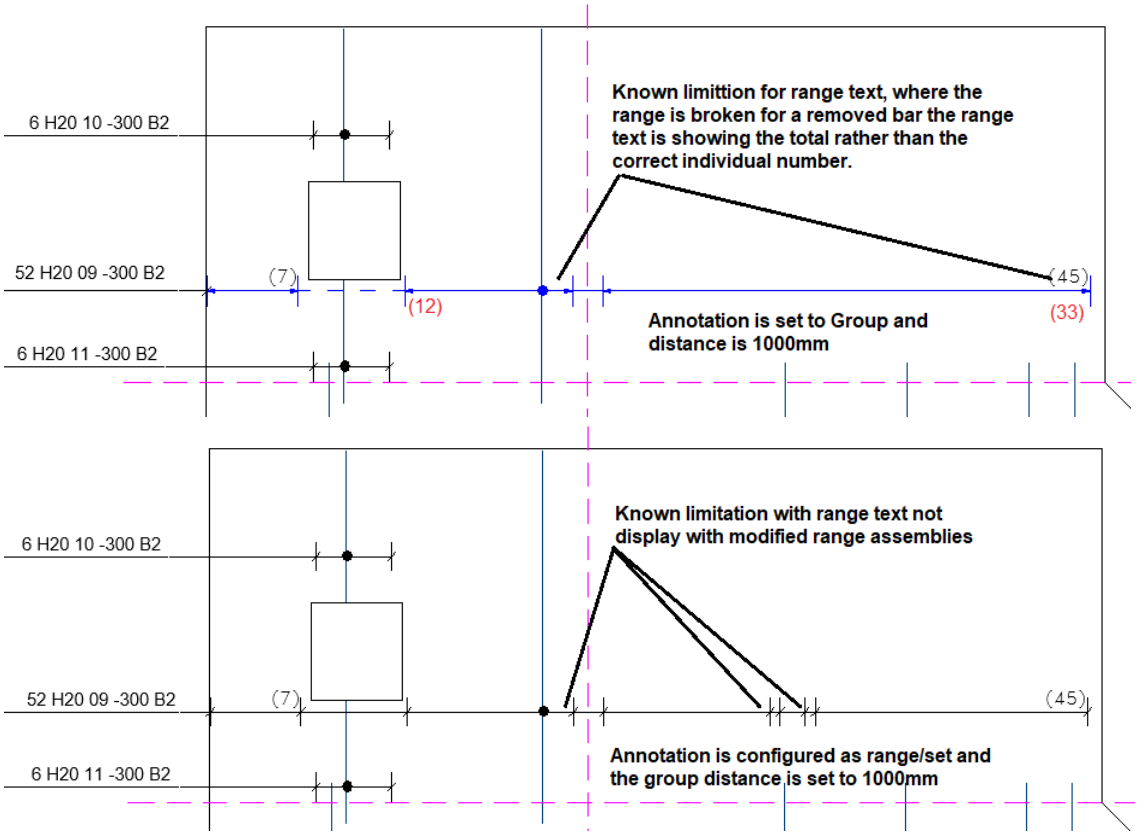
Modified Rebar Assemblies with deleted and moved rebar

There is a known limitation where the range text is not being displayed correctly.

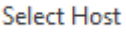
Where rebar spacing has been modified provided it is under the configured spacing between two rebar in a group it will be ignored. Please refer to Project Settings - Group Spacing and the Multi Range Annotation style is set to Group.



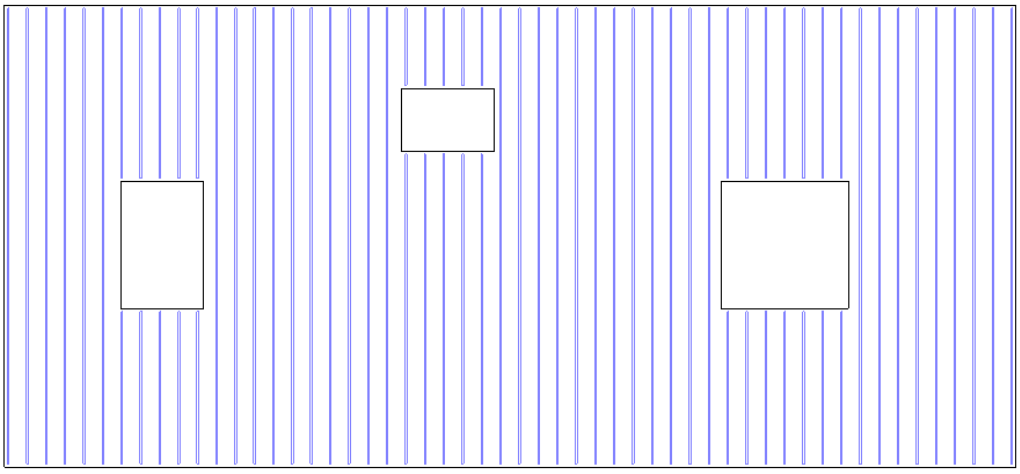
Copyright © Computer and Design Services Limited



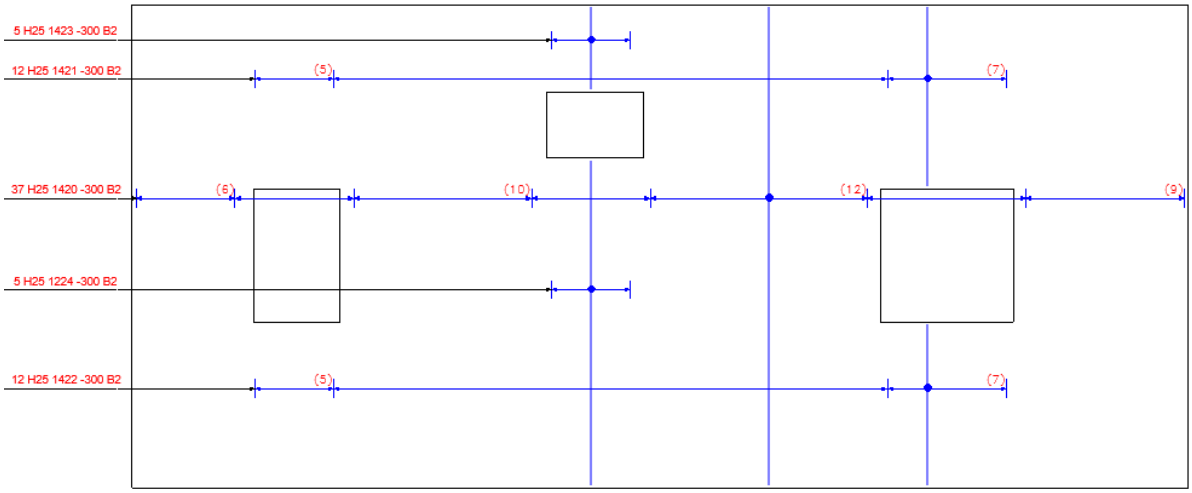
9.1.1 Select Host

Use the Select Host 

command to annotate one or more concrete hosts. The bar labels will be automatically placed outside the host. Where possible this command will group identical bar marks into a multiple range.
The Annotation families, types and range text can be configured in the Project Settings dialog in the Annotation Tab.
The position of the rebar and range annotation can be configured in the Project Settings in the General Tab – Annotation Panel



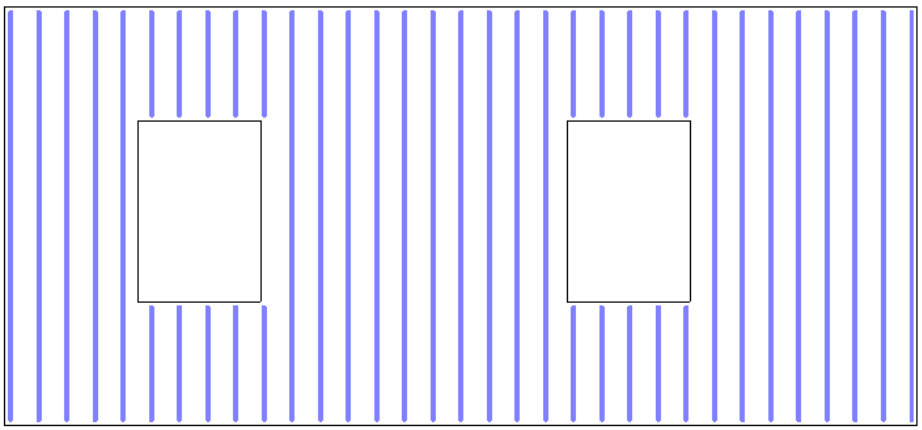
Copyright © Computer and Design Services Limited

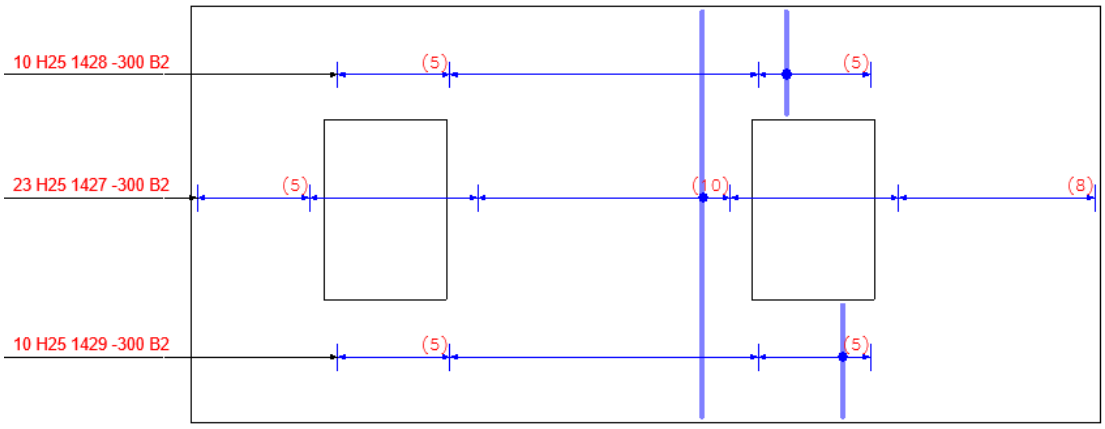


Use the Visibility – Show Rebar to reveal rebar in multiple range groups by selecting the Annotation Range Line.

9.1.2 Select Rebar

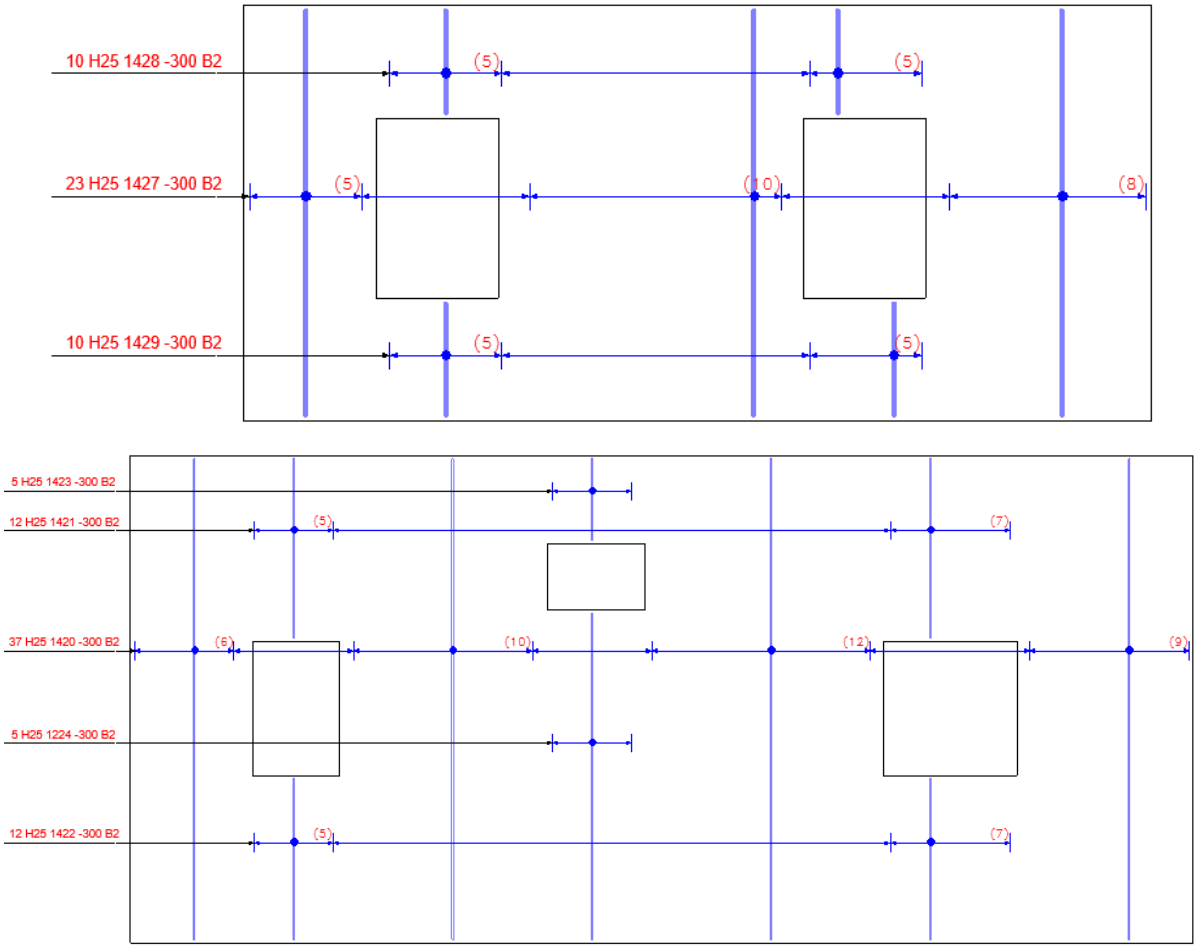
Use the Select Rebar Select Rebar command to choose one or more rebar assemblies within a host to annotate. The user is prompted to pick points outside of the host to place the annotation tags.





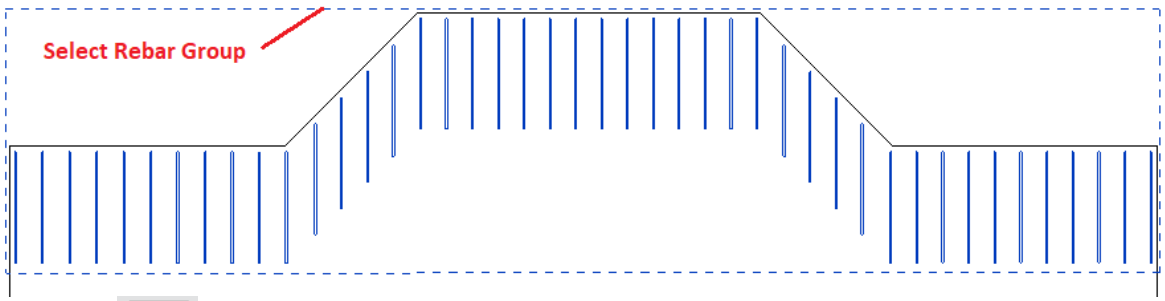
Copyright © Computer and Design Services Limited

Use the Visibility – Show Rebar to reveal rebar in multiple range groups by selecting the Annotation Range Line.



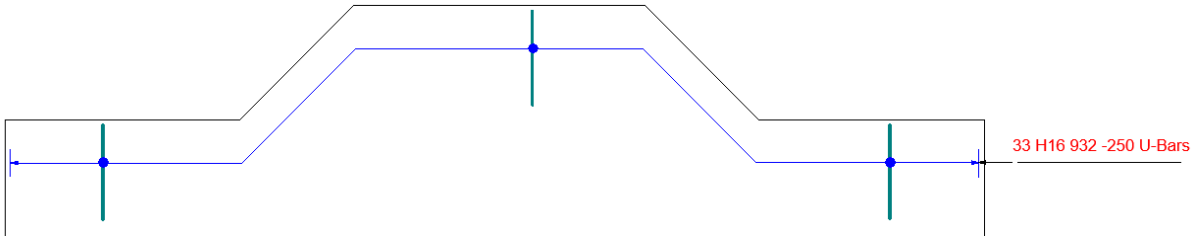
9.1.3 Select Group

Use the Select Group Select Group command to choose one or more groups to create complex annotation, as shown in the edge bar assembly below.



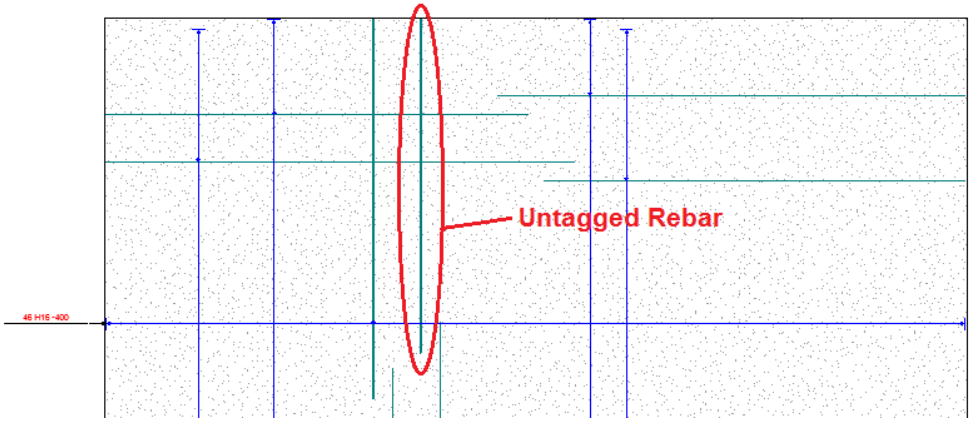
Click Finish Finish

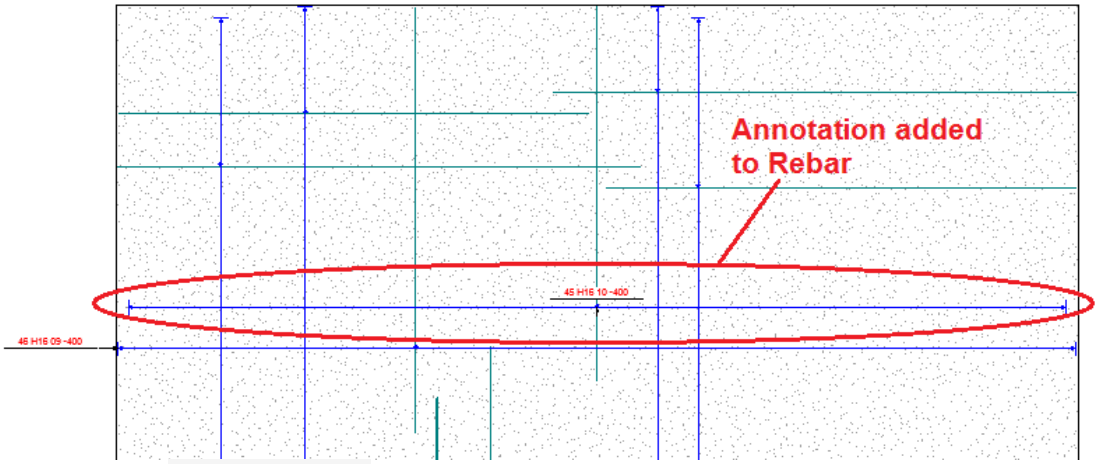
Copyright © Computer and Design Services Limited



9.1.4 Untagged Rebar

Use the Untagged Rebar Untagged Rebar command to add the range and bar label annotation to an untagged bar. This command is useful where the annotation has been accidentally deleted from the view.





1. Select the Annotation drop down menu; located in the Annotation Panel.
2. Choose: Select Host Select Host , or Select Rebar Select Rebar , or Select Group Select Group option from the drop down.
3. The Select Host option allows the selection of multiple hosts at a time from the current view.
4. The Select Rebar option allows the selection of multiple rebar at a time from the current view.
5. The Select Group option allows the selection of multiple predefined bar assemblies from the current view. The command prompts for the selection of the indicator bar to be shown as

Copyright © Computer and Design Services Limited

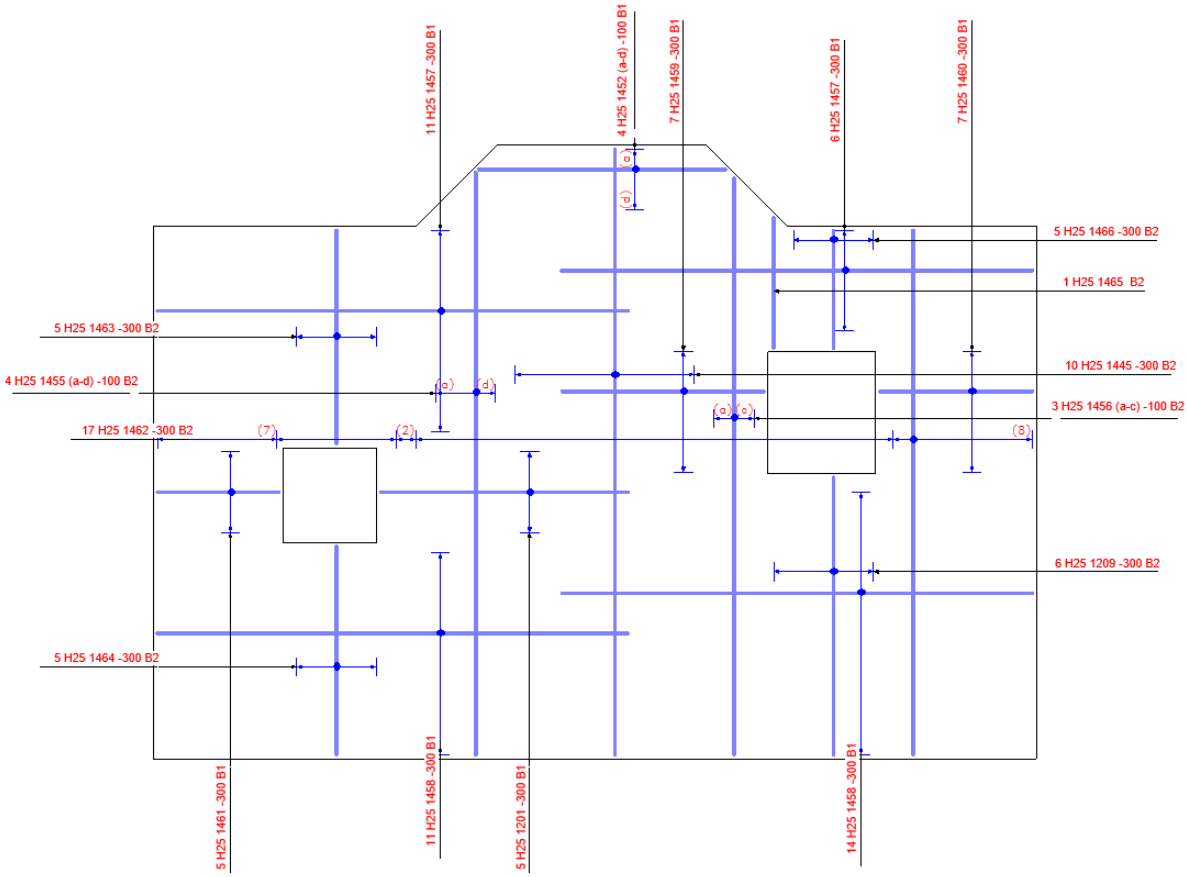
part of the range annotation. Refer to the Group Rebar command for details on creating Rebar Groups. You can create radial and skewed ranges using the Rebar Grouping command.

6. Press Finish and the annotations will be added to the model for the selected rebar or the rebar that are associated to the selected host and are visible in the current view.

9.1.5 Align Tags

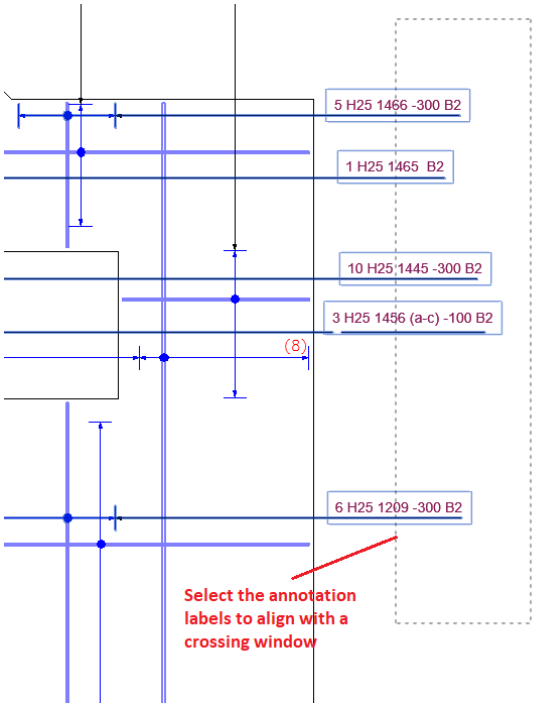
Use the Align Tags AlignTags command to line up the Bar Labels on a View to improve the presentation.

1. Select the Annotation command from the Annotation Panel.
2. Choose: Align Tags AlignTags .

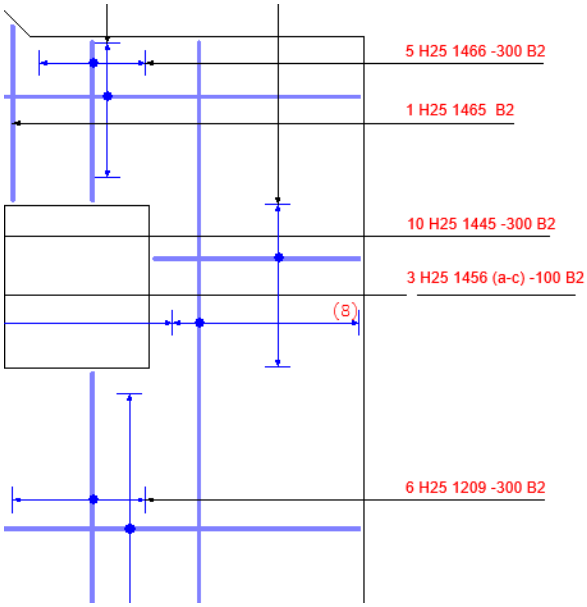


3. Select the tags to align
4. Click Finish

Copyright © Computer and Design Services Limited



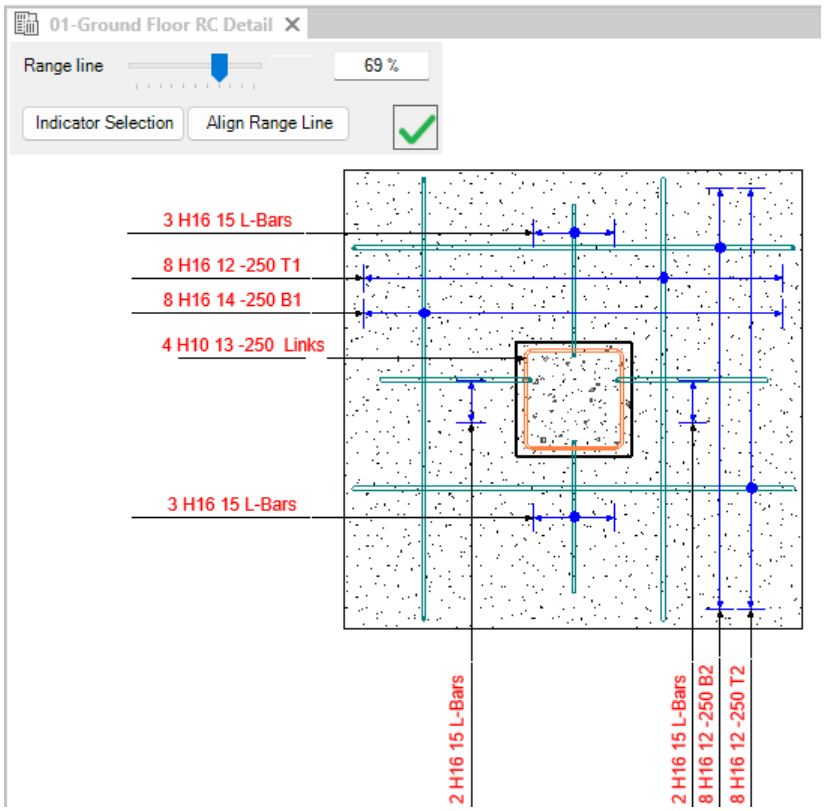
5. Pick a start point where the first tag will be placed.
6. Select a second point to specify the alignment of the tags, vertically, horizontally or on a slope.



9.1.6 Edit Annotation

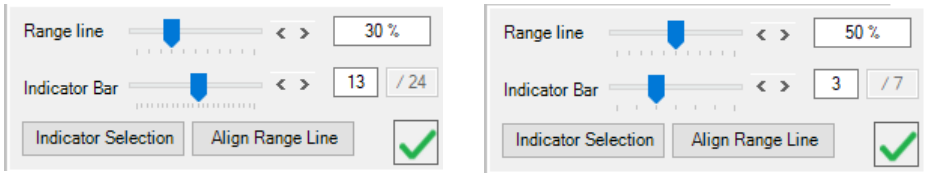
The Edit Annotation command can be used to move selected range lines or reveal alternative indicator bars in the assembly either individual or for a selection. This can be done by using the slide bar or typing in a percentage along the rebar or by specify the number of the rebar to reveal.
Additional functionality using the Indicator Selection allows one or more indicator rebars to be reveal within a range assembly. The Align Range option allows another range line to be aligned with another range or an existing detail line.

Copyright © Computer and Design Services Limited

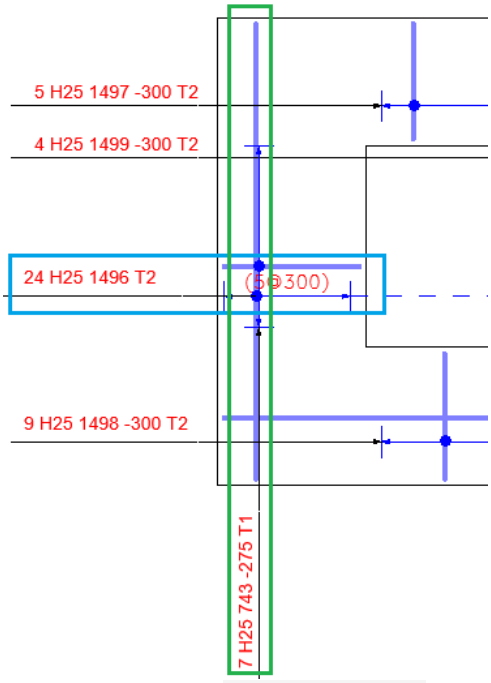


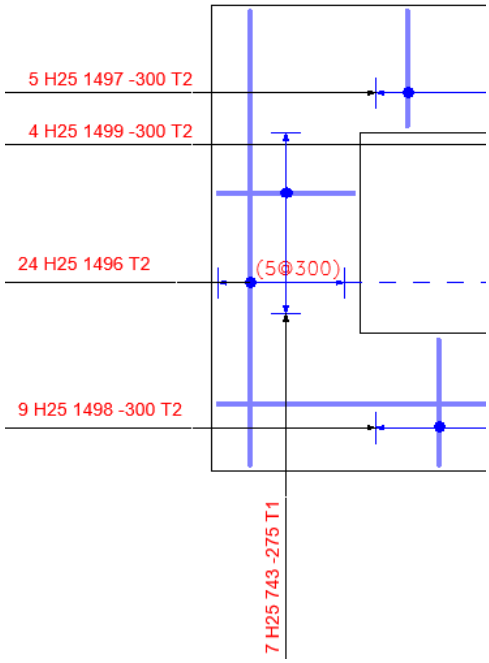
1. ***Moving the Range Line and/or the Rebar***

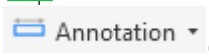
The Rebar for Bar Mark 743 in the diagram below is almost overlaying the range annotation for Bar Mark 1496 in the diagram below. Use the Edit Annotation Edit annotation command to change the position of the range annotation and/or which rebar is revealed in a rebar assembly.

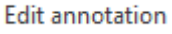


Copyright © Computer and Design Services Limited





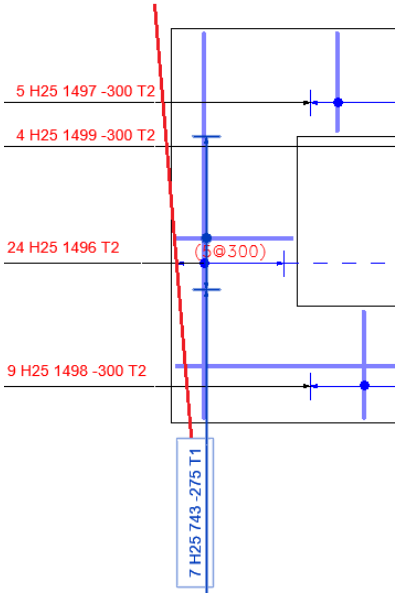
1. Select the 

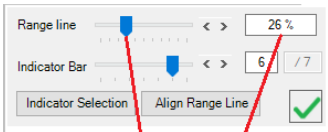
command from the Annotation Panel.
2. Choose: Edit Annotation 

3. Select Rebar Tags or Range Line: Select the Bar Label for Bar Mark 743, in this instance.
4. Click Finish 

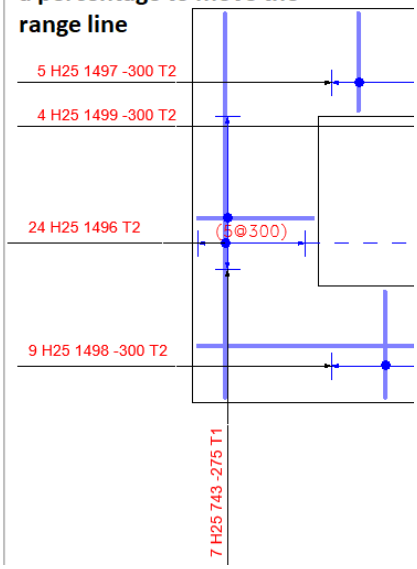
.
5. Slide the arrow to indicate the new position of the rebar or range line annotation.
6. Or, type in the range percentage or indicator bar number to display and then press enter to apply the change.

Select Edit Annotation command and pick the annotation for Bar Mark 743 and then click Finish

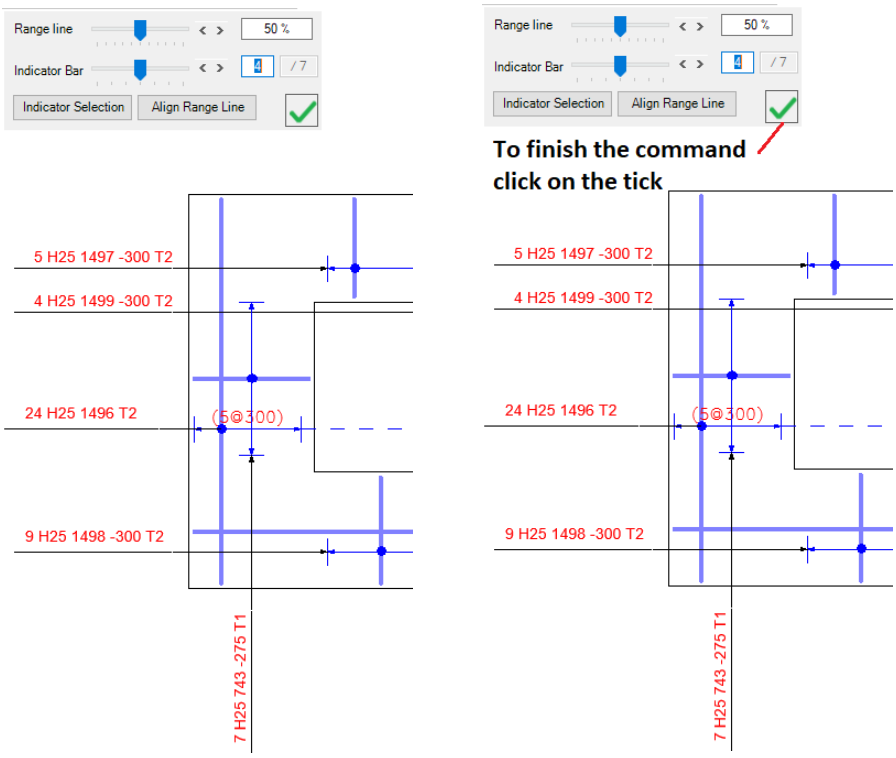




Slide the arrow or type in a percentage to move the range line



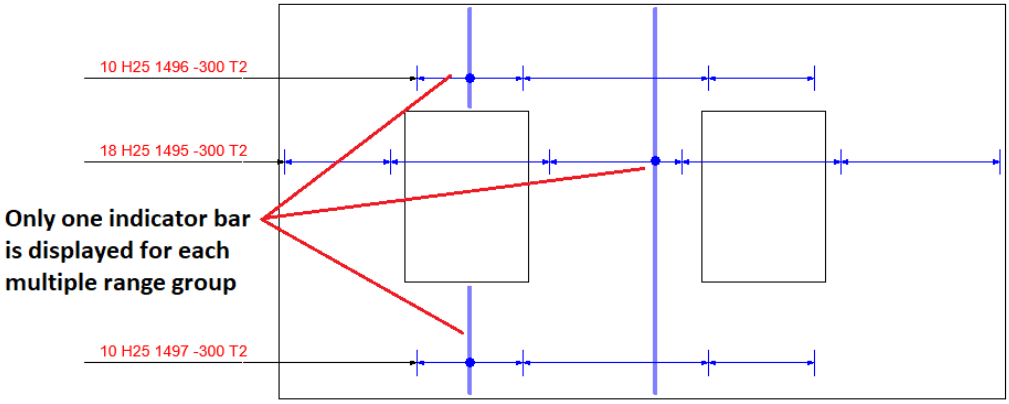
Copyright © Computer and Design Services Limited

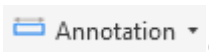


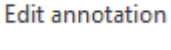
7. When the rebar or range line annotation is in the correct position click the green tick to finish the command.

2. Indicator Selection

Use the Indicator Selection option to reveal hidden rebar associated with a range line. For instance, if a multiple range is annotated using the Select host option an indicator bar will only be displayed in one of the multiple range groups. One or several annotations can be selected at one time.



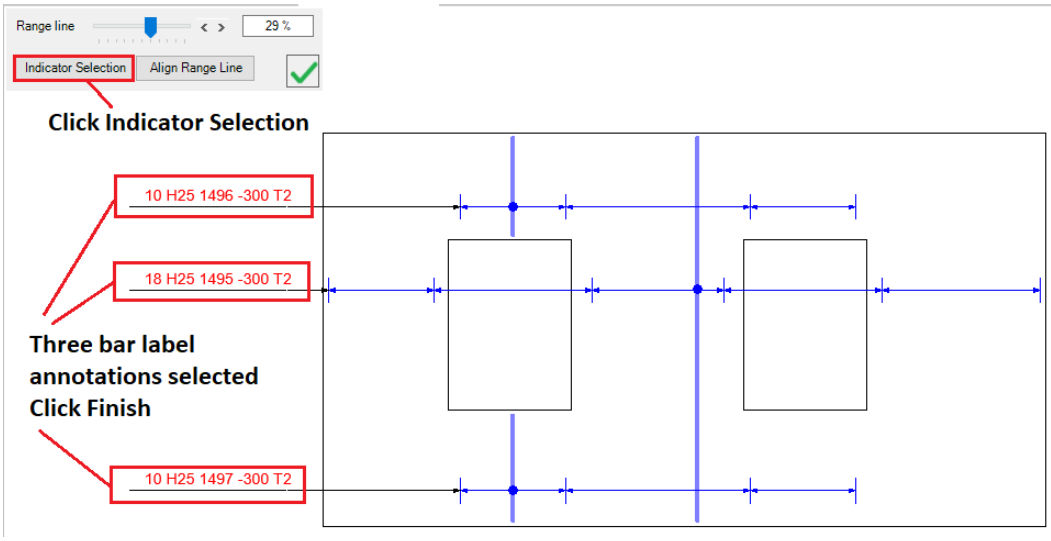
3. Select the 

command from the Annotation Panel.
4. Choose: Edit Annotation 

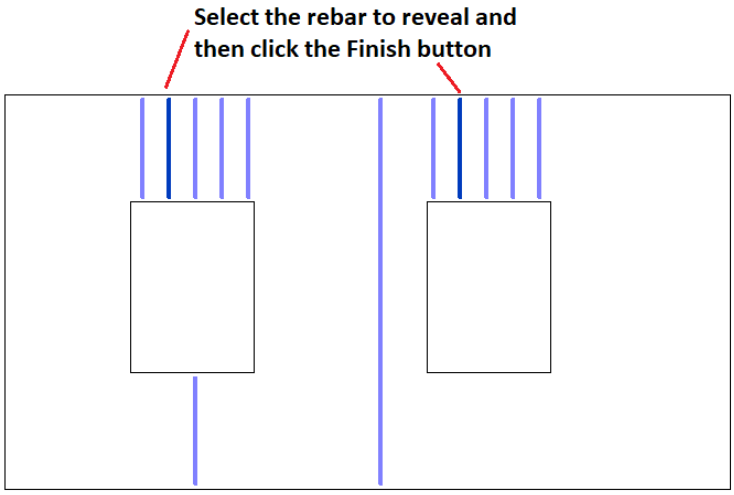
5. Select Rebar Tags or Range Line: Select all three bar label annotations
6. Click Finish 

.

Copyright © Computer and Design Services Limited

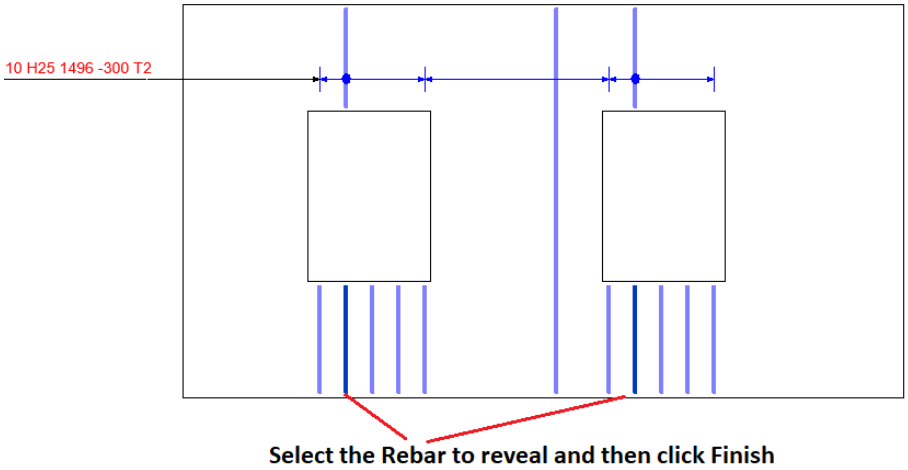


5. Click on the Indicator Selection button
6. The command will display the rebar for each range annotation in turn



7. Select the Rebar from the first assembly to display and then click Finish 

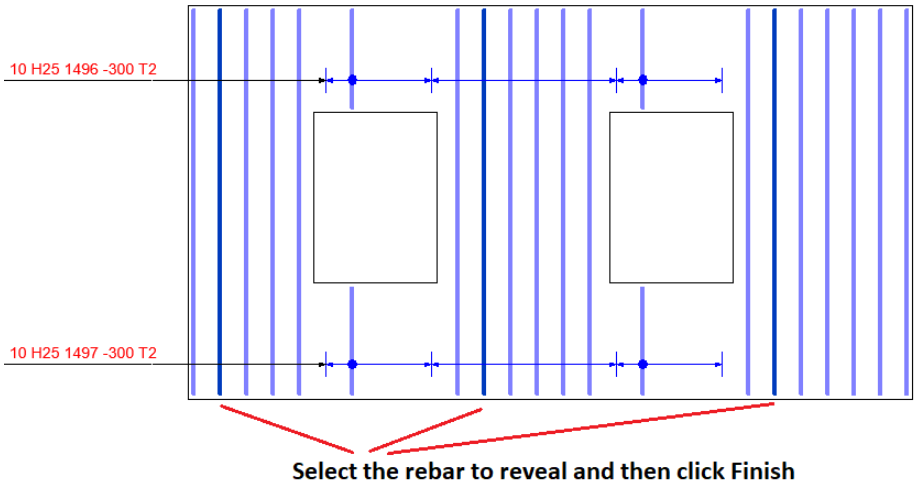
.



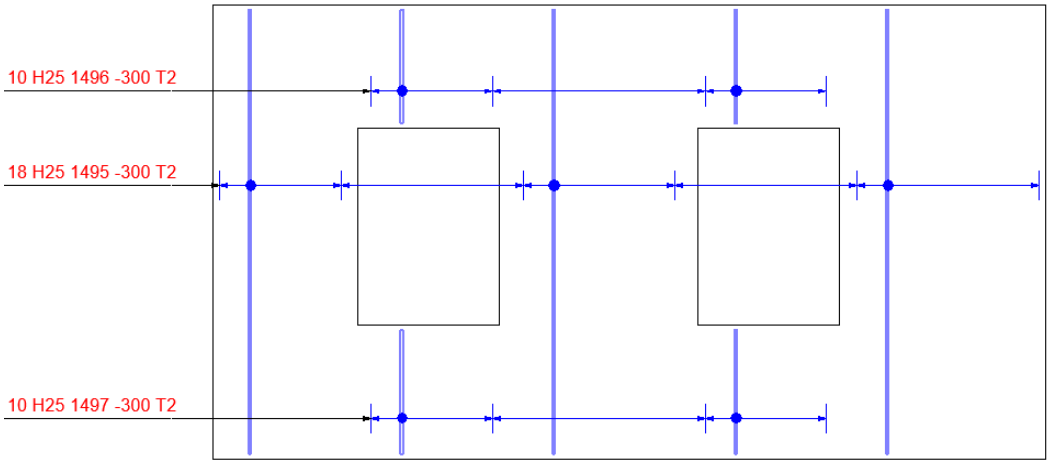
8. Select the Rebar from the second assembly to display and then click Finish 

.

Copyright © Computer and Design Services Limited

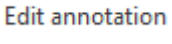


9. Select the Rebar from the third assembly to display and then click Finish  .
10. Click on the green tick to complete the command.

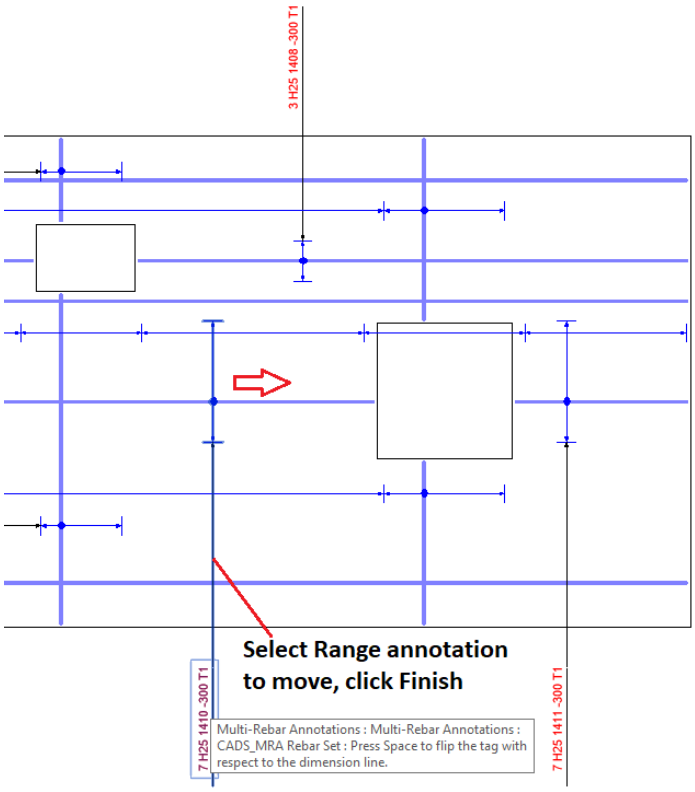


7. Align Range Line

Use the Range Line option to align a range line with another range line or detail line.

1. Select the  command from the Annotation Panel.
2. Choose: Edit Annotation  .
3. Select Rebar Tags or Range Line: Select the range annotation to move to align with another range line or detail line.

Copyright © Computer and Design Services Limited

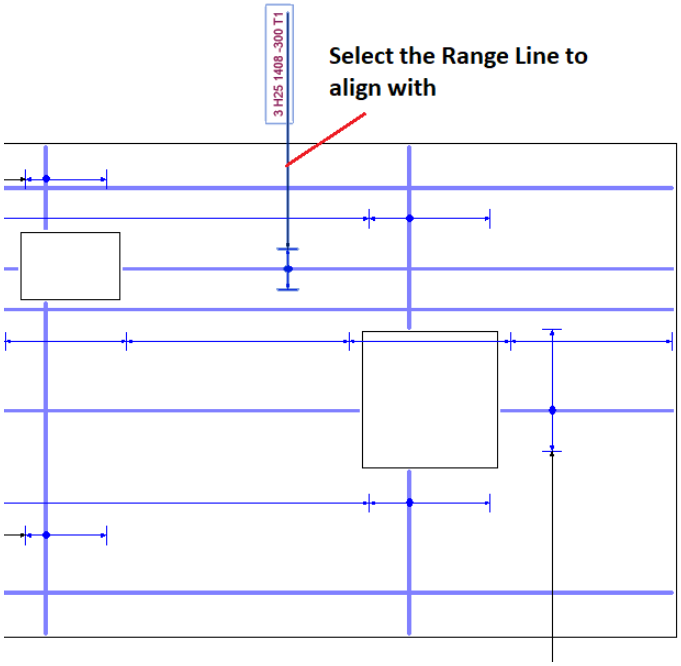


4. Click Finish 

.
5. Select Align Range Line.

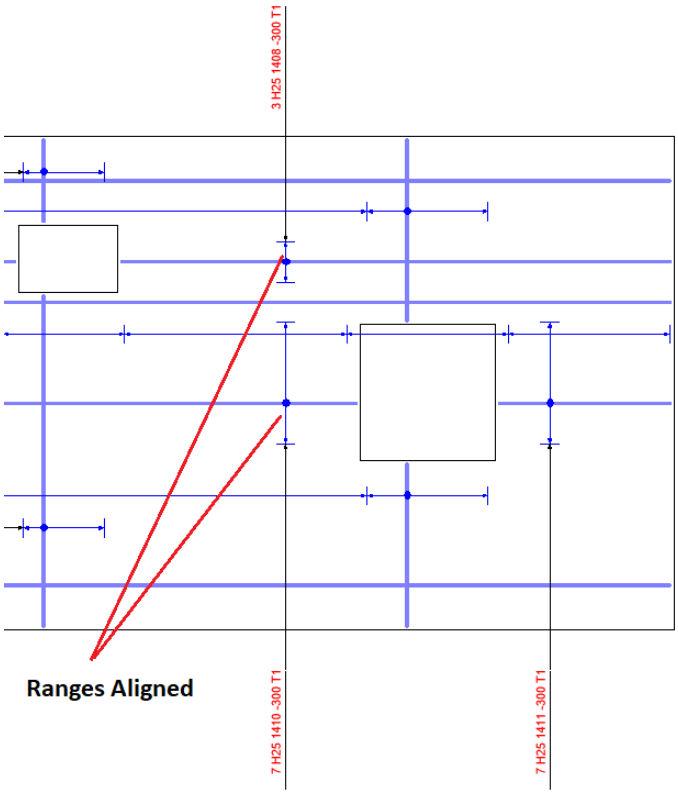


6. Select Range Line: Click on the Range Line to Align with.



7. Select the green tick to complete the command.

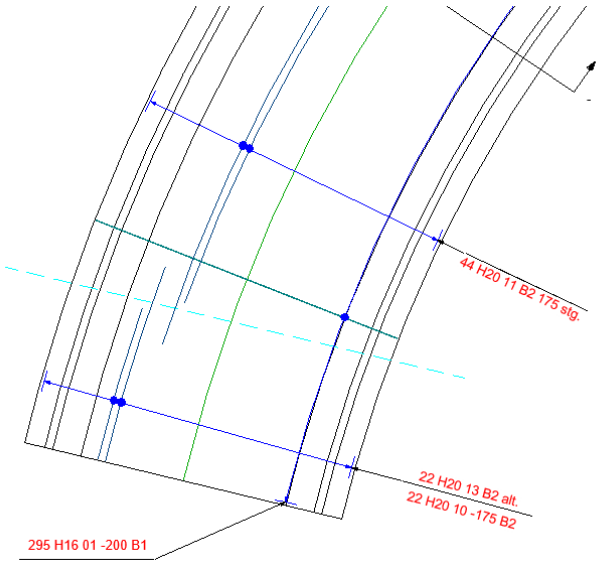
Copyright © Computer and Design Services Limited



9.1.7 Annotation Hints & Tips

Radial Range Annotation

- The position of the radial range annotation can be specified at the time of annotation by specifying a point along the range line. The rebar centres will be calculated based on the position of the range line.
- The radial range annotation now supports annotation of radial rebar arrangement placed as free form rebar.



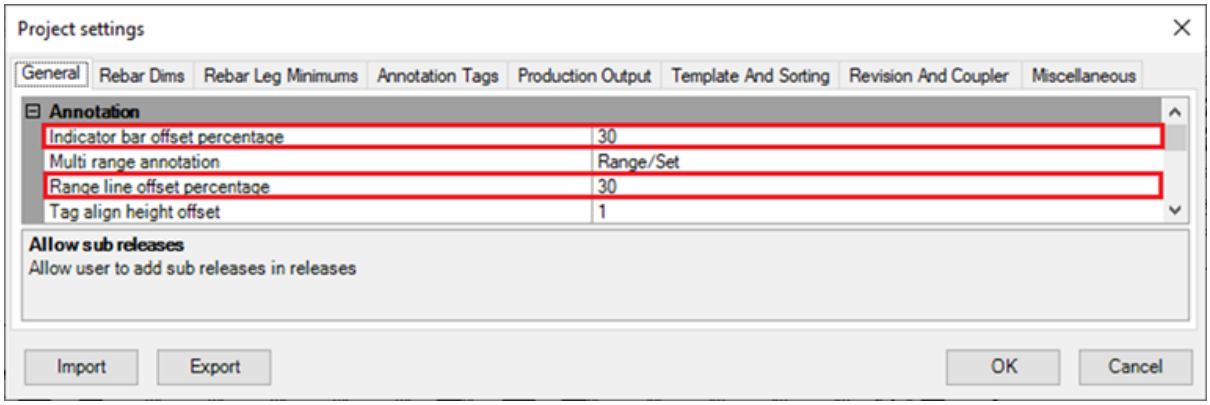
Copyright © Computer and Design Services Limited

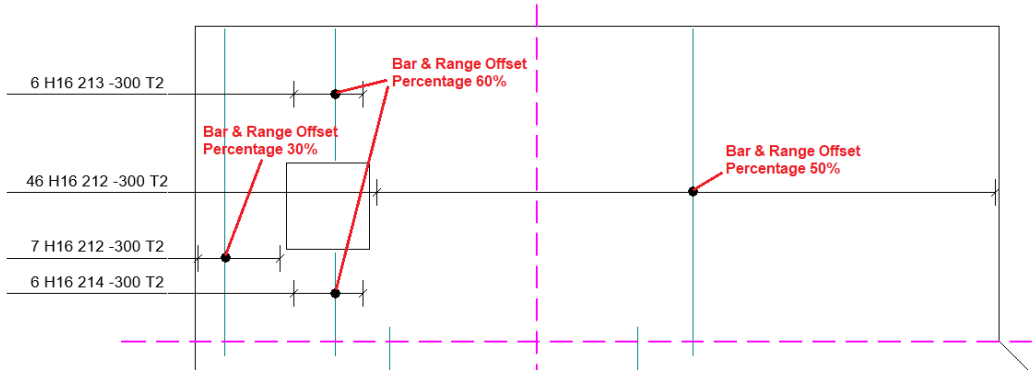
Group Annotation

- Modifications made to groups of rebar after they have been annotated will be automatically reflected in the bar label. This includes staggered annotation tags be automatically updated to alternate annotation tags and vice versa if the rebar groups are modified.
- If RC3D cannot use the configured annotation for a particular assembly type such as a tapered range it will substitute the annotation with a group annotation.

Configuring Default Position of Rebar and Range Annotation

- An option has been introduced in the Project Settings dialog to allow a default position for the rebar and range line to be specified. Project Settings – General Tab – Annotation Indicator bar offset percentage and Range Line Offset Percentage .

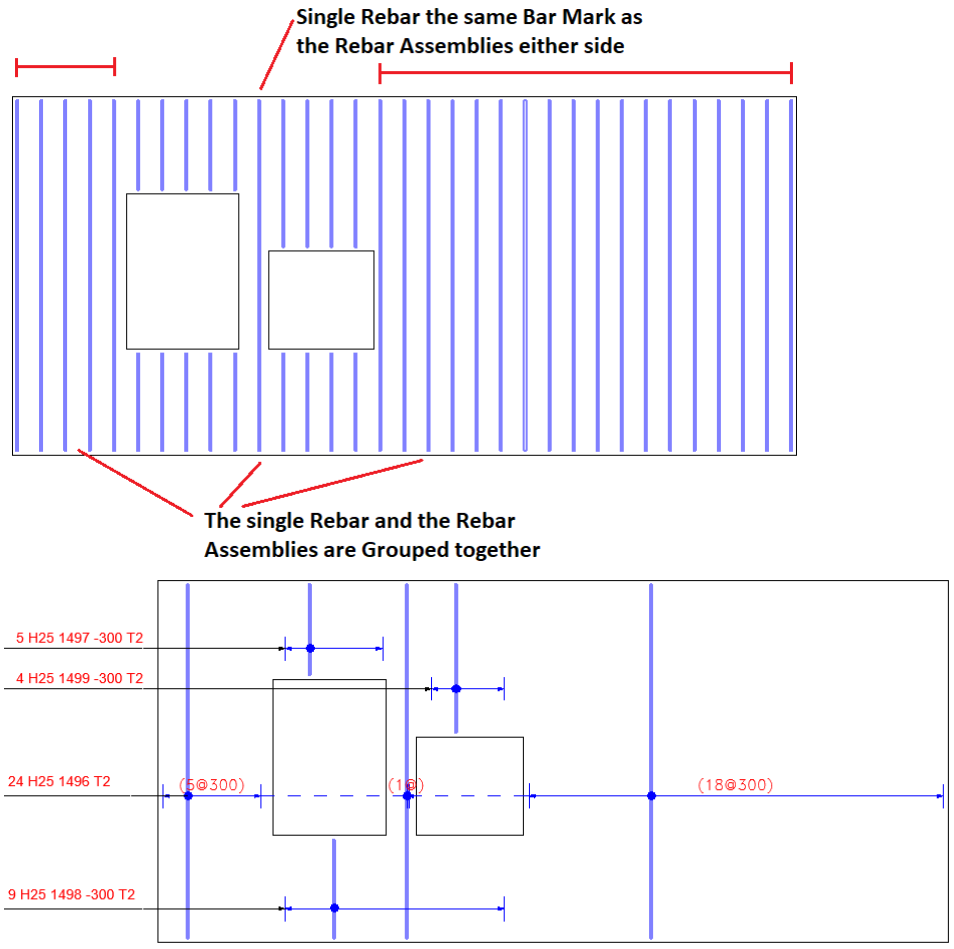




Support for Single Rebar in a Multiple Range

Where one rebar is present of the same bar mark as other bar marks, provided they are grouped together the multiple range command will show a single rebar.

Copyright © Computer and Design Services Limited

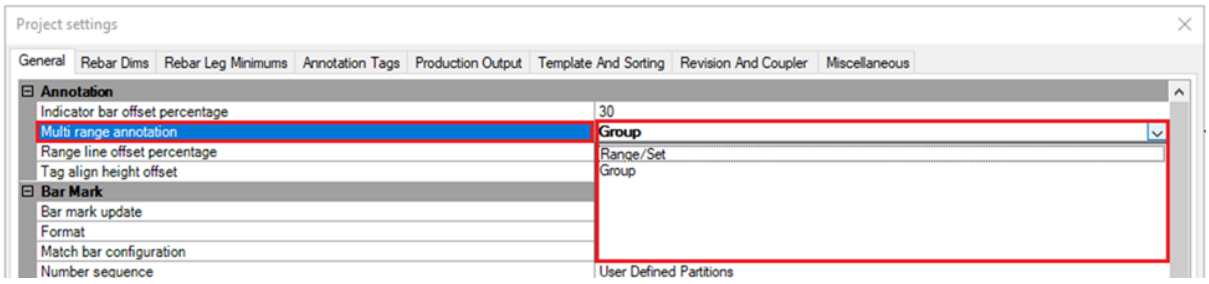


Multiple Range Annotation across Hosts

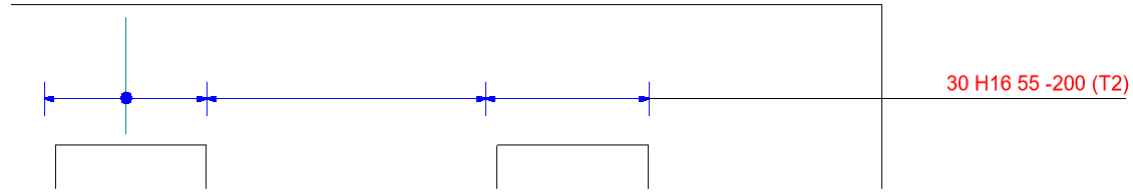
Multi range annotation can be placed for the rebar across multiple hosts.

Multiple Range Annotation Styles

The Project Settings dialog includes an option on the General Tab to switch between the default and custom range annotation for multiple pitch range annotation.

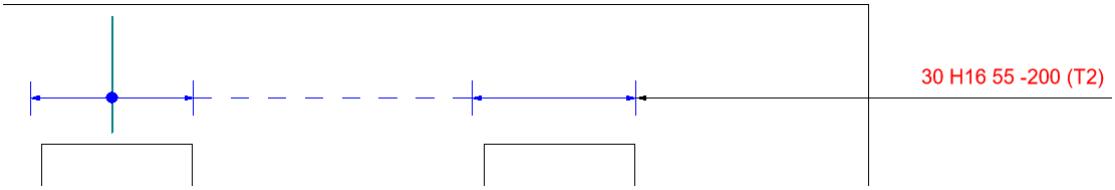


Custom annotation for multi-pitch range set to Range/Set.



Copyright © Computer and Design Services Limited

Custom annotation for multi-pitch range set to Group.



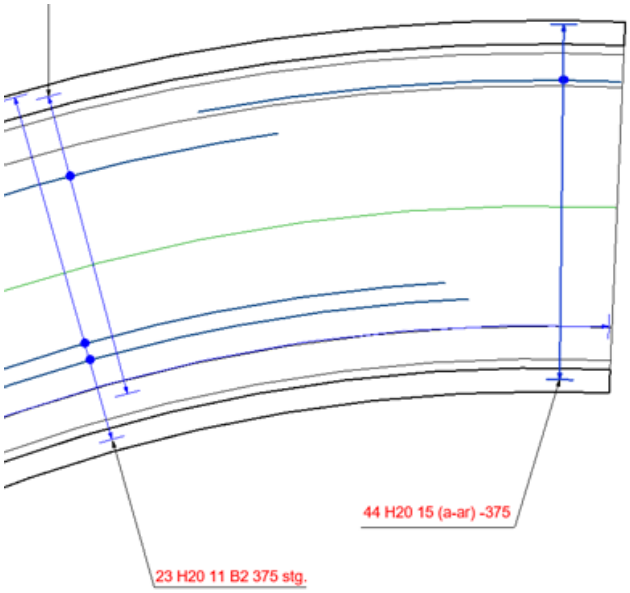
Note: that the lines between the ranges are shown dashed without an arrow when the Custom Annotation is configured.

Range Text Annotation

A feature to place text annotations for the number of rebar and their centres along the range line has been included. Range Text Annotation Configuration inside the Project Settings dialog under the Annotation Tags Tab has been introduced to allow control of the range text parameters and positions.

Annotation for free form linear tapered assemblies

Curved free form rebar can have a varying tapered range applied

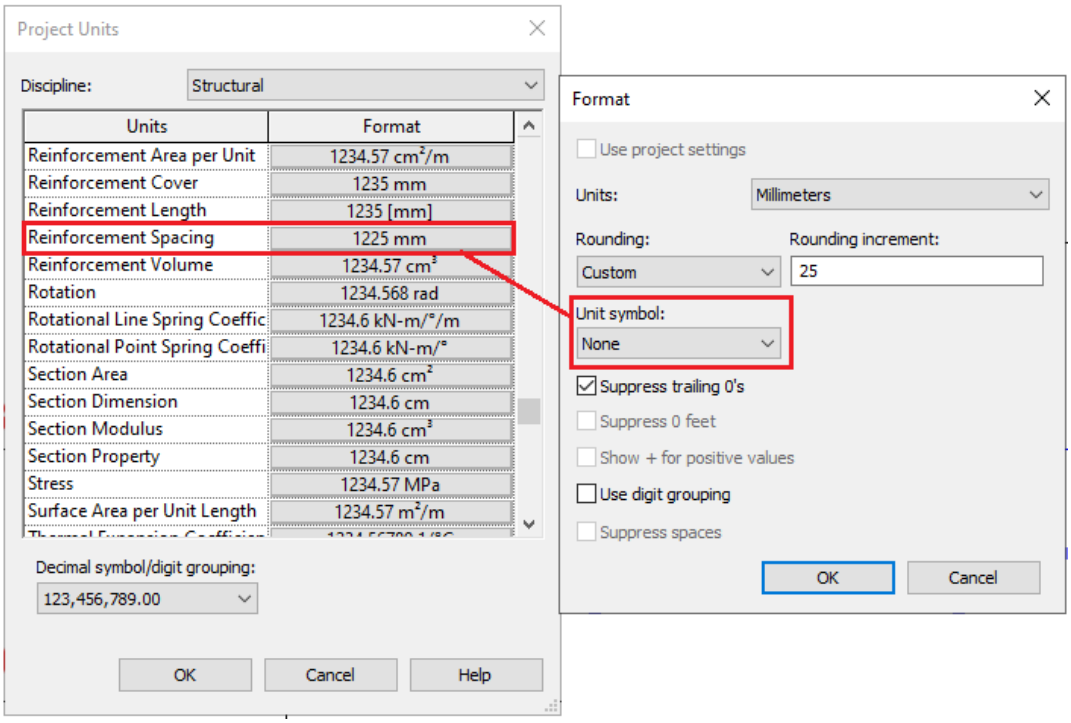


Removing the mm and rounding the centre to centre value on the bar tags (labels).

5 H25 1463 -300 mm B2

1. Select the Revit® Manage Tab.
2. Click on the Project Units option.
3. Change the Discipline to Structural.
4. Locate Reinforcement Spacing.
5. Click on the Format button.
6. Change the Rounding to Custom and set the Rounding Increment to 25.
7. Change the Unit Symbol to None.

Copyright © Computer and Design Services Limited

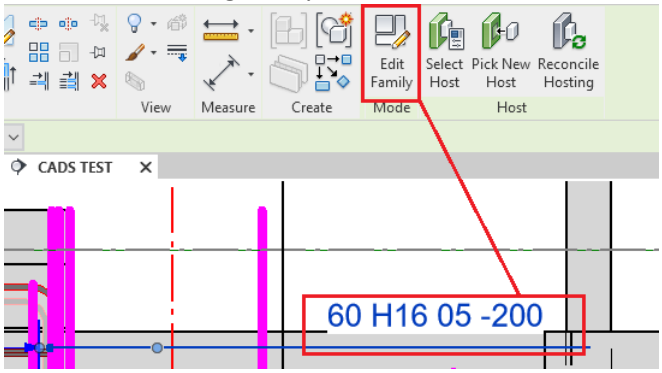


5 H25 1463 -300 B2

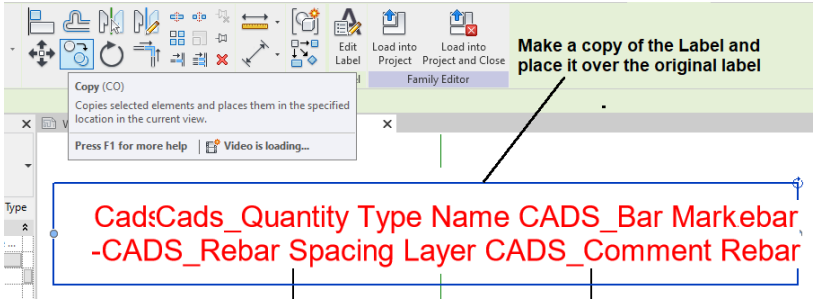
Customising Group Annotation to add a Comment Parameter

Due to current limitations with the Group Annotation there is no Comment Parameter included in the Label. Follow the instructions below to edit the family and add a New Type to the Family with the comment parameter added.

1. Select the Group tag placed for the annotation.
2. Edit the tag family.

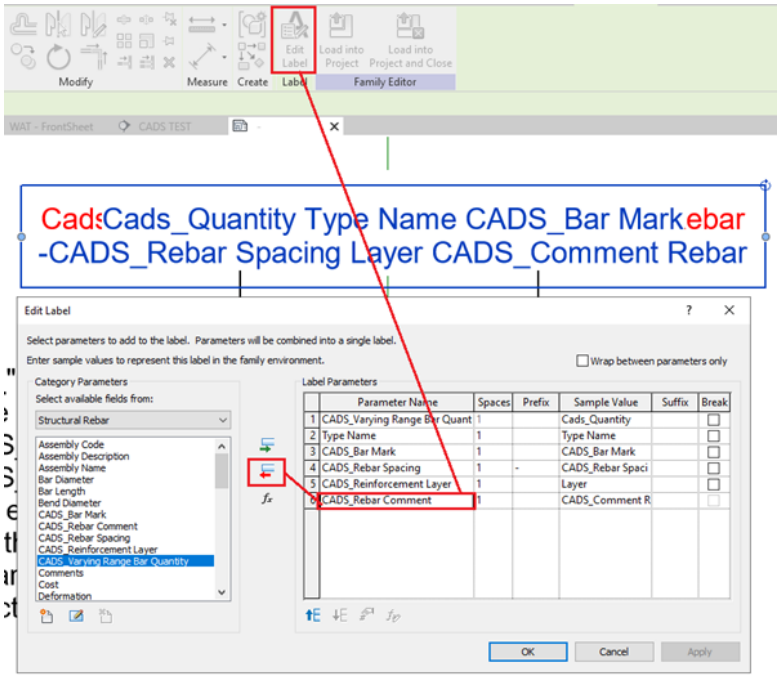


3. Duplicate a tag label and Edit the label.

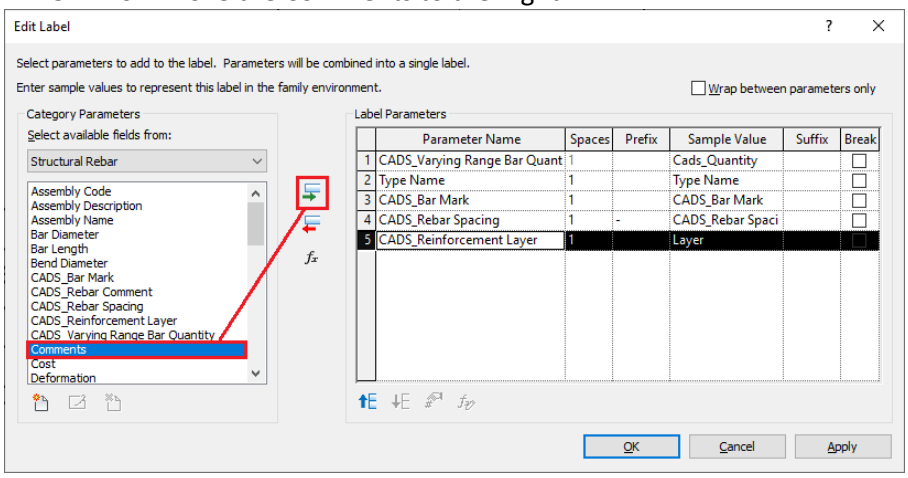


4. Move the CADS Rebar comment to the left.

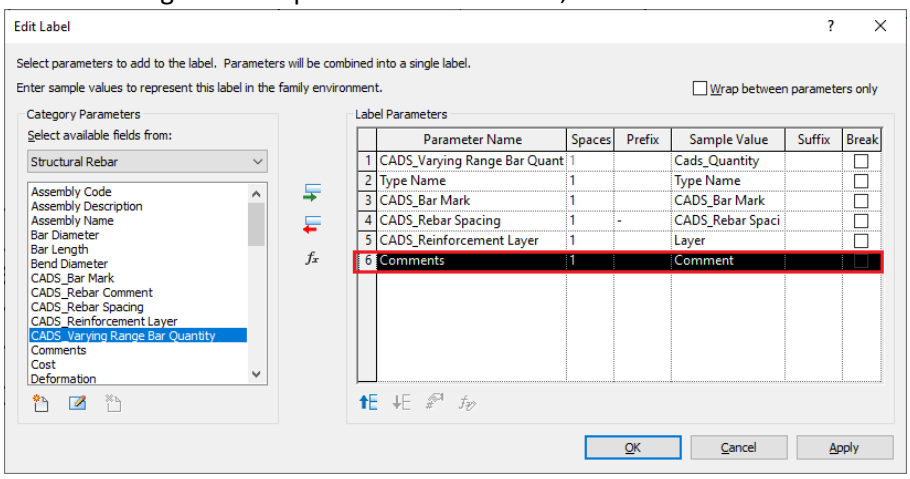
Copyright © Computer and Design Services Limited



5. Now Move the Comments to the Right.

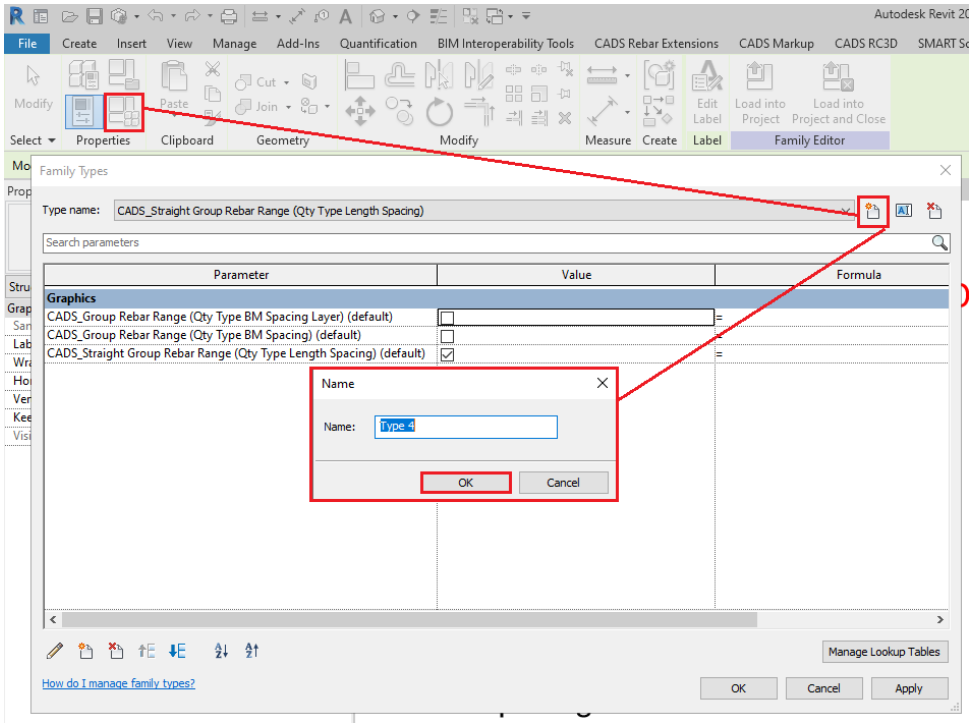


6. Change the Sample Value to Comment, Click Ok.

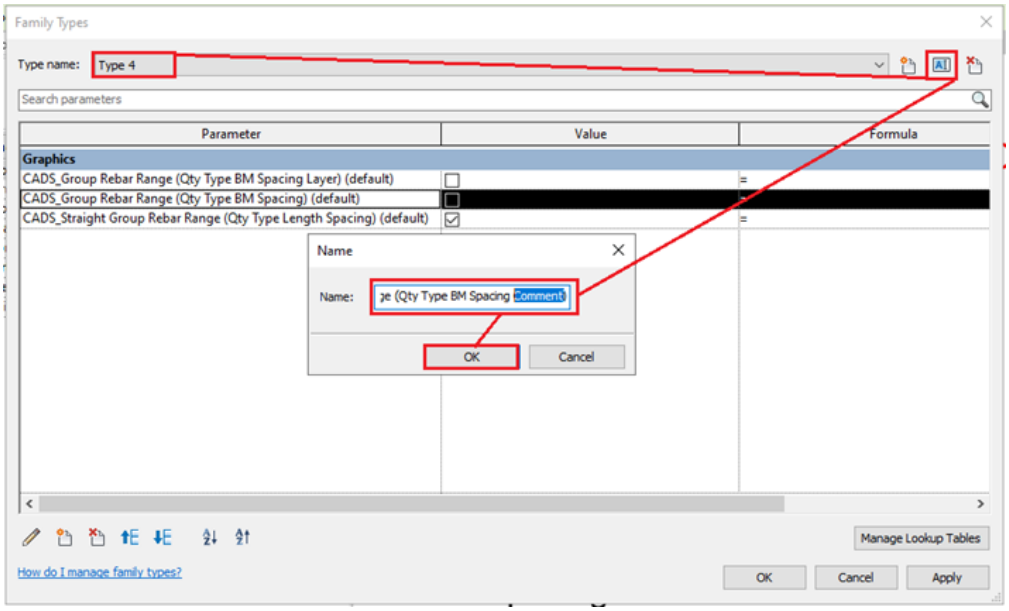


7. Select the Family Types command from the Properties Panel.
8. Create a New Type in the Tag Family.

Copyright © Computer and Design Services Limited

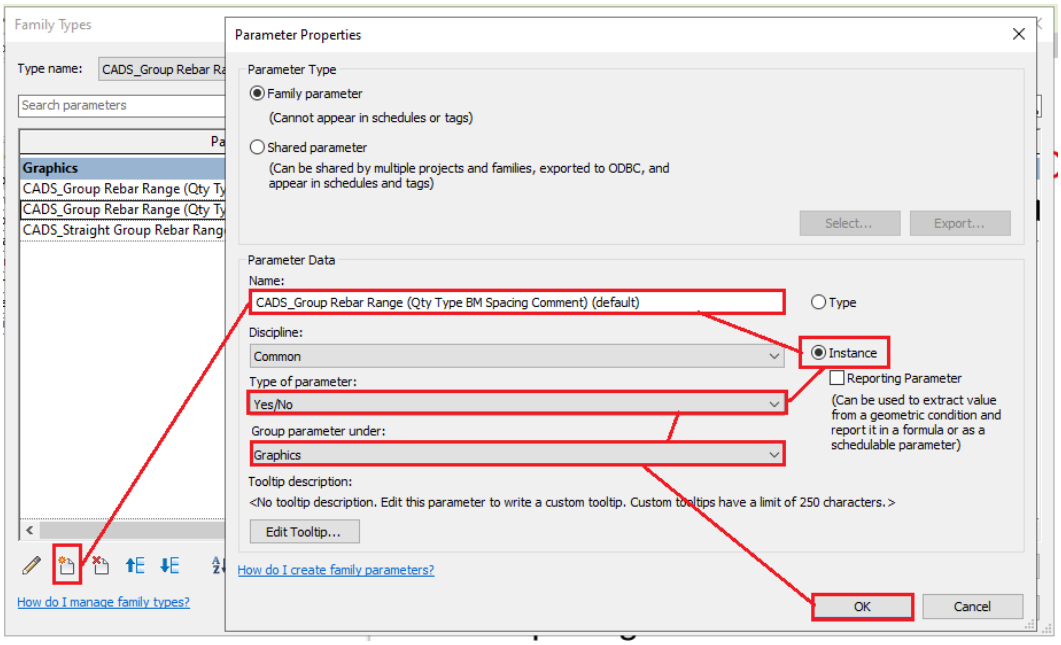


9. Copy the "CADS_Group Rebar Range (Qty Type BM Spacing) (default)" onto the clipboard (CTRL C).
10. Make sure the Type Name is set to Type 4 and click the Rename Type button.
11. Create a new parameter with the parameter details as shown in the image below:
12. Paste in the "CADS_Group Rebar Range (Qty Type BM Spacing) (default)" and add Comment after the Spacing. Click Ok.

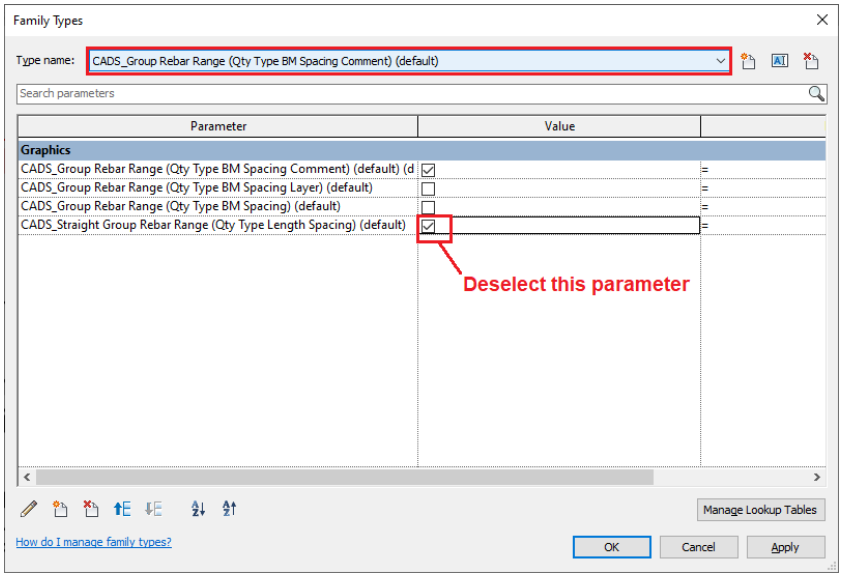


13. Assign the new parameter to the newly created type.
14. Type in the same name as previously assigned "CADS_Group Rebar Range (Qty Type BM Spacing Comment) (default)"
15. Click Instance
16. Set Type of parameter to Yes/No
17. Group Parameter under: Graphics and click OK.

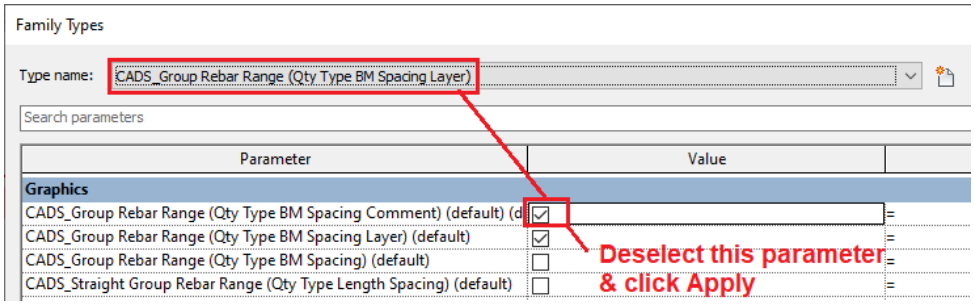
Copyright © Computer and Design Services Limited



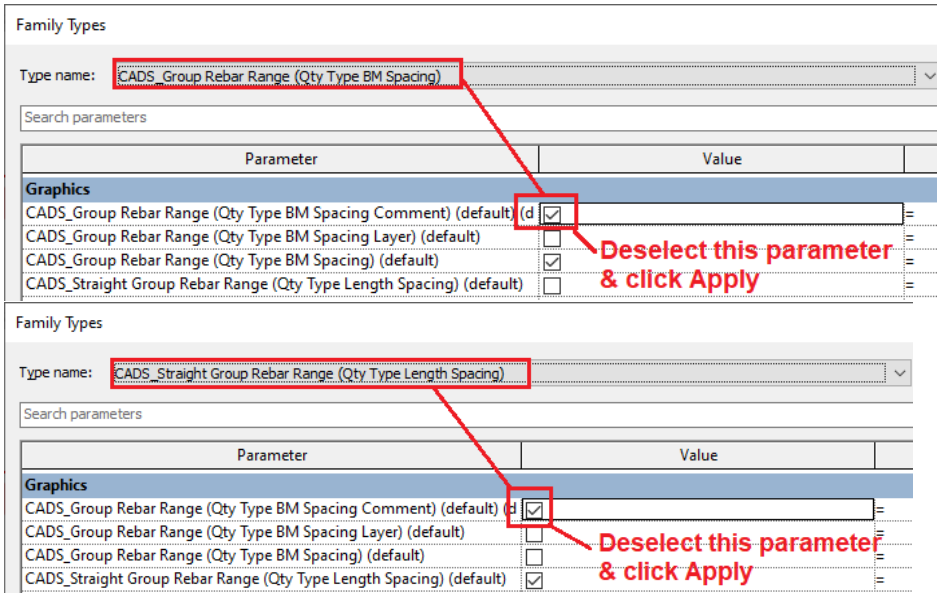
18. Select the new tag label created earlier.
19. Deselect the CADS Straight Group Rebar Range (QTY Type length Spacing) (default) and click Apply.



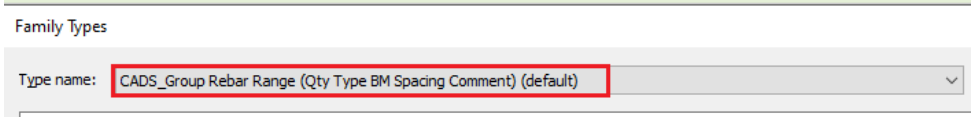
20. Repeat this procedure for each of the Type Names so that the “CADS_Group Rebar Range (Qty Type BM Spacing Comment) (default)” is only visible for the Type Name “CADS_Group Rebar Range (Qty Type BM Spacing Comment) (default)”.



Copyright © Computer and Design Services Limited



21. Before exiting the dialog set the Type Name to "CADS_Group Rebar Range (Qty Type BM Spacing Comment) (default)", click Apply and OK.

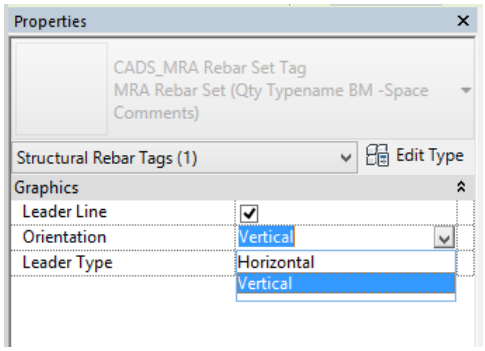


22. Check that the type is visible by selecting the label and clicking the Visible option in Properties, click ok to close the dialog.

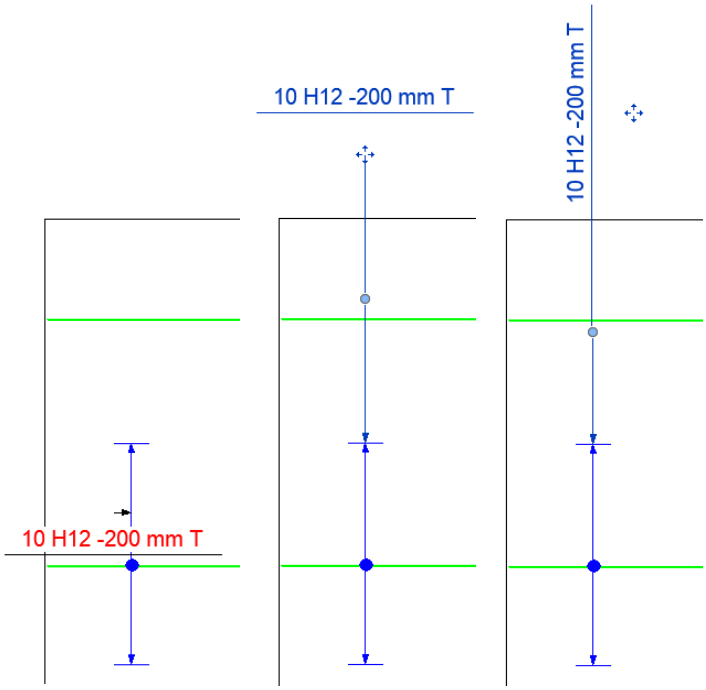
Rotating Horizontal Bars to being Vertical Bar Labels

1. Select the range annotation.
2. Click on the Select Tag 

command from the Revit® Modify/Multi-Rebar Annotations tab in the Edit Panel.
3. Use the "Drag" option to move the bar label to its new location.
4. In the Properties dialog, change the Orientation from Horizontal to Vertical.



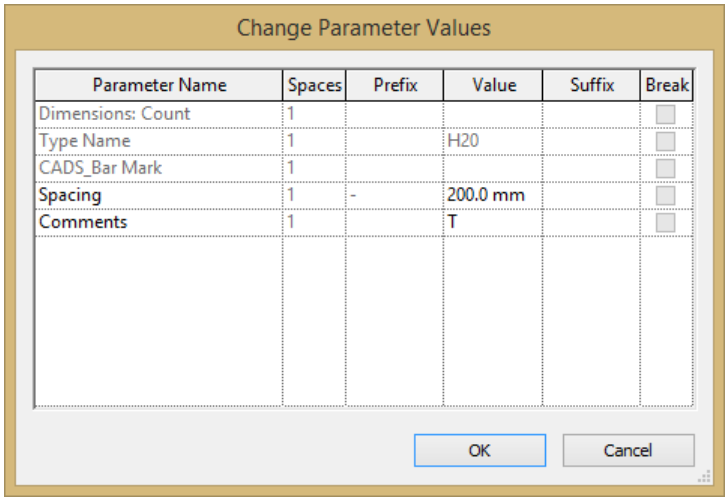
Copyright © Computer and Design Services Limited



Editing the Bar Label

1. Select the Range Annotation.
2. Click on the Select Tag 

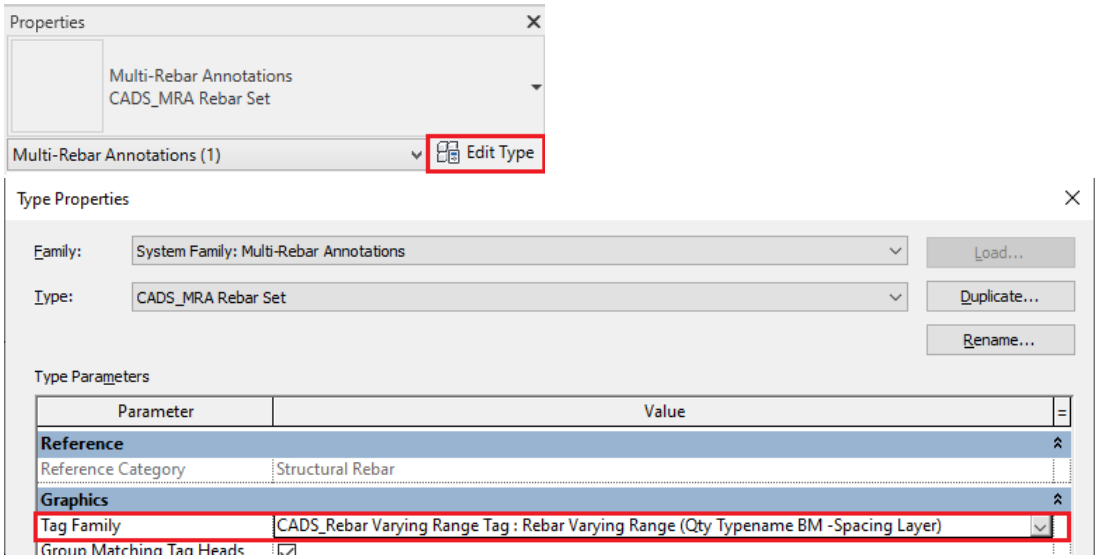
command from the Revit® Modify/Multi-Rebar Annotations tab in the Edit Panel.
3. Click on the Bar Label to display the Change Parameter Values dialog and make the required changes / additions, then click OK.



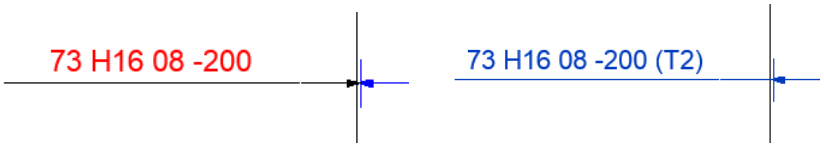
Choosing an Alternative Bar Label Type

1. Changing the Bar Label Annotation.
2. Select the range annotation.
3. In the Revit® Properties dialog click Edit Type.

Copyright © Computer and Design Services Limited

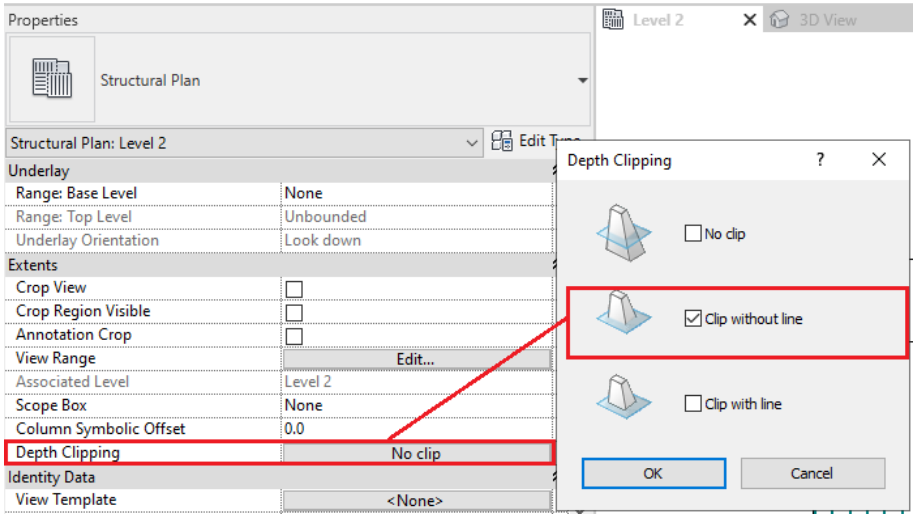


4. In the Type Properties dialog change the Tag Family.
5. For instance, to add the CADS Reinforcement Layer annotation select the Tag "CADS_MRA Rebar Set Tag: MRA Rebar Set (Qty Typename BM -Space Layer Comments)".



Moving Range Annotation Line causes dimension to report as invalid

If this error occurs, please check the Depth Clipping option in the Revit® Properties dialog for the current view. It needs to be set to Clip without Line, this is a known Revit® limitation.



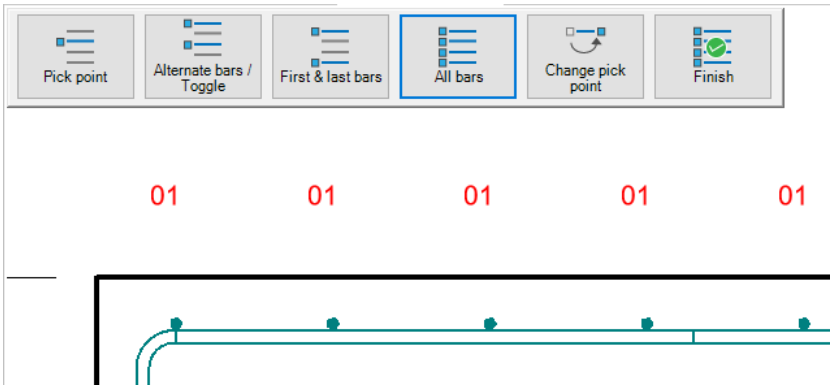
9.1.8 Rebar Ref

The Place Rebar Reference 

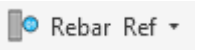
command adds a bar mark reference to a 2D view for the selected rebar. Different placement options such as all bars, pick point, first and last bar reference can be selected from the pop-up menu. The Edit command can be used to change which bars can be

Copyright © Computer and Design Services Limited

annotated and move the base point of the labels. The bar references are grouped together, so they can be deleted as one entity.
If the CADS Bar Mark number changes the rebar reference will automatically update. The Rebar Reference leader can be switched on in the Revit® Properties panel. Different Arrowhead definitions can be configured in the Edit Type dialog.

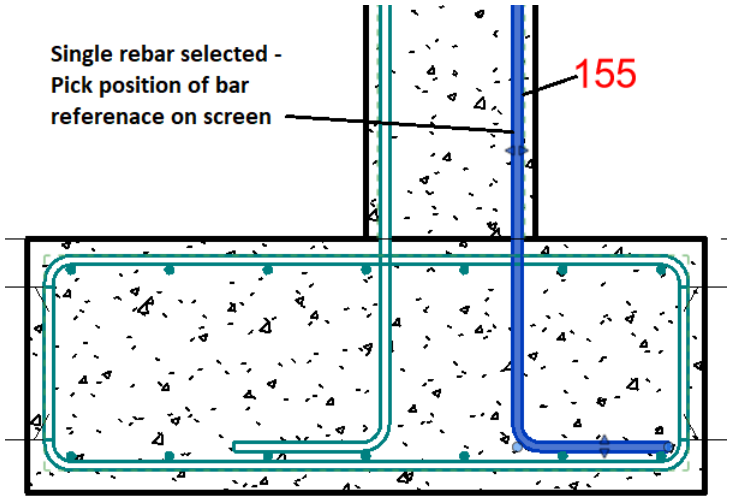


9.1.9 Place Rebar Ref

1. Navigate to a 2D view suitable to place rebar references such as a section view. You may want to place a 'guide line' for placing the references.
2. Select the Rebar Reference 

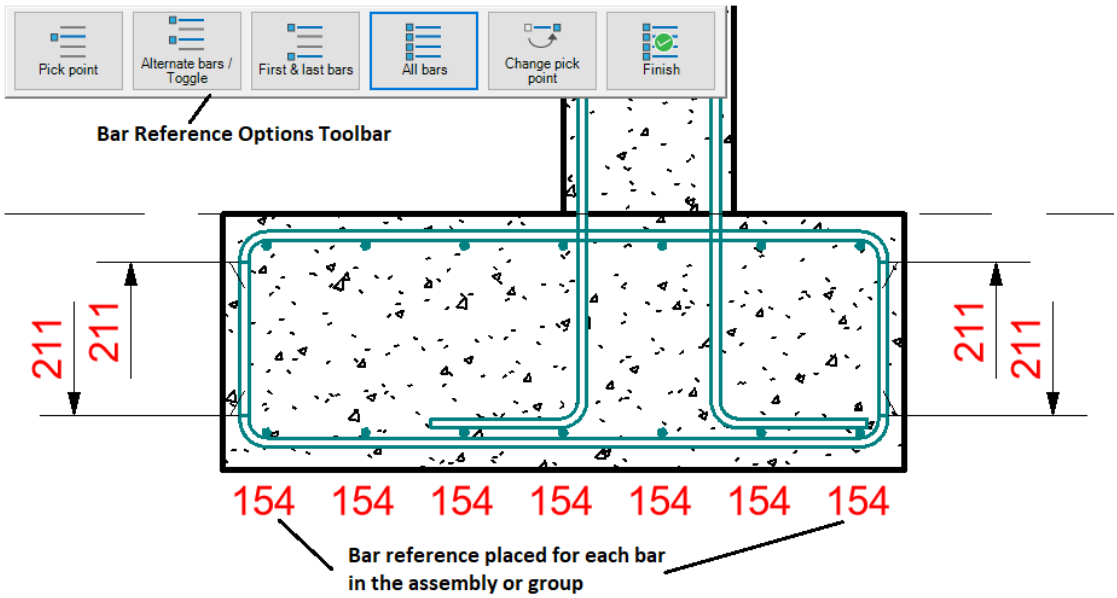
drop-down menu and select the Place 

command from the Annotation Panel.
3. Select a group, assembly or rebar in the concrete host.
4. Pick the insertion point of the rebar reference in relation to the rebar selected.
5. If a single rebar is selected, a prompt appears for an insertion point. Pick a point on the screen to add the bar reference. Press ESC to finish the command. The leader from the bar reference can be switched on, refer to Adding a Rebar Reference Leader .

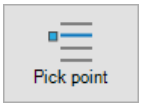


6. If an assembly or group is selected the command places a bar reference for every rebar and displays the Bar Reference Options toolbar on screen. The All Bars option is the default option.

Copyright © Computer and Design Services Limited

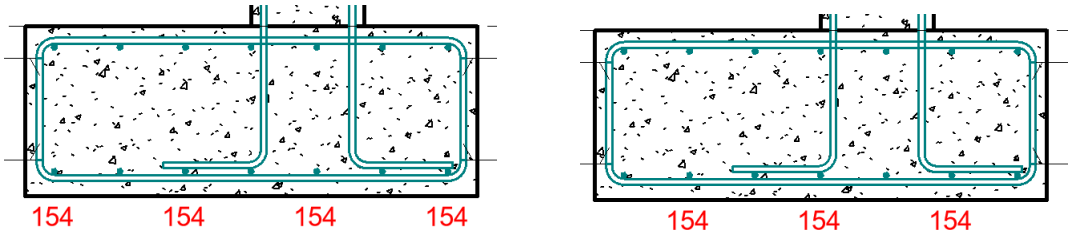


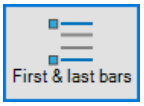
7. Use the Options to change the bar reference display;

- Pick Point 

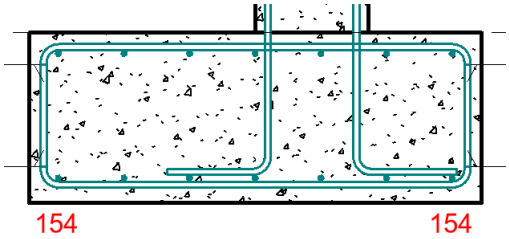
- Use to place one bar reference at a time by picking the insertion point on the screen.
- Alternate Bars / Toggle 

- Use to display alternate bar references, click again on this option to toggle the bar references.



- First & Last Bars 

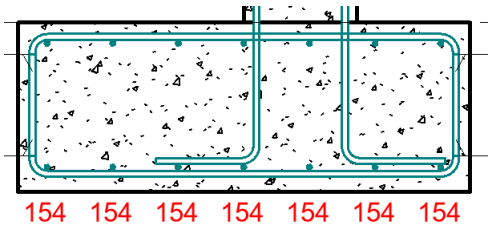
- Use to show the first and last bar references in a group or assembly of rebar.

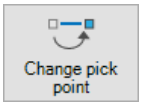


- All Bars 

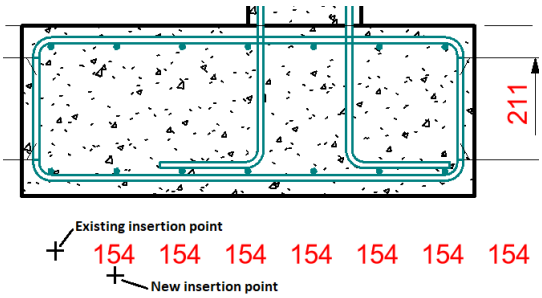
- Use to show all the bar refences for a group or assembly of rebar.

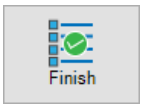
Copyright © Computer and Design Services Limited



- Change Pick Point 

- Use to change the insertion point of the group of bar references.

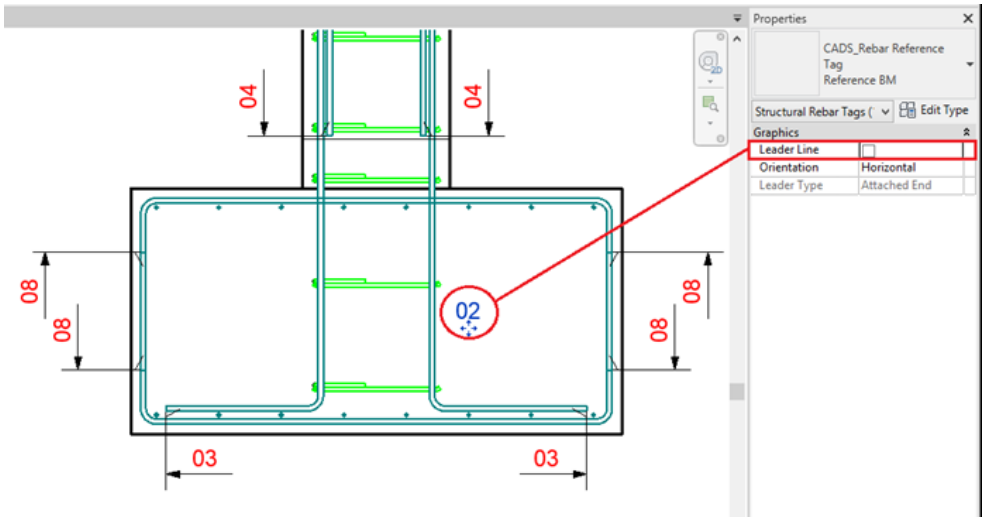


- Finish 

- Click to finish the Bar Reference Place command.

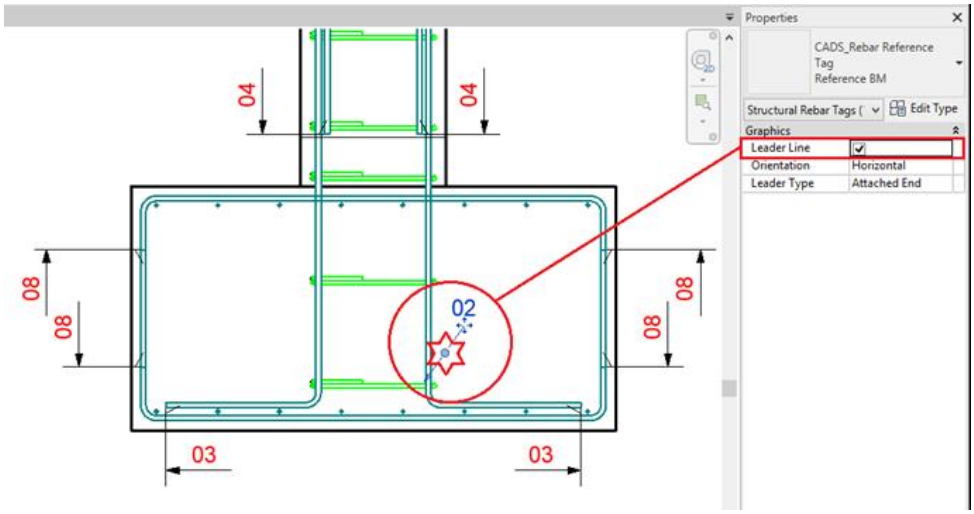
9.1.10 Adding a Rebar Reference Leader

1. A leader can be added to a rebar reference

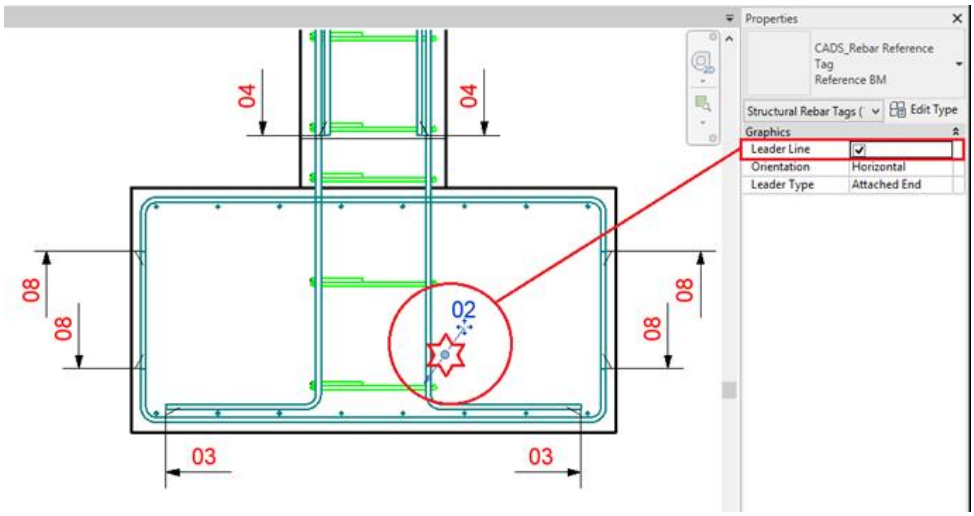


2. Select the rebar reference and tick the Leader Line option in the Revit® Properties panel.

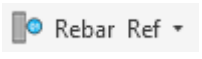
Copyright © Computer and Design Services Limited



3. Use the Drag point (indicated with the star in the diagram above) to adjust the leader line.



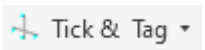
9.1.11 Edit Rebar Ref

Select the Rebar Reference 

drop down menu and select the Edit 

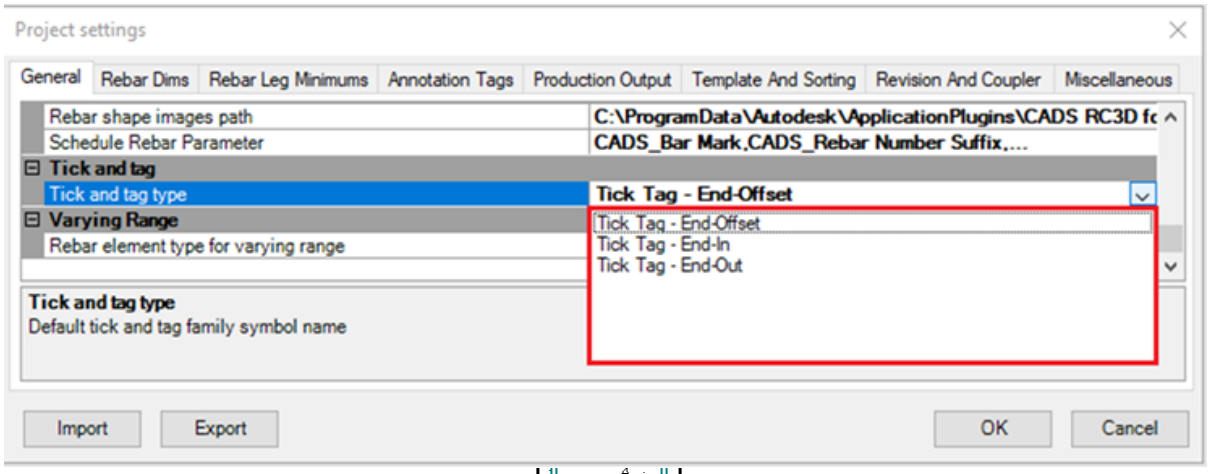
command from the Annotation Panel.
Select the bar reference to edit.
The same Bar Reference Options Toolbar is displayed as the Place Bar Reference command.

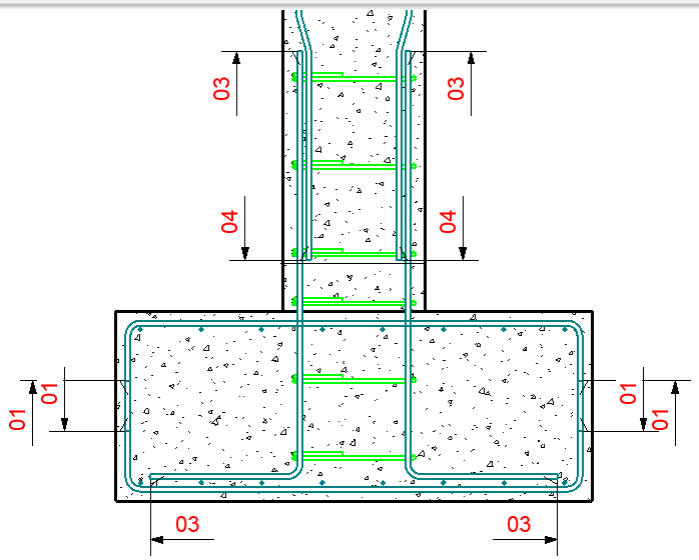
9.2 Tick Tag

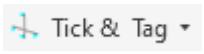
The Tick &Tag 

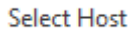
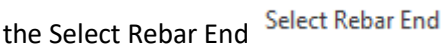
command annotates the end of the rebar with ticks and tags. Options have been added to the functionality to control the position and visibility of the ticks and tags. The tick and Tag will be loaded from the project if it is present, otherwise it will be loaded from the installed location. The Tick type used by this command can be configured in the Project Settings, General Tab.

Copyright © Computer and Design Services Limited





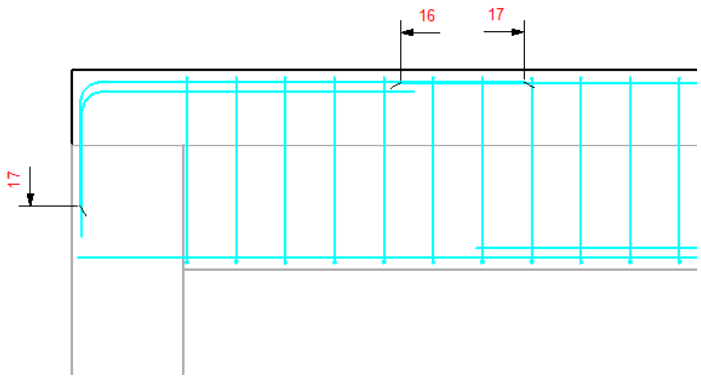
1. Select the Tick and Tag  command from the Annotation Panel.

2. Select either the Select Host  option or the Select Rebar End  option from the drop-down menu.

3. Selecting the Select Host option prompts the user to select a host or multiple hosts to add tick and tag annotation to rebar ends.
4. Once the selection has been completed, select the Finish  button. The ticks and tags will be automatically added to the ends of the rebar in the selected hosts in the current 2D view.

5. The Host option does not add tick and tag annotation to the ends of rebar that do not clash with the other rebar in the current 2D view.

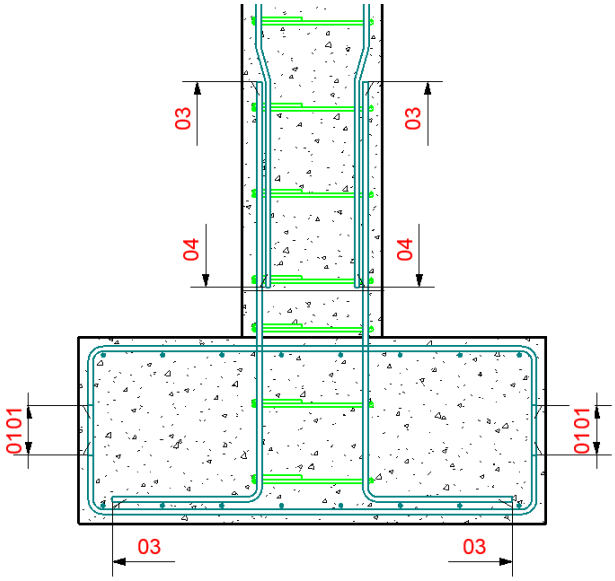
Copyright © Computer and Design Services Limited



6. Clicking on the Select Rebar End option allows the user to select individual rebar end to annotate with ticks and tags.

9.2.1 Editing the Tick & Tag Display Hints & Tips

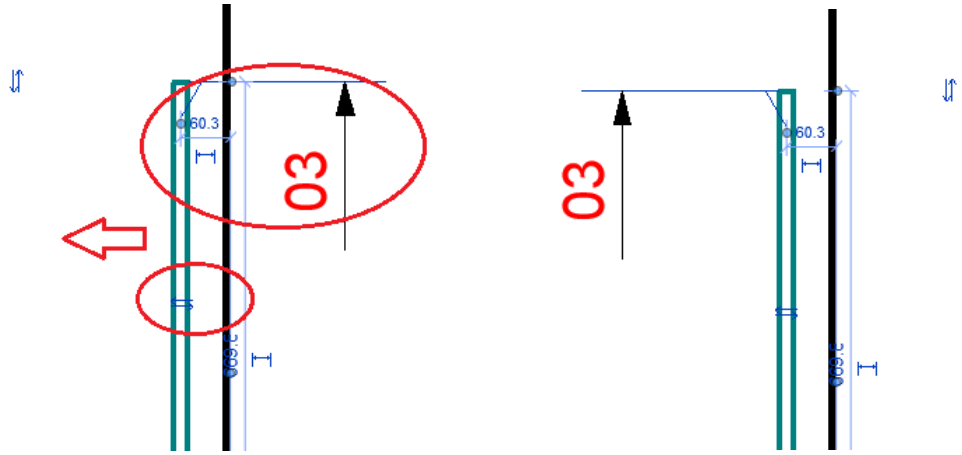
When the ticks and tags have been added to the ends of the rebar, they may not be in the correct position. Editing options have been included with the tick and tag entities to allow them to be repositioned. If the CADS Bar Mark changes within the project, the tag text will automatically update.



Flipping the Tick and Tag

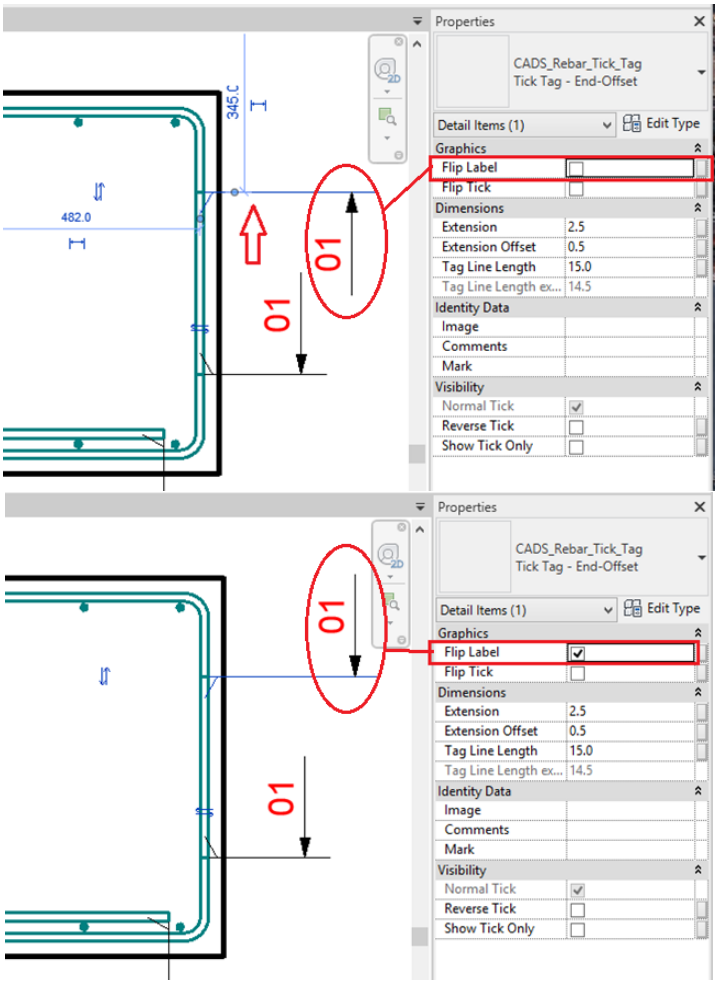
1. To flip the entire Tick and Tag to a different orientation, select it to display the flip symbols.
2. Two Revit® flip symbols (bi-directional arrows) are now shown associated with the Tick and Tag.
3. In the case shown below, use the horizontal arrows to flip the tick and tag horizontally.

Copyright © Computer and Design Services Limited



Flip the Label

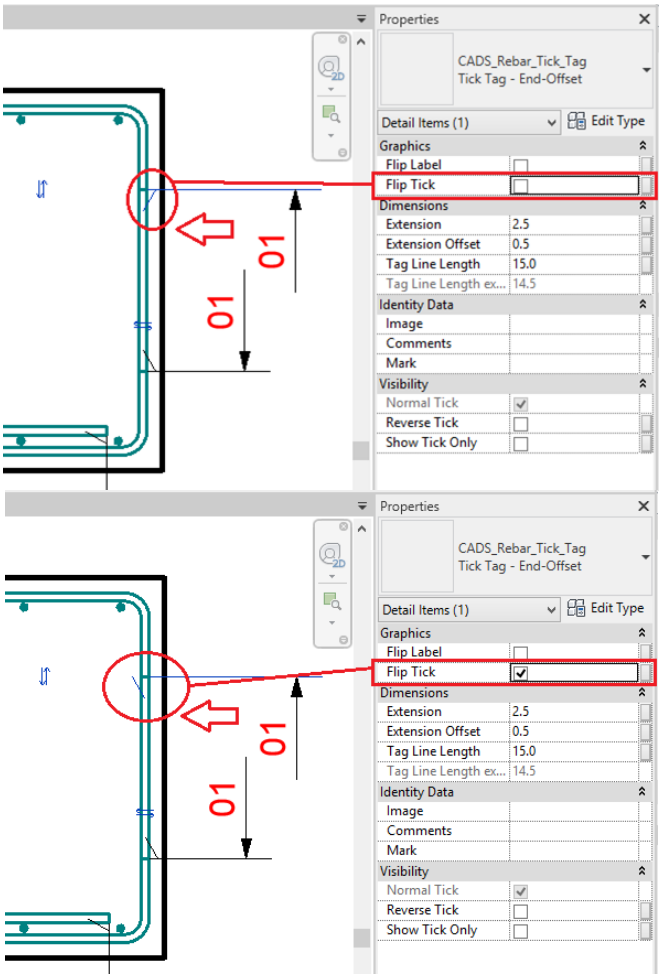
1. To flip the Tag Text and leader, select the Tick and tag line
2. Tick the Flip Label option in the Properties dialog.
3. Click Apply.



Flip the Tick

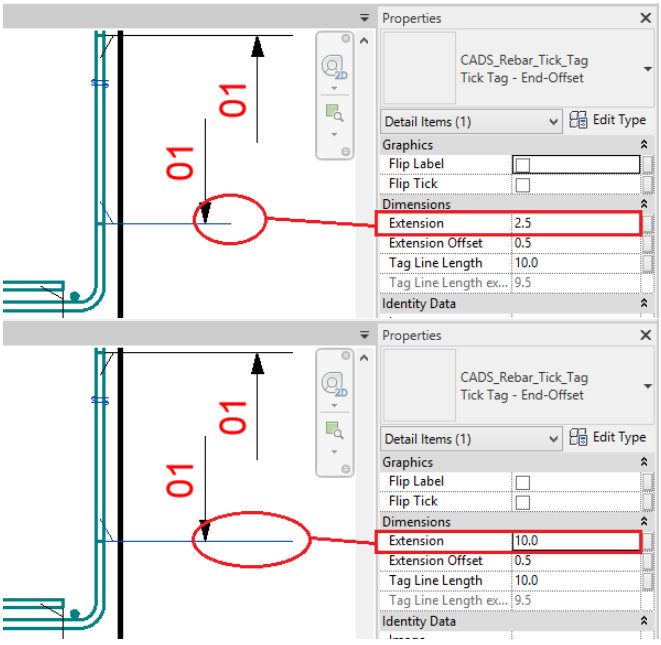
1. To flip the rebar end tick, select the tick and tag.
2. Tick the Flip Tick option in the Properties dialog.
3. Click Apply.

Copyright © Computer and Design Services Limited



Change the Extension

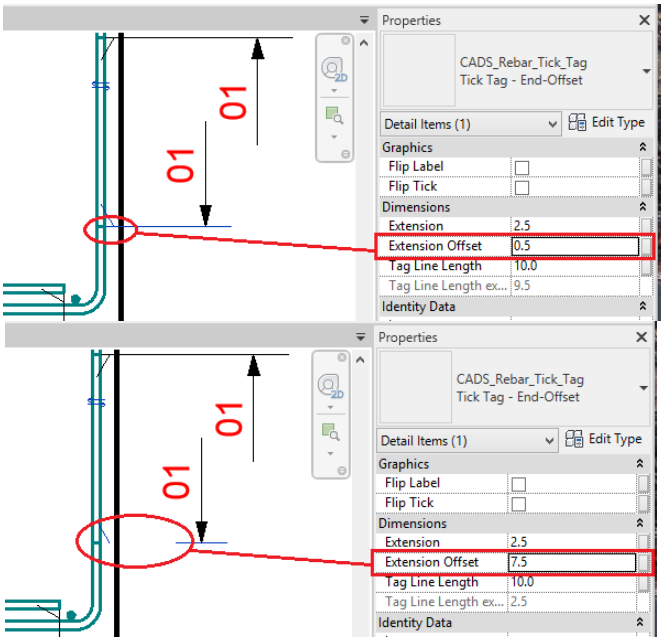
1. To extend or decrease the length of the tag line, select the tick and tag
2. Change the value in the Extension field
3. Click Apply



Copyright © Computer and Design Services Limited

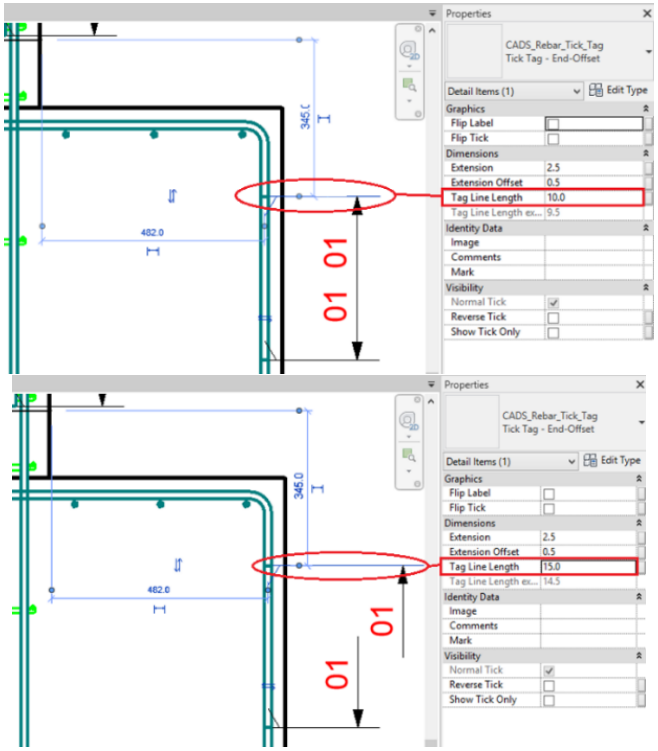
Change the Extension Offset

1. To change the distance between the rebar and the end of the tag line, select the tick and tag.
2. Change the value in the Extension Offset field.



Extending the Tag Line

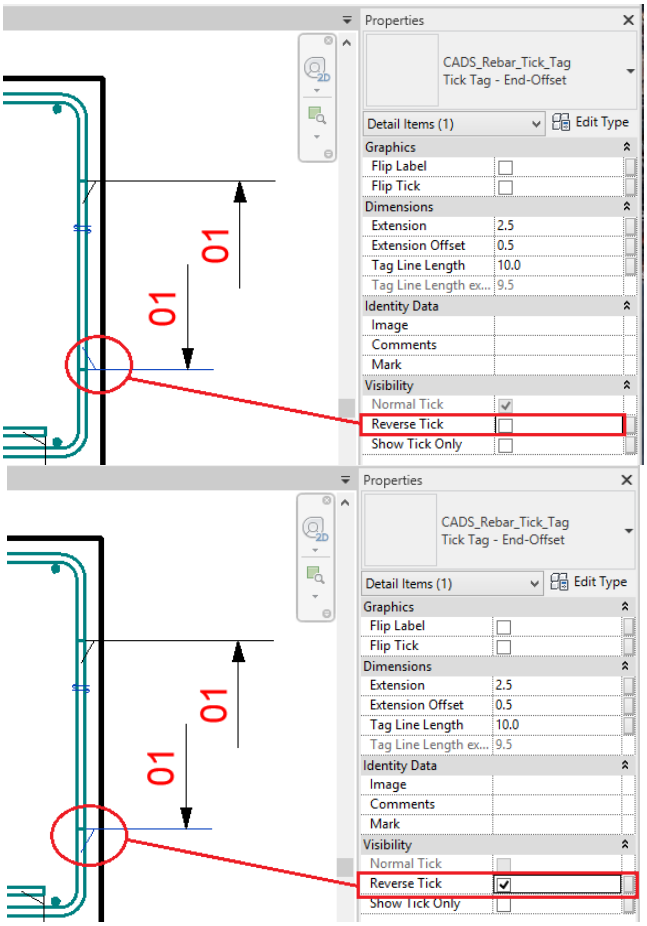
1. Select the Tag Line.
2. In the Revit® Properties Panel, increase or decrease the Tag Line Length value and click Apply.



Copyright © Computer and Design Services Limited

Reverse the Tick

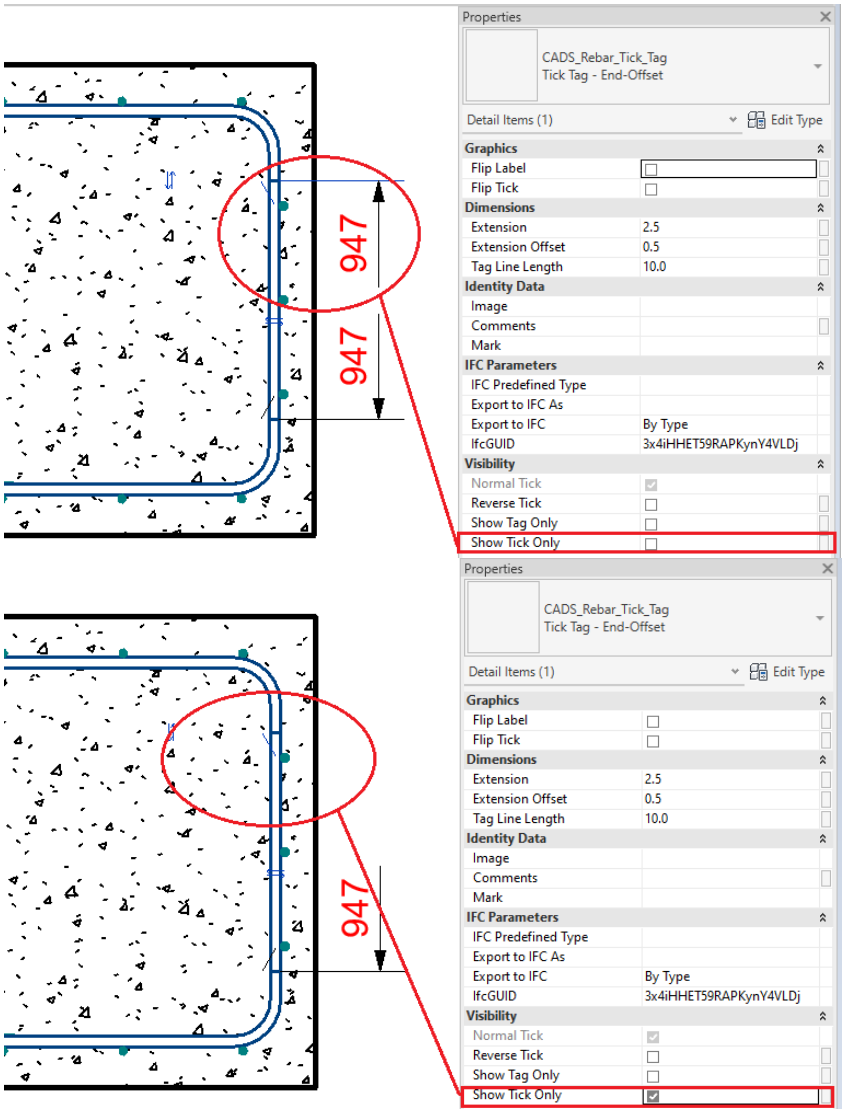
1. To reverse the rebar tick, select the tick and tag.
2. In the Revit® Properties Panel tick the option to reverse the tick.
3. Click Apply.



Show Tick Only

1. To show only the tick at the rebar end, select the tick and tag.
2. In the Properties panel tick the option to Show Tick Only
3. Click Apply

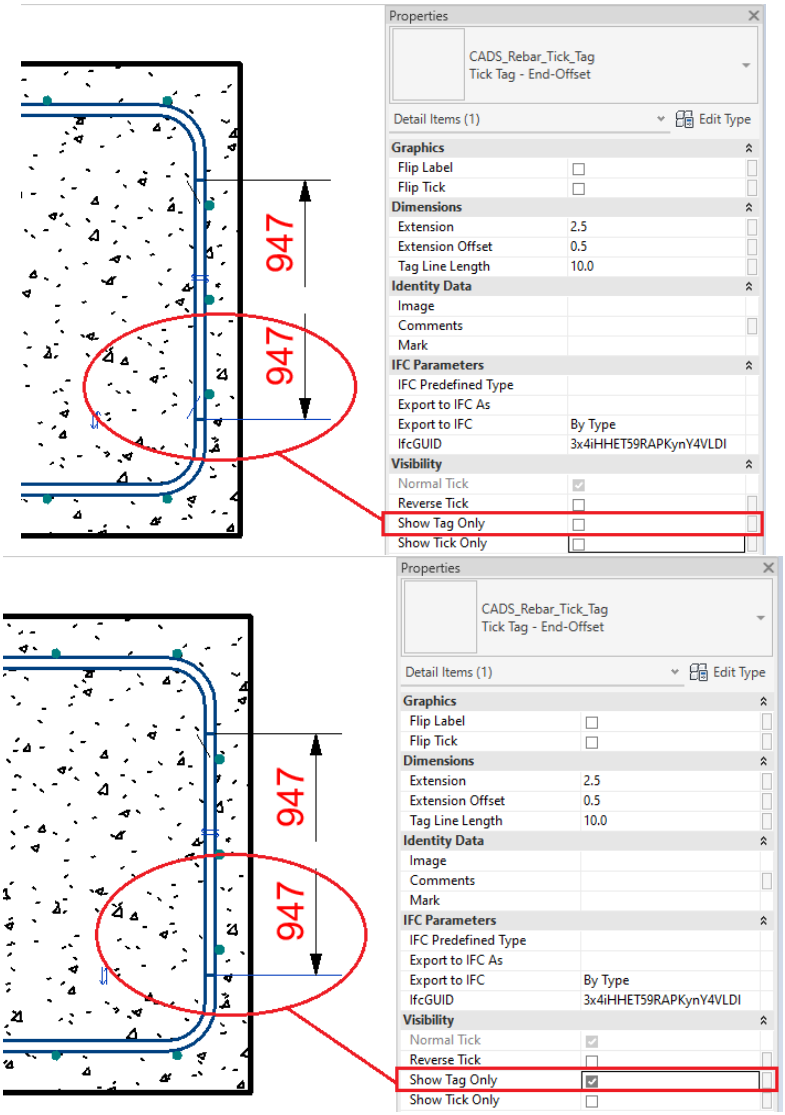
Copyright © Computer and Design Services Limited



Show Tag Only

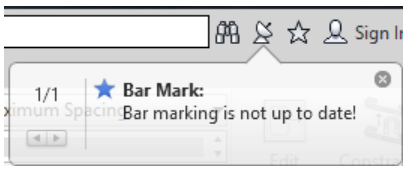
1. To only show the tag at the rebar end, select the tick and tag.
2. In the Properties Panel tick the option to Show Tag Only.
3. Click Apply

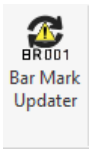
Copyright © Computer and Design Services Limited



9.3 Bar Mark Updater

The Bar Mark Updater notifies the user when the bar mark numbers in a project need refreshing.

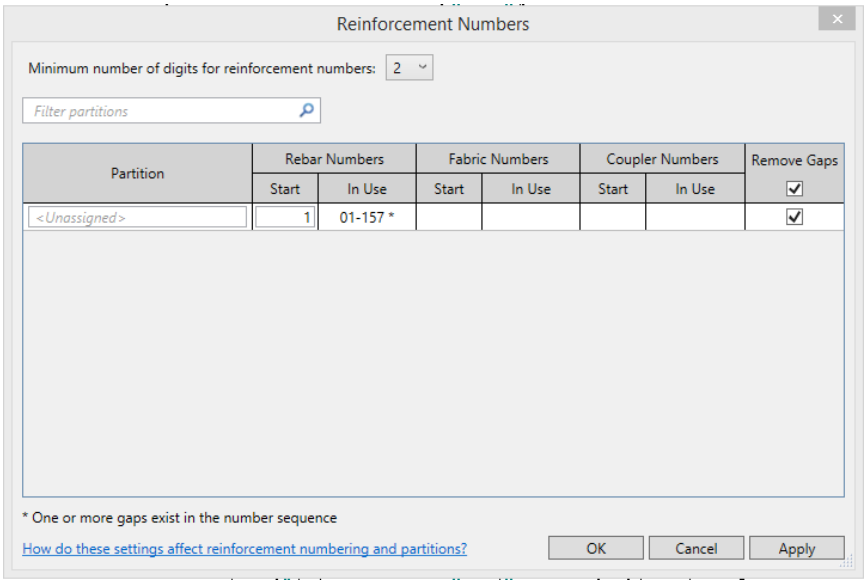


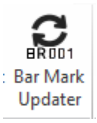


This is a two stage operation, use the Revit Reinforcement Numbers to remove any gaps that may have appeared in the bar mark numbering.

1. Go to the Structure Tab, Reinforcement Panel pull down menu and select Reinforcement Numbers.
2. Tick the option to “Remove Gaps” and then click Apply and OK.

Copyright © Computer and Design Services Limited

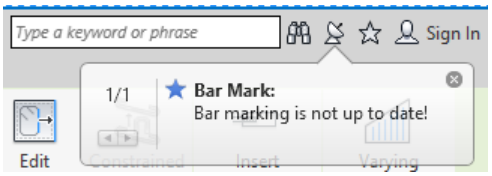


3. The next stage is to select the CADS Bar Mark Updater 

command; this is located on the CADS RC3D Tab in the Annotation Panel. This will update the CADS Bar Mark numbers assigned to the Rebar.
4. A warning symbol is shown on the command icon when new rebar is added to the project or existing rebar is modified. This indicates that the updater should be run to refresh the bar marks in the project.



Note: The Revit Communication Centre will also indicate when the bar marks need refreshing.



Copyright © Computer and Design Services Limited

10 Bar Mark Panel

The Bar Mark Panel contains commands to edit the bar mark number, refresh the bar marks using the Updates and to match rebar inside the project using tolerances.



10.1 Edit

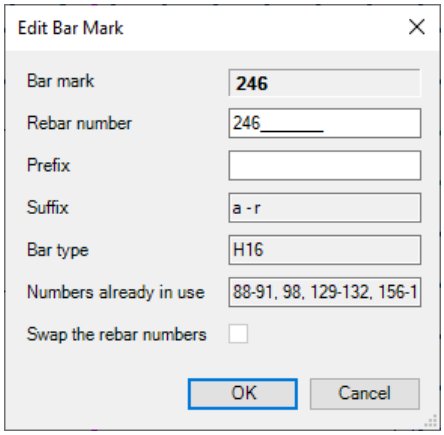
Use the Edit Bar Mark 

command to control the bar mark numbers of the rebar in the project. Only the Rebar Number option is editable. The dialog displays the bar mark numbers already in use.

If a bar mark that has already been allocated is typed into the Rebar Number field, the rebar using the original number will receive the next available bar mark number. Tick the swap option to swap the bar mark numbers over.

Options in Edit Bar Mark dialog

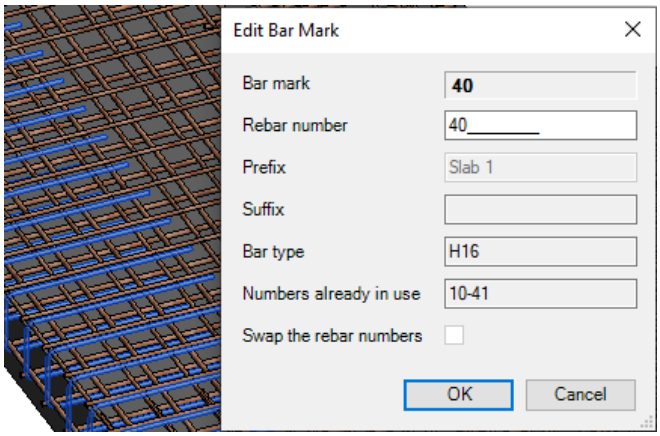
- Bar Mark: Existing Bar Mark Number
- Rebar Number: Type in the new Bar mark Number in this field
- Prefix: Type in any required Prefix for the Bar Mark Number
- Suffix: Displays if a suffix has been allocated to the bar, the one shown is for a varying range.
- Numbers already in use: Displays Bar marks already assigned in the project.
- Swap the rebar numbers: Tick this option to swap the bar mark numbers when the new bar mark number is already in use.



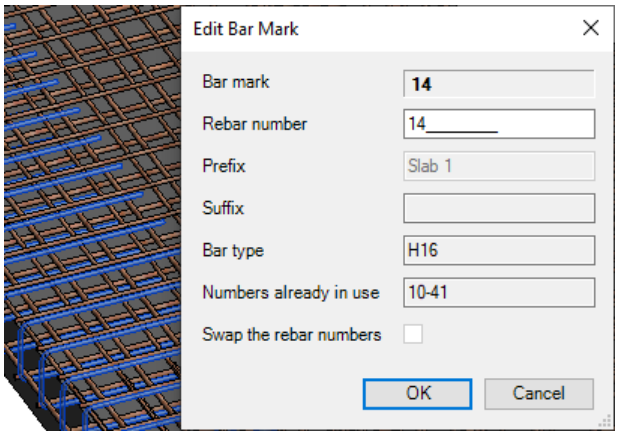
Copyright © Computer and Design Services Limited

1. Select the Edit Bar Mark 

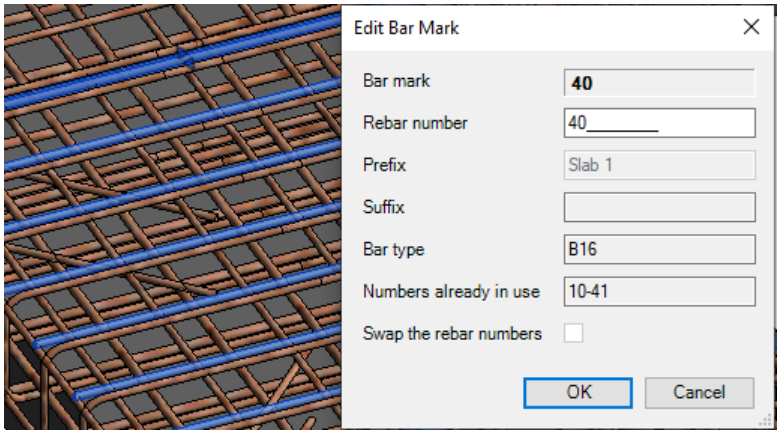
command from the Annotation Panel.
2. Select the Rebar / Rebar Assembly to change the Bar Mark.
3. The Edit Bar Mark dialog is displayed.



4. The dialog informs that bar marks 10 through 41 are already in use.
5. Type in 14 for the Rebar Number.
6. Tick Swap the rebar numbers option.
7. Click OK.
8. Bar Mark 40 changes to Bar Mark 14.



9. Bar Mark 14 changes to Bar Mark 40.



Copyright © Computer and Design Services Limited

10.1.1 Updater

Bar Mark numbers are updated automatically inside the project when CADS RC3D / RebarCAD 3D is loaded inside Revit®. However, if rebar is added to the project without CADS RC3D / RebarCAD 3D loaded they are not updated. It is recommended that the Updater command is run when the project has been opened.

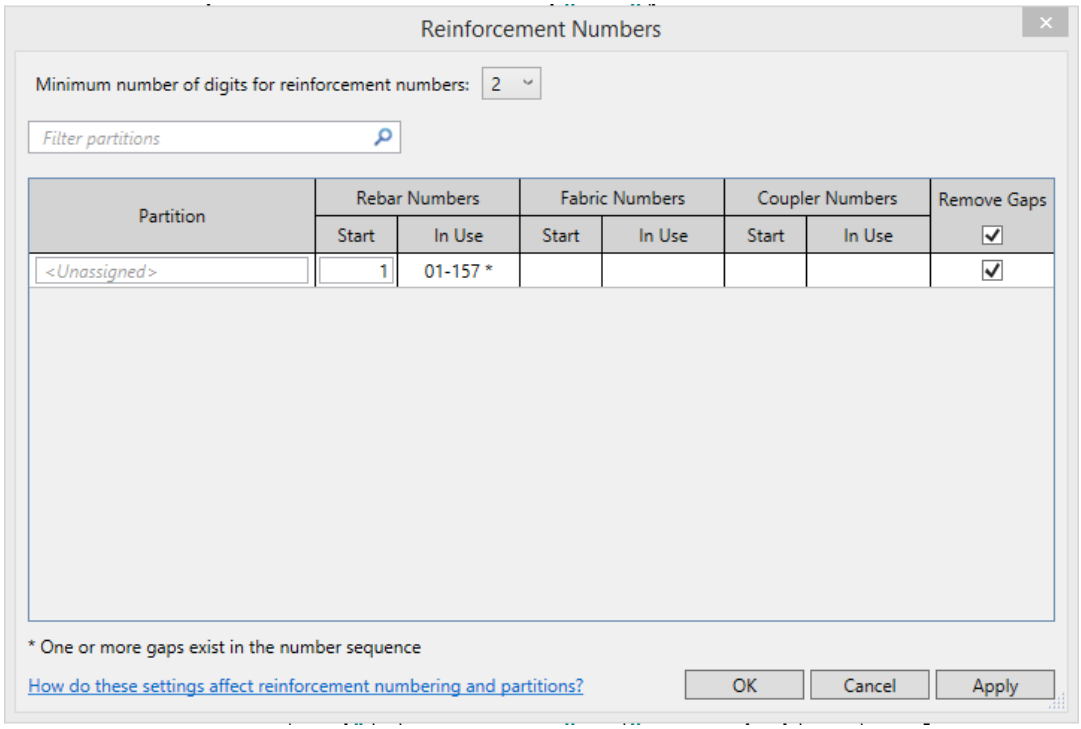
The Updater notifies the user when the bar mark numbers in a project need refreshing.





This is a two-stage operation, use the Revit® Reinforcement Numbers to remove any gaps that may have appeared in the bar mark numbering.

1. Go to the Structure Tab, Reinforcement Panel pull down menu and select Reinforcement Numbers.
2. Tick the option to “Remove Gaps” and then click Apply and OK.



3. The next stage is to select the CADS Updater 

command from the Annotation Panel. This will update the CADS Bar Mark numbers assigned to the Rebar.
4. A warning symbol is shown on the command icon when new rebar is added to the project or existing rebar is modified. This indicates that the updater should be run to refresh the bar marks in the project.

Copyright © Computer and Design Services Limited

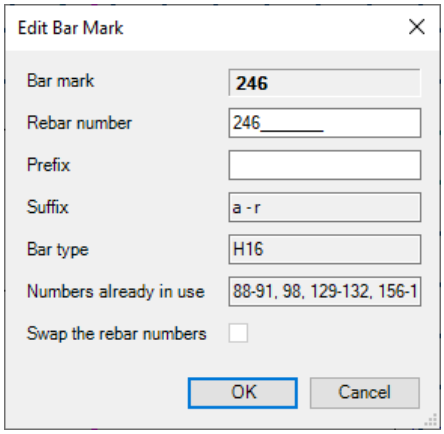




Use the Edit Bar Mark 

command to control the bar mark numbers of the rebar in the project. Only the Rebar Number option is editable. The dialog displays the bar mark numbers already in use.

If a bar mark that has already been allocated is typed into the Rebar Number field, the rebar using the original number will receive the next available bar mark number. Tick the swap option to swap the bar mark numbers over.



Options in Edit Bar Mark dialog

- Bar Mark: Existing Bar Mark Number
- Rebar Number: Type in the new Bar mark Number in this field
- Prefix: Type in any required Prefix for the Bar Mark Number
- Suffix: Displays if a suffix has been allocated to the bar, the one shown is for a varying range.
- Numbers already in use: Displays Bar marks already assigned in the project.
- Swap the rebar numbers: Tick this option to swap the bar mark numbers when the new bar mark number is already in use.

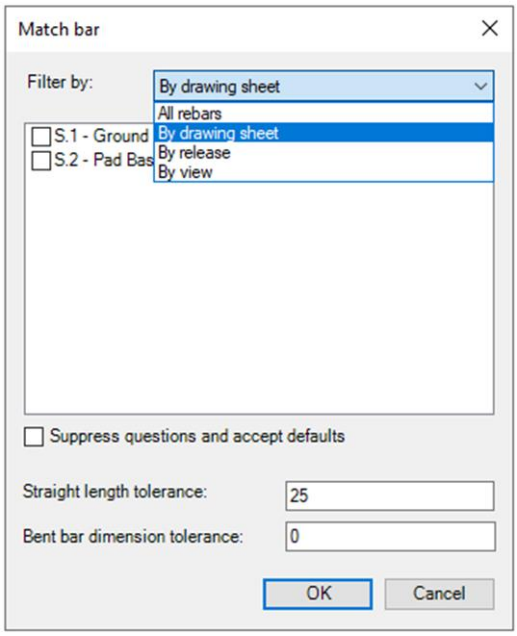
10.2 Match

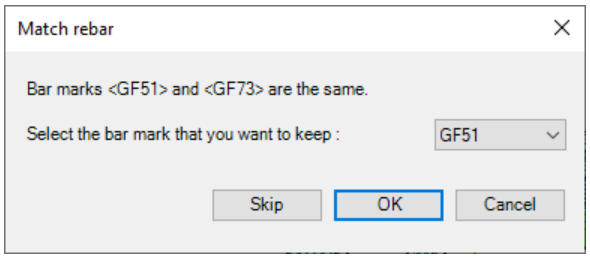
The Match 

command searches the project for nearly identical bars within a set length tolerance which are allocated different bar marks and gives the option to change the change the bar mark so

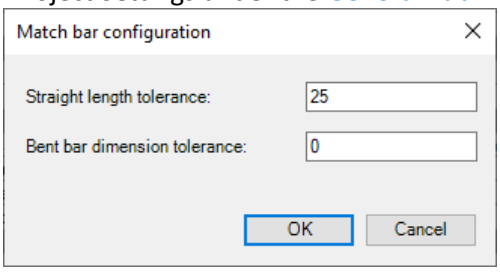
Copyright © Computer and Design Services Limited

that they match. You can filter by All rebars, By Drawing Sheet, By Release or By View. If the option to Suppress Questions and Accept defaults is not selected a dialog will be displayed that indicates the bar marks with identical properties and which bar mark should be retained.

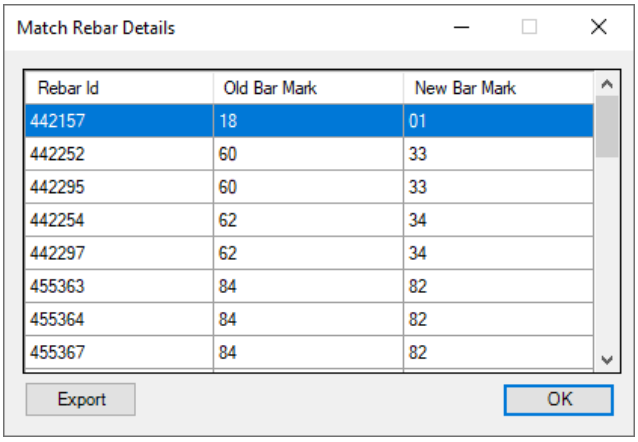




Match Bar Tolerances can be set each time the command is selected for straight and bent bars. This is configured in the RC3D Project Settings under the General Tab – Bar Mark Panel .



If Bar Mark numbers have been changed these are displayed in a dialog at the end of the command. Use this dialog to navigate through the changed rebar to ensure that their position has not been moved during the Match Bars command. The list of rebar can be exported to a CSV file to review the modified rebar at a later time.



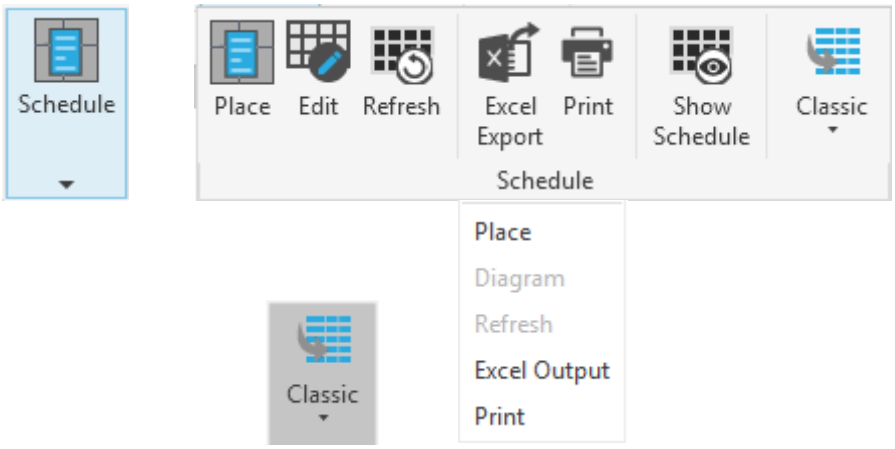
The rebar can be located using the Revit® ID No and the Revit® Select by ID command.

Copyright © Computer and Design Services Limited

	A	B	C
1	Id	Old Bar Mark	New Bar Mark
2	442157	18	1
3	442252	60	33
4	442295	60	33
5	442254	62	34
6	442297	62	34
7	455363	84	82
8	455364	84	82
9	455367	84	82
10	455368	84	82
11	455375	84	82
12	455376	84	82
13	455379	84	82
14	455380	84	82

Copyright © Computer and Design Services Limited

11 Schedule Panel



The Schedule Panel contains options to Place a schedule on a Revit® View Sheet, Refresh the Schedule, export a Schedule to Excel (with diagrams) and Print the Schedule from the Formatted Schedules created in the Show Schedule dialog. These are duplicate commands from the Show Schedule dialog and are elevated to the main Schedule Panel for ease of use.
Existing Scheduling commands have been moved to the Classic Menu for Legacy reasons. The commands in the Legacy menu contain options to Place a Schedule on a Revit® View Sheet, Refresh the Schedule, export a Schedule to Excel (with diagrams), create a Print List of Schedules. Additionally, a set of rebar sketch diagrams can be placed using the Diagram command, the Show Schedule command gives details.

11.1 Place

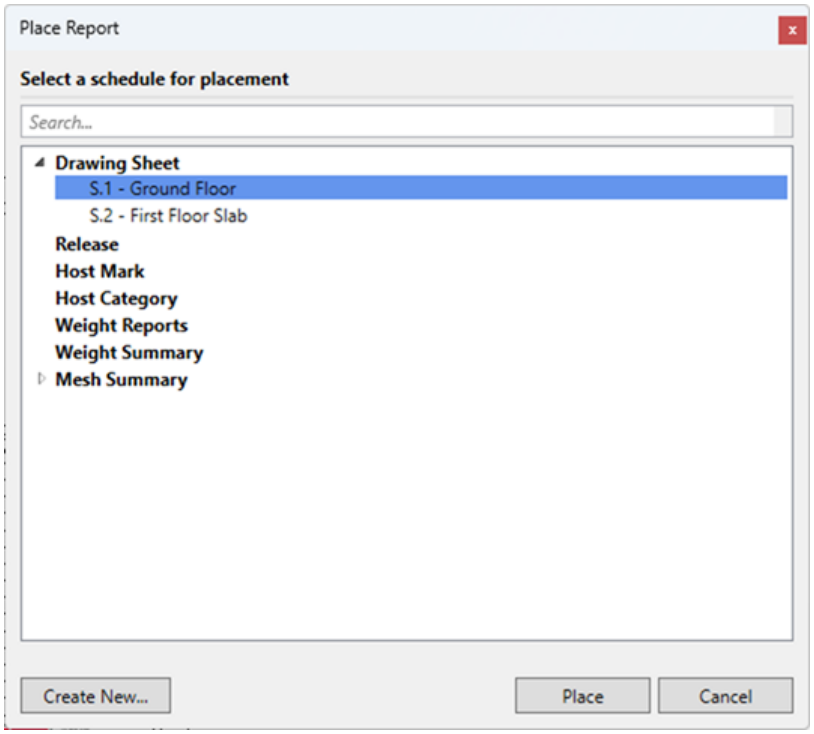
Schedules that have been created in the Show Schedule dialog can be placed onto a Drawing Sheet using the Place 

command. The command has been added to the Schedule Panel to improve efficiency.

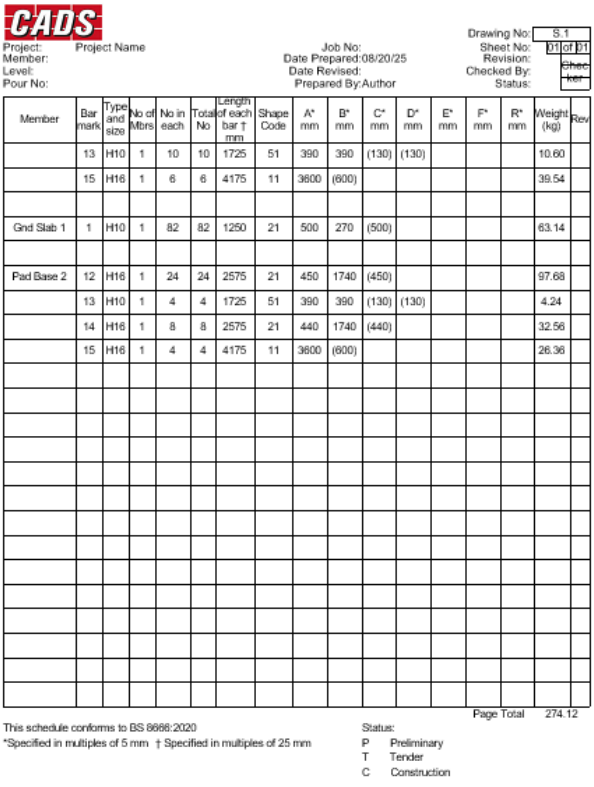
1. Select the Place 

command from the Schedule Panel.
2. The Place Report dialog is displayed showing all the Reports created inside the Show Schedule dialog.
3. Select the Report to place on the Drawing and click Place.

Copyright © Computer and Design Services Limited



4. Select the Insertion point of the Report.



CADS

Project: Project Name
Member:
Level:
Pour No:

Job No:
Date Prepared:08/20/25
Date Revised:
Prepared By:Author

Drawing No: S.1
Sheet No: 01 of 01
Revision:
Checked By:
Status: Sheet

Member	Bar mark	Type and size	No of Mbrs	No in each	Total No	Length of each bar † mm	Shape Code	A* mm	B* mm	C* mm	D* mm	E* mm	F* mm	R* mm	Weight (kg)	Rev
	13	H10	1	10	10	1725	51	390	390	(130)	(130)				10.60	
	15	H16	1	6	6	4175	11	3600	(600)						39.54	
Gnd Slab 1	1	H10	1	82	82	1250	21	500	270	(500)					63.14	
Pad Base 2	12	H16	1	24	24	2575	21	450	1740	(450)					97.68	
	13	H10	1	4	4	1725	51	390	390	(130)	(130)				4.24	
	14	H16	1	8	8	2575	21	440	1740	(440)					32.56	
	15	H16	1	4	4	4175	11	3600	(600)						26.36	

Page Total 274.12

This schedule conforms to BS 8666:2020
*Specified in multiples of 5 mm † Specified in multiples of 25 mm

Status:
P Preliminary
T Tender
C Construction

Copyright © Computer and Design Services Limited

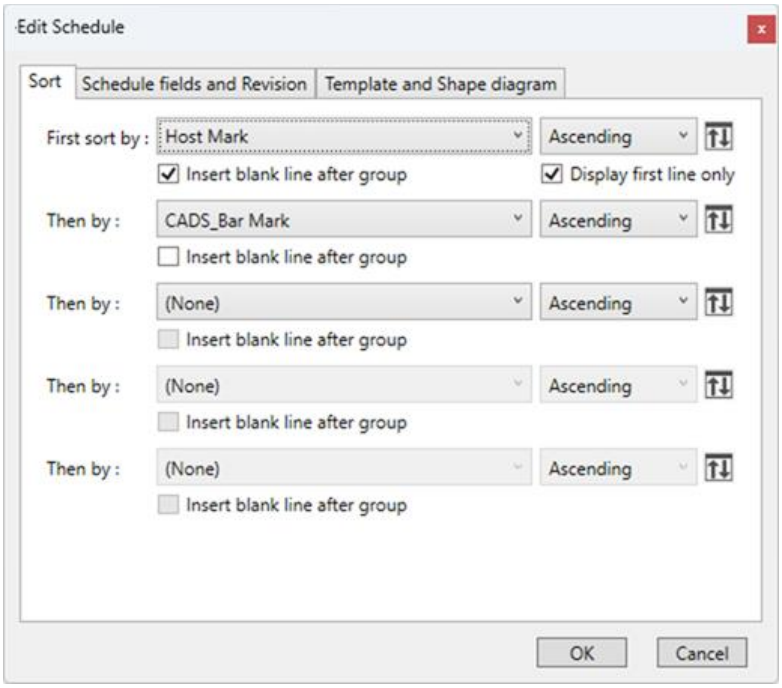
11.2 Edit

Use the Edit Schedule 

command to reorder the sorting, change the schedule template, adjust formatting and amend the revision settings of schedules that have been placed on a Drawing Sheet View.
The Edit Schedule dialog has the same options as the Edit Schedule dialog) displayed from inside the Show Schedule dialog.
Please note once the schedule has been issued these settings cannot be amended as the schedule will be locked unless the lock settings are not applied.

1. Select the Edit 

command from the Schedule Panel.
2. Select a Schedule or Report that has been placed on a Drawing Sheet View.
3. The Edit Schedule dialog is displayed.



4. Edit the options as required on the Sort **Tab,** Schedule Fields & Revision Tab or Template & Shape Diagram Tab.
5. Click ok to exit the command and update the schedule.

11.3 Refresh

Use the Refresh 

command to update Placed Schedules where rebar has been edited or added to the model. The refresh command will also work for Schedules Placed from Inside the Schedule Dialog, the schedule will be marked with the word 'Invalid' in red written across the schedule. An additional Pad Base has been added to the Drawing Sheet in the example below.

Copyright © Computer and Design Services Limited

CADS

Project: Project Name
Member:
Level:
Pour No:

Job No:
Date Prepared: 08/20/25
Date Revised:
Prepared By: Author

Drawing No: S.1
Sheet No: 01 of 01
Revision:
Checked By:
Status: Checker

Member	Bar mark	Type and size	No of Mbrs	No in each	Total No	Length of each bar † mm	Shape Code	A* mm	B* mm	C* mm	D* mm	E* mm	F* mm	R* mm	Weight (kg)	Rev
Col 1	62	H8	1	10	10	1725	51	390	390	(115)	(115)				6.80	
Gnd Slab 1	1	H10	1	82	82	1250	21	500	270	(500)					63.14	
Pad Base 2	12	H16	1	30	30	2575	21	450	1740	(450)					122.10	
	13	H10	1	4	4	1725	51	390	390	(130)	(130)				4.24	
	14	H16	1	10	10	2575	21	440	1740	(440)					40.70	
	15	H16	1	10	10	4175	11	3600	(600)						65.90	

INVALID

CADS

Project: Project Name
Member:
Level:
Pour No:

Job No:
Date Prepared: 08/20/25
Date Revised:
Prepared By: Author

Drawing No: S.1
Sheet No: 01 of 01
Revision:
Checked By:
Status: Checker

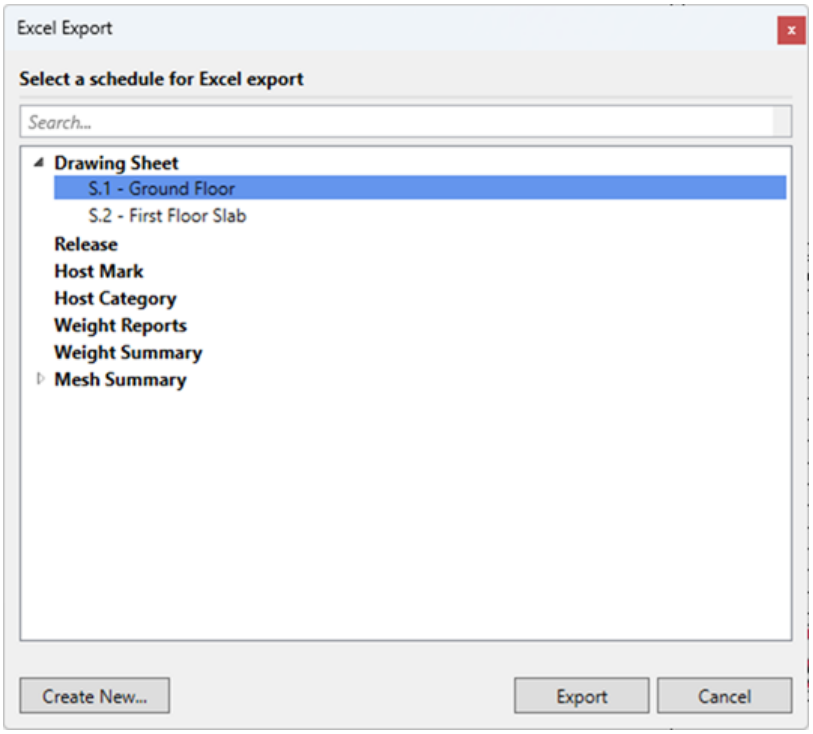
Member	Bar mark	Type and size	No of Mbrs	No in each	Total No	Length of each bar † mm	Shape Code	A* mm	B* mm	C* mm	D* mm	E* mm	F* mm	R* mm	Weight (kg)	Rev
Col 1	62	H8	1	10	10	1725	51	390	390	(115)	(115)				6.80	
Col 3	62	H8	1	10	10	1725	51	390	390	(115)	(115)				6.80	
Gnd Slab 1	1	H10	1	82	82	1250	21	500	270	(500)					63.14	
Pad Base 2	12	H16	1	30	30	2575	21	450	1740	(450)					122.10	
	13	H10	1	4	4	1725	51	390	390	(130)	(130)				4.24	
	14	H16	1	10	10	2575	21	440	1740	(440)					40.70	
	15	H16	1	10	10	4175	11	3600	(600)						65.90	
Pad Base 3	63	H16	1	33	33	2775	21	450	1940	(450)					144.54	
	64	H10	1	4	4	1725	51	390	390	(130)	(130)				4.24	
	65	H16	1	11	11	2775	21	440	1940	(440)					48.18	
	66	H16	1	10	10	4275	11	3600	(700)						67.50	

11.4 Excel Export

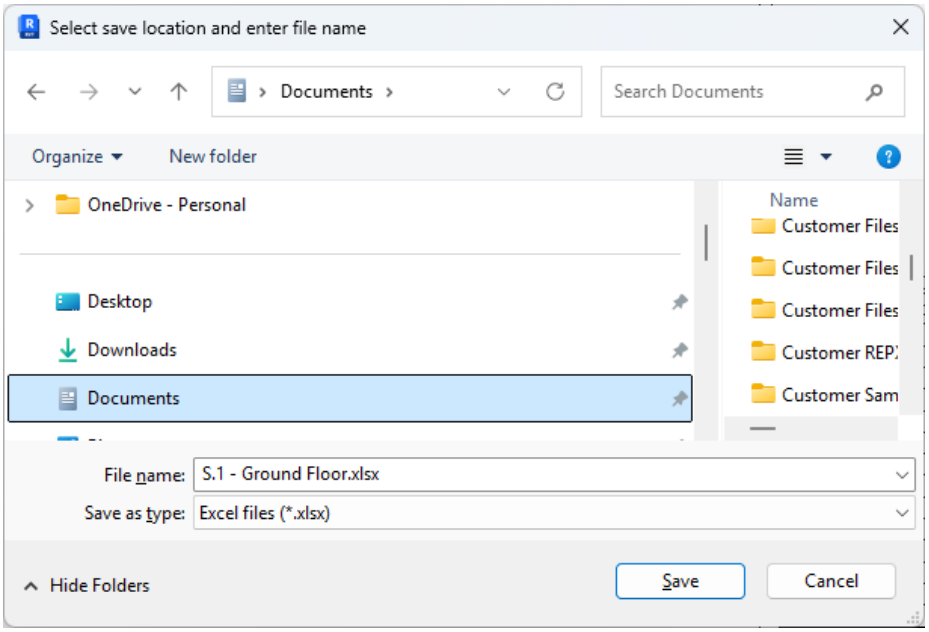
Schedules that have been created in the Show Schedule dialog can be exported to Excel using the Excel Export command. The command has been added to the Schedule Panel to improve efficiency.

1. Select the Excel Export command from the Schedule Panel.
2. The Excel Export dialog is displayed showing all the Reports created inside the Show Schedule dialog.
3. Select the Report to export and click Export.

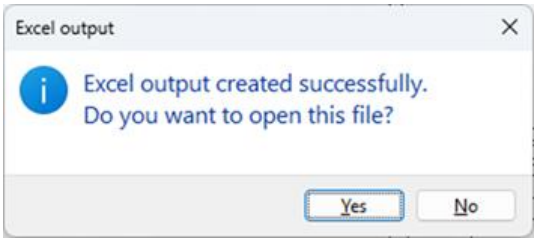
Copyright © Computer and Design Services Limited



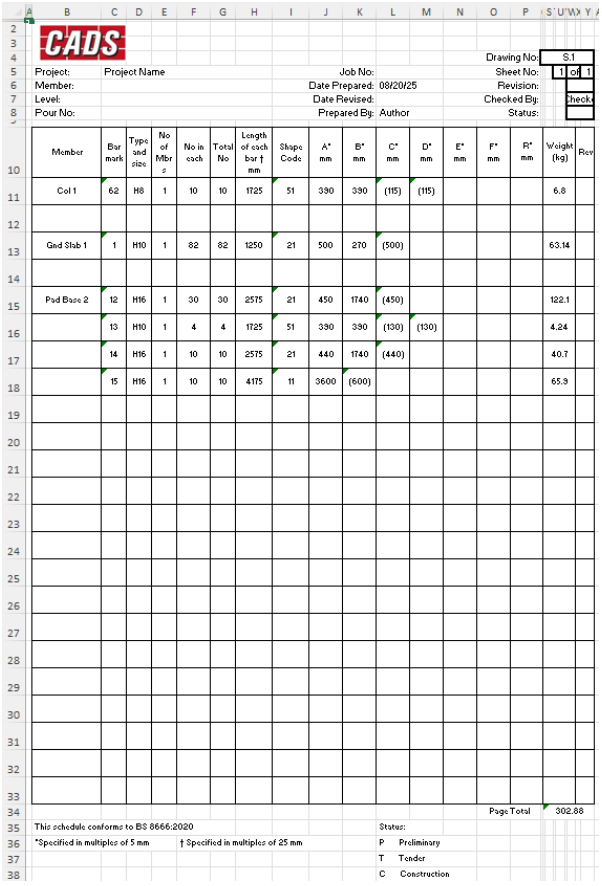
4. Type in the file name for the Excel file and select the Folder to save the file.
5. Click Save



6. Answer Yes to open the file.



Copyright © Computer and Design Services Limited



CADS

Project:	Project Name														Drawing No:	S.1			
Member:									Job No:						Sheet No:	1	of	1	
Level:									Date Prepared:	08/20/25					Revision:				
Pour No:									Date Revised:						Checked By:				
									Prepared By:	Author					Status:				

Member	Bar mark	Type and size	No of Mbrs	No in each	Total No	Length of each bar † mm	Shape Code	A* mm	B* mm	C* mm	D* mm	E* mm	F* mm	R* mm	Weight (kg)	Rev
Col 1	62	H8	1	10	10	1725	51	390	390	(115)	(115)				6.8	
Gnd Slab 1	1	H10	1	82	82	1250	21	500	270	(500)					63.14	
Pad Base 2	12	H16	1	30	30	2575	21	450	1740	(450)					122.1	
	13	H10	1	4	4	1725	51	390	390	(130)	(130)				4.24	
	14	H16	1	10	10	2575	21	440	1740	(440)					40.7	
	15	H16	1	10	10	4175	11	3600	(600)						65.9	
														Page Total	302.88	

This schedule conforms to BS 8666:2020

Status:

*Specified in multiples of 5 mm † Specified in multiples of 25 mm

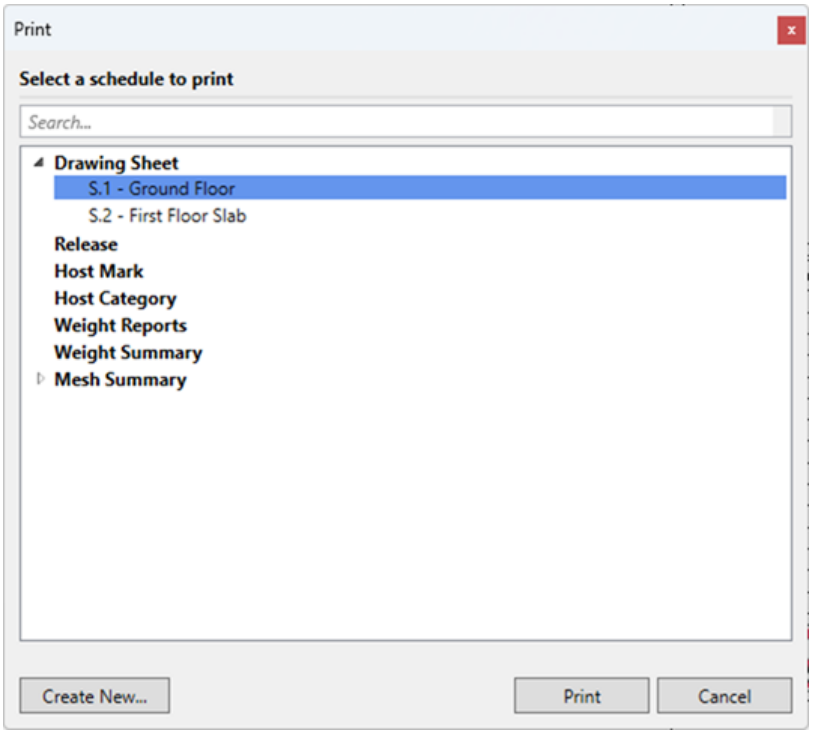
P Preliminary
T Tender
C Construction

11.5 Print

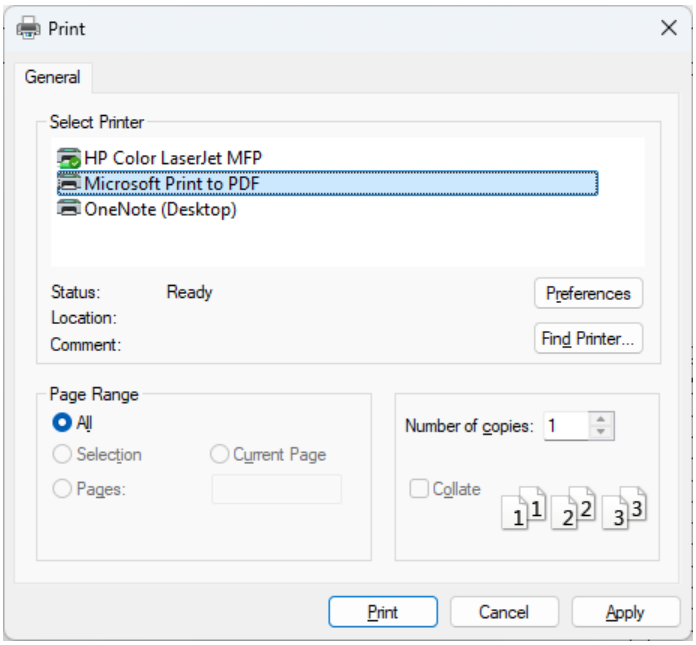
Schedules that have been created in the Show Schedule dialog can be printed directly from the Schedule Panel using the Print command. The command has been added to the Schedule Panel to improve efficiency.

1. Select the Print command from the Schedule Panel.
2. The Print dialog is displayed showing all the Reports created inside the Show Schedule dialog.
3. Select the Report to export and click Print.

Copyright © Computer and Design Services Limited

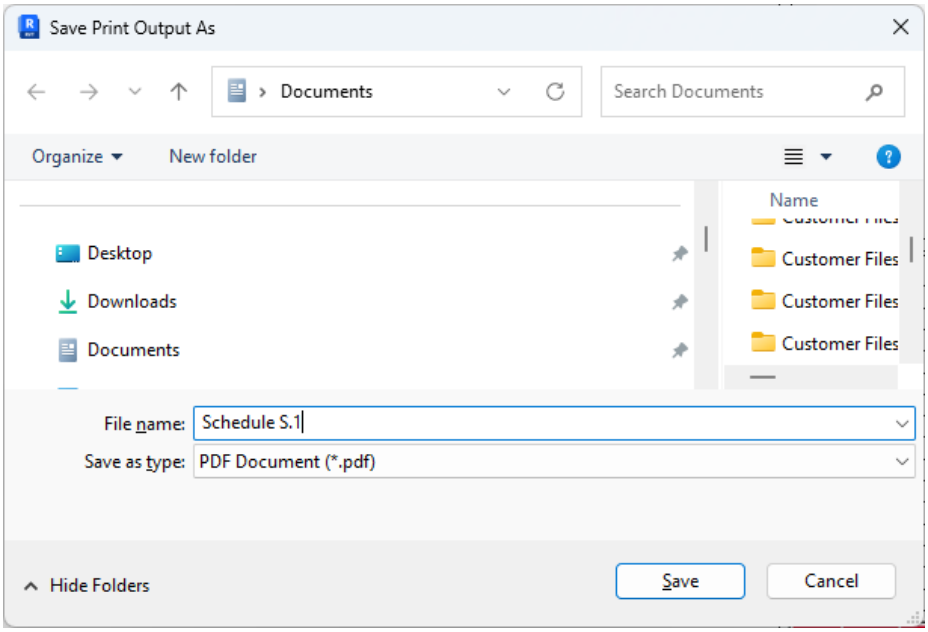


4. The Print Dialog is displayed, select a Printer from the list. If required change the Preferences and then click Print.



5. As the Printer selected was a PDF Writer, an additional dialog is displayed as for the file name and the save location.

Copyright © Computer and Design Services Limited



11.6 Classic Schedule Menu

Existing legacy commands have been moved to the Classic menu in order to support existing Revit Projects.
The commands that have been moved are;

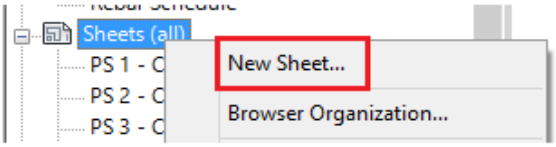
- **Place** Uses the Place dialog to define the Fields, sorting and formatting of the Schedule.
- **Rebar Diagram** Creates a Rebar diagram based on already placed schedule sheets.
- **Refresh** Refreshes a placed schedule where the reinforcement has changed.
- **Excel Output** Output to an Excel File using the Excel output dialog to define the fields, sorting and formatting of the schedule.
- **Print** Creates a Revit Print List of the Schedules.

11.6.1 Classic Place

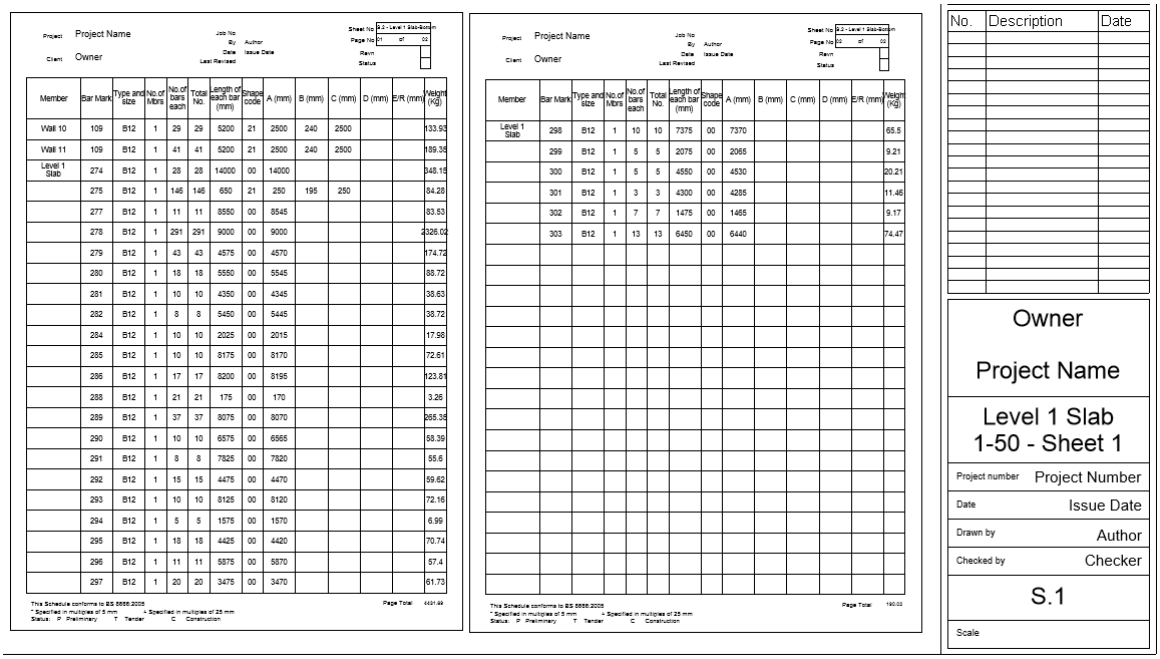
The Place command provides the option to place the schedule on a Revit® View Sheet. The software is shipped with default templates for the UK & North America.
This section of the manual explains how to place the schedule. Schedule On Drawing Sheet and Printed Schedule Customisation and Customising the Excel Schedule Template detail how to create the schedule templates for use with the software.
Note: All Issuing of Schedules is controlled from inside the Show Schedule dialog. The Schedule created using the Place Schedule command cannot be Issued.

1. In order to place a schedule on a sheet, a blank Sheet should be created in the Revit® Project Browser.
2. Right mouse click on the Sheets (all) heading and select New Sheet.
3. Choose the A1 Metric option and click OK.

Copyright © Computer and Design Services Limited

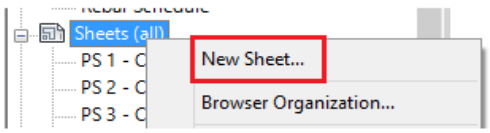


4. Change the sheet name by right mouse clicking on the title in the Revit® Project browser and selecting the Rename option.
5. Double click on the Sheet in the Revit® Project Browser to make it the current view.
6. Select the Place Schedule Place command from the Schedule Panel, Classic pull-down menu.
7. Explanations for the Field Tab, Sorting Tab and Filtering Tab options are explained in the section below.
8. Placement ends automatically when the required number of pages has been placed, or <Esc> (Cancel) is pressed.



11.6.2 Place Schedule on a Drawing Sheet

1. In order to place a schedule on a sheet, a blank sheet should be created in the Revit Project Browser. Right mouse click on the Sheets (all) heading and select New Sheet, choose the A1 Metric option and click OK.



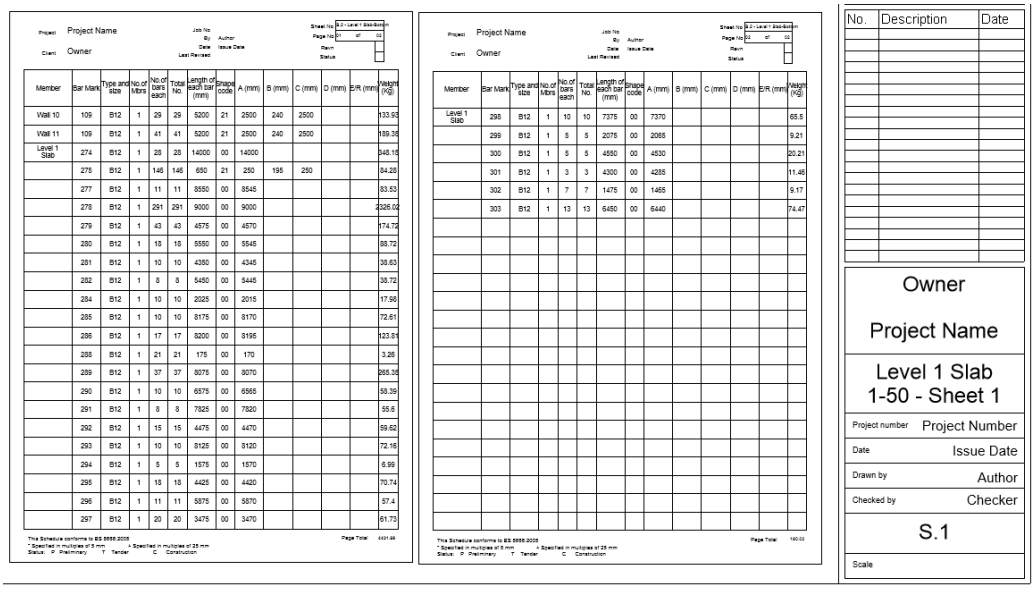
2. Change the sheet name by right mouse clicking on the title in the Revit Project browser and selecting the Rename option.
3. Double click on the Sheet in the Revit Project Browser to make it the current view.

Copyright © Computer and Design Services Limited

4. Select the Place Schedule 

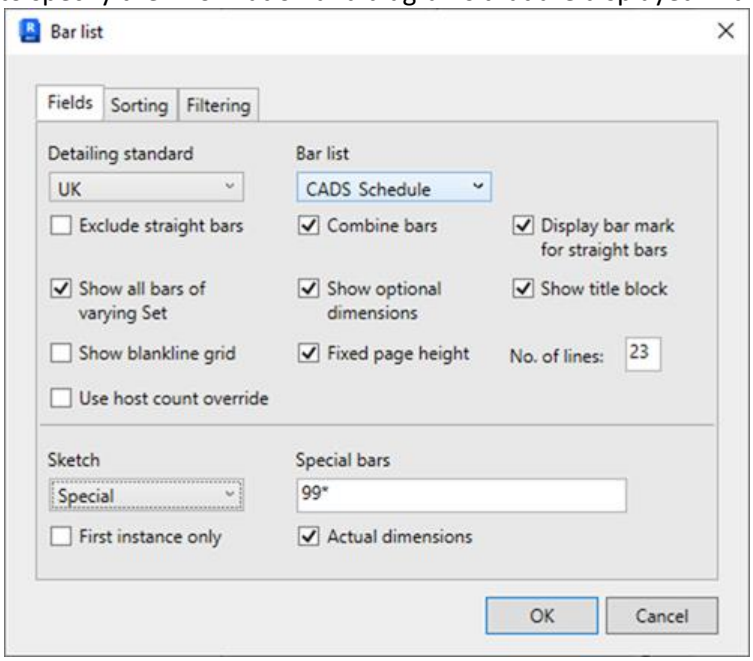
command from the Schedule Panel on the CADS RC3D for Revit Tab, to launch the CADS RC3D – Bar List Configuration dialog. The Fields, Sorting and Filtering options are explained in the section below.

5. Placement ends automatically when the required number of pages has been placed, or <Esc> (Cancel) is pressed.



11.6.3 Fields Tab Explanation

Use the Fields Tab to specify the information and diagrams that are displayed in the schedule.



Fields Tab Options

- **Detailing Standard** - Specify either UK or US detailing standard, by default the UK standard is set to BS8666:2005. This option selects a subfolder that contains the Schedule Family for the

Copyright © Computer and Design Services Limited

detailing standard chosen, for instance "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\Families".

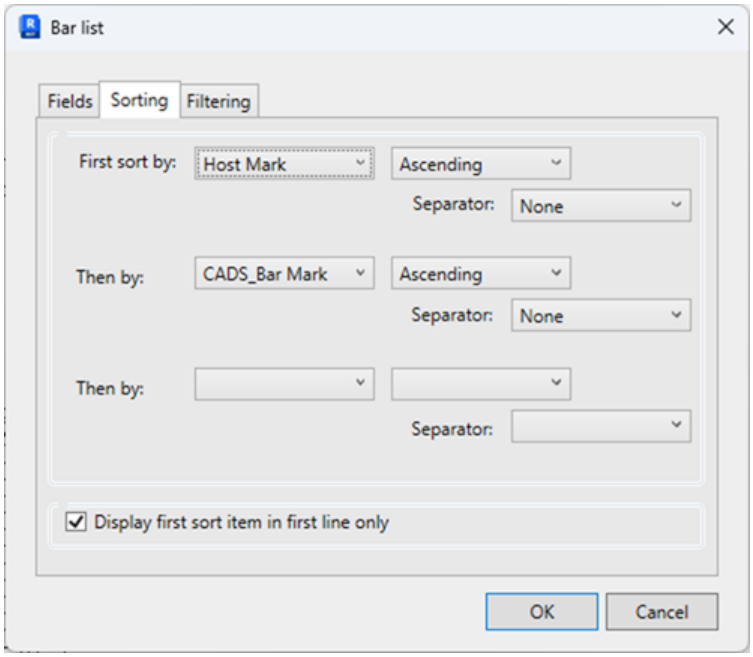
- **Bar List** - The default Schedule Family filename is displayed in this field. The file is located in the folder "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\Families". If you customise your own schedule save the file in the same folder, Schedule on Drawing and Printed Schedule Customisation detail how to create the Schedule Template for use with CADS RC3D for Revit®.
- **Exclude Straight Bars** - If checked, this option will exclude straight bars from the schedule on sheet and the schedule printout.
- **Combine Bars** - Combines together all rebar with the same bar mark when checked. In this case the values displayed for 'No. of bars each' and 'Weight' are the totals for the set.
- **Display Bar Mark for Straight Bars** – Tick this option to show a bar mark for straight bar marks in the schedule.
- **Show all bars of Varying Set** - Displays all the bars in a varying range when checked. If it is not checked, displays only the first and last bars.
- **Show Optional Dimensions** - Displays optional dimensions for the rebar shape when checked. Optional dimensions are enclosed in brackets to distinguish from mandatory dimensions.
- **Show Title Block** – this is selected by default and will place the header on each schedule page. If deselected the header will not be added.
- **Show Blankline Grid** - Displays a grid on all blank lines when checked.
- **Fixed Page Height** - When this option is selected, the schedule will have the number of rows displayed. When the option is unchecked, the size is defined by picking two diagonal points to define a rectangle during placement on the sheet.
- **No. of lines** - Type in the number of rows required in each page of the schedule (when 'Fixed Page Height' is checked).
- **Use Host Count Override** – Tick this option if a Host Count Override has been applied to a concrete host in the model using the Host Count Override command. The number of members will be multiplied in the schedule by the values applied in the override field. If rebar has been added to every host in the model ignore this option.
- **Sketch** - Defines when sketches appear in the schedule, choose the appropriate option from the drop-down menu:

  None – no sketches.
  Normal – shows sketches for every shape in the schedule.
  Special – shows only special bars (see below).
  Special Bars - A list of shape code prefixes of bars regarded as 'special'. The prefix is usually '99*'.
- **First Instance** - Shows a sketch for only the first instance of each shape in the bar list when checked.
- **Actual Dimensions** - Displays the actual dimensions of the bar legs on a sketch when checked, otherwise it shows the dimension letters.

11.6.4 Sorting Tab Explanation

The Sorting tab defines the fields used for sorting and grouping the schedule.

Copyright © Computer and Design Services Limited

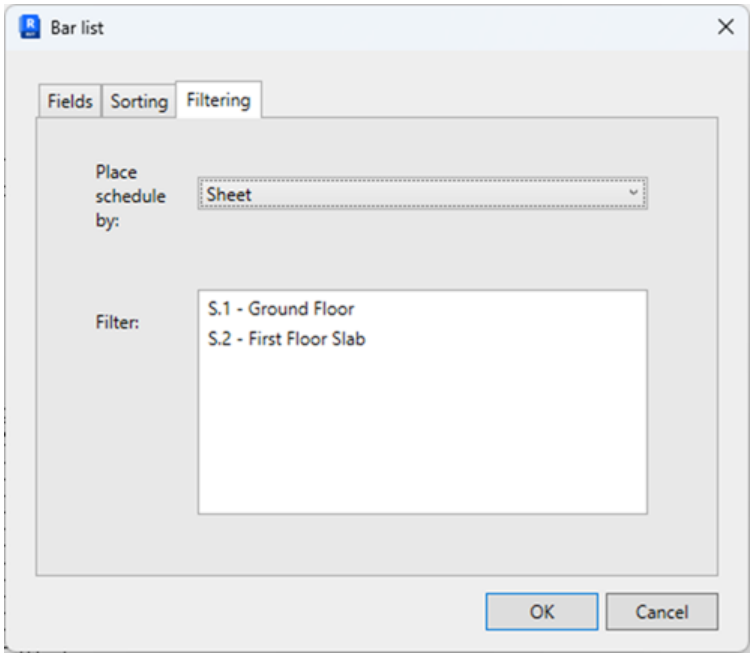


- **First Sort by** - By default, the UK Sorting is set to the Host Mark as the first sort item. This is the Mark name of concrete host assigned in the Revit® Properties dialog, as shown below. You can also choose whether to sort in ascending or descending order. Additionally, you can separate the first sort item with a Blank Line between each item.
- **Then by** - CADS Bar Mark is the default selection in ascending order. The separator should normally be set to None. You can amend the sort criteria to meet your own requirements.
- **Then by** – a third sort item can be configured if required.
- **Display first sort item in first line only** – tick this option to display the Host Mark once per host, if Host Mark is configured as the first sort item.

11.6.5 Filtering Tab Explanation

Use the Filtering Tab to choose whether to place a schedule by drawing sheet or release and which Schedule from the list.

Copyright © Computer and Design Services Limited



Filtering Tab Options

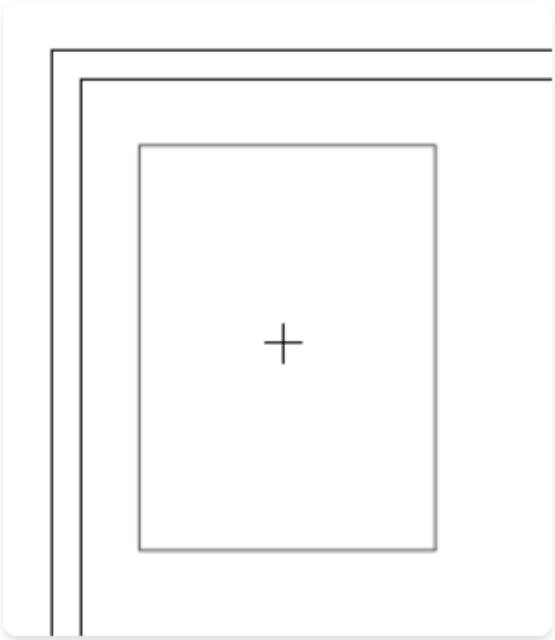
- **Place Schedule by** – Determines the subset of schedule data to display:

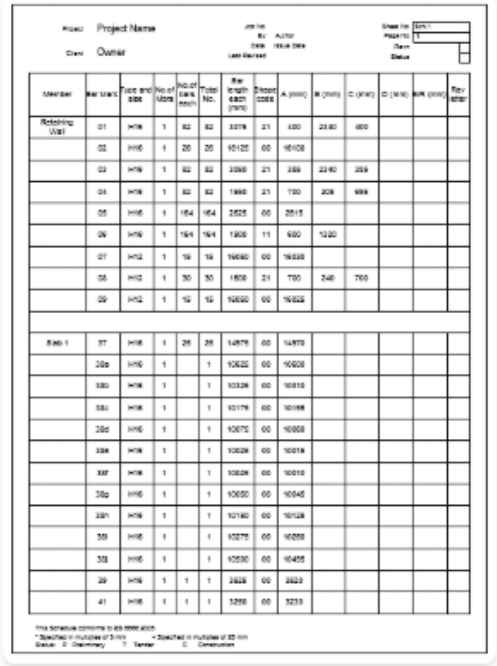
  None – No filter is applied – display all rebar.
  Sheet – display rebar allocated to the selected sheet.
  Release – display rebar allocated to the selected release.
- **Filter** – Choose the Drawing Sheet or Release from the filter list, the command will only place the schedules for the selected drawing sheet.

11.6.6 Options during Placement

- **Fixed Page** - If the 'Fixed page height' option is selected, a sketch of the schedule outline is displayed. Place it in the required location on the sheet. You may need to position multiple pages before the function completes. When all the pages are placed on the sheet, the schedule data is placed in each schedule page and the command automatically finishes.

Copyright © Computer and Design Services Limited





- **Variable Page Length** - If the fixed page option is left unchecked, the user will be prompted to specify a rectangle on the screen by picking two diagonal corners. This may need to be repeated depending on how many rebar sets are in the project. When all the pages are placed on the sheet, the schedule data is placed in each schedule page and the command automatically finishes.

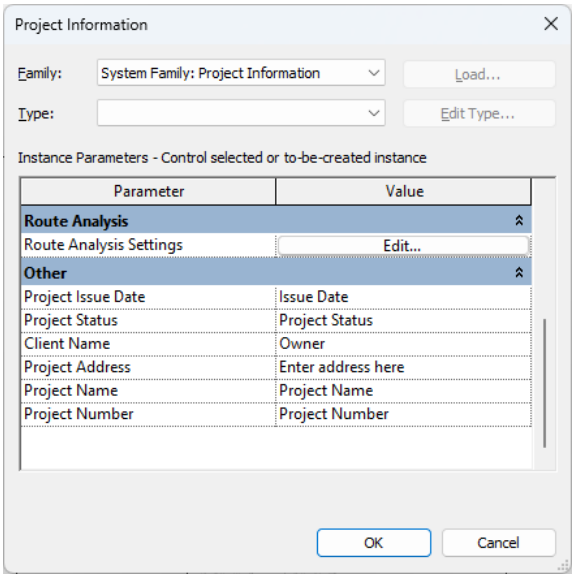
11.6.7 Editing After Placement

Once a schedule has been placed, the Schedule properties can be changed using the standard Revit® dialogs for View Schedule, or Title Block Properties, or Title Block Type properties. Select the current view again after changing these properties to ensure that Refresh is applied to the correct view.
A separate View Schedule is created for each set of schedule pages on a sheet, with the same name as the associated Schedule Sheet.

11.6.8 Header Details

This information is automatically extracted from the Revit® Project Information dialog.

Copyright © Computer and Design Services Limited

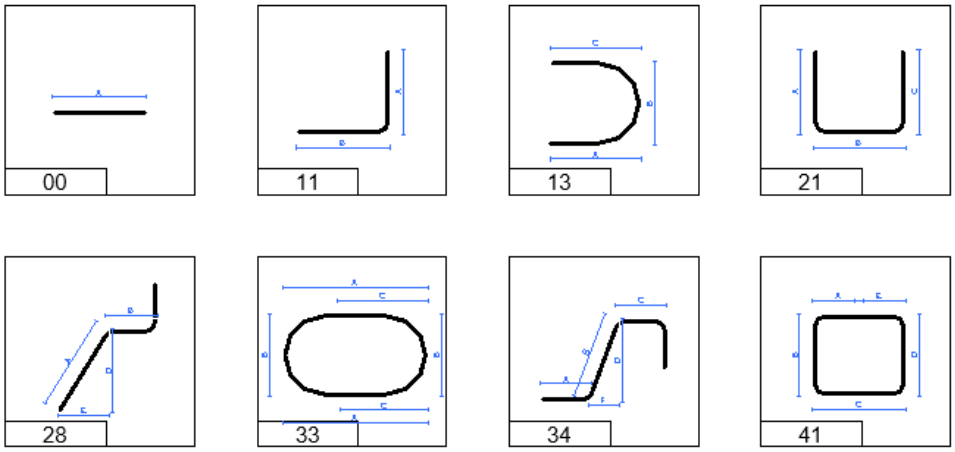


To change Schedule Header details, double-click the header of the schedule to enter sketch mode. Then click in the different fields to modify their properties.
Changing Properties of the Schedule or View Schedule will enable the schedule 'Refresh' button, so that the data in the schedule can be updated.
To add a further schedule to the set, select a schedule and use copy/drag to place the next schedule.

11.6.9 Classic Rebar Diagram

Use the Diagram Diagram command to place Shape Code diagrams on the same Revit® Sheet as a Placed Schedule.

1. Make the View containing the Placed Schedule current.
2. Select all of the schedule sheets in the view with a window.
3. Select the Diagram command from the Classic drop-down menu on the Schedule Panel.
4. Pick two diagonal points to define a rectangle to contain the shape code diagrams in a suitable position on the sheet.
5. The Rebar Diagram command adds diagrams for the shape codes found on the schedule sheets.

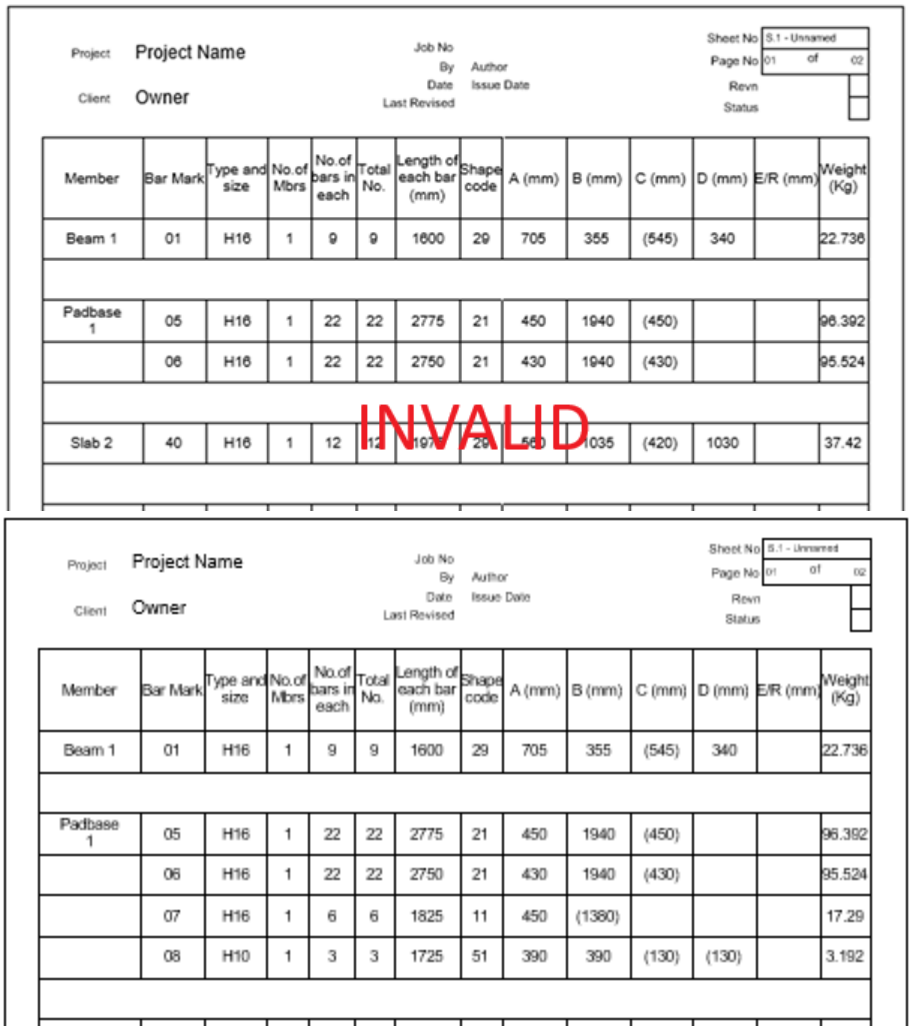


6. You can place the diagrams sheet by sheet or, as described above select all the sheets to get one diagram table for all the sheets.

Copyright © Computer and Design Services Limited

11.6.10 Classic Refresh

Use the Refresh Refresh command to update Placed Schedules where rebar has been edited or added to the model. The refresh command will also work for Schedules Placed from Inside the Schedule Dialog, the schedule will be marked with the word 'Invalid' in red written diagonally. Host Padbase 1 has had additional rebar added in the example below.



Project Project Name
Client Owner
Job No
By Author
Date Issue Date
Last Revised
Sheet No S.1 - Unnamed
Page No 01 of 02
Revn
Status

Member	Bar Mark	Type and size	No.of Mbrs	No.of bars in each	Total No.	Length of each bar (mm)	Shape code	A (mm)	B (mm)	C (mm)	D (mm)	E/R (mm)	Weight (Kg)
Beam 1	01	H16	1	9	9	1600	29	705	355	(545)	340		22.736
Padbase 1	05	H16	1	22	22	2775	21	450	1940	(450)			96.392
	06	H16	1	22	22	2750	21	430	1940	(430)			95.524
Slab 2	40	H16	1	12	12	1975	29	560	1035	(420)	1030		37.42

INVALID

Project Project Name
Client Owner
Job No
By Author
Date Issue Date
Last Revised
Sheet No S.1 - Unnamed
Page No 01 of 02
Revn
Status

Member	Bar Mark	Type and size	No.of Mbrs	No.of bars in each	Total No.	Length of each bar (mm)	Shape code	A (mm)	B (mm)	C (mm)	D (mm)	E/R (mm)	Weight (Kg)
Beam 1	01	H16	1	9	9	1600	29	705	355	(545)	340		22.736
Padbase 1	05	H16	1	22	22	2775	21	450	1940	(450)			96.392
	06	H16	1	22	22	2750	21	430	1940	(430)			95.524
	07	H16	1	6	6	1825	11	450	(1380)				17.29
	08	H10	1	3	3	1725	51	390	390	(130)	(130)		3.192

11.6.11 Classic Excel Output

CADS RC3D / RebarCAD 3D for Revit® provides the option to export the schedule to MS Excel using the Excel Output Excel Output command. The software is shipped with default templates for the UK & North America.

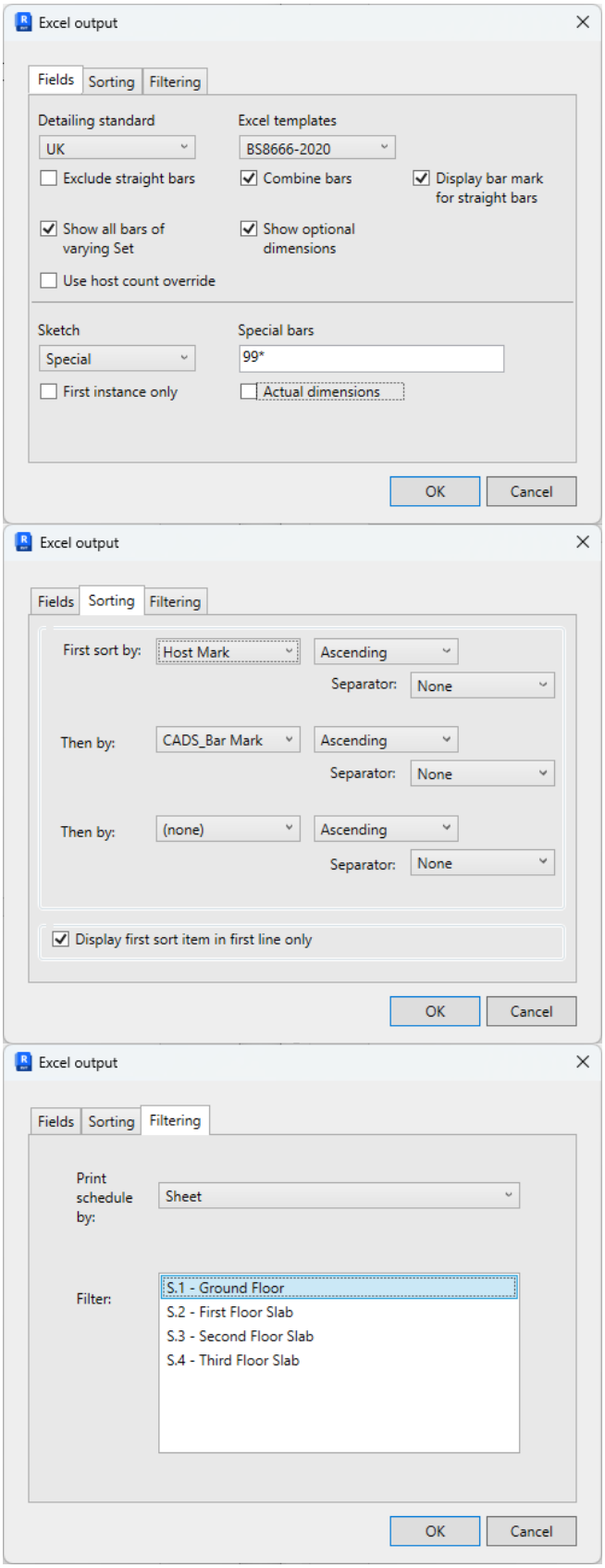
Customising the Excel Schedule Template details how to create the schedule templates for use with the software.

The options in the Excel Output are the same as the Place Schedule, click on these links to see further details, Field Tab, Sorting Tab and Filtering Tab. Please note that the Show Title Block, Fixed Page Height, No of Lines and Show Blank Line Grid options are omitted from the Fields tab as these are not required for the Excel Output.

On the Fields Tab – Excel Templates drop down there are v2, v3 & v4 template options. Please only select the v2 schedule templates as these supports the diagram output. The v3 templates supports diagrams, weights and revisions and can only be used via the Schedule dialog.

Copyright © Computer and Design Services Limited

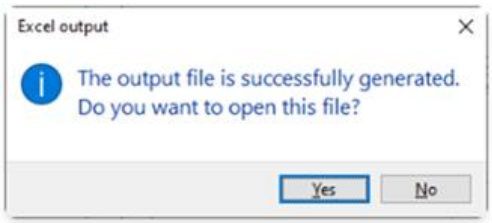
1. Select Excel Output Excel Output from the Classic drop-down menu on the Schedule Panel.
2. Select the required options on each of the three tabs.



3. Click ok.

Copyright © Computer and Design Services Limited

4. Browse to the correct location to save the file and enter a name. Click ok.



5. Answer Yes, to open the Excel file.

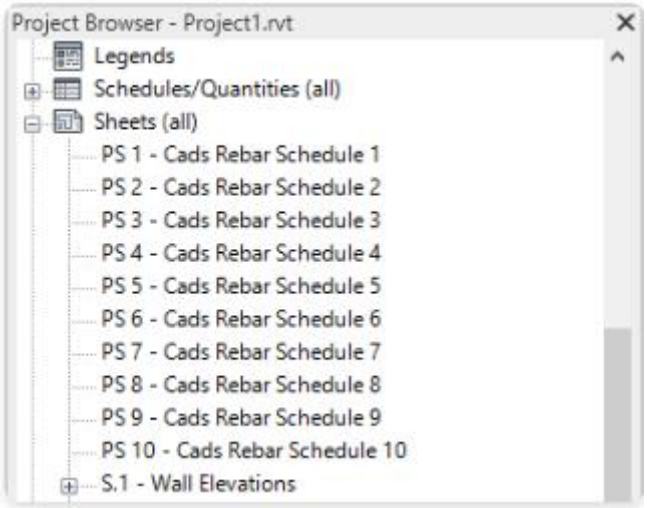
CADS RC 3D					Client:	Owner		Prep. By:			Dwg No.:			
					Site Ref:	Enter address he		Prep. Date:			Sheet No.:	1	of	2
								Chk'd By:	Checker		Rev.:			
					Job No.:			Rev. Date:						
Member	Bar Mark	Type & Size	No.of mbrs	No.of bars in each	Total no.	Length of each bar (mm) †	Shape code	A*	B*	C*	D*	E/R*	Weight (kg)	Rev letter
Wall 20	04	H16	1	8	8	1000	00	1000					12.63	
	05	H16	1	4	4	2200	00	2200					13.89	
	06	H16	1	4	4	2000	00	2000					12.63	
	27	H16	1	74	74	2950	00	2940					344.68	

11.6.12 Classic Print

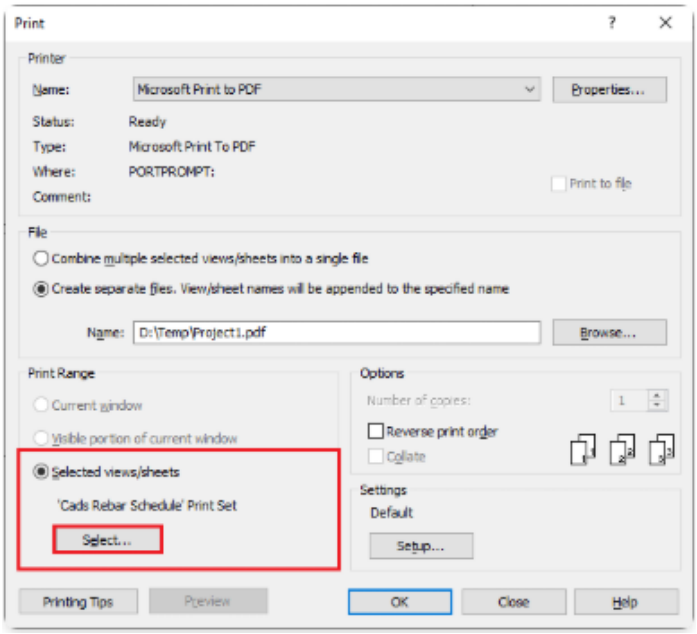
Use the Print Print command to create a Revit® Print List of the schedules for a particular release or drawing sheet. This command displays the same dialog box and tabs as the Place Schedule command, Place Schedule details this information. However, this command creates Schedule Sheets which are displayed in the Project Browser under the Sheets section.
The schedule sheets are automatically added to a Print Set that can be accessed from inside the Revit® Print dialog.

1. Select the Print Command
2. Setup the Fields, Sorting and Filtering Tabs as required, Field Tab, Sorting Tab and Filtering Tab.
3. Click ok
4. This creates a list of Schedules under the Sheets in the Project Browser.

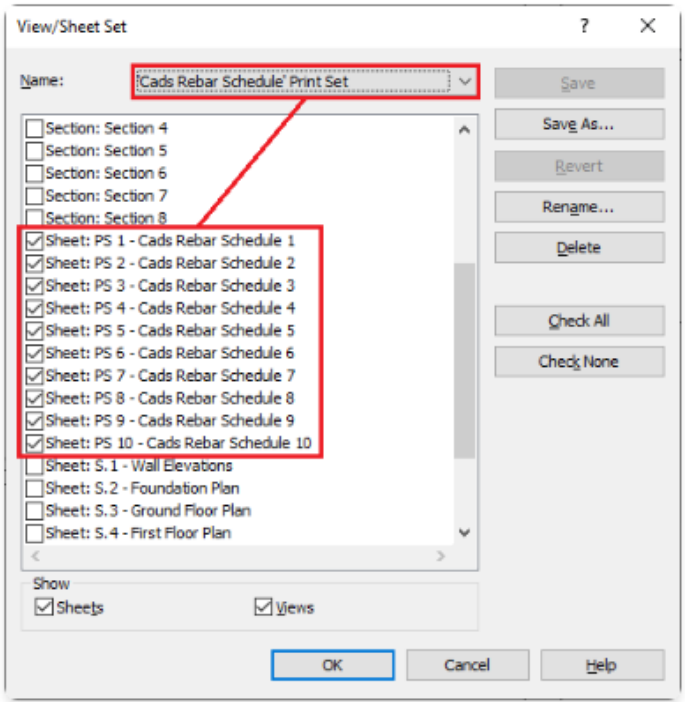
Copyright © Computer and Design Services Limited



5. The schedule sheets are automatically added to a Print Set that can be accessed from inside the Revit® Print dialog.



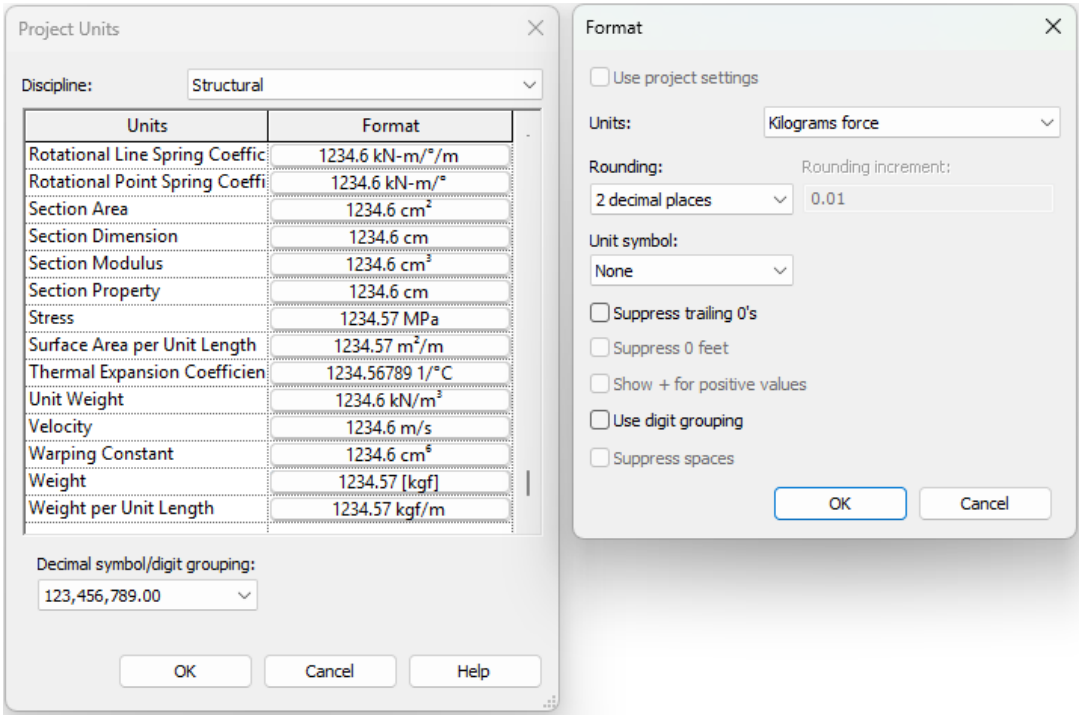
Copyright © Computer and Design Services Limited



11.6.13 Hints & Tips

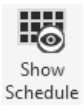
Rebar weights incorrect in Schedule

1. Select the Manage Tab, click on Project Units
2. Change the Discipline to Structural
3. Locate Weight and click on the Format option and change to Kilograms force.

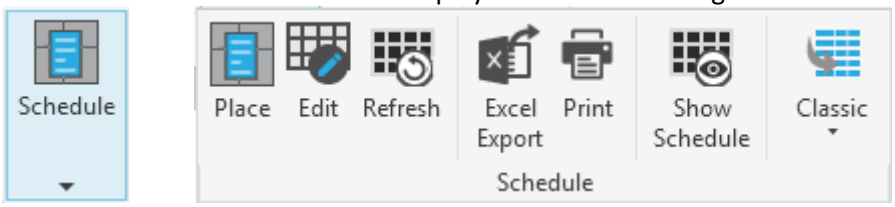


Copyright © Computer and Design Services Limited

11.7 Show Schedule Dialog

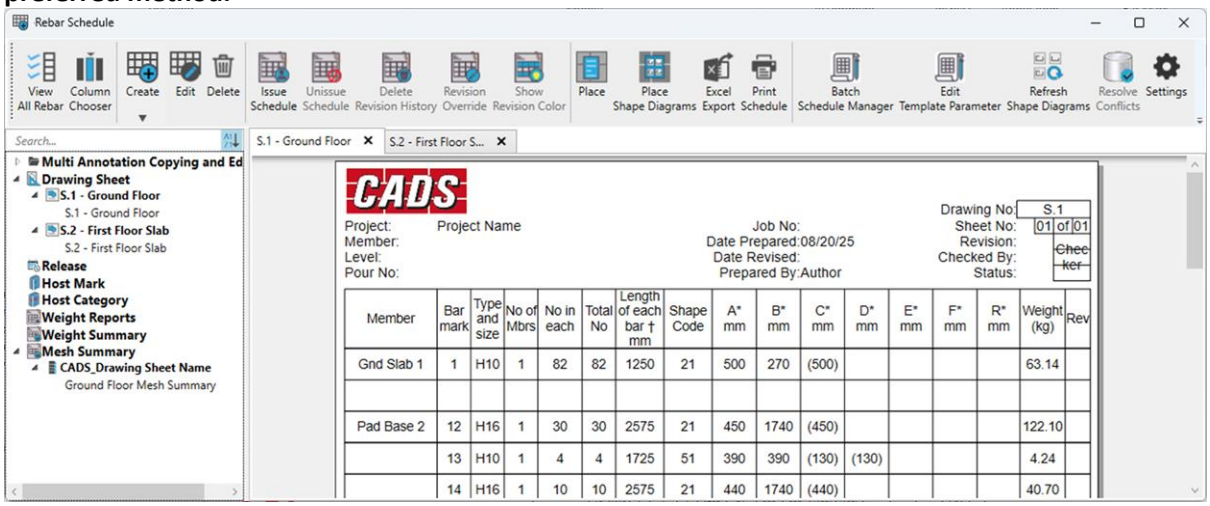
Select the Show Schedule command 

to display the Schedule dialog from the Schedule Panel.



The dialog comprises three areas the Toolbar at the top, the Navigation Area on the left and the Schedule Viewer on the right. Each command on the toolbar is explained later. The Navigation Area expands to show any schedules that have been created.

Using the Schedule dialog to generate, issue, revise, place, export and print your schedules is the preferred method.



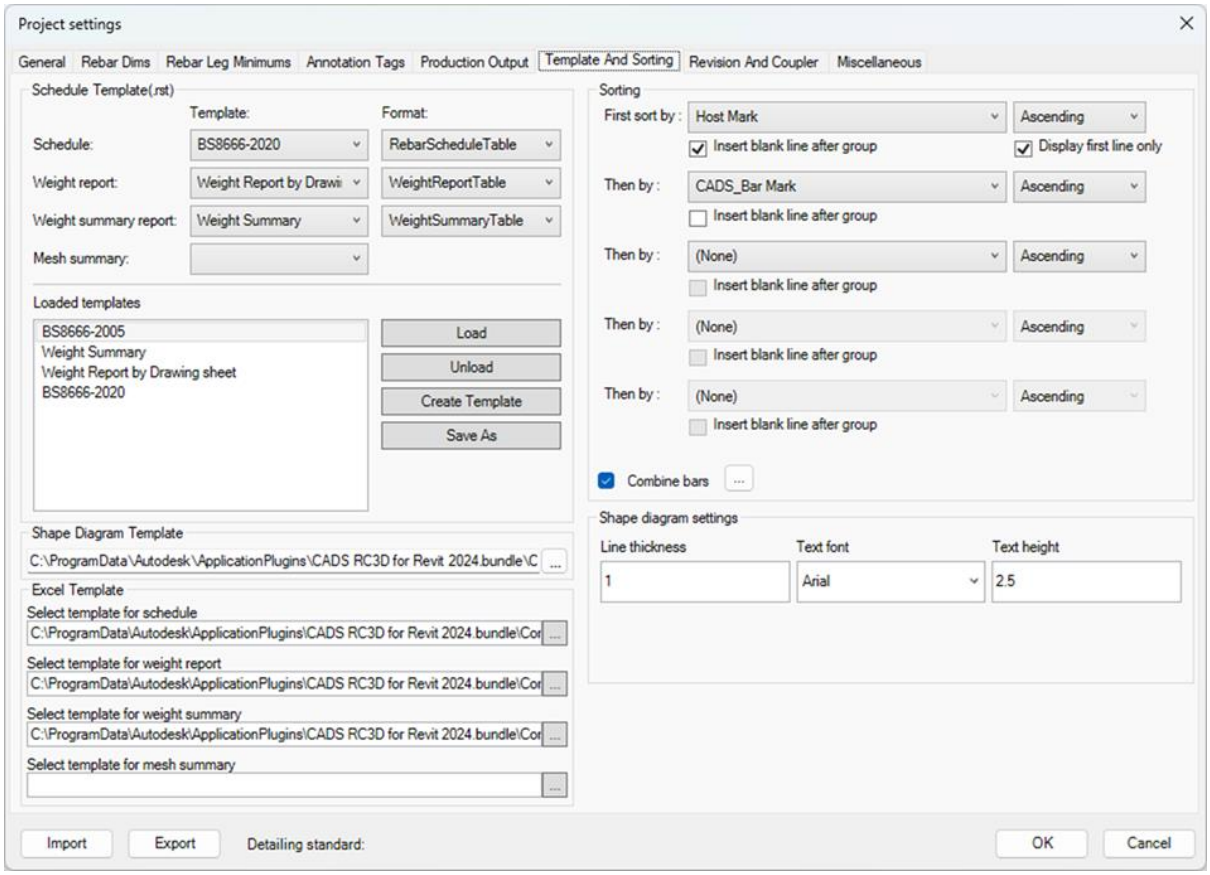
11.7.1 Schedule Project Settings

Configuring the schedule template and how the schedule is sorted, as well as the revision settings are the first items that should be addressed.

Select the Project Settings Option 

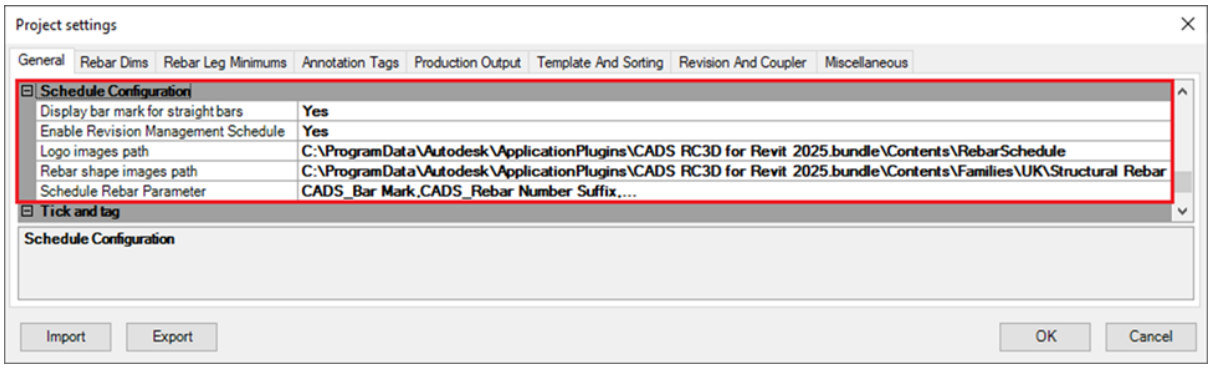
from the Settings Panel. This section will discuss the Configuration Settings relating to the bar bending schedule in the General Tab, Schedule Template & Sorting Tab and Revision & Coupler Tab.

Copyright © Computer and Design Services Limited



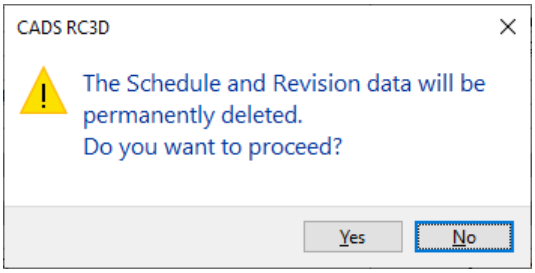
11.7.2 General Tab - Schedule Configuration

There are five settings related to the schedule configuration on the Project Settings - General Tab;



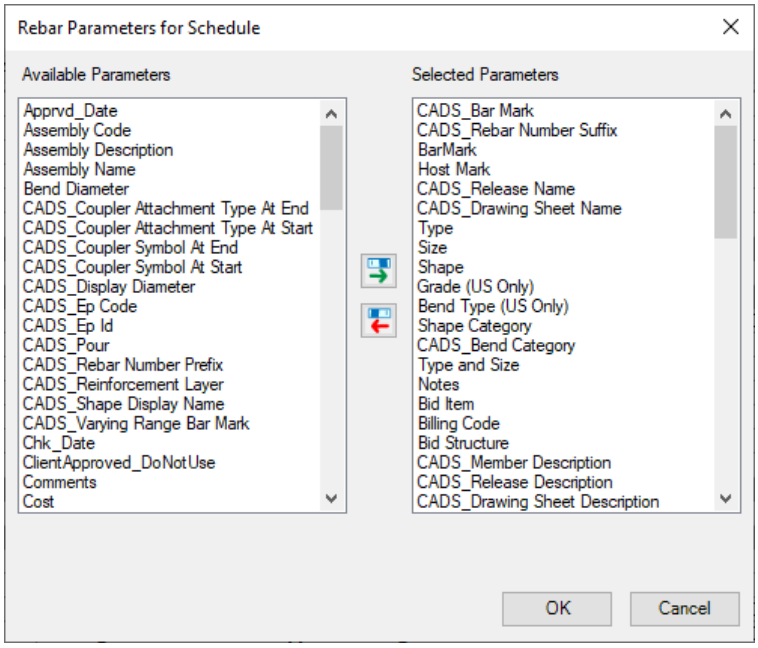
- **Display bar mark for straight bars:** Toggle between Yes and No to enabled or disable bar marks for straight bars in the model.
- **Enable Revision Management Schedule**: Toggle between Yes and No to enabled or disable the ability to issue schedules in the Show Schedule dialog. If this option is set to No after creating schedule inside the Show Schedule dialog all Schedules will be deleted and a warning message will be issued.

Copyright © Computer and Design Services Limited



Note: This setting can be used when the schedule dialog will not open when error messages such as "Index was out of range" are displayed. Although all schedules will be removed the dialog can be opened and the schedules recreated.

- **Logo Images path:** Sets the path to the logos used by the schedule templates.
- **Rebar Shape Images path:** Sets the path to the diagrams placed in the schedule and on the sheet views.
- **Schedule Rebar Parameter:** Use this dialog to select the parameters that are available to be displayed in the View All Rebar Option.



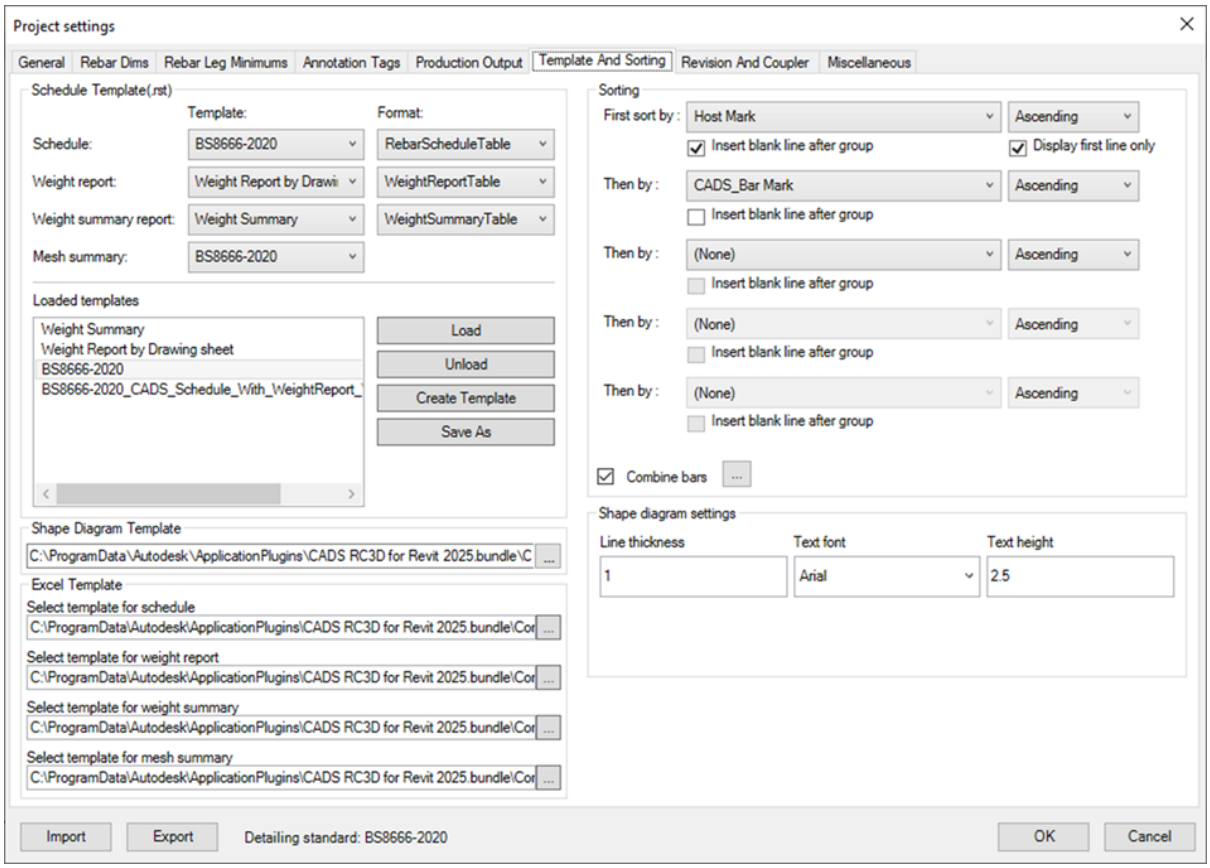
11.7.3 Schedule Template & Sorting Tab

The Schedule and Sorting Tab is divided into five areas, Schedule Templates, Loaded Templates, Excel Template, Sorting and Shape Diagram Settings.

- **Schedule Template:** Used to define the template that is used in the Schedule Viewer and in the Place Schedule command.
- **Loaded Templates:** Lists the currently loaded schedule & weights templates.
- **Excel Template:** Used to define the template used by the Excel Export Schedule command.
- **Sorting Area:** Used to define the sorting method for the Schedule.

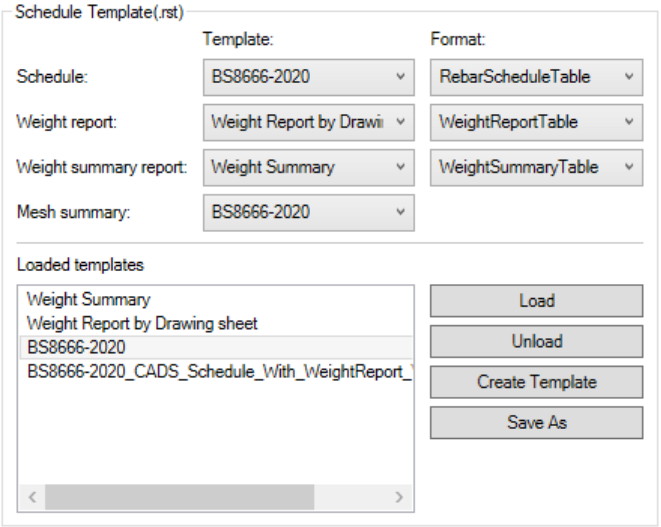
Copyright © Computer and Design Services Limited

- **Shape Diagram Settings:** Used to define the line thickness, font etc for the diagrams.



- **Schedule Template (RST):** The schedule templates have the file extension RST and by default are loaded from the "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\RebarSchedule\UK" folder.

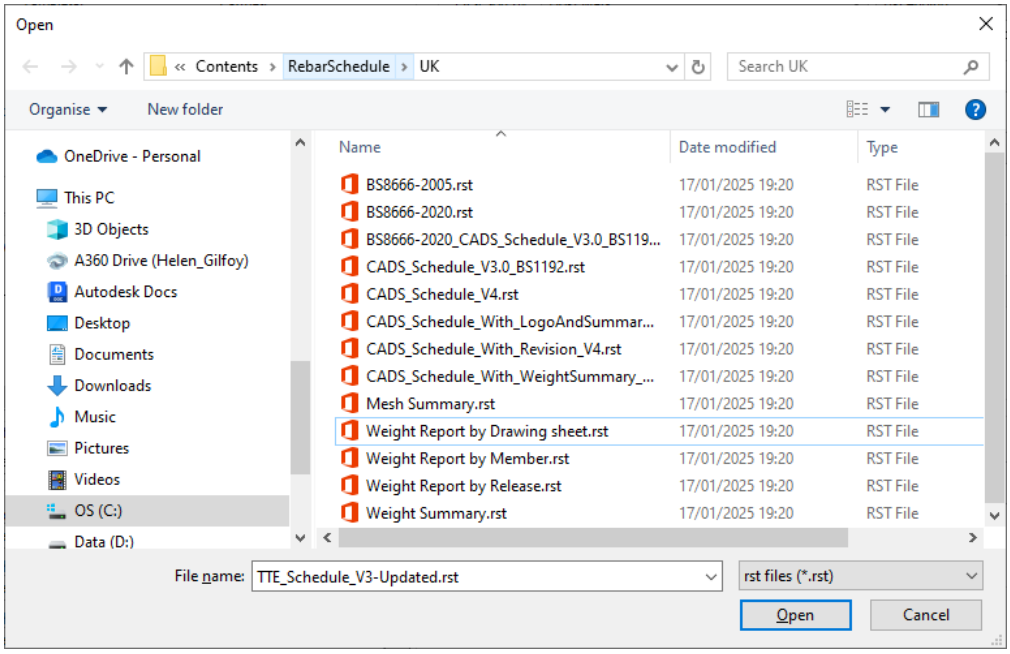
Each Template can contain several schedule formats. Configure the schedule, weight report & weight summary report on the drop-down menus.



- **Template:** Name of the template loaded.
- **Format:** Format of the table loaded, schedule, weight report or weight summary.

Copyright © Computer and Design Services Limited

- **Schedule:** Shows the name of the loaded schedule template that will be used by default when creating a schedule.
- **Weight Report:** Shows the name of the loaded weight report that will be used by default when creating a schedule.
- **Weight Summary Report:** Shows the name of the loaded weight summary report that will be used by default when creating a schedule.
- **Loaded Templates:** Displays a list of templates that are currently loaded into the Revit® Project.
- **Load:** Select the Load button to open a predefined CADS RC3D schedule template. Several templates are shipped with CADS RC3D as shown below;



This will then show in the list of templates in the dialog. Several templates can be loaded into the project. The appropriate schedule template can be selected when generating views of each schedule.

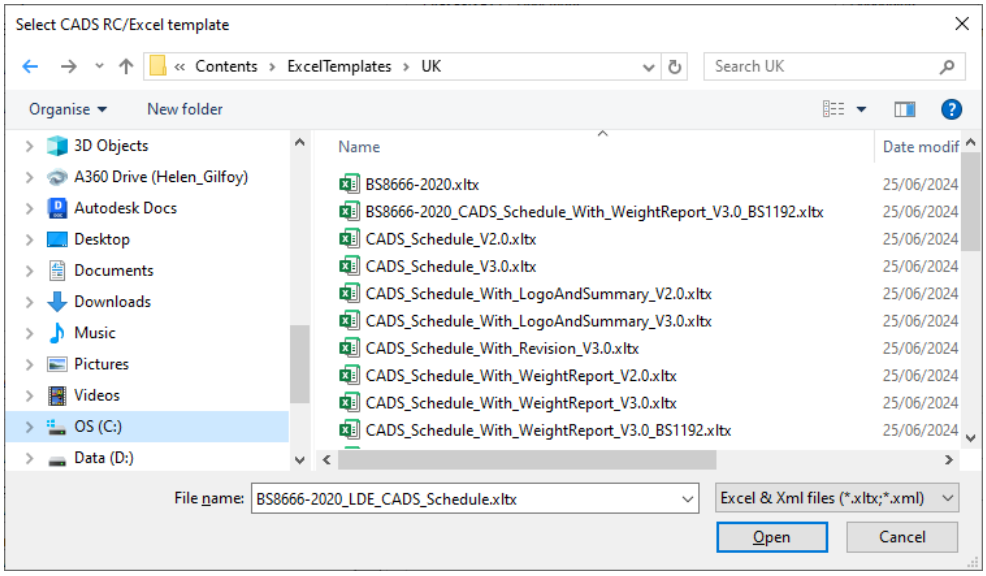
- **Unload:** Use the Unload option to remove a schedule template from the list.

The template can only be unloaded if it has not been used to Create a Schedule in the Schedule dialog.

- **Create Template:** The Create Template option can open either an Excel Schedule Template file (*.XLTX) or a CADS RC 2D / RebarCAD 2D for AutoCAD Schedule on Drawing Template file (*.XML).

Click the Create Template option and locate the CADS RC 2D / RebarCAD 2D Schedule on drawing template (*.XML) or Excel template created to be compatible with CADS RC3D / RebarCAD 3D for Revit® and open it.

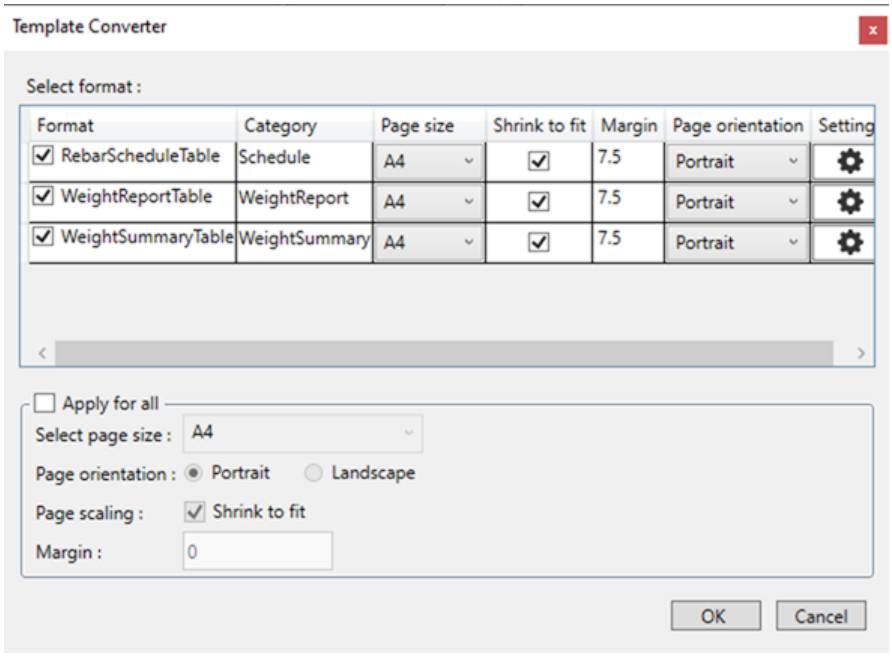
Copyright © Computer and Design Services Limited



In the Template Convertor dialog select which schedule format needs to be converted, the page size, scaling, margin and orientation.

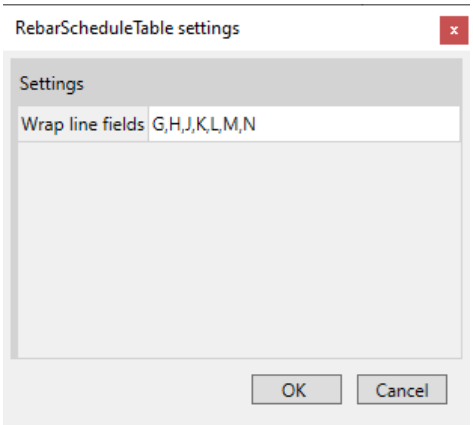
Alternatively, select the Apply to All option so all templates are selected with the same settings.

Click OK to load the selected templates into the Project Settings Template and Settings Tab.

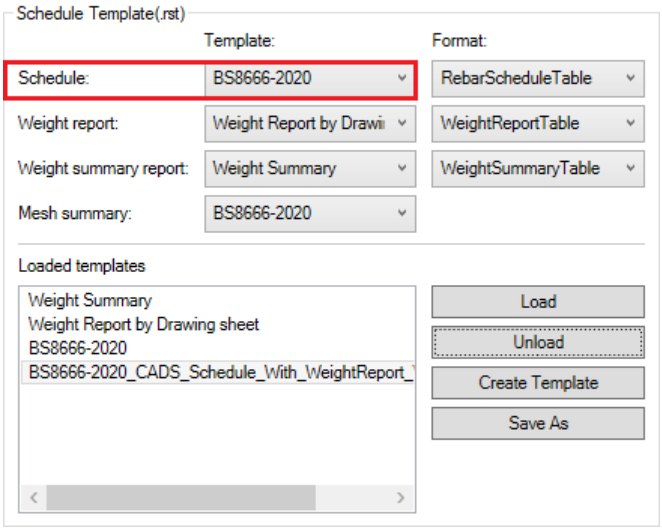


The Settings option defines the bar leg dimensions that will be display on the second data line of the schedule.

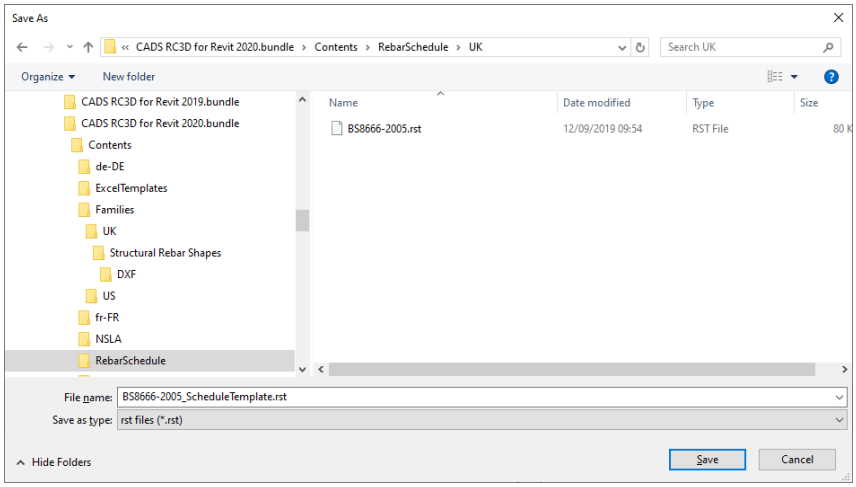
Copyright © Computer and Design Services Limited



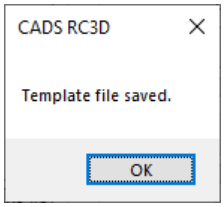
The Schedule template is displayed in the list of available templates. The templates used by default to create the schedule and weight reports are displayed alongside each template type shown in the red box in the diagram below;



- **Save As:** Any imported templates can be saved as CADS RC3D schedule templates (*.rst) by selecting the Save As option.

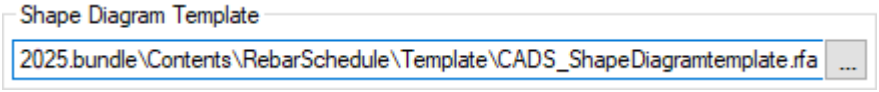


Copyright © Computer and Design Services Limited

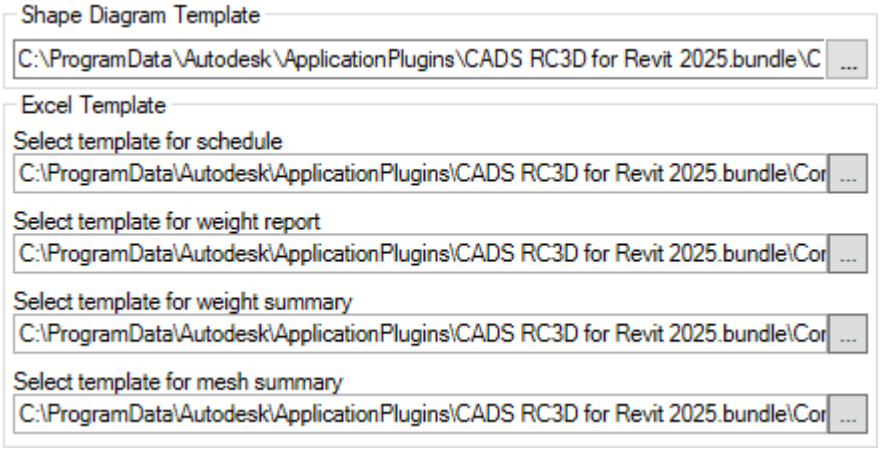


Note: In the current version there are no editing facilities for RST files.

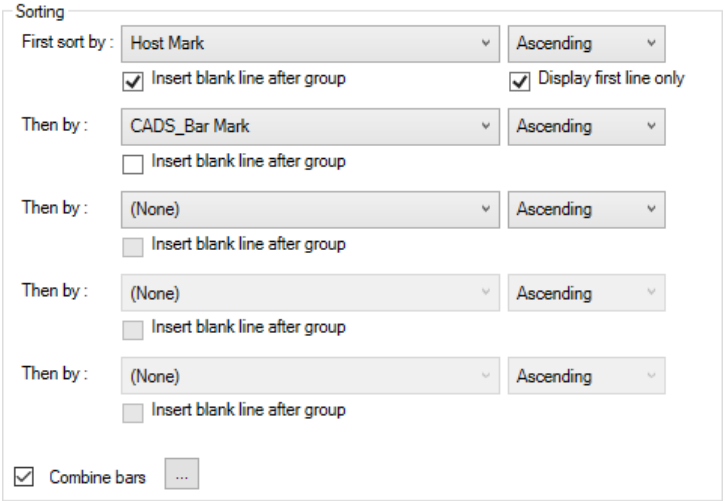
- **Shape Diagram Template:** Defines the family template used to place the shape diagrams on the drawing. The default family is "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\RebarSchedule\Template\CADS_ShapeDiagramtemplate.rfa"



- **Excel Template:** Use the Excel Template browse buttons to load the Excel Templates for the Schedule, Weight Report and the Weight Summary. These templates are used when the schedule, weight report or weight summary are exported to Excel from inside the Schedule Viewer. Only select the v3 Templates, these support diagrams, weights and revisions.

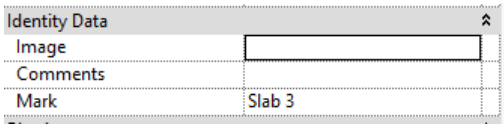


- **Sorting:** The Sorting area configures the default fields used for sorting and grouping the schedule data.



Copyright © Computer and Design Services Limited

- **First Sort by:** By default, the UK Sorting is set to the Host Mark as the first sort item. This is the Mark name of concrete host assigned in the Revit® Properties dialog, as shown below. You can also choose whether to sort in ascending or descending order. Additionally, you can separate the first sort item with a Blank Line between each item. The First Sort can be set to Partition instead of Host Mark this is discussed in Create Schedule by Partition .



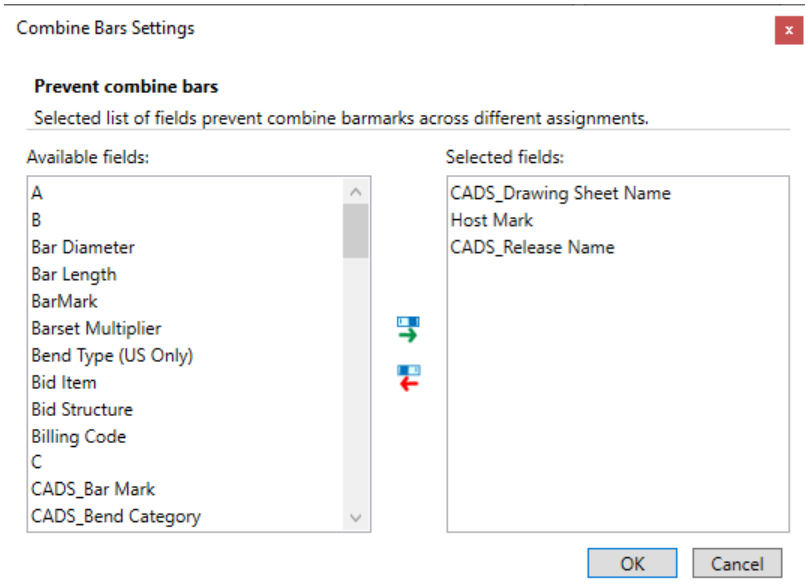
- **Insert Blank Line after Group:** Additionally, you can separate the first sort item with a Blank Line between each item.

- **Then by:** CADS Bar Mark is the default selection in ascending order. The separator should normally be set to None. You can amend the sort criteria to meet your own requirements.

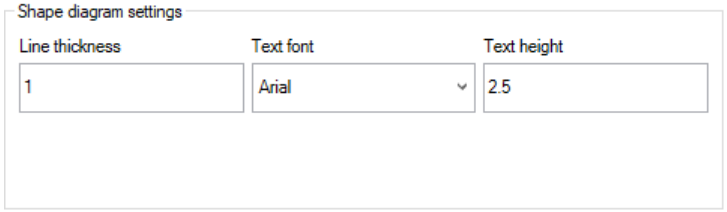
- **Then by:** A third sort item can be configured if required.

- **Display first sort item in first line only:** Tick this option to display the Host Mark once per host, if Host Mark is configured as the first sort item.

- **Combine Bars:** Combines together all rebar with the same bar mark when checked. In this case the values displayed for 'No. of bars each' and 'Weight' are the totals for the set. The schedule can be prevented from combining bars across different assignments. Select the Browse button to configure the fields.



- **Shape Diagram Settings:** The Shape diagram settings to control the line thickness, font style and height used when creating the diagrams to add to the schedule.

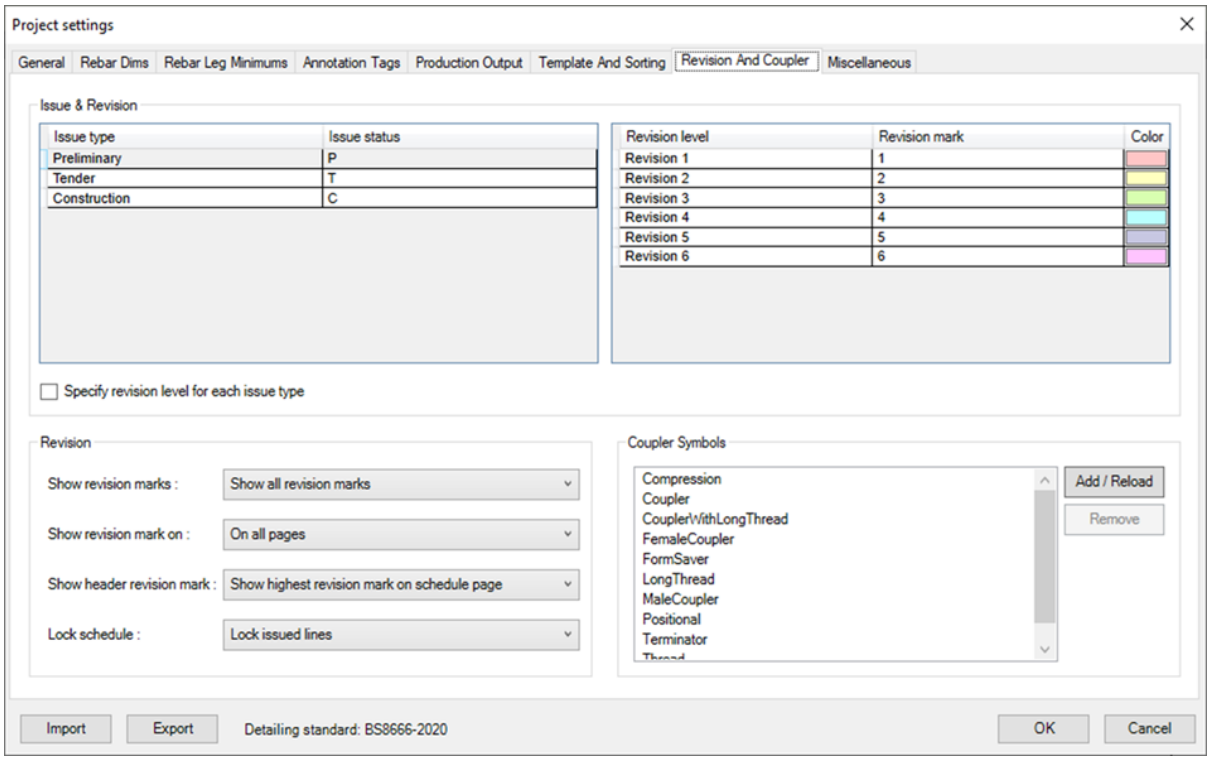


Copyright © Computer and Design Services Limited

11.7.4 Revision and Coupler Tab

Use the Settings on the Revision Tab to configure & control how the Schedule Revisions are handled in the Schedule Viewer. If required colours can be applied to each Revision Mark.

Currently only the schedule can be locked, any editing of the rebar in the model will be annotated with revision marks against each line in the schedule and in the page headers. The revised rebar in the project will have to be manually tagged.



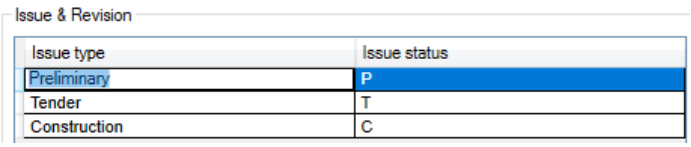
Issue & Revision Area

Use the Issue & Revision to configure the Revision Types and Revision Levels prior to Issuing the Schedules.

Issue Type & Status

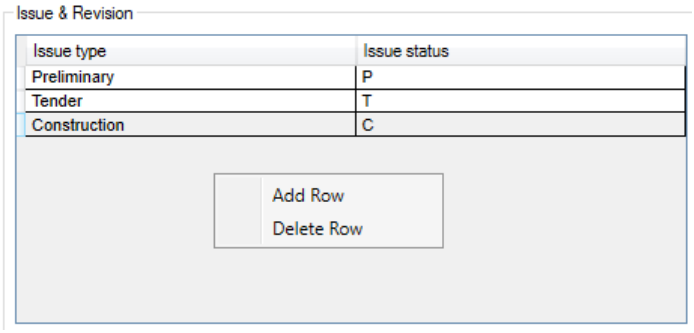
The default Issue Types are set to Preliminary, Tender and Construction which are indicated on the Schedule with the letters P, T & C respectively.

The default names for the Issue Types & Status can be changed by double clicking into the field and typing in a new name.



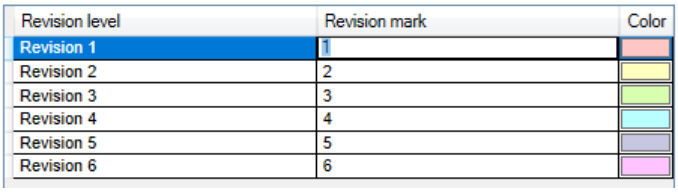
New Issue Types can be added by right mouse clicking in the Issue & Revision area and selecting Add Row.

Copyright © Computer and Design Services Limited

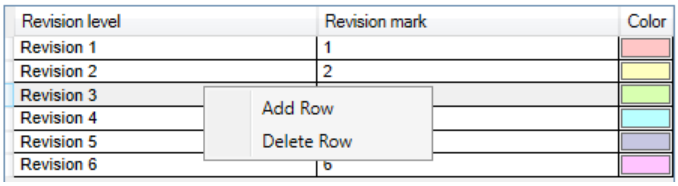


Revision Level & Mark

The default Revision Marks are set numerical values, these can be amended as letters if required by double clicking into the field and typing a new Revision Mark.



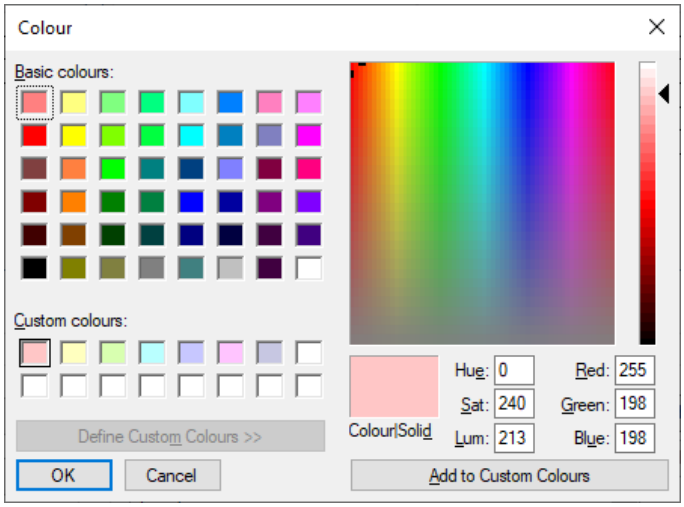
New Revision Levels can be added by right mouse clicking in the Revision Level/Mark area and selecting Add Row.



The right click menu also includes the option to Delete Row as well.

Revision Colour

Each revision can be assigned a colour, the default colours can be amended by clicking on the colour swatch.

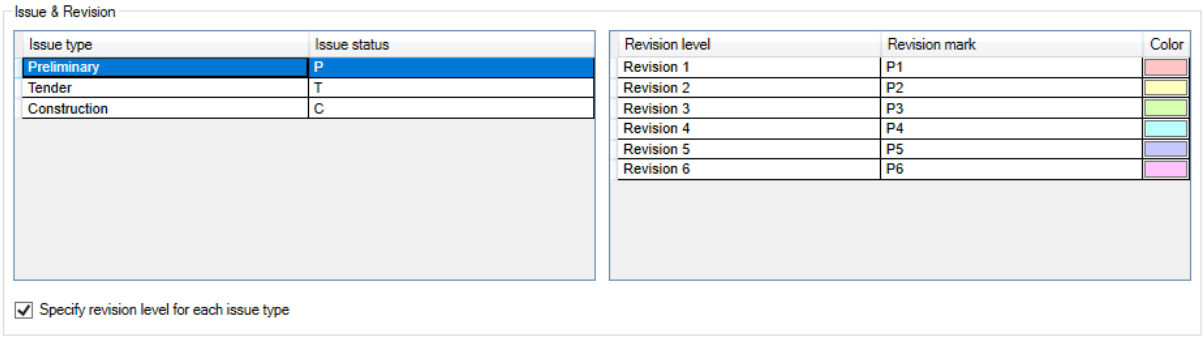


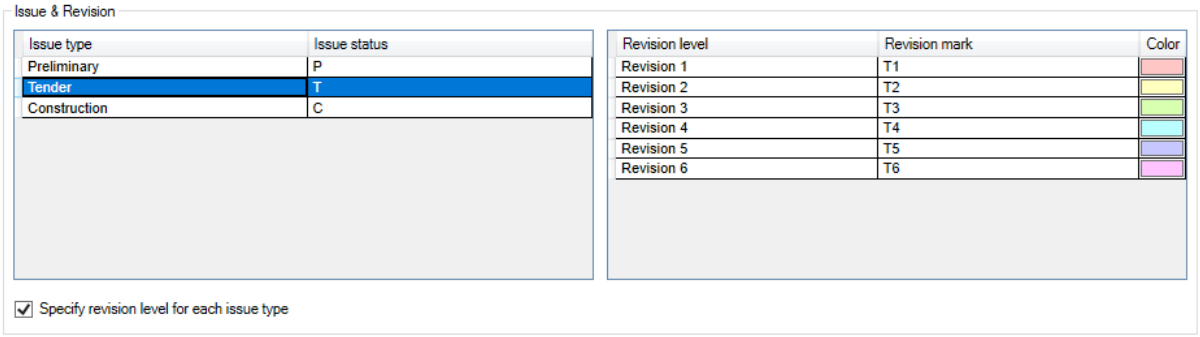
Copyright © Computer and Design Services Limited

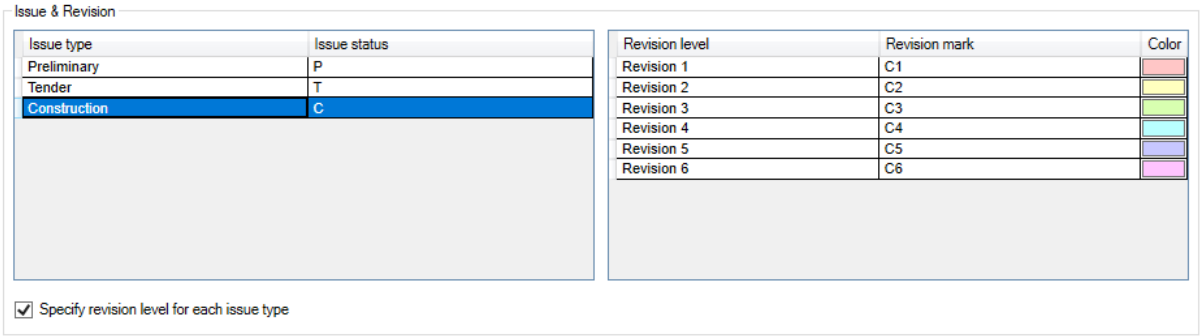
Specify Revision Level for each Issue Type

When the option to Specify Revision Level for Issue Type is selected different Revision Marks can be configured for each Issue Type.

The default Issue Types and Revision Marks for each type are shown in the images below;

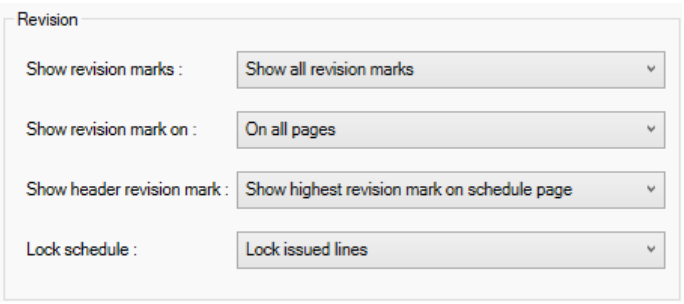






The Revision Marks can be configured as required, for instance Preliminary could be changed to P01, P02, P03 etc.

Revision Area



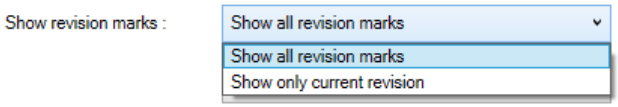
Use the options in the Revision Area to configure how the revisions are displayed on an issued schedule.

Copyright © Computer and Design Services Limited

Show Revision Marks

Select either “Show all revisions marks” or “Only current revision marks” from the drop-down menu.

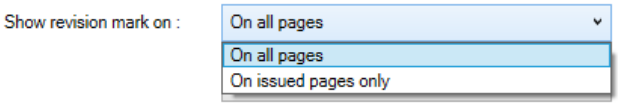
- **Show all revision marks:** This will display the current and previous revision marks against the relevant lines in the schedule view.
- **Show only current revision marks** Only displays the current revision mark in the schedule against the relevant lines in the schedule view.



Show Revision Mark on

Select either “On all pages” or “On issued pages only” from the drop-down menu.

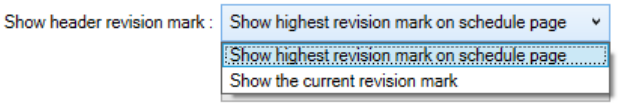
- **On all pages:** Show the revision mark in the header of all pages even if the rebar has not been edited.
- **On issued pages only:** Show the revision mark only on pages where the rebar has been edited.



Show Header Revision Mark

Select either “Show highest revision mark on schedule page” or Show the current revision mark” from the drop-down menu.

- **Show highest revision mark on schedule page:** Show the current and previous revision marks.
- **Show the current revision mark:** Display only the current revision mark.

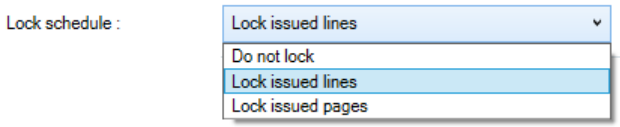


Lock Schedule

Select either “Do not lock”, Lock issued line” or “Lock issued pages” from the drop-down menu.

- **Do not lock** Do not lock the schedule lines after issuing. Any rebar deleted from the model will be deleted from the schedule.
- **Lock issued lines** Lock all schedule lines containing rebar. New rebar will be added to the next available line in the schedule. Rebar deleted from the model will be shown in the schedule with a strike out line.
- **Lock issued pages** Lock all schedule pages containing rebar. New rebar will be added to the next schedule page. Rebar deleted from the model will be shown in the schedule with a strike out line.

Copyright © Computer and Design Services Limited



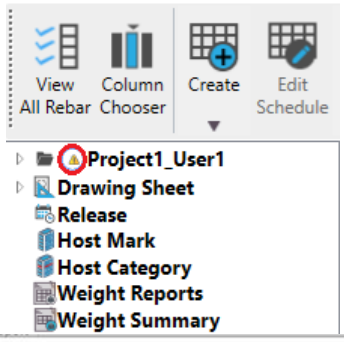
Coupler Symbols Area

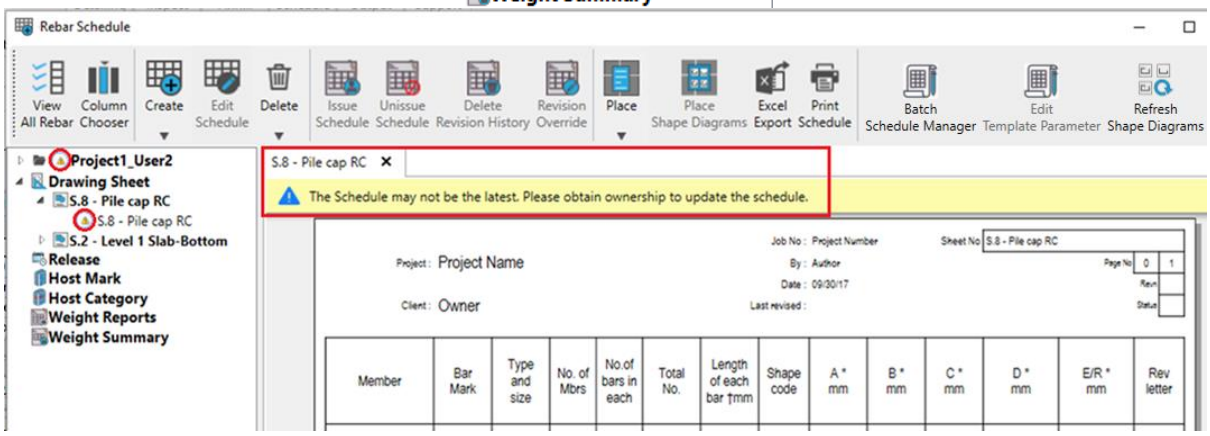
The default schedule coupler symbols are located in the "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\RebarSchedule\CouplerSymbols" folder.

- **Add/Reload** Use the Add / Reload option to add the coupler symbols to the list of available symbols.
- **Remove** Use the Remove option to remove symbols from the list.

11.8 Working with Central Models and Scheduling

RC3D & RebarCAD 3D scheduling functions fully support central models. Icons in the schedule dialog indicate the editing rights for the schedule as described in the Topics for this section.

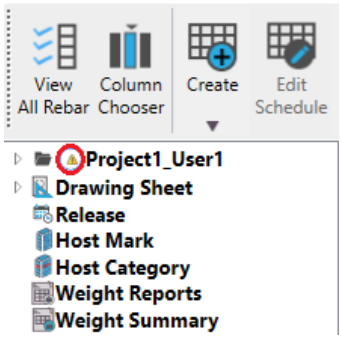




11.8.1 Project Warning Symbols

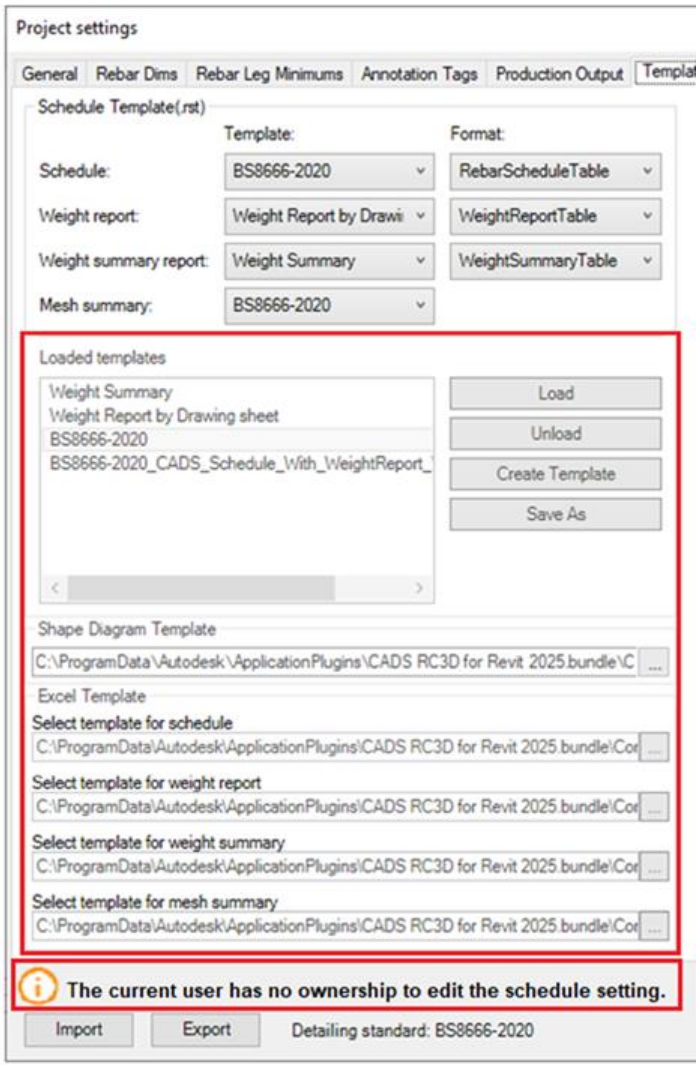
When the schedule dialog is opened the Schedule Project Tree will show the project details and the editing rights will be indicated by a symbol to the left of the project name. A yellow warning triangle indicates that the schedule is not editable. A green circle with a tick indicates that the schedule can be edited.

Copyright © Computer and Design Services Limited



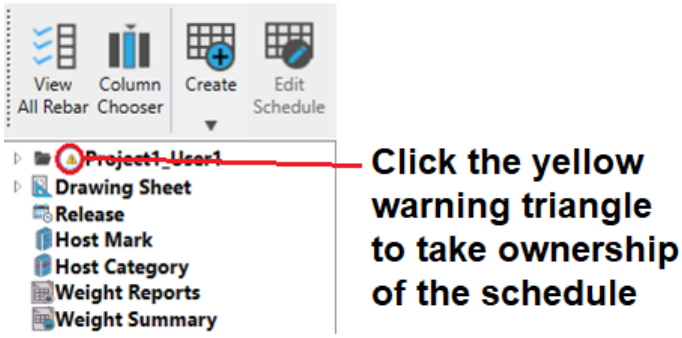
When the yellow warning triangle is displayed the schedule is not editable.

All the schedule related options in the project settings dialog will also be disabled as shown in the diagram below;

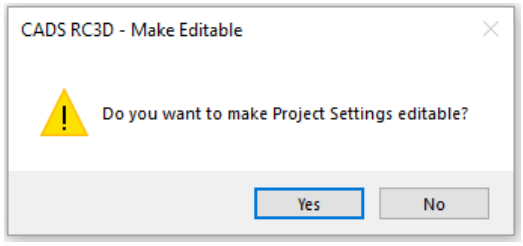


In order to edit the schedule settings, the user will need to click the yellow icon on the schedule project tree.

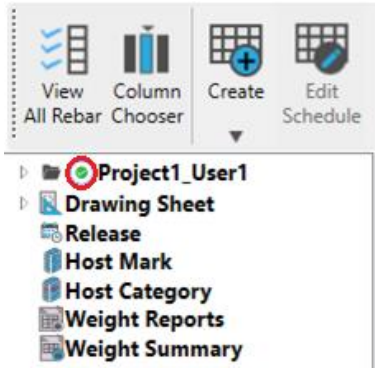
Copyright © Computer and Design Services Limited



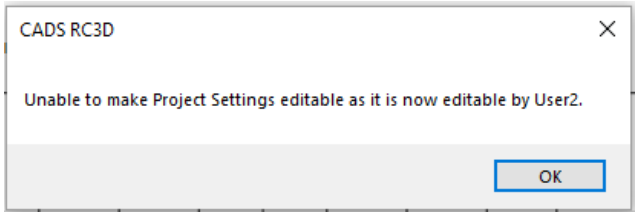
A message will be displayed asking the user to confirm they wish to take ownership of the project settings.



Selecting “Yes” will check and obtain ownership of the schedule if it is available. If ownership is available, the colour of the icon will turn green with a tick inside to indicate the schedule is editable.



If the ownership of project settings is currently assigned to another user when user clicks “Yes” to obtain ownership, a message will be displayed to say which user currently has the ownership rights.



The user can obtain ownership once the other user who has the ownership rights, closes the schedule and synchronizes the changes to the central model.

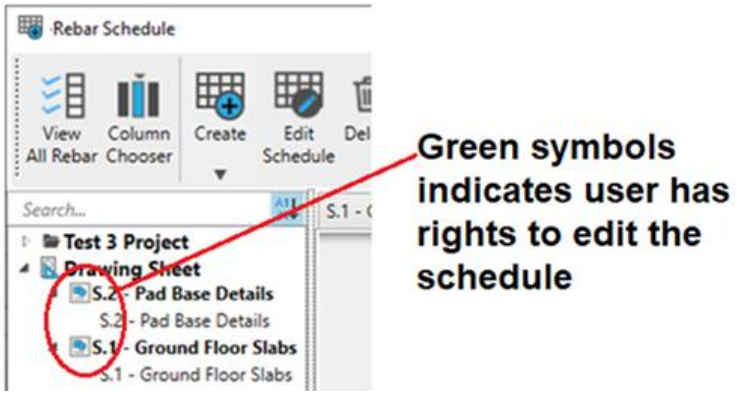
The location of any custom Excel templates used by the Schedule should be stored in a common network location accessible to all users.

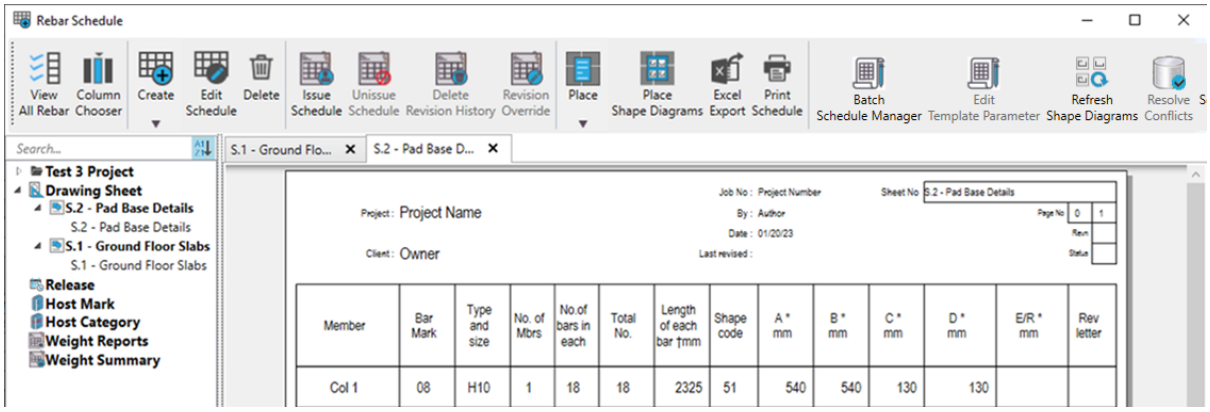
This concludes the configuration of the schedule settings, click ok to return to the Show Schedule dialog.

Copyright © Computer and Design Services Limited

11.8.2 Schedule Warning Symbols

Schedules can be created at any time when working in a central model. Only the user who created the schedule will have rights to edit the schedule, this is indicated by a green circle with a tick to the left of the schedule name in the project panel.





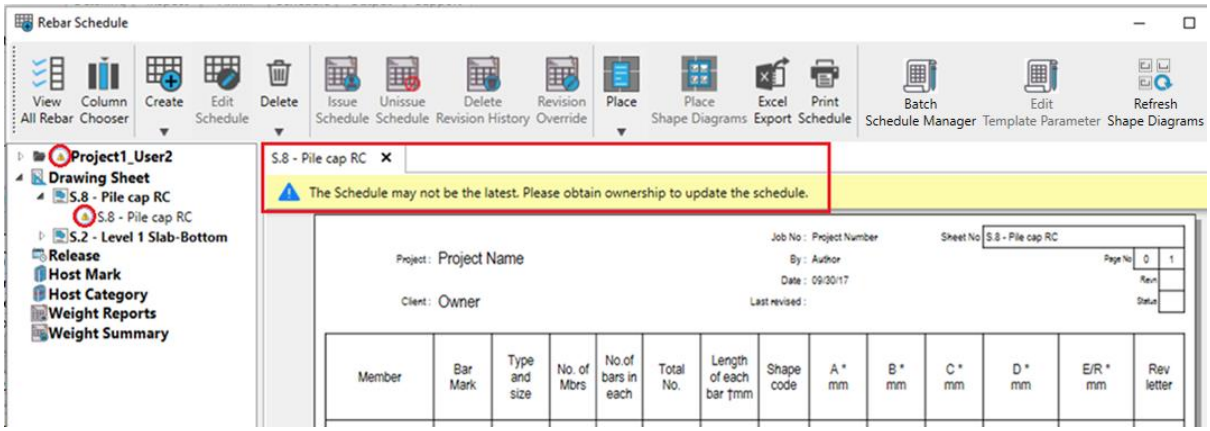
The following functionality will not be available ("greyed out") if the user does not have ownership of the schedule;

- Edit Schedule
- Issue Schedule
- Unissue Schedule
- Delete Revision History
- Place Shape Diagrams
- Place Schedule
- Place weight report/summary
- Delete Schedule
- Delete weight report / summary
- Edit Template Parameter
- Refresh Schedule

If the user does not have ownership of the schedule a yellow warning icon will be displayed to the left of the schedule name.

Copyright © Computer and Design Services Limited

If the user opens the schedule without having ownership, a warning message will be displayed above the schedule as shown below.



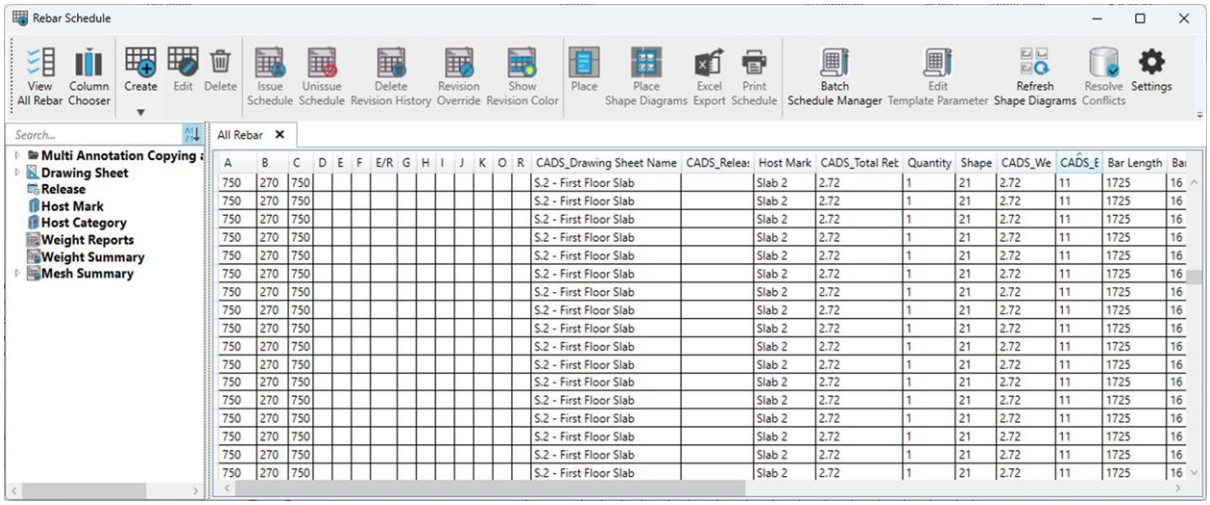
The user can make the schedule editable after synchronizing with central model or reloading latest once the user with the ownership of the schedule synchronizes his changes to central model.

11.8.3 Schedule Sheet Name Conflicts

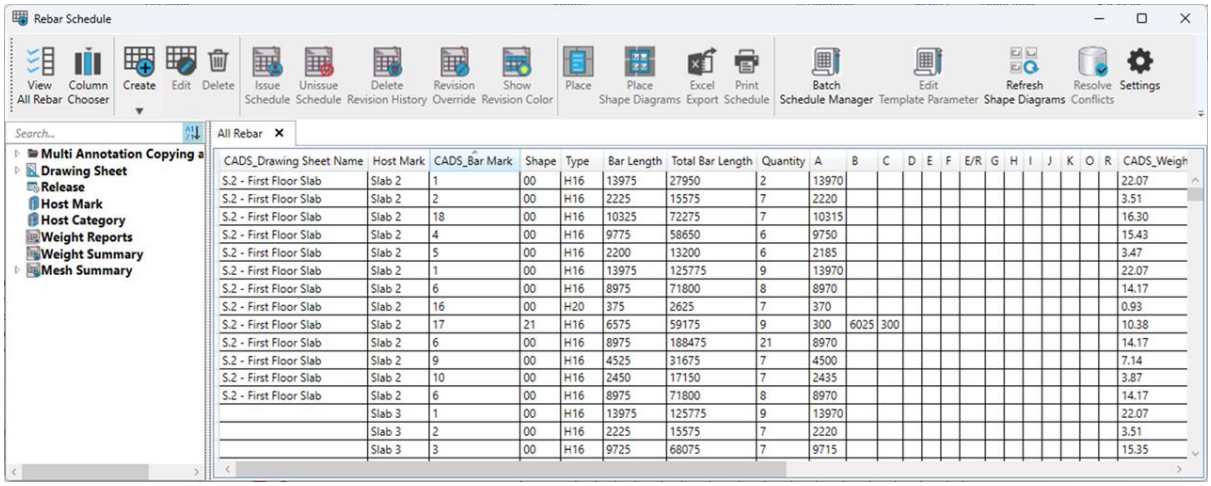
Additional warnings are issued where duplicate schedule names have been created my multiple users after the model has been synchronized.

11.9 View All Rebar

Select the View All Rebar command to display all the reinforcement in the project. The order and the size of the columns can be controlled by using the mouse to drag to new positions and increase/decrease the column width. CADS RC3D for Revit® will retain the display order and size of the columns.



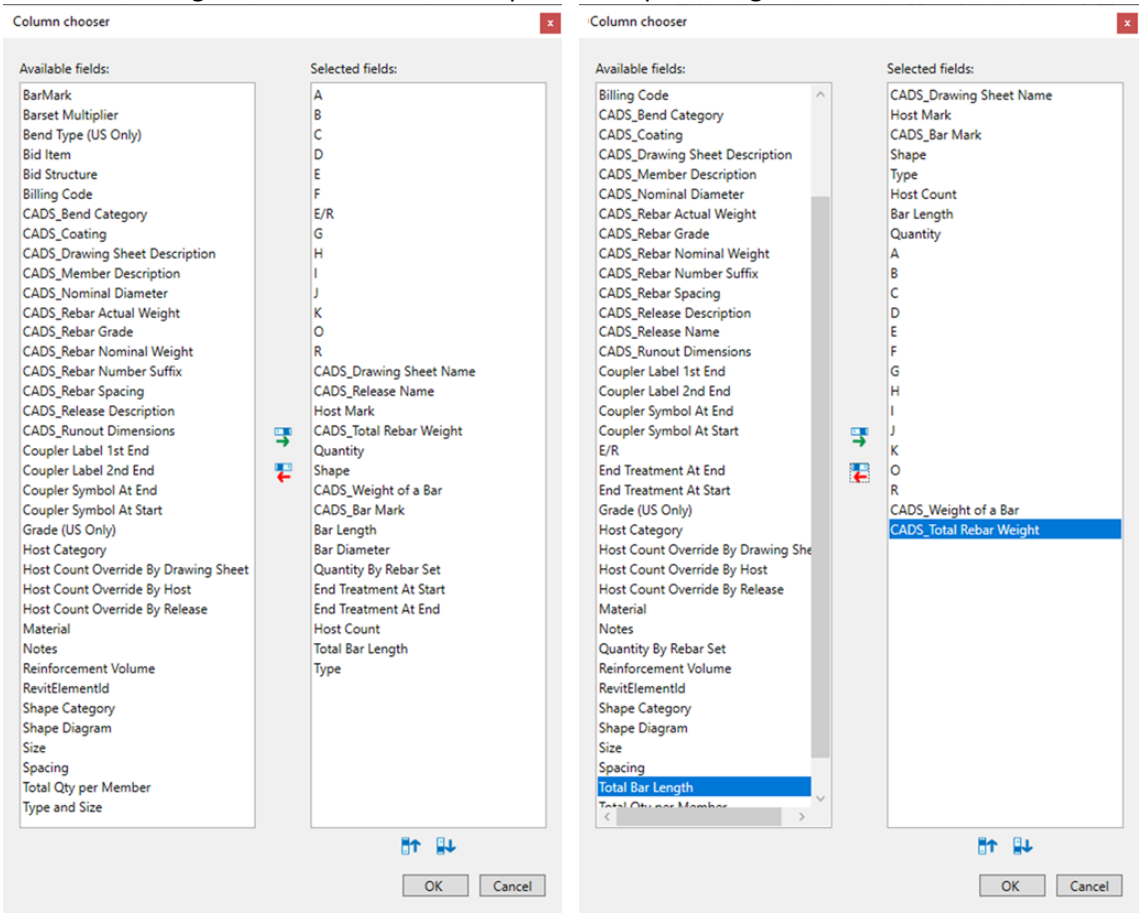
Copyright © Computer and Design Services Limited



11.9.1 Column Chooser

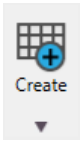
Use the Column Chooser command 

to remove or add columns from the All Rebar View. The dialog below is displayed, add or remove fields to affect which columns are displayed in the All Rebar dialog. Use the Move Up and Down arrows to change the order of the columns in the View All Rebar dialog. Then click ok to close the Column Chooser. The left dialog shows the default columns selected and the right modified columns and position as per dialogs above.

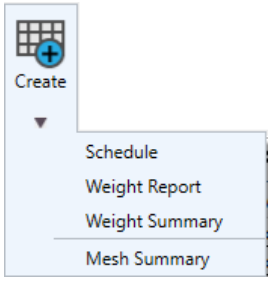


Copyright © Computer and Design Services Limited

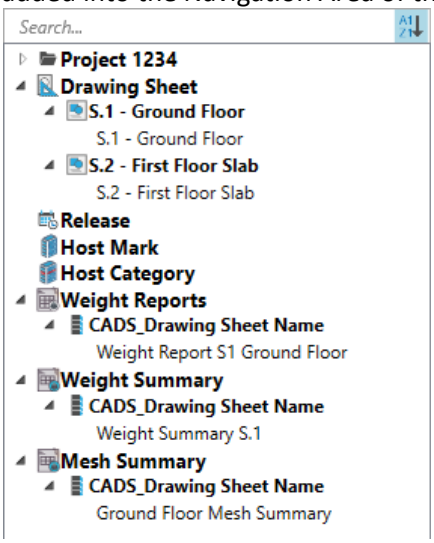
11.9.2 Create Schedule, Weight Report or Weight Summary Report



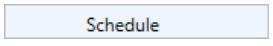
Use the Create command to create Schedules, Weight Reports, Weight Summary Reports or Mesh Summary Reports based on the CADS Drawing Sheet Name, CADS Release Name, Host Mark or the Host Category. Rebar should be Assigned to a Drawing Sheet , Release or Partition prior to create a schedule.

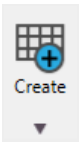


Once created the Report will be added into the Navigation Area of the Show Schedule dialog.



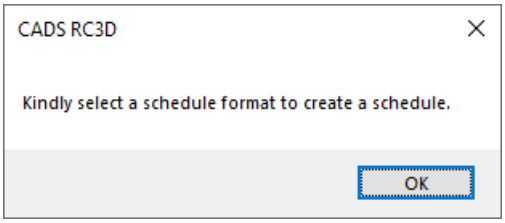
11.9.3 Create Schedule by Drawing Sheet

1. Select Schedule 

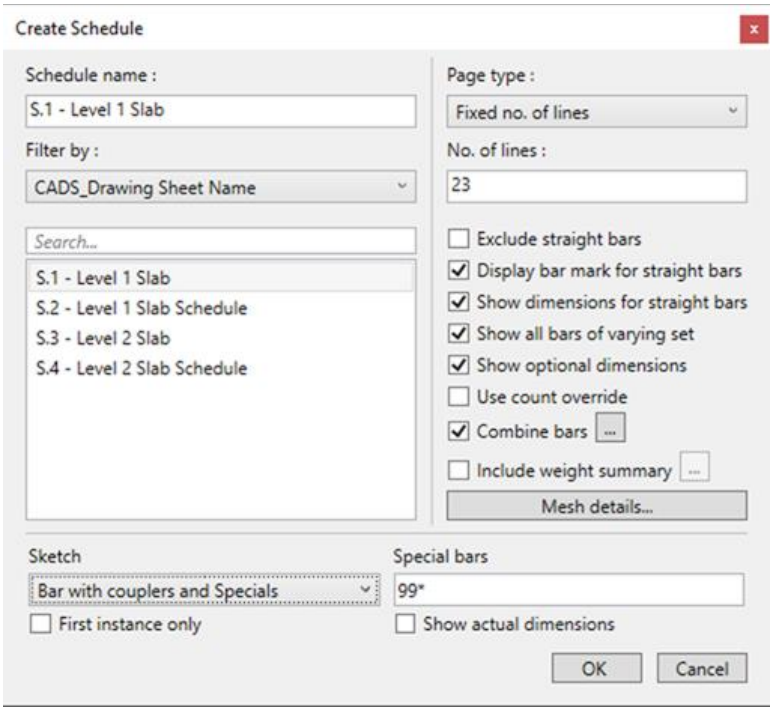
from the Create 

drop down menu.
2. If a schedule template has not been configured inside the Project Settings the following warning message will be displayed refer to Schedule Template & Sorting to configure a schedule template.

Copyright © Computer and Design Services Limited

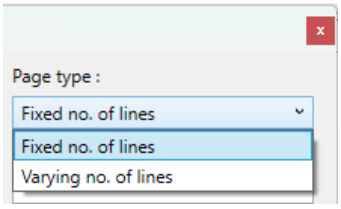


3. If a template has been configured the Create Schedule dialog is displayed.



Page Type & Filter Options

4. Use the Page Type option to choose between a schedule with a fixed number of lines or varying length.



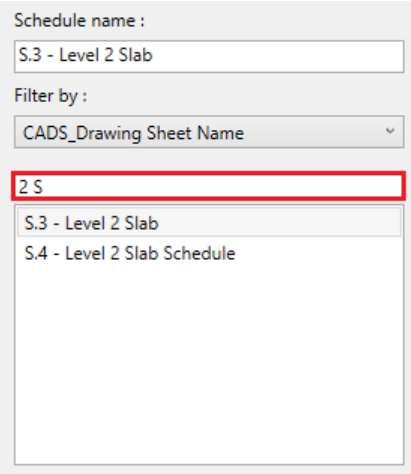
5. Use No. of Lines to set the number of lines in the fixed length schedule, 23 lines is the default length for a British Standard Schedule.



6. Use the Filter By: option to choose the type of schedule to create;
   - Drawing Sheet
   - Release
   - Host Mark
   - Host Category

Copyright © Computer and Design Services Limited

7. If the Filter is set to Drawing Sheet, then all the Drawing Sheets created in the project will be visible.
8. Use the Search field to filter the displayed Drawing Sheets. The same applies to the Release, Host Mark & Host Category. Select the Drawing Sheet from the list.



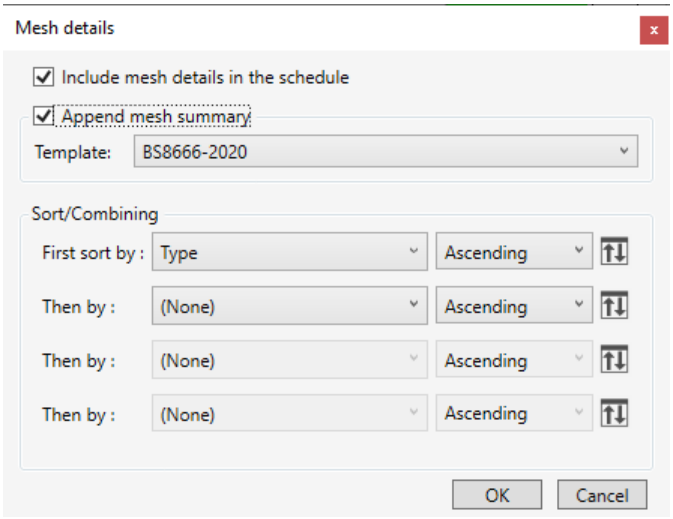
9. Choose the page type, fixed or variable number of lines.
10. If fixed is selected enter the number of lines per page, the default is 23 lines.
11. Select the Format Options required;

- Exclude straight bars: If selected only bent bars will be scheduled.
- Display bar mark for straight bars: If selected bar marks are shown for straight bars.
- Show all bars of varying set: If not selected only the first and last bar of a varying set will be displayed.
- Show optional dimensions: If selected runout dimensions will be displayed.
- Use host count override: If selected a predefined multiplier will be added in the No of Members column. The Host Override is applied in the project.
- Combine bars: Select this option to combine identical bar marks assigned to the same host.
- Include weight summary: Tick if a weight summary is required.
- Mesh Details: Displays the Mesh Details dialog.

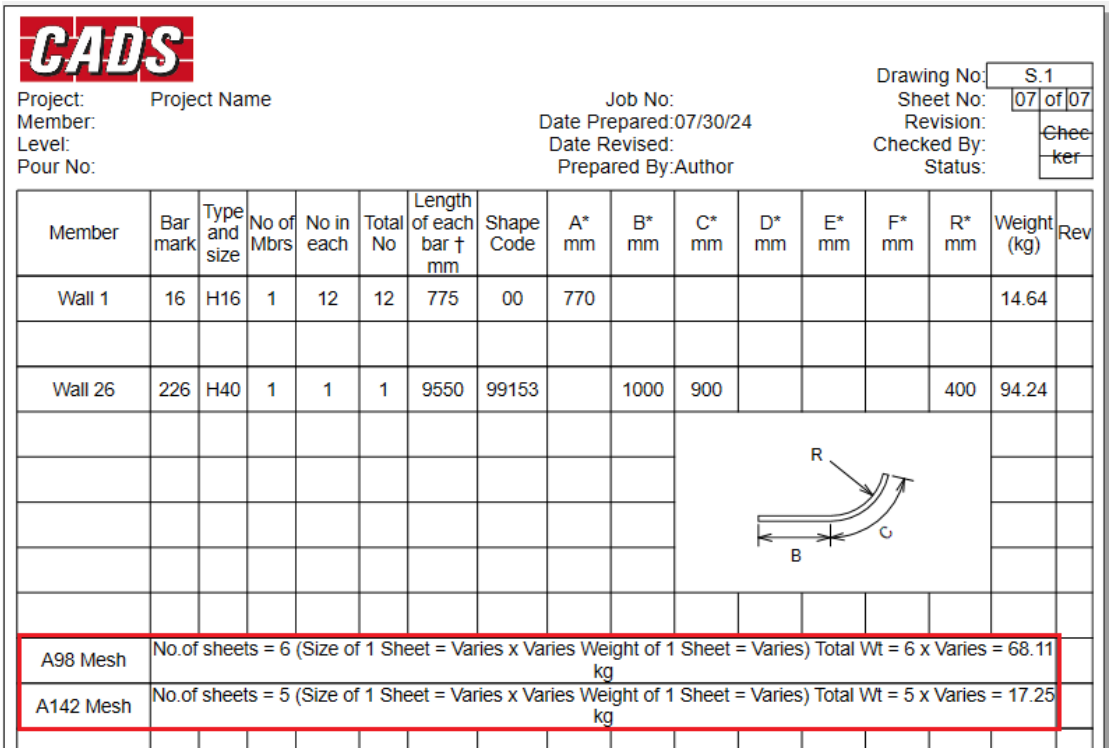
Mesh Details Dialog

The options in this dialog will display the mesh inside the schedule or appended at the end of the schedule.

Copyright © Computer and Design Services Limited



- **Include mesh details in schedule**. Tick this option to include any mesh assigned to the Drawing Sheet within the body of the schedule.



CADS

Project: Project Name
Member:
Level:
Pour No:

Job No:
Date Prepared:07/30/24
Date Revised:
Prepared By:Author

Drawing No: S.1
Sheet No: 07 of 07
Revision:
Checked By: ~~Checker~~
Status:

Member	Bar mark	Type and size	No of Mbrs	No in each	Total No	Length of each bar † mm	Shape Code	A* mm	B* mm	C* mm	D* mm	E* mm	F* mm	R* mm	Weight (kg)	Rev
Wall 1	16	H16	1	12	12	775	00	770							14.64	
Wall 26	226	H40	1	1	1	9550	99153		1000	900				400	94.24	
A98 Mesh	No.of sheets = 6 (Size of 1 Sheet = Varies x Varies Weight of 1 Sheet = Varies) Total Wt = 6 x Varies = 68.11 kg															
A142 Mesh	No.of sheets = 5 (Size of 1 Sheet = Varies x Varies Weight of 1 Sheet = Varies) Total Wt = 5 x Varies = 17.25 kg															

- **Append Mesh Summary**. Tick this option to append any mesh assigned to the Drawing Sheet at the end of the schedule in a separate table.

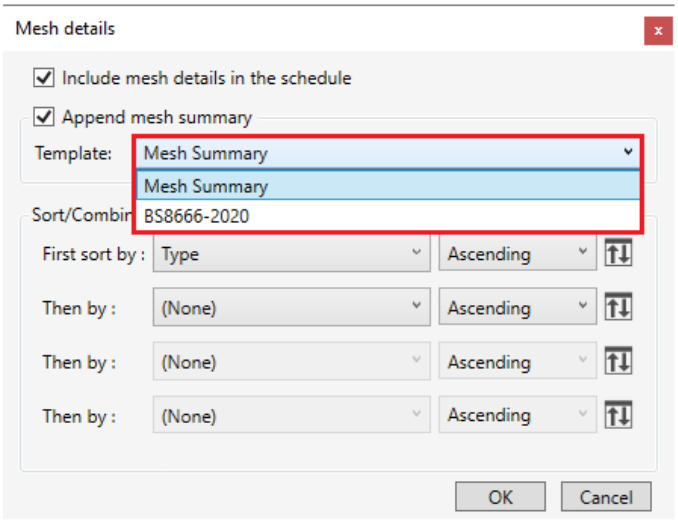
Mesh summary

No	Member	Mesh Type	Area (m2)	No. Of Sheets	Total Weight
1	Slab 14	A98	442218.75 cm²	6	68.11 kg
2	Slab 14	A142	776700.00 cm²	5	17.25 kg
Total				11	85.36 kg

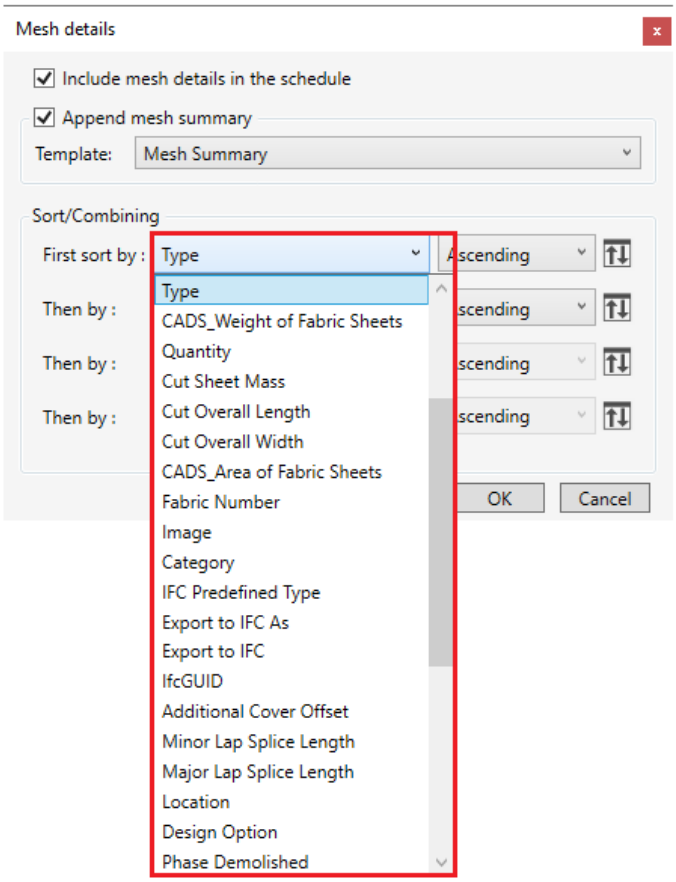
- **Template:** Select the template to use for the mesh schedule, templates that

Copyright © Computer and Design Services Limited

support the mesh are displayed on the drop down menu. If the template does not support the mesh a waring message will be issued.



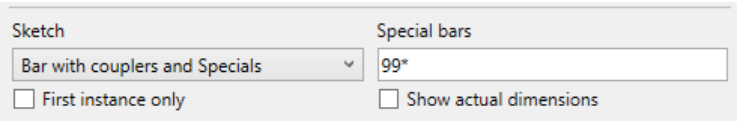
- **Sort/Combining:** Choose how the mesh is sorted inside the schedule or the mesh summary by selecting a parameter, the default is Type. As per the schedule Sorting several levels of sorting can be applied and they can be shown in ascending, descending or custom order.



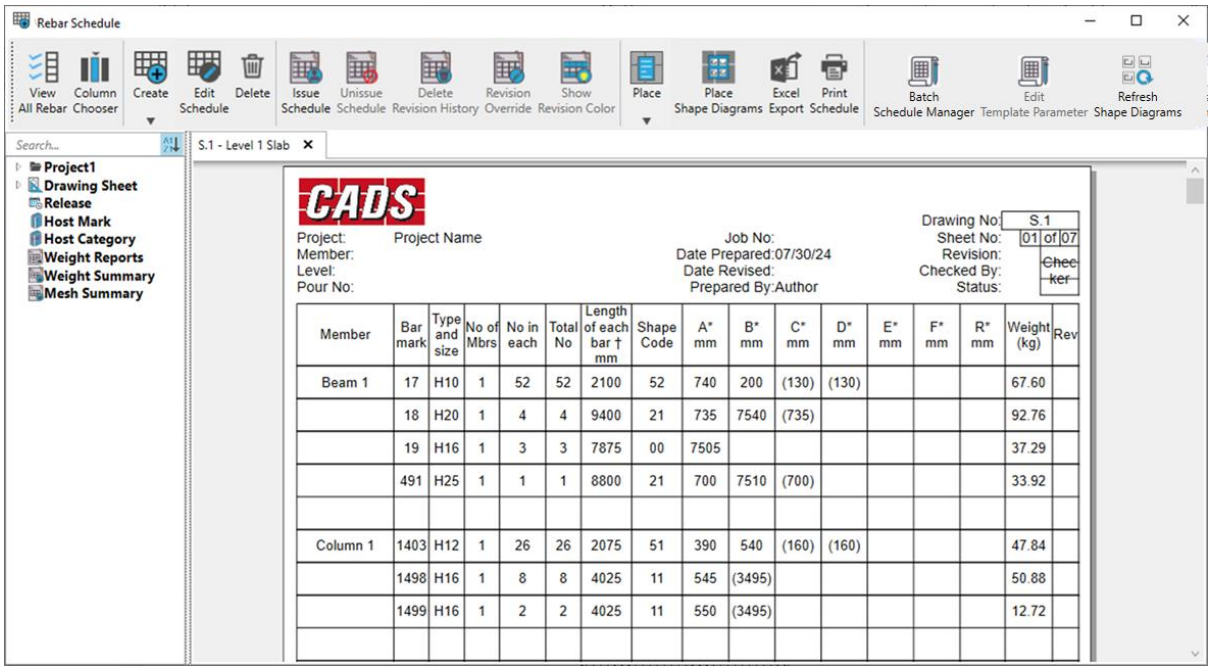
Sketch & Special Bar Options

12. Once the mesh options have been selected click OK.

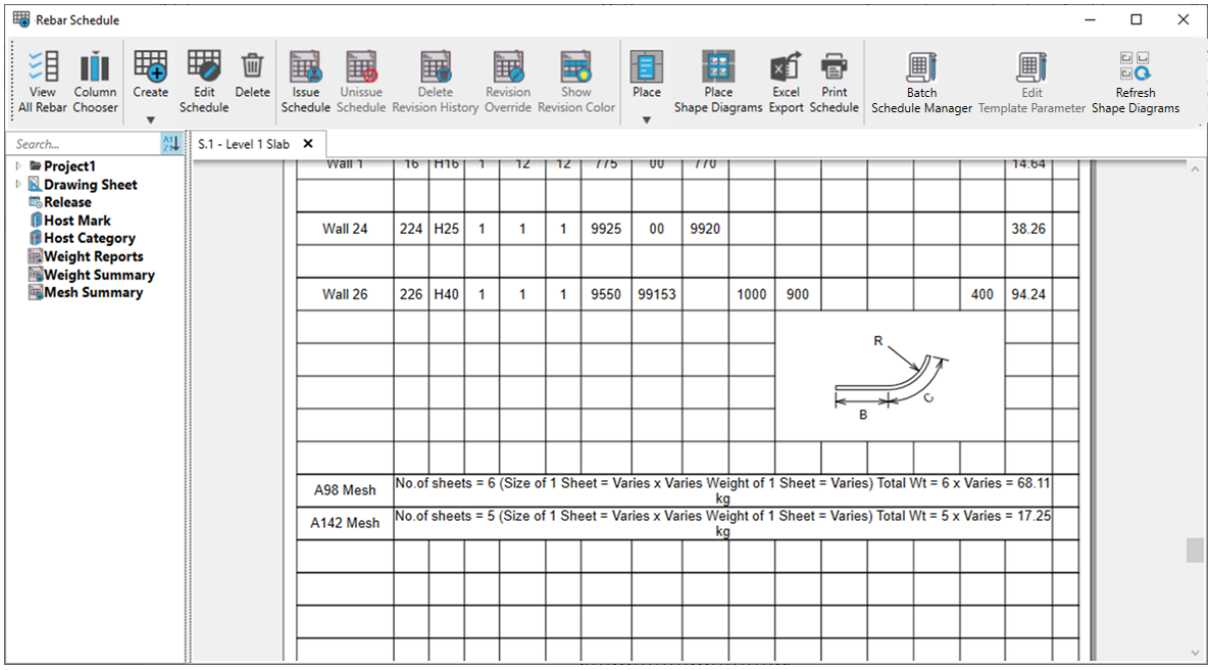
Copyright © Computer and Design Services Limited

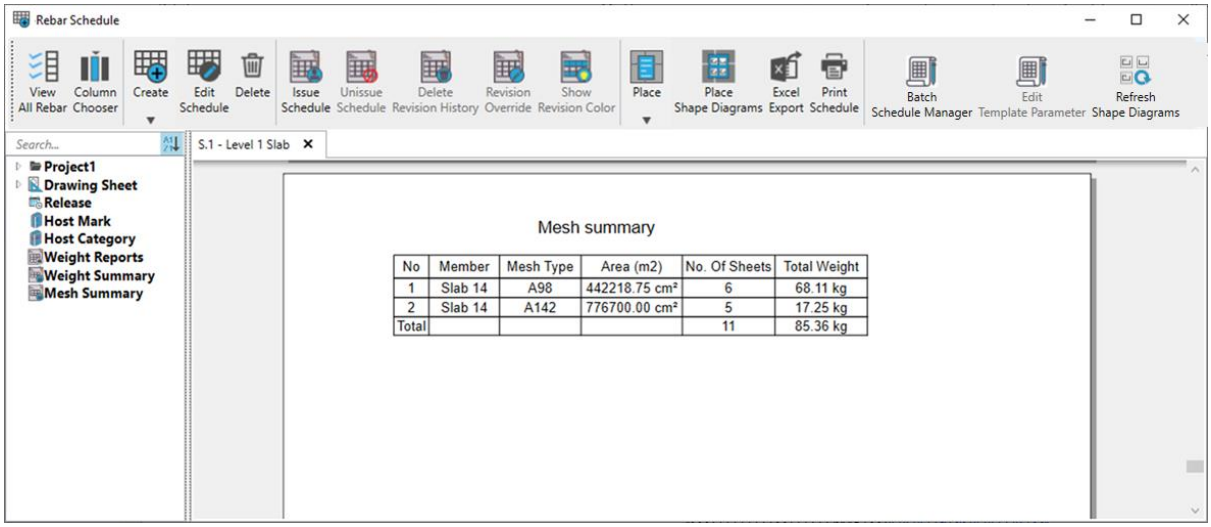


13. Use the Sketch Bar option to add diagrams for the following categories;
    - None
    - Bar with Couplers
    - Bar with Couplers and Specials
    - Special Shapes
    - All Shapes
14. The default selection for the Sketch should Bars with Couplers and Specials.
15. The Special Bars field identifies the prefix assigned to shape codes.
16. Use the First Instance Only tick option to add a diagram to first instance of the shape or do not tick to add a diagram to all instances of the shape.
17. Use the Show actual dimensions option to show a dimensions sketch of the shape, leave unticked for a shape showing the Leg letters.
18. The Create Schedule command allows you to create a new schedule for each revision of the drawing sheet and store them within the project if required. Each Schedule Sheet will need a unique name, so if creating a Rev A schedule a suggestion would be to suffix the Schedule name with Rev A.
19. Once a schedule has been created it will automatically reflect any changes made to the rebar in the project.



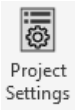
Copyright © Computer and Design Services Limited





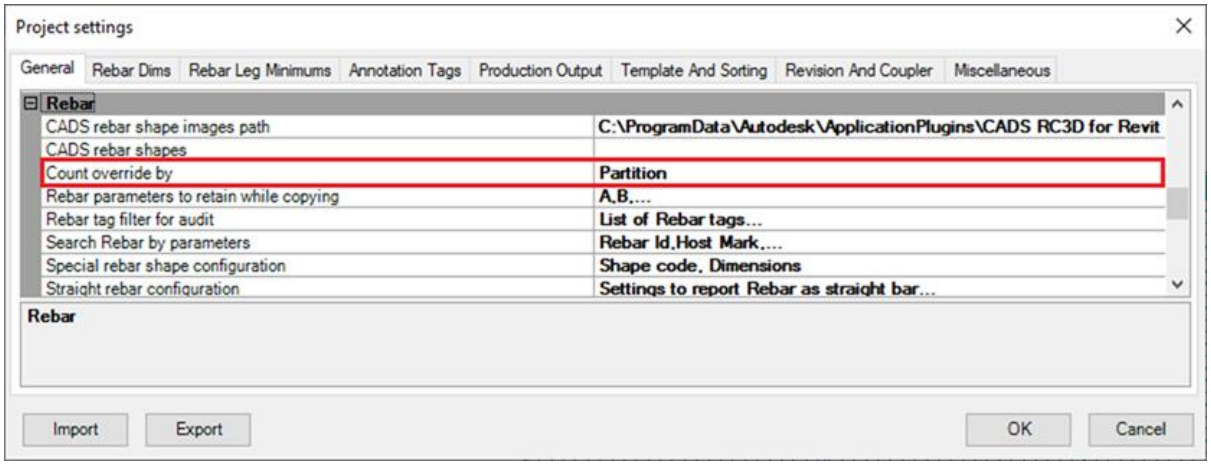
11.9.4 Create Schedule by Partition

The following parameters in Project Settings need amending before creating a Schedule by Partition.

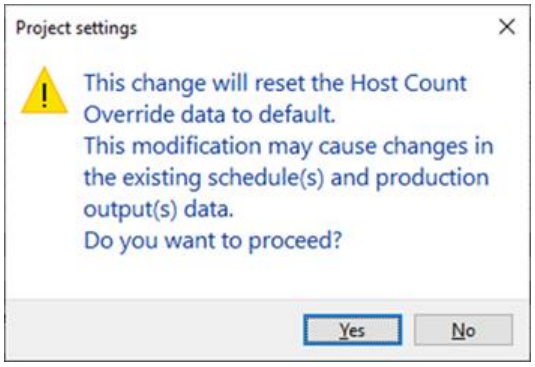
1. Open the Project Settings 

dialog from the Settings Panel.
2. On the General Tab – Rebar Section change the Count Override by setting to Partition.

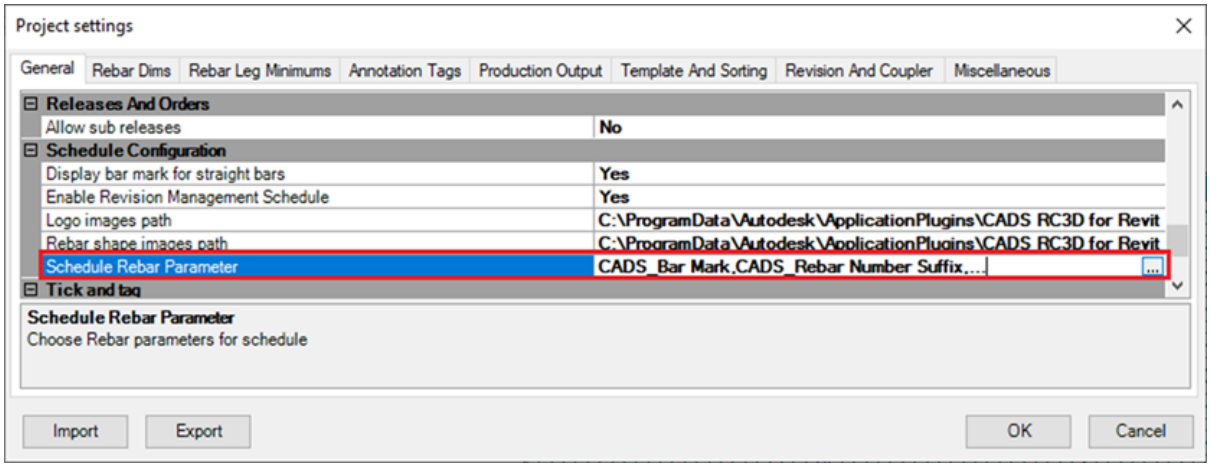
Copyright © Computer and Design Services Limited



If Schedules have already been created with the Count Override set to Host the following warning will be displayed.

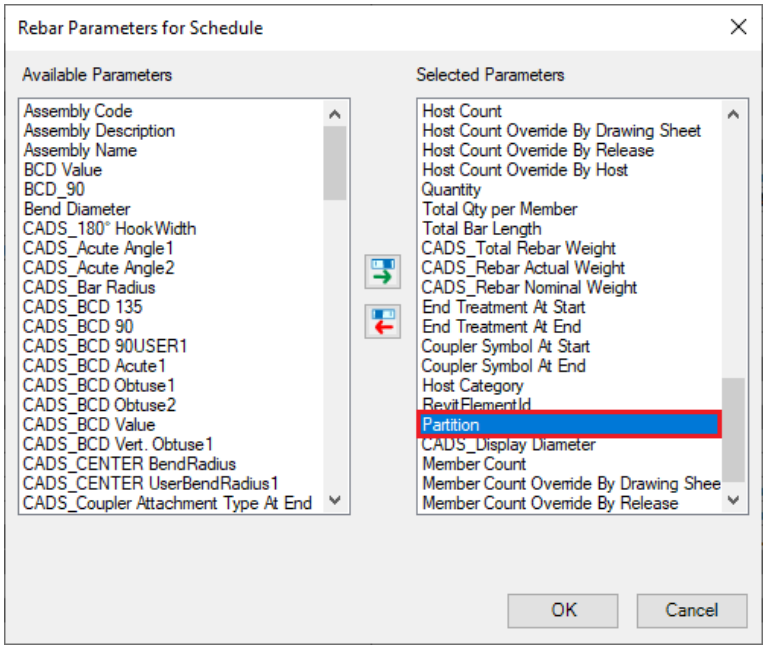


3. Scroll down to Schedule Configuration on the General Tab.
4. Click on the Schedule Rebar Parameter Browse button.

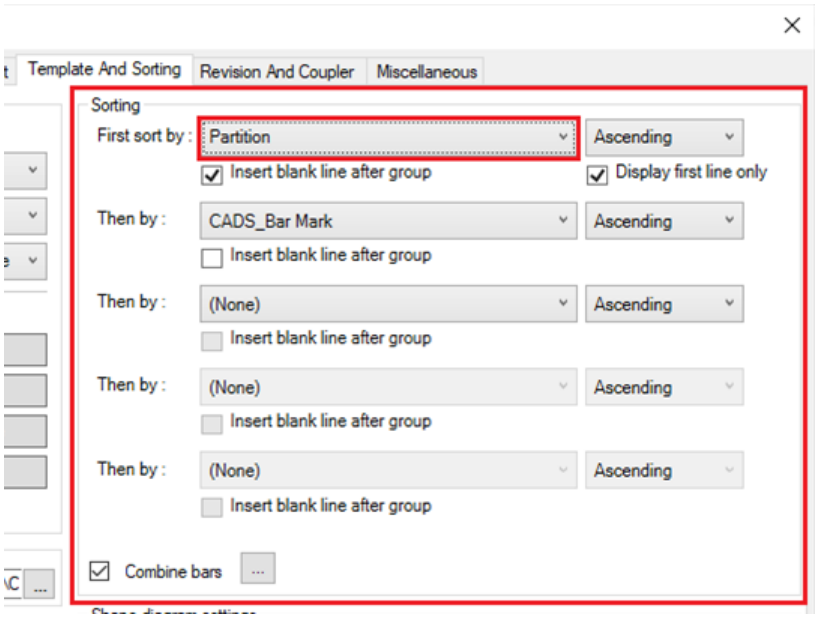


5. Check that the Partition Parameter is showing in the list of Selected Parameters.

Copyright © Computer and Design Services Limited



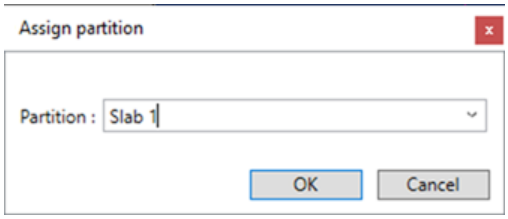
6. Click OK
7. Select the Template and Sorting Tab inside the Project Settings dialog.
8. In the Sorting Panel change the First Sort by option to Partition.



9. Click OK to close the Project Settings dialog.
10. Ensure all the required rebar are Assigned to a Partition.
11. Select the Partition 

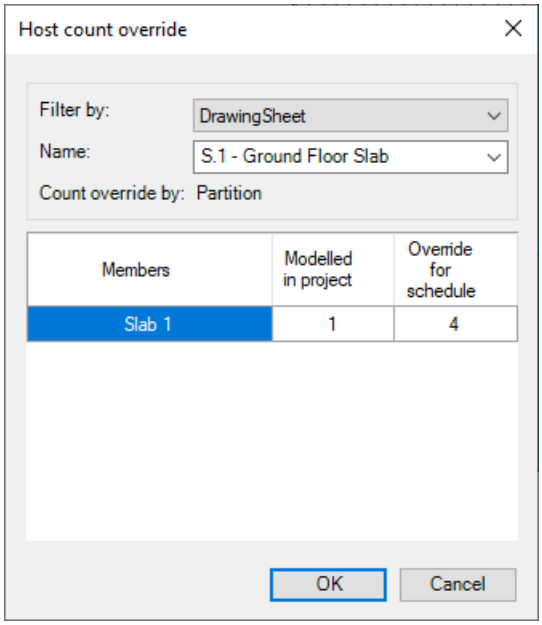
command from the Assignment Panel.
12. Select all the rebar to be Assigned to the Partition
13. Click Finish
14. If the partition name does not exist on the drop-down menu type it in.

Copyright © Computer and Design Services Limited



15. Click OK.
16. Ensure a Count Override is applied to the Partition if using this parameter.
17. Select the Count Override 

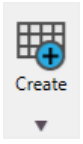
command from the Assignment Panel.

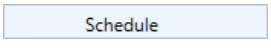


18. Set the Top Filter to Drawing Sheet.

Note: that the Count Override is set to Partition as configured in the Project Settings dialog .

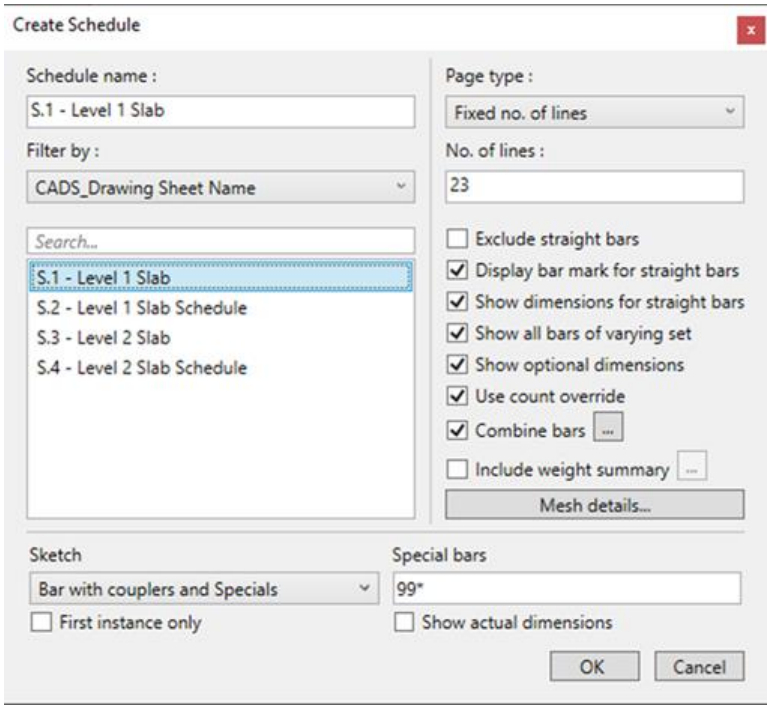
19. Type in the number for the Override, in this example 4.
20. Click OK
21. Select the Show Schedule 

command from the Schedule Panel.
22. Select the Create 

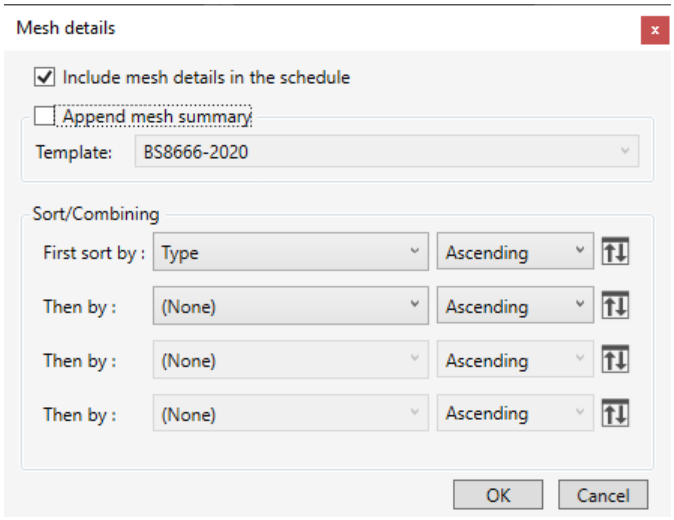
drop down menu and then the Schedule 

option.

Copyright © Computer and Design Services Limited



23. Select the appropriate Drawing Sheet name and setup the dialog as shown above.
24. Tick the Use count override if using.
25. If Mesh has been included in the Partition Assignment and needs to be displayed in the schedule, select Mesh Details.

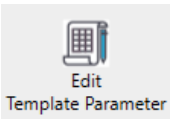


26. Tick to include the mesh inside the schedule or append at the end of the schedule.
27. Set the Sort/Combine options as required (refer to Create Schedule by Drawing Sheet Mesh Details dialog for options on this dialog).
28. Set the Sketch Bar options as required. (refer to Create Schedule by Drawing Sheet, Sketch & Special Bar Options for details.)
29. Click OK to create the schedule.
30. The number of members may not reflect the Count Override as shown below;

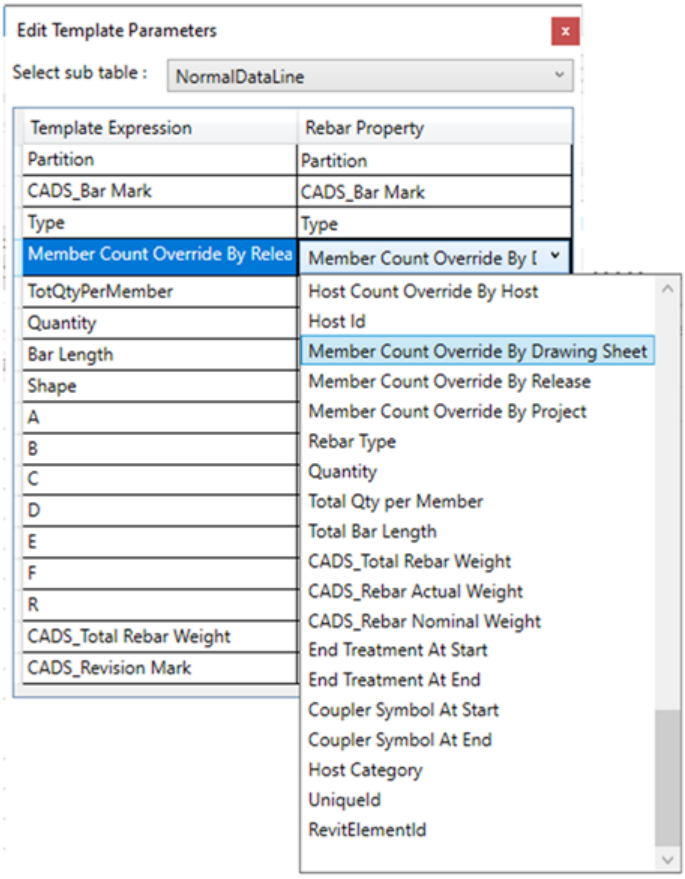
Copyright © Computer and Design Services Limited

Project : Project Name
Client : Owner
Job No : Project Number
By : Author
Date : 04/16/24
Last revised :
Sheet No S.1 - Ground Floor Slab
Page No 0 1
Revn
Status

Member	Bar Mark	Type and size	No. of Mbrs	No.of bars in each	Total No.	Length of each bar †mm	Shape code	A * mm	B * mm	C * mm	D * mm	E/R * mm	Rev letter
Slab 1	01	H20	1	31	124	7800	00	7780					
	02	H20	1	23	92	10425	00	10415					
	03	H20	1	7	28	1900	00	1890					
	04	H20	1	7	28	4000	00	3985					
	05	H20	1	3	12	12000	00	12000					

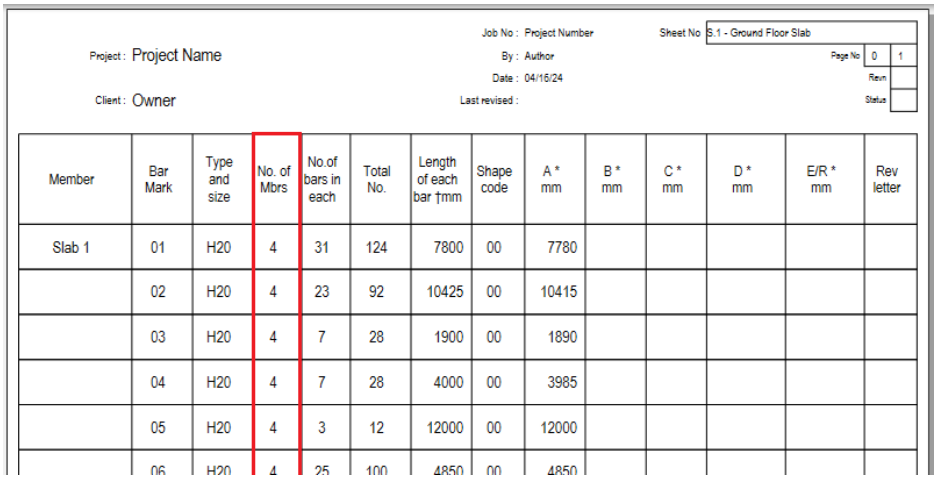


31. Select the Edit Template Parameter command
32. Change the sub table to ‘NormalDataLine’
33. Change the Host Count to Member Count by Drawing Sheet on the fourth line down as shown below;



34. Also check that the top field is set to Partition otherwise the Member Title will be displayed on every line.
35. Click Ok and the schedule will update to show the correct number in the No. of Mbrs. Column.

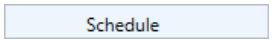
Copyright © Computer and Design Services Limited

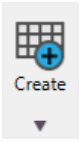


Project : Project Name
Client : Owner
Job No : Project Number
By : Author
Date : 04/16/24
Last revised :
Sheet No S.1 - Ground Floor Slab
Page No 0 1
Revn
Status

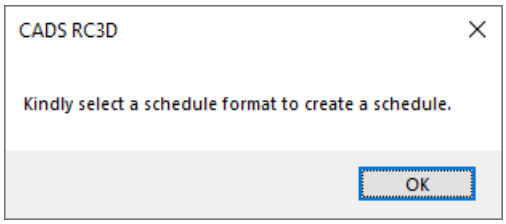
Member	Bar Mark	Type and size	No. of Mbrs	No.of bars in each	Total No.	Length of each bar †mm	Shape code	A * mm	B * mm	C * mm	D * mm	E/R * mm	Rev letter
Slab 1	01	H20	4	31	124	7800	00	7780					
	02	H20	4	23	92	10425	00	10415					
	03	H20	4	7	28	1900	00	1890					
	04	H20	4	7	28	4000	00	3985					
	05	H20	4	3	12	12000	00	12000					
	06	H20	4	25	100	4850	00	4850					

11.9.5 Create Schedule by Release

1. Select Schedule 

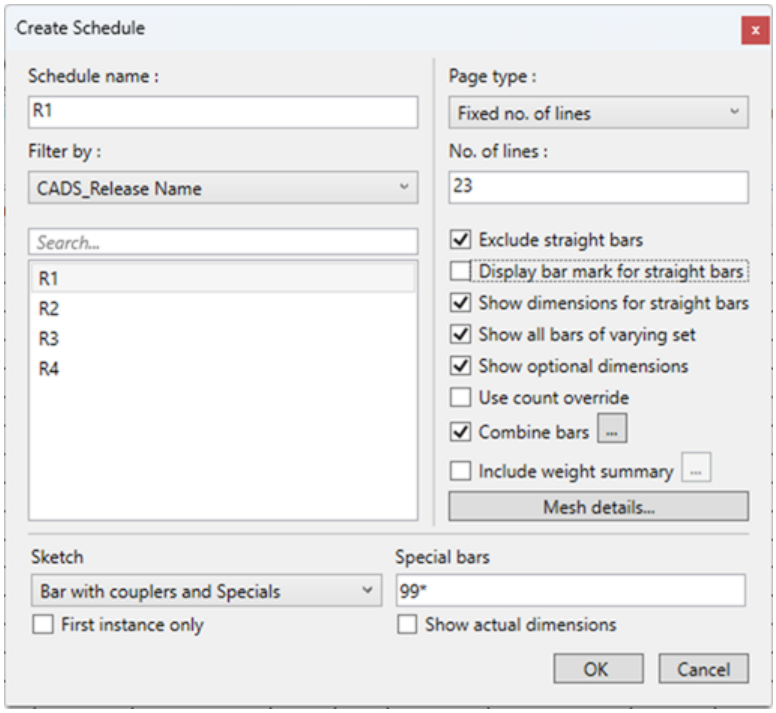
from the Create 

drop down menu.
2. If a schedule template has not been configured inside the Project Settings the following warning message will be displayed refer to Schedule Template & Sorting to configure a schedule template.



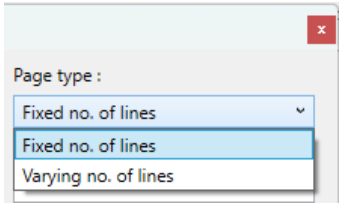
3. If a template has been configured the Create Schedule dialog is displayed.

Copyright © Computer and Design Services Limited



Page Type & Filter Options

20. Use the Page Type option to choose between a schedule with a fixed number of lines or varying length.

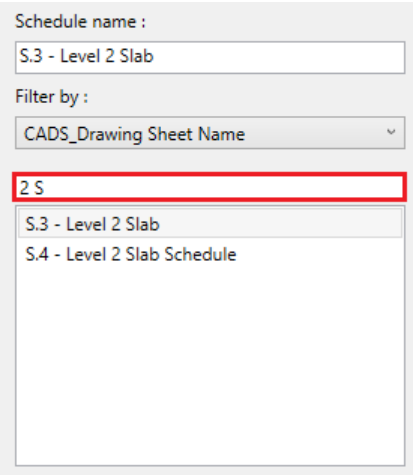


21. Use No. of Lines to set the number of lines in the fixed length schedule, 23 lines is the default length for a British Standard Schedule.



22. Use the Filter By: option to choose the type of schedule to create;
    - Drawing Sheet
    - Release
    - Host Mark
    - Host Category
23. If the Filter is set to “CADS_Release Name”, then all the Releases created in the project will be visible.
24. The Search field can be used to filter the displayed Releases. The same applies to the Drawing Sheet, Host Mark & Host Category. Select the Drawing Sheet from the list.

Copyright © Computer and Design Services Limited



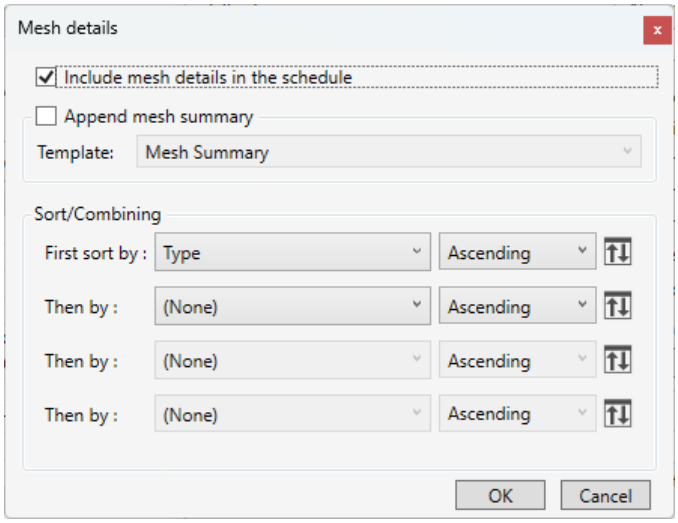
25. Choose the page type, fixed or variable number of lines.
26. If fixed is selected enter the number of lines per page, the default is 23 lines.
27. Select the Format Options required;

- Exclude straight bars: If selected only bent bars will be scheduled.
- Display bar mark for straight bars: If selected bar marks are shown for straight bars.
- Show all bars of varying set: If not selected only the first and last bar of a varying set will be displayed.
- Show optional dimensions: If selected runout dimensions will be displayed.
- Use host count override: If selected a predefined multiplier will be added in the No of Members column. The Host Override is applied in the project.
- Combine bars: Select this option to combine identical bar marks assigned to the same host.
- Include weight summary: Tick if a weight summary is required.
- Mesh Details: Displays the Mesh Details dialog.

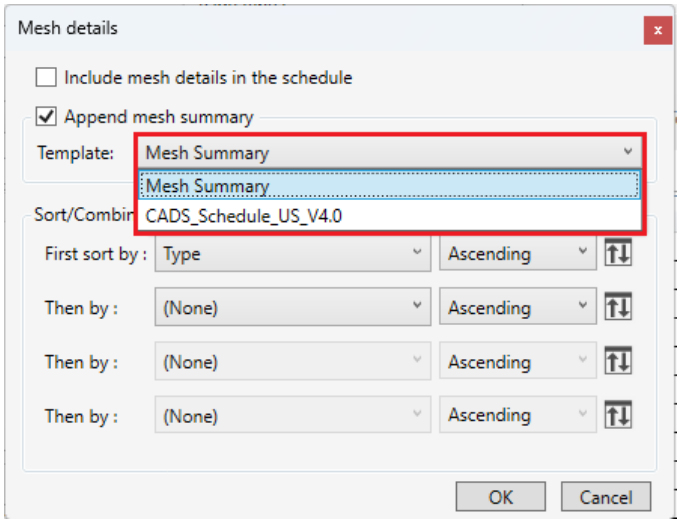
Mesh Details Dialog

The options in this dialog will display the mesh inside the schedule or appended at the end of the schedule.

Copyright © Computer and Design Services Limited

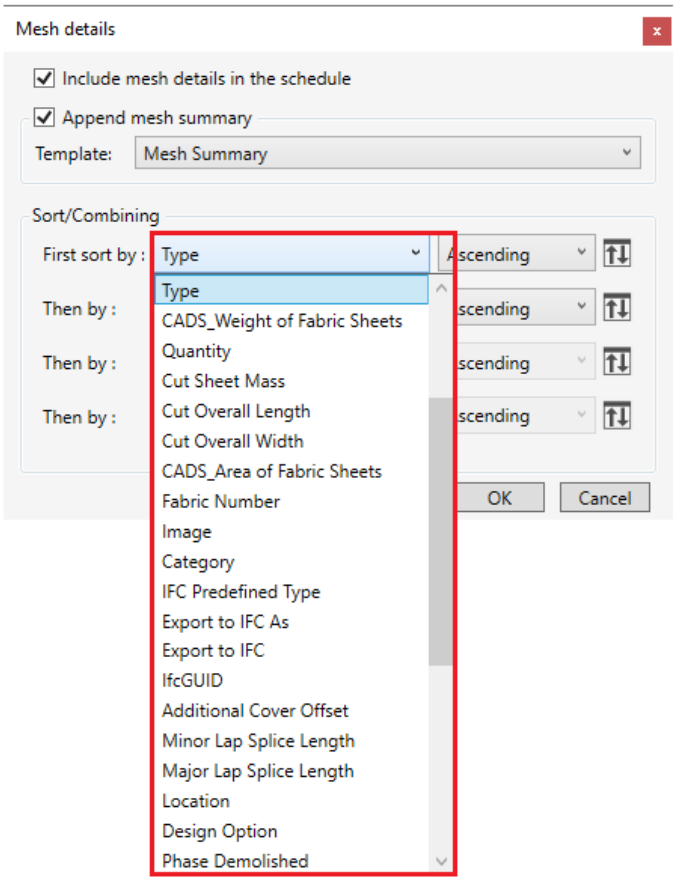


- **Include mesh details in schedule**. Tick this option to include any mesh assigned to the Release within the body of the schedule.
- **Append Mesh Summary**. Tick this option to append any mesh assigned to the Drawing Sheet at the end of the schedule in a separate table.
- **Template:** Select the template to use for the mesh schedule, templates that support the mesh are displayed on the drop-down menu. If the template does not support the mesh a waring message will be issued.



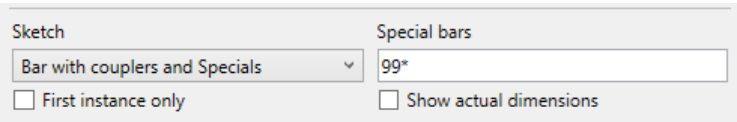
- **Sort/Combining:** Choose how the mesh is sorted inside the schedule or the mesh summary by selecting a parameter, the default is Type. As per the schedule Sorting several levels of sorting can be applied and they can be shown in ascending, descending or custom order.

Copyright © Computer and Design Services Limited



Sketch & Special Bar Options

28. Once the mesh options have been selected click OK.

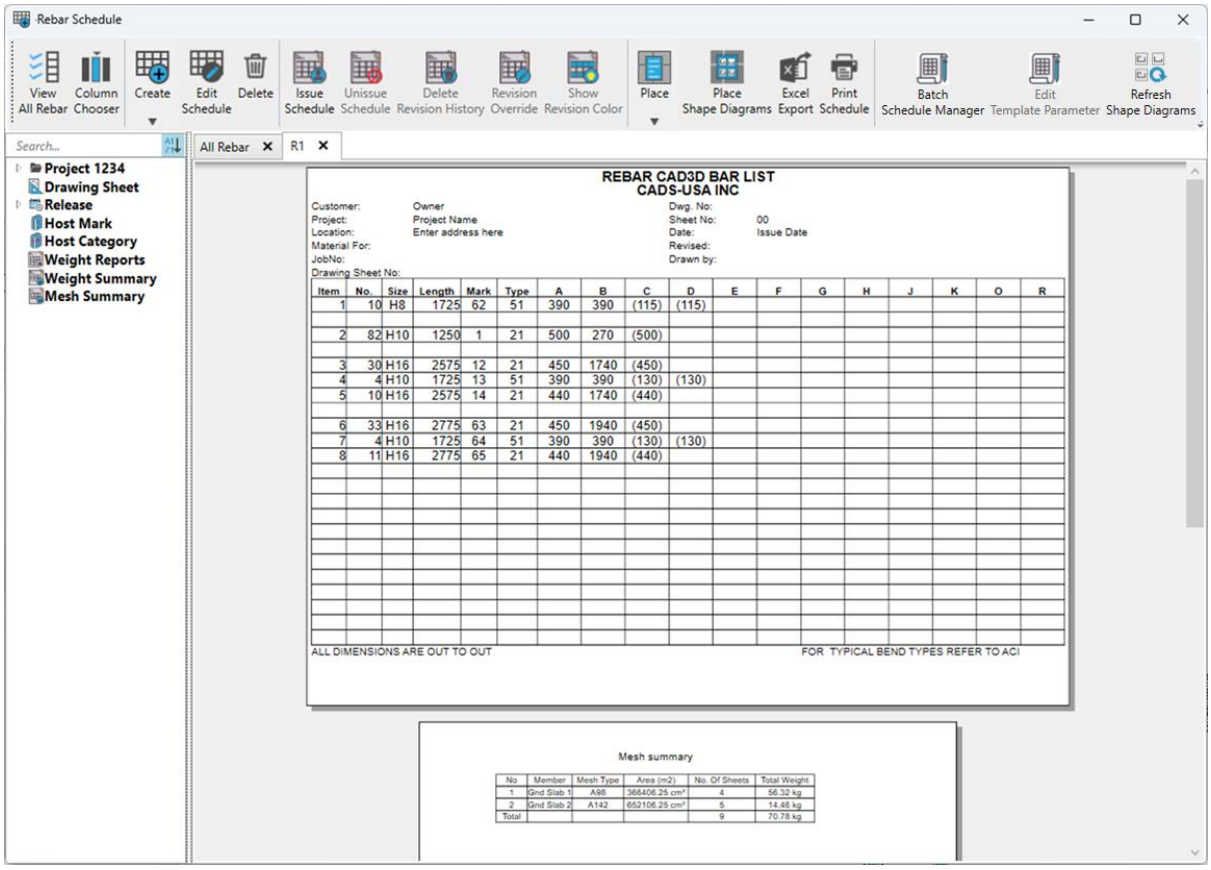


29. Use the Sketch Bar option to add diagrams for the following categories;
    - None
    - Bar with Couplers
    - Bar with Couplers and Specials
    - Special Shapes
    - All Shapes
30. The default selection for the Sketch should Bars with Couplers and Specials.
31. The Special Bars field identifies the prefix assigned to shape codes.
32. Use the First Instance Only tick option to add a diagram to first instance of the shape or do not tick to add a diagram to all instances of the shape.
33. Use the Show actual dimensions option to show a dimensions sketch of the shape, leave unticked for a shape showing the Leg letters.
34. The Create Schedule command allows you to create a new schedule for each revision of the drawing sheet and store them within the project if required. Each Schedule Sheet will need a

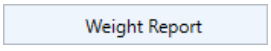
Copyright © Computer and Design Services Limited

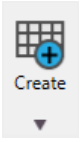
unique name, so if creating a Rev A schedule a suggestion would be to suffix the Schedule name with Rev A.

35. Once a schedule has been created it will automatically reflect any changes made to the rebar in the project.



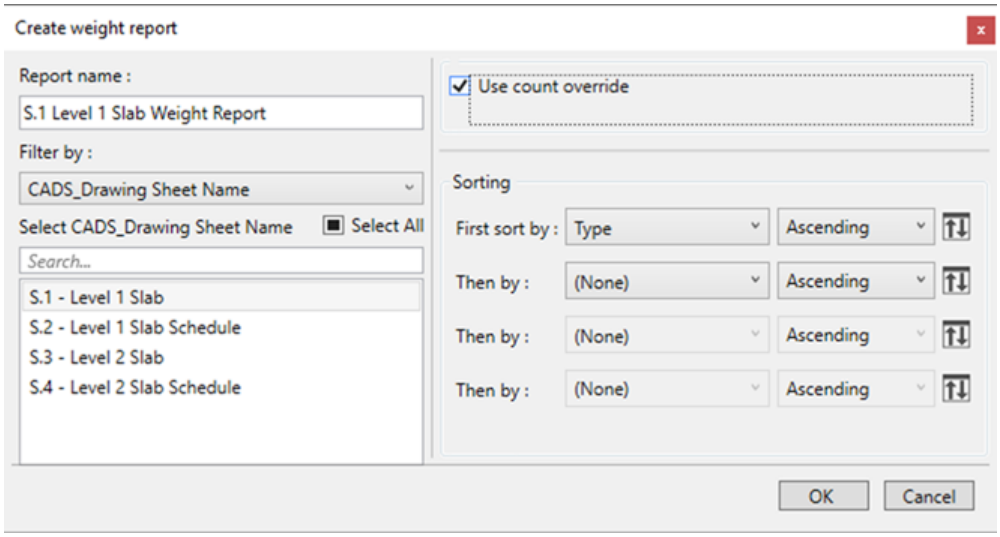
11.9.6 Create Weight Report

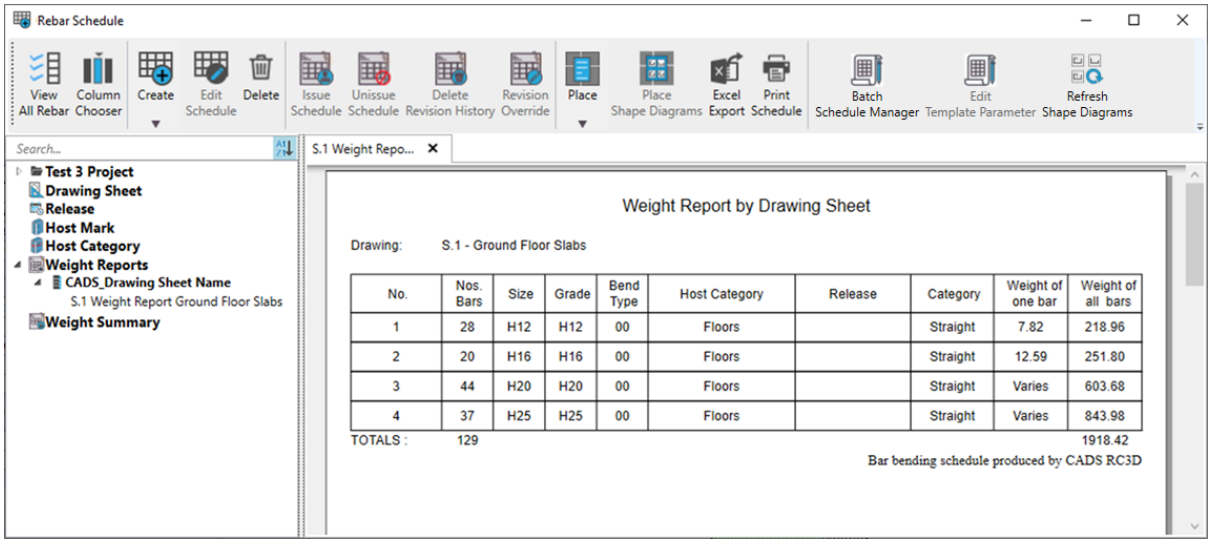
1. Select Weight Report 

from the Create 

drop down menu.
2. Type in the Report Name for the Weight Report
3. Use the Filter by option to choose whether to create the Weight Report by Drawing Sheet, Release, Host Mark or Host Category.
4. If the Filter is set to Drawing Sheet, select the Drawing Sheet Name from the list. Or select the All option to Create a Weight Report for All Drawing Sheets.
5. Select Use Count Override if using.
6. Choose the Sorting method and then click OK. The default is by Bar Type in Ascending Order.

Copyright © Computer and Design Services Limited

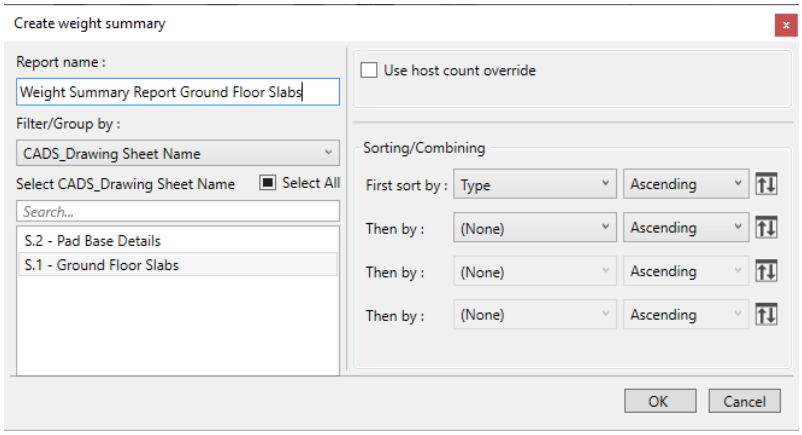


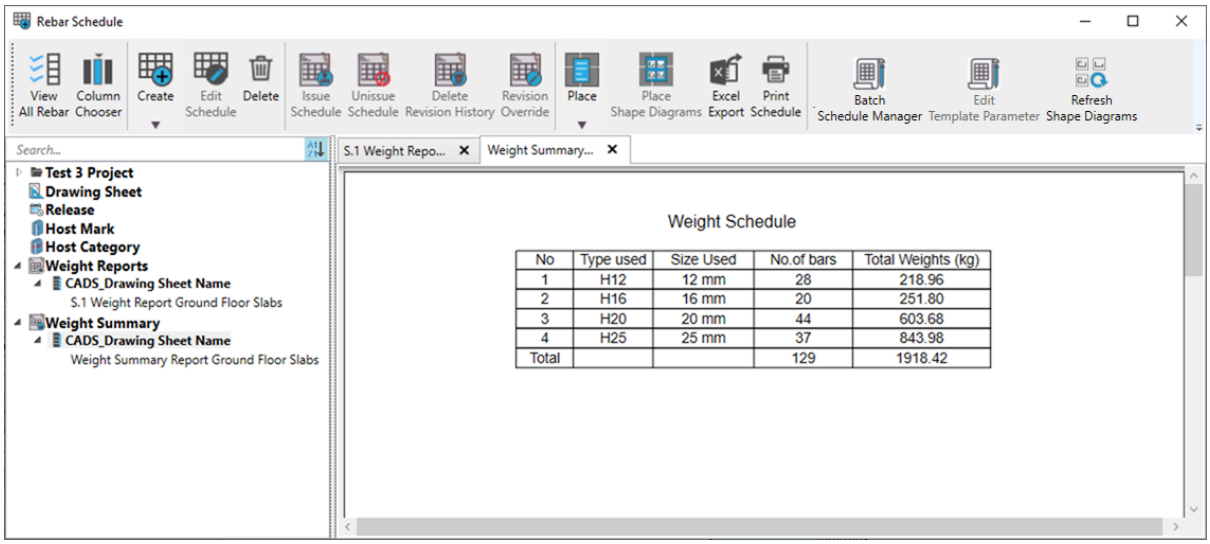


11.9.7 Create Weight Summary Report

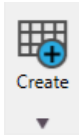
1. Select Schedule Weight Summary from the Create drop down menu.
2. Type in the Report Name for the Weight Summary Report
3. Use the Filter by option to choose whether to create the Weight Report by Drawing Sheet, Release, Host Mark or Host Category.
4. If the Filter is set to Drawing Sheet, select the Drawing Sheet Name from the list. Or select the All option to Create a Weight Report for All Drawing Sheets.
5. Select Use Count Override if using.
6. Choose the Sorting method and then click OK. The default is by Bar Type in Ascending Order.

Copyright © Computer and Design Services Limited



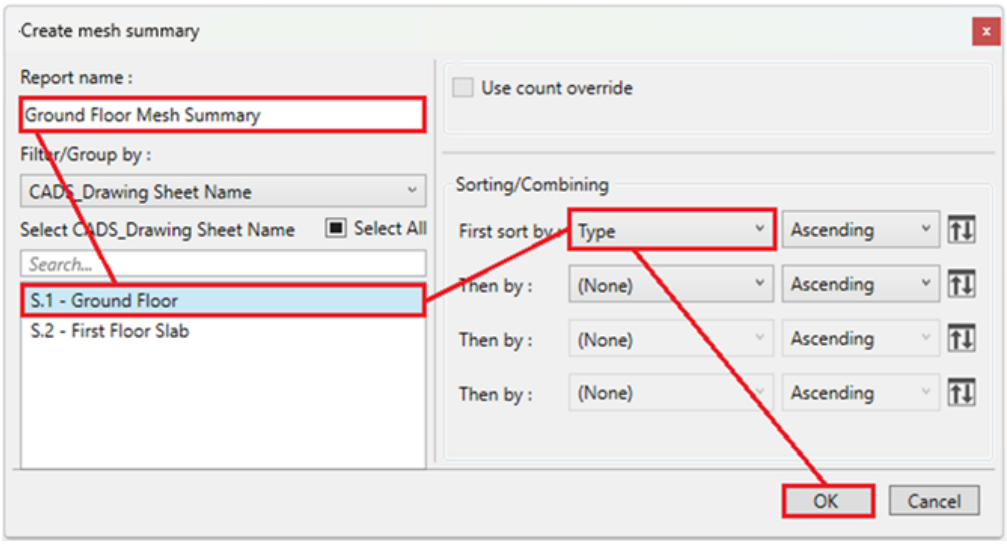


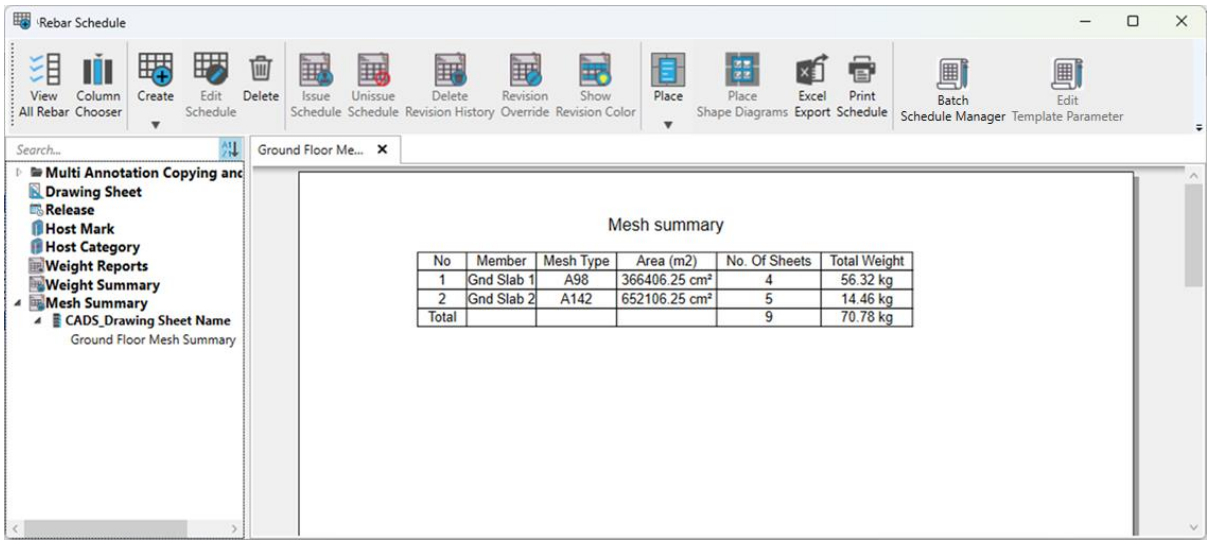
11.9.8 Create Mesh Summary Report



1. Select Mesh Summary from the Create drop down menu.
2. Type in the Report Name for the Mesh Summary Report
3. Use the Filter by option to choose whether to create the Mesh Summary Report by Drawing Sheet, Release, Host Mark or Host Category.
4. If the Filter is set to Drawing Sheet, select the Drawing Sheet Name from the list. Or select the All option to Create a Weight Report for All Drawing Sheets.
5. Select Use Count Override if using.
6. Choose the Sorting method and then click OK. The default is by Bar Type in Ascending Order.

Copyright © Computer and Design Services Limited

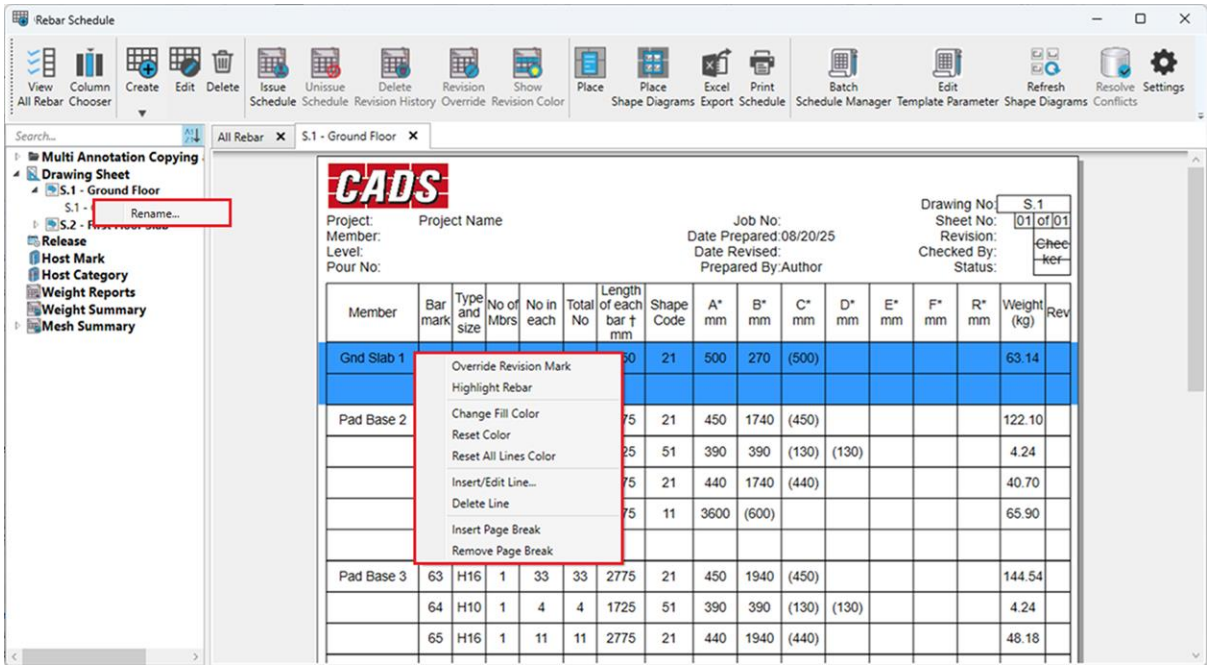




11.10 Right Click Mouse Menus

Two right mouse click menus are available inside the Show Schedule dialog. The first allows existing reports to be renamed and the second inside the Schedule Viewer has a number of additional functions.

Copyright © Computer and Design Services Limited

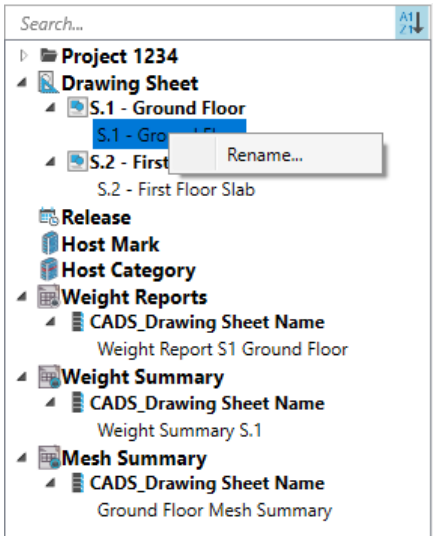


Member	Bar mark	Type and size	No of Mbrs	No in each	Total No	Length of each bar † mm	Shape Code	A* mm	B* mm	C* mm	D* mm	E* mm	F* mm	R* mm	Weight (kg)	Rev
Gnd Slab 1						50	21	500	270	(500)					63.14	
Pad Base 2						75	21	450	1740	(450)					122.10	
						25	51	390	390	(130)	(130)				4.24	
						75	21	440	1740	(440)					40.70	
						75	11	3600	(600)						65.90	
Pad Base 3	63	H16	1	33	33	2775	21	450	1940	(450)					144.54	
	64	H10	1	4	4	1725	51	390	390	(130)	(130)				4.24	
	65	H16	1	11	11	2775	21	440	1940	(440)					48.18	

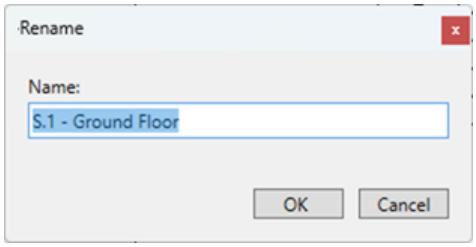
Navigation Panel Right Click Mouse Menu

Reports can be renamed by right-clicking on the Report Name in the Navigation Pane.

1. Select the Rename option



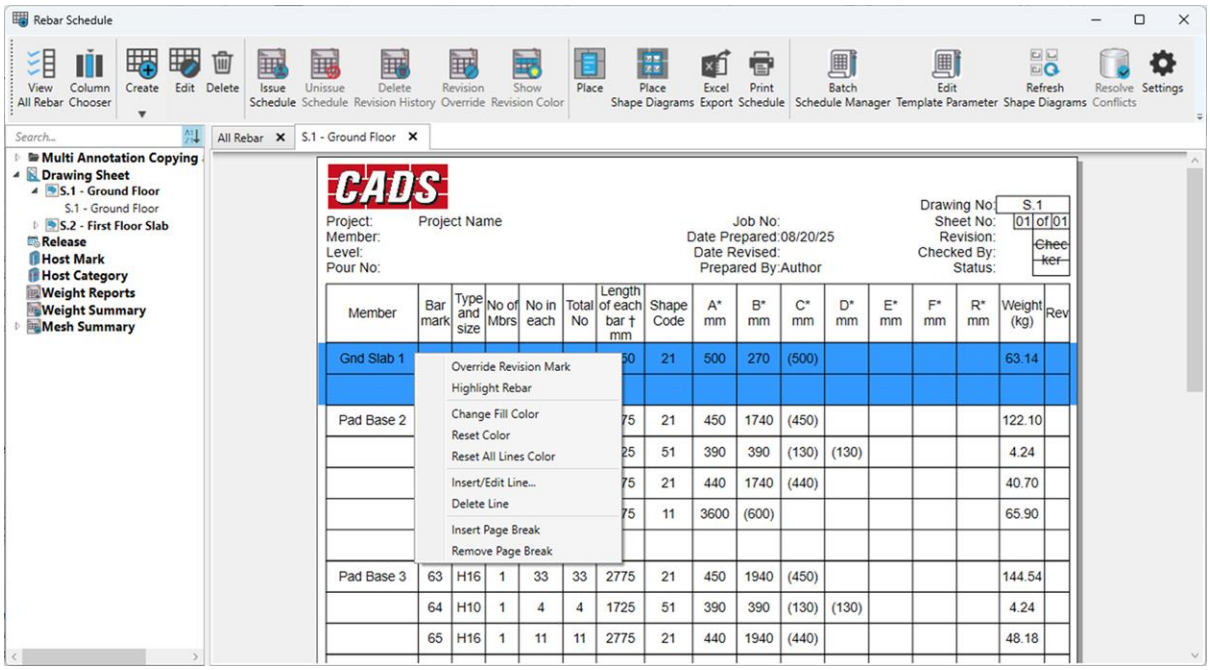
2. This displays the Rename dialog



3. Schedule Viewer Right Click Mouse Menu.

Copyright © Computer and Design Services Limited

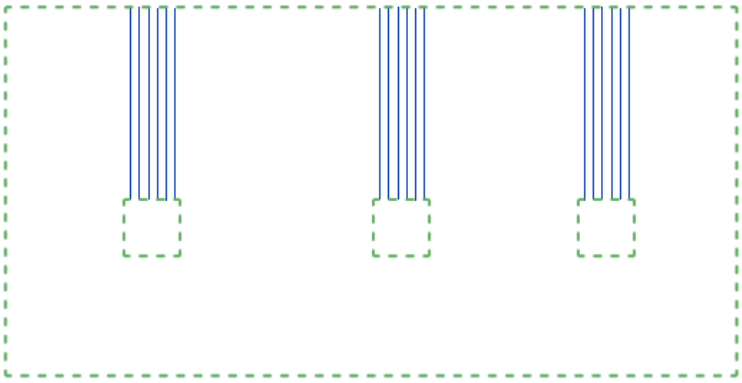
Schedule Viewer Right Click Mouse Menu



Member	Bar mark	Type and size	No of Mbrs	No in each	Total No	Length of each bar † mm	Shape Code	A* mm	B* mm	C* mm	D* mm	E* mm	F* mm	R* mm	Weight (kg)	Rev
Gnd Slab 1						50	21	500	270	(500)					63.14	
Pad Base 2						75	21	450	1740	(450)					122.10	
						25	51	390	390	(130)	(130)				4.24	
						75	21	440	1740	(440)					40.70	
						75	11	3600	(600)						65.90	
Pad Base 3	63	H16	1	33	33	2775	21	450	1940	(450)					144.54	
	64	H10	1	4	4	1725	51	390	390	(130)	(130)				4.24	
	65	H16	1	11	11	2775	21	440	1940	(440)					48.18	

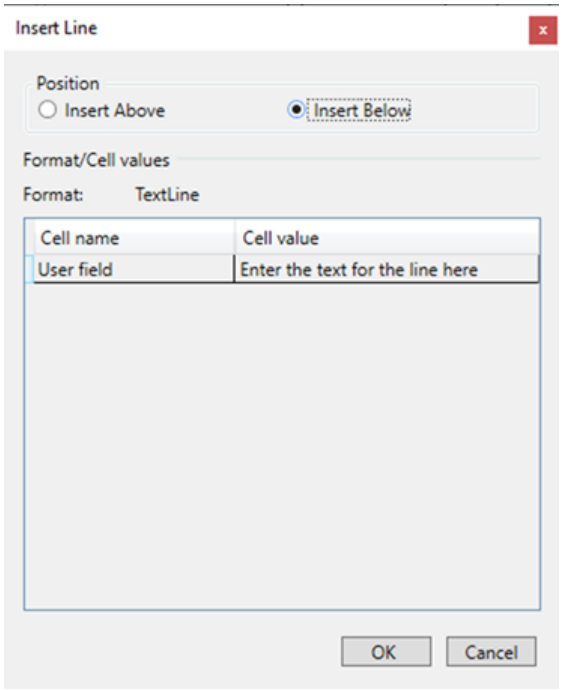
After highlighting a line in the schedule use the right click menu to either;

- **Override a Revision Mark** Refer to details in Override Revision Mark .
- **Highlight Rebar** Use this option to highlight the selected Rebar in the schedule in a suitable View in the Project. The image below shows Bar Mark 216 in an isolated view.



- **Change Fill Colour** Once the schedule has been issued colours are assigned to a revision, use this option to change the assigned colour to a different colour.
- **Reset Colour** Changed the colour assigned to the line back to its default configured colour.
- **Reset All Lines Colour** Reset all colours assigned to lines back to the default configured colour.
- **Insert/Edit Line** Use this option to insert a blank line into the schedule associated with either the line above or below. Type the text to be shown in the schedule in the Cell Value field. Click Ok to place the text line. The text will move the line that it is associated with.

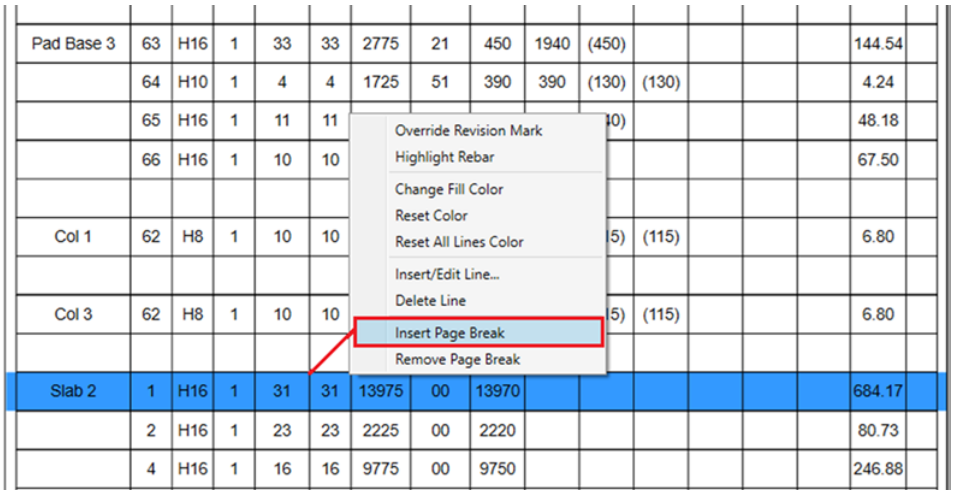
Copyright © Computer and Design Services Limited



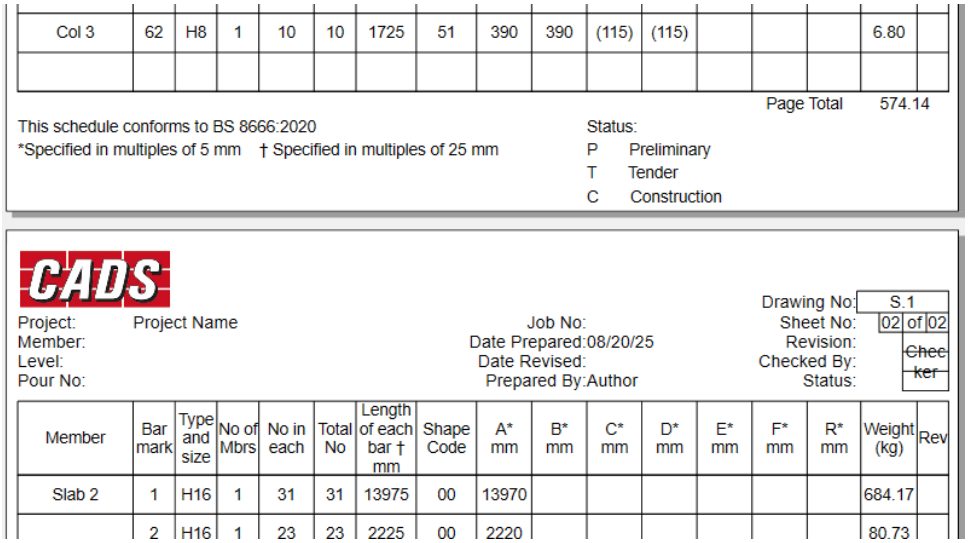
Column 1	1403	H12	1	26	26	2075	51	390	540	(160)	(160)				47.84	
	1498	H16	1	8	8	4025	11	545	(3495)						50.88	
	1499	H16	1	2	2	4025	11	550	(3495)						12.72	
Enter the text for the line here																

- **Delete Line** Use this option to remove an Inserted Line from the schedule.

- **Insert Page Break** Use the option to Insert a Page Break in the schedule. This is useful when the Page Length has been set to Varying in the Create/Edit Schedule dialog. Highlight the line in the schedule to be the start of the Page Break, right mouse click and select Page Break from the pop-up menu. If the Schedule has been placed on the drawing it will be marked as Invalid, use the Refresh command to update the schedule.



Copyright © Computer and Design Services Limited



Col 3	62	H8	1	10	10	1725	51	390	390	(115)	(115)				6.80	

Page Total 574.14

This schedule conforms to BS 8666:2020
*Specified in multiples of 5 mm † Specified in multiples of 25 mm

Status:
P Preliminary
T Tender
C Construction

CADS

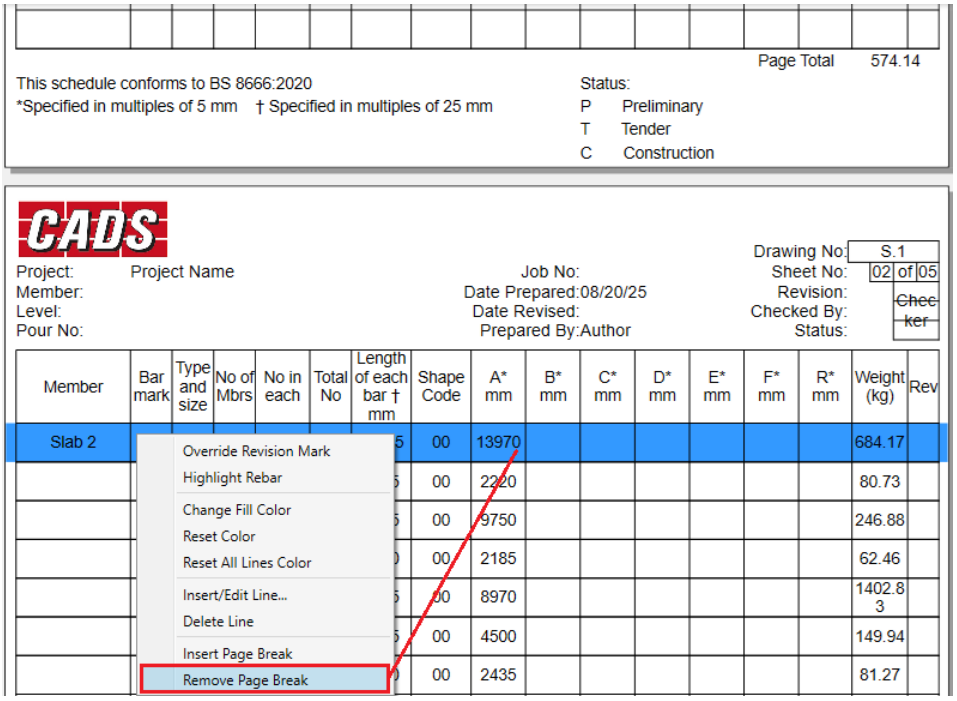
Project: Project Name
Member:
Level:
Pour No:

Job No:
Date Prepared:08/20/25
Date Revised:
Prepared By:Author

Drawing No: S.1
Sheet No: 02 of 02
Revision:
Checked By: ~~Checker~~
Status:

Member	Bar mark	Type and size	No of Mbrs	No in each	Total No	Length of each bar † mm	Shape Code	A* mm	B* mm	C* mm	D* mm	E* mm	F* mm	R* mm	Weight (kg)	Rev
Slab 2	1	H16	1	31	31	13975	00	13970							684.17	
	2	H16	1	23	23	2225	00	2220							80.73	

- **Remove Page Break** Use the option to Remove a Page Break that has been manually added in the schedule. This is useful when the Page Length has been set to Varying in the Create/Edit Schedule dialog. Highlight the first line of the schedule on say Page 02, right mouse click and select Remove Page Break. If the Schedule has been placed on the drawing it will be marked as Invalid, use the Refresh command to update the schedule.



Page Total 574.14

This schedule conforms to BS 8666:2020
*Specified in multiples of 5 mm † Specified in multiples of 25 mm

Status:
P Preliminary
T Tender
C Construction

CADS

Project: Project Name
Member:
Level:
Pour No:

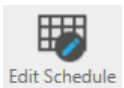
Job No:
Date Prepared:08/20/25
Date Revised:
Prepared By:Author

Drawing No: S.1
Sheet No: 02 of 05
Revision:
Checked By: ~~Checker~~
Status:

Member	Bar mark	Type and size	No of Mbrs	No in each	Total No	Length of each bar † mm	Shape Code	A* mm	B* mm	C* mm	D* mm	E* mm	F* mm	R* mm	Weight (kg)	Rev
Slab 2						5	00	13970							684.17	
						5	00	2220							80.73	
						5	00	9750							246.88	
						0	00	2185							62.46	
						5	00	8970							1402.83	
						5	00	4500							149.94	
						0	00	2435							81.27	

Override Revision Mark
Highlight Rebar
Change Fill Color
Reset Color
Reset All Lines Color
Insert/Edit Line...
Delete Line
Insert Page Break
Remove Page Break

11.10.1 Edit Reports

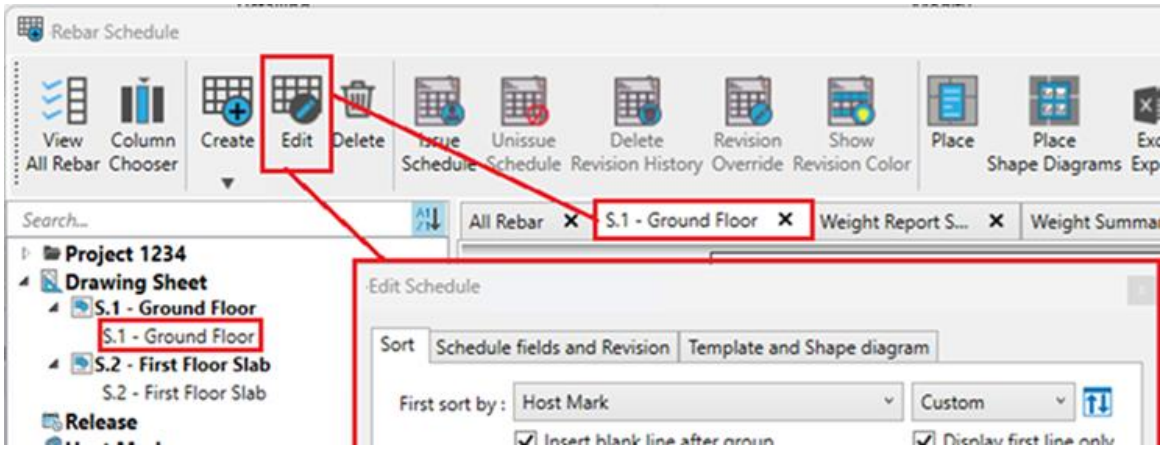
The Edit command 

is only available when a report has been selected from the Navigation Area on the left. Use the Edit command to reorder to the sorting, change the report template, adjust the formatting and amend the revision settings.

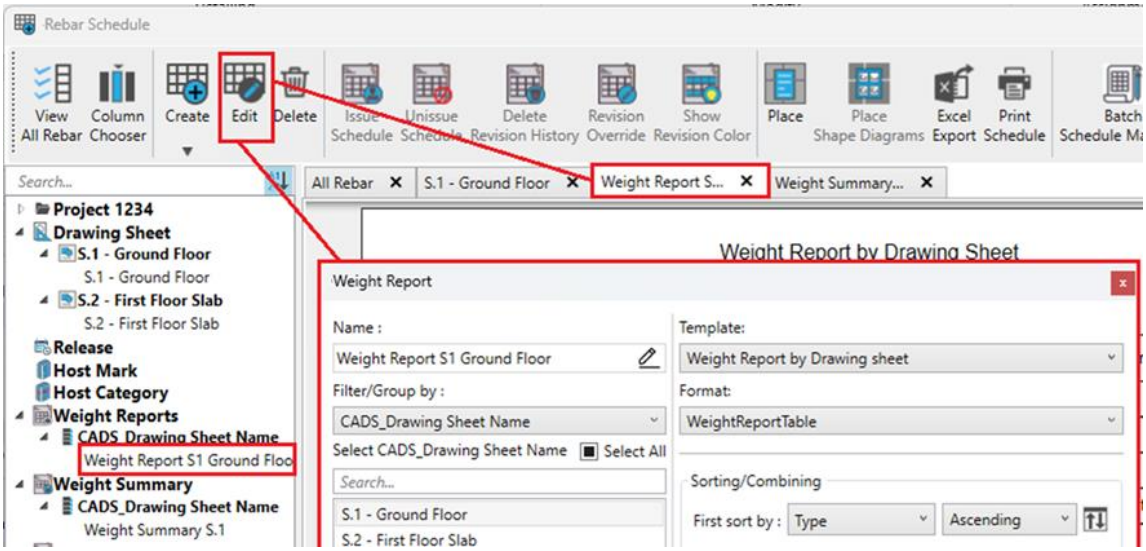
Copyright © Computer and Design Services Limited

The Edit command supports editing of Schedules, Weight Reports, Weight Summary Reports and Mesh Summary Reports.
Please note once a schedule has been issued these settings cannot be amended as the schedule will be locked unless the lock settings are not applied.

Edit Schedule

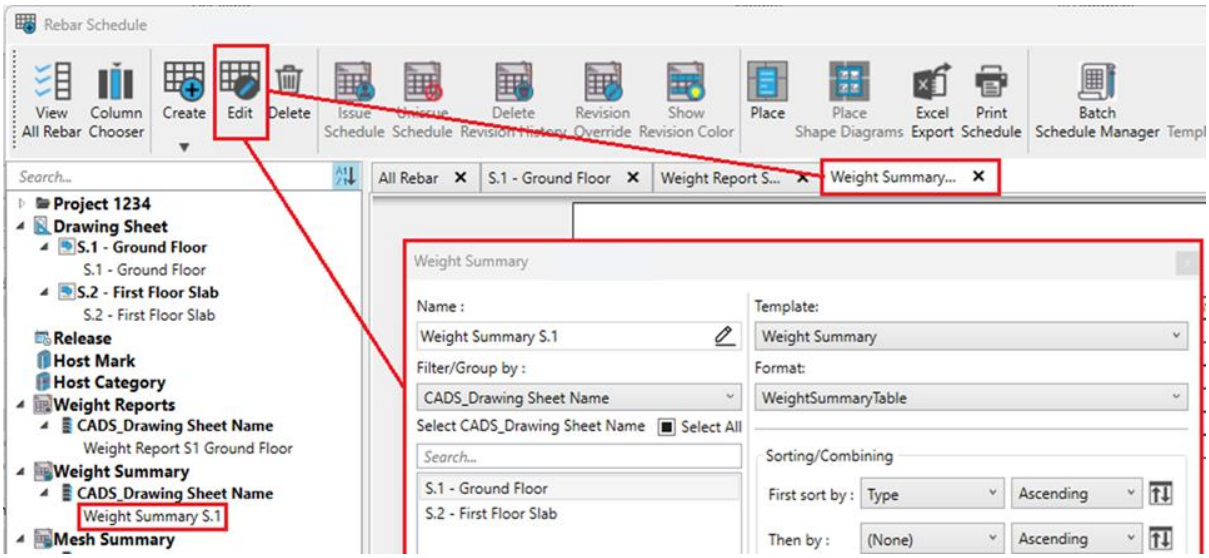


Edit Weight Report



Copyright © Computer and Design Services Limited

Edit Weight Summary Report

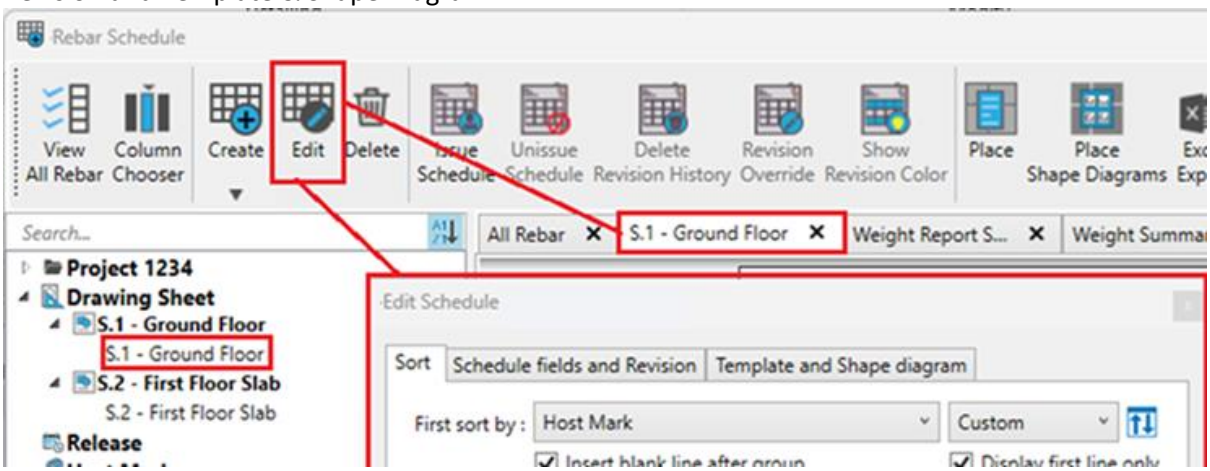


Edit Mesh Summary Report

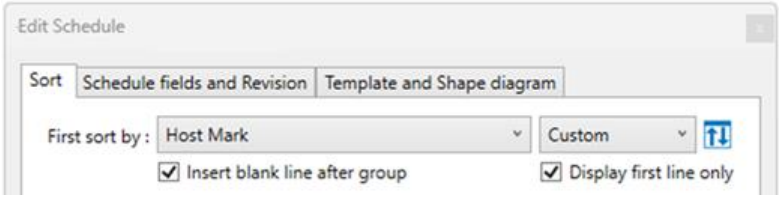
11.10.2 Edit Schedule

To edit the Schedule, make it the current Report in the Viewer and then click the Edit 

command. This displays the Edit Schedule dialog which has three tabs, Sort, Schedule Fields & Revision and Template & Shape Diagram.



The dialog has three Tabs, Sort, Schedule Fields & Revisions and Template & Shape Diagram.

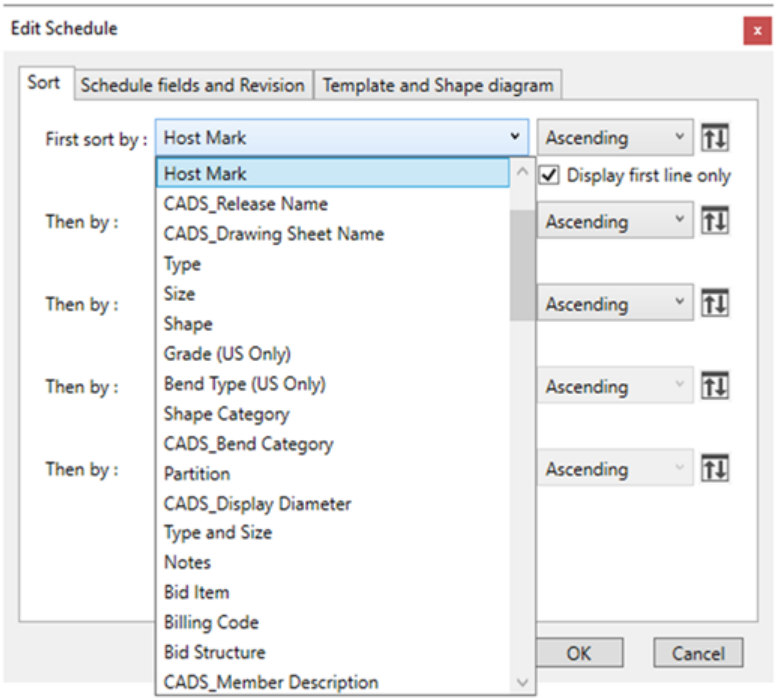


Copyright © Computer and Design Services Limited

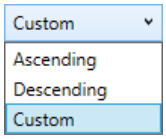
11.10.3 Sort Tab

Use the Sort options to change the schedule. This Sort dialog differs from the Project Settings version as it allows Custom as well as Descending & Ascending sorting.

- **First Sort by:** By default, the UK Sorting is set to the Host Mark as the first sort item. This is the Mark name of concrete host assigned in the Revit® Properties dialog, as shown below.



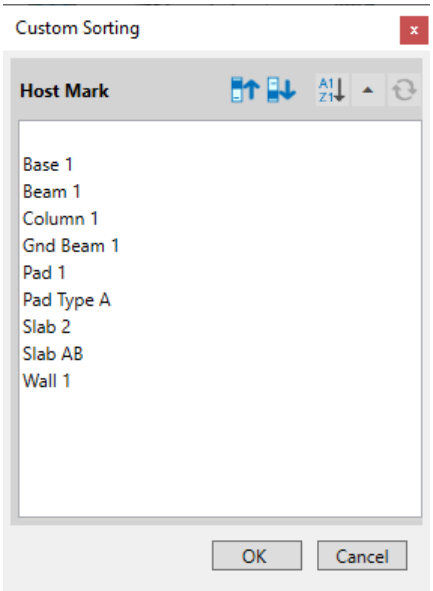
- **Display Order:** You can also choose whether to sort in ascending, descending or custom order.



- **Custom Sort Order:** The Custom sort order is selectable when Custom is selected in the Display order drop down menu. Click the button to display the Custom Sorting dialog.



Copyright © Computer and Design Services Limited

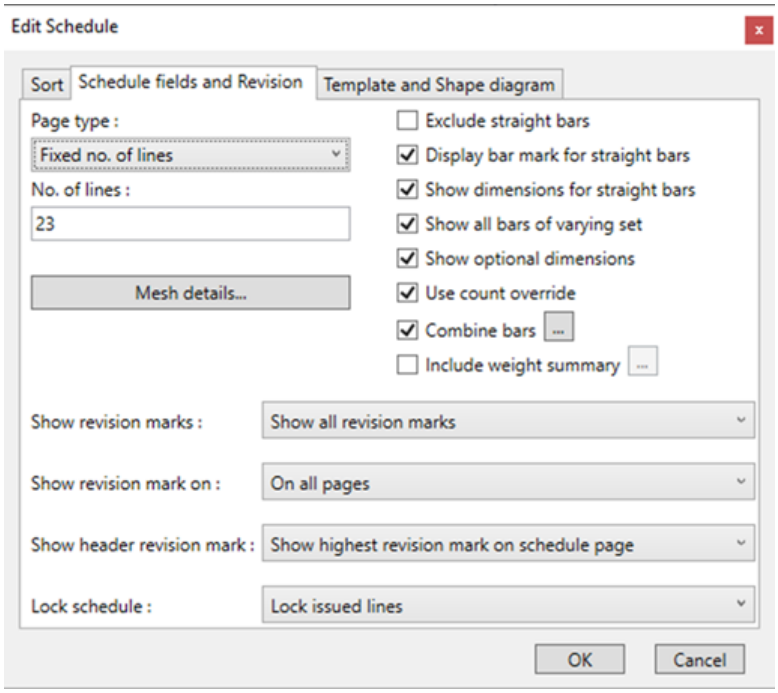


- **Insert Blank Line after Group:** You can separate the first sort item with a Blank Line between each item.
- **Display First Line Only:** Tick this option to display the Host Mark once per host, if Host Mark is configured as the first sort item.
- **Then by:** CADS Bar Mark is the default selection in ascending order. The separator should normally be set to None. You can amend the sort criteria to meet your own requirements.
- **Then by:** A third sort item can be configured if required.

11.10.4 Schedule Fields and Revision Tab

Use the Schedule Fields and Revision Tab to change the page type, number of lines and the formatting options. The revision options can also be changed using this tab.

Copyright © Computer and Design Services Limited



Schedule Settings

- **Page Type:** Choose between Fixed Page Length and Varying Number of Lines.

When Varying Lines has been selected an additional prompt will be given when placing the schedule on the drawing to specify the length of the schedule. The schedule will be displayed as one continuous sheet in the dialog.

- **No of Lines:** Type in the number of rows required in each page of the schedule

(when 'Fixed Page Height' is checked) the default number of lines is 23.

- **Exclude Straight Bars:** If checked, this option will exclude straight bars from the schedule

on sheet and the schedule printout.

- **Display Bar Mark for Straight Bars:** Tick this option to show a bar mark for straight bar

marks in the schedule.

- **Show Dimensions for Straight Bars:** Tick this option to display the straight leg dimension

in the schedule.

- **Show All Bars of Varying Set:** Displays all the bars in a varying range when checked. If it is

not checked, displays only the first and last bars.

- **Show Optional Dimensions:** Displays optional dimensions for the rebar shape when

checked. Optional dimensions are enclosed in brackets to distinguish from mandatory dimensions.

- **Use Count Override:** Tick this option if a Host Count Override has been applied to a

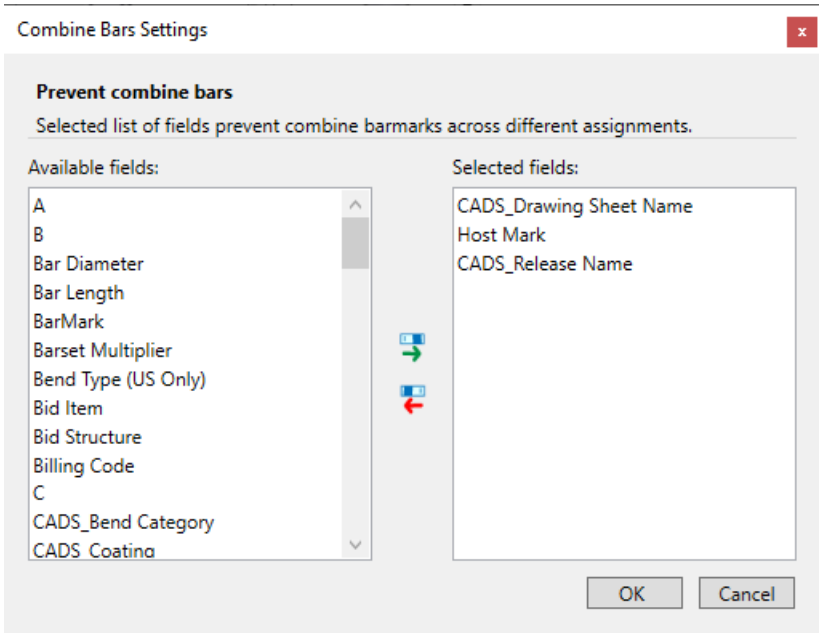
concrete host in the model using the Host Count Override command. The number of members will be multiplied in the schedule by the values applied in the override field. If rebar has been added to every host in the model ignore this option.

- **Combine Bars:** Combines together all rebar with the same bar mark when checked.

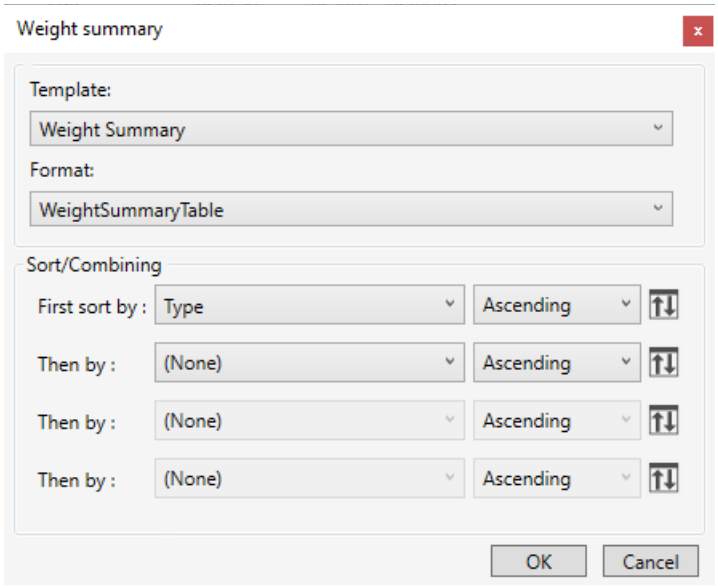
In this case the values displayed for 'No. of bars each' and 'Weight' are the totals for the set.

Copyright © Computer and Design Services Limited

- **Combine Bars - Browse button:** Use this option to prevent the Combining of Bar Marks across different assignments such as Drawing Sheet etc.



- **Include Weight Summary:** Check this option to include a Weight Summary when placing the Schedule on the Drawing.
- **Weight Summary - Browse Button:** Use this option to choose the weight summary template and formatting options.



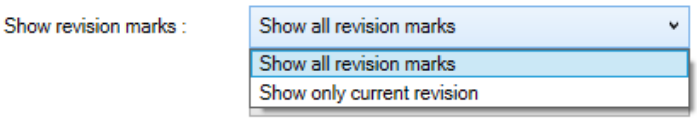
Revision Settings

Show Revisions Marks: Select either “Show all revisions marks” or “Only current revision marks” from the drop-down menu.

- **Show all Revision Marks:** This will display the current and previous revision marks against the relevant lines in the schedule view.

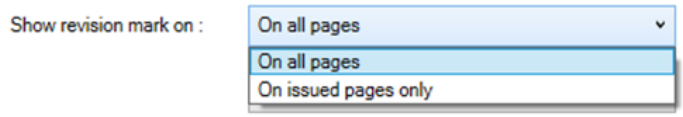
Copyright © Computer and Design Services Limited

- **Show only current revision marks:** Only displays the current revision mark in the schedule against the relevant lines in the schedule view.



Show Revision Marks on: Select either “On all pages” or “On issued pages only” from the drop-down menu.

- **On all pages:** Show the revision mark in the header of all pages even if the rebar has not been edited.
- **On issued pages only:** Show the revision mark only on pages where the rebar has been edited.



Show Header Revision Mark: Select either “Show highest revision mark on schedule page” or Show the current revision mark” from the drop-down menu.

- **Lock Schedule:** Select either “Do not lock”, Lock issued line” or “Lock issued pages” from the drop-down menu.

Do not lock – do not lock the schedule lines after issuing. Any rebar deleted from the model will be deleted from the schedule.

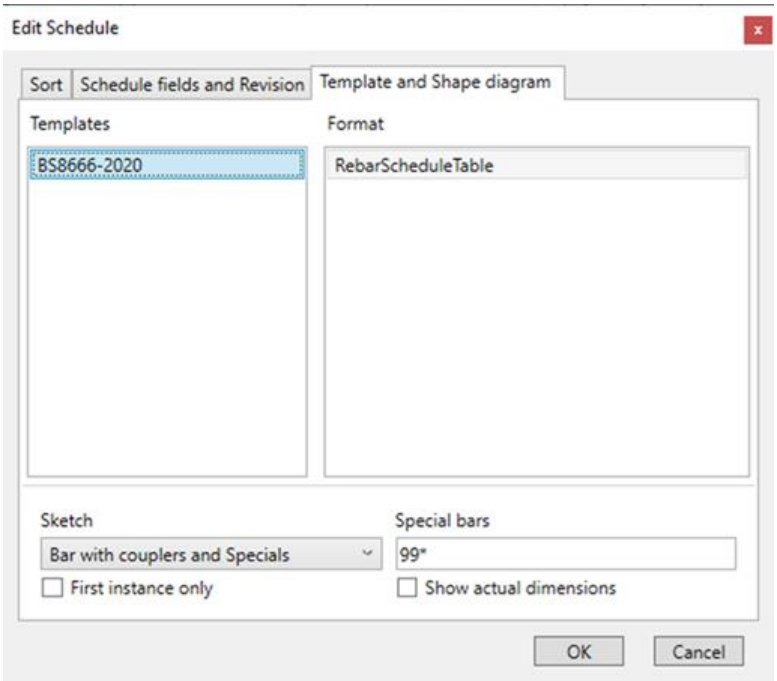
Lock issued lines – lock all schedule lines containing rebar. New rebar will be added to the next available line in the schedule. Rebar deleted from the model will be shown in the schedule with a strike out line.

Lock issued pages – lock all schedule pages containing rebar. New rebar will be added to the next schedule page. Rebar deleted from the model will be shown in the schedule with a strike out line.

11.10.5 Template & Shape Diagram Tab

Use the Template & Shape Diagram Tab to change to an alternative Schedule template.

Copyright © Computer and Design Services Limited



Load additional schedule templates using the Settings command and then select the Schedule and Sorting Tab.

If required change the settings for the shape code diagrams.

Sketch: The drop down options for adding sketches the schedule are;

None – Do not add shape code diagrams.

Special Shapes – Add shape code diagrams for specific special shapes.

All Shapes – Add shape code diagrams for all shapes.

Special Bars: Option becomes active if Special Bars are chosen in the Sketch drop down menu. The default value is 99*, shape diagrams will be added for all shapes starting with the prefix 99.

First Instance only: Tick this option if the shape diagram is only required for the first instance of each shape.

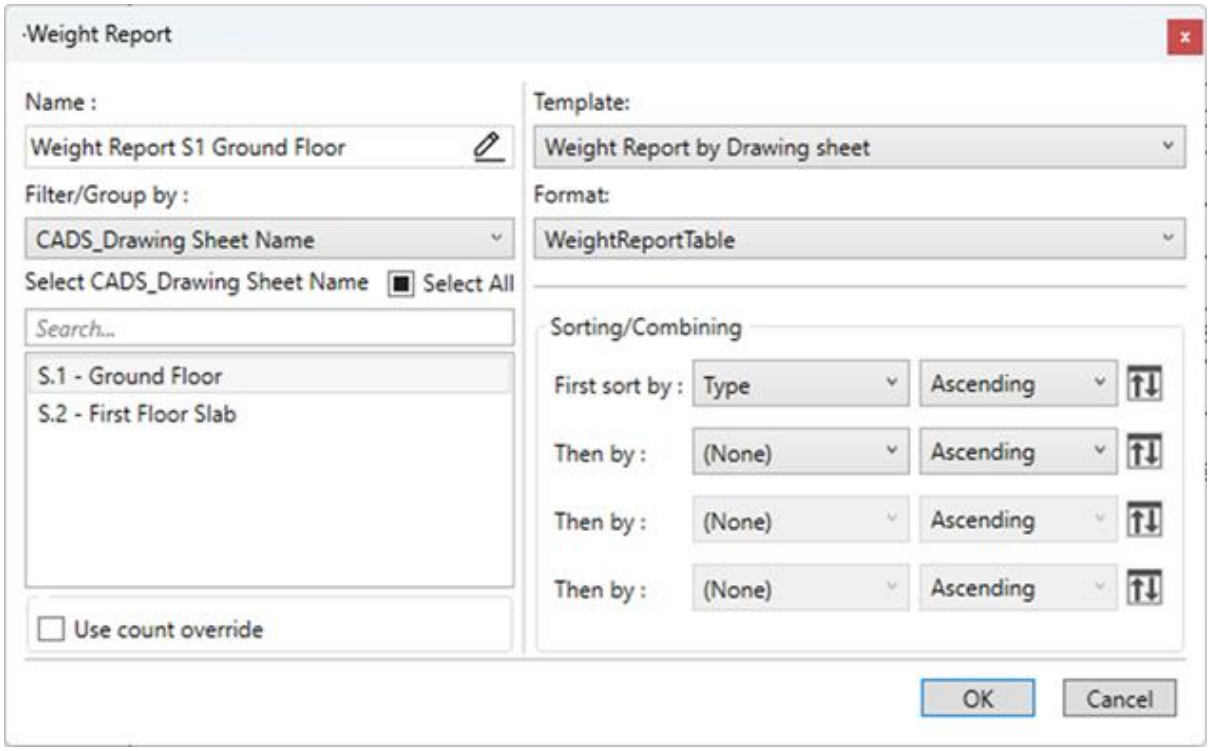
Show actual dimensions: Tick this option to show dimensions instead of Leg letters on the shape code diagram.

11.10.6 Edit Weight Report



To edit the Weight Report, make it the current Report in the Viewer and then click the Edit command. This displays the Edit Weight Report dialog.

Copyright © Computer and Design Services Limited

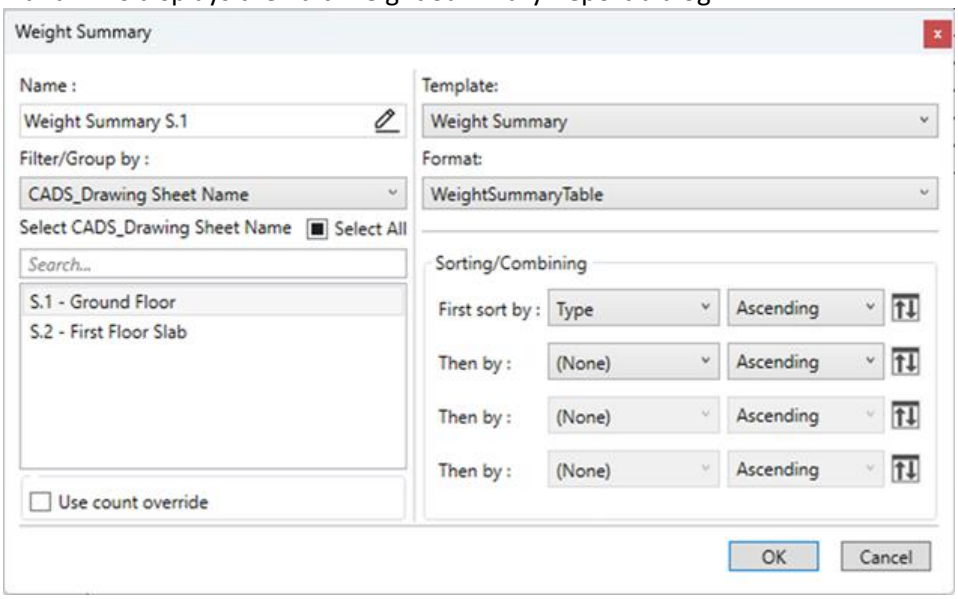


11.10.7 Edit Weight Summary Report

To edit the Weight Summary Report, make it the current Report in the Viewer and then click the Edit



command. This displays the Edit Weight Summary Report dialog.

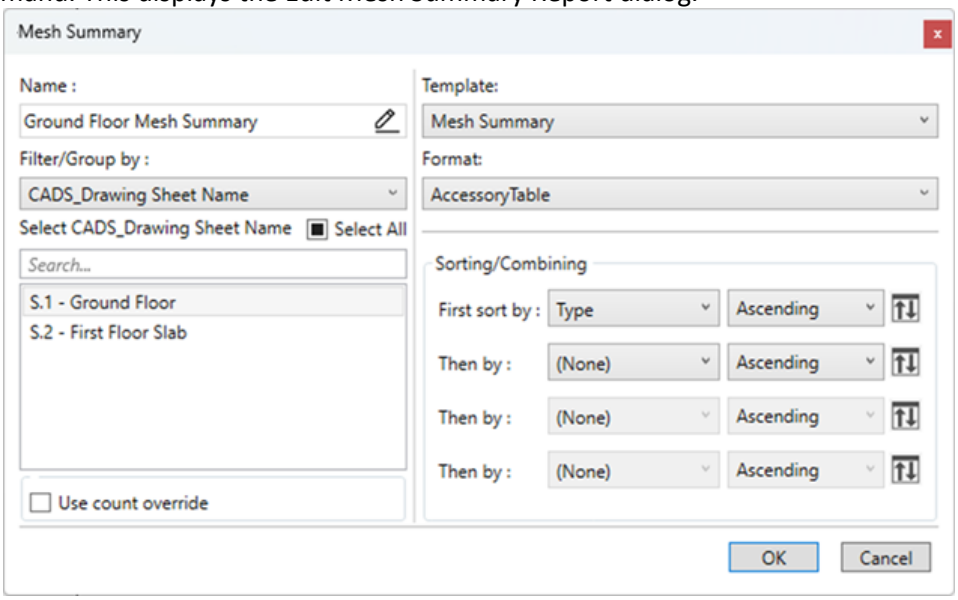


Copyright © Computer and Design Services Limited

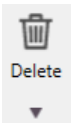
11.10.8 Edit Mesh Summary Report

To edit the Mesh Summary Report, make it the current Report in the Viewer and then click the Edit 

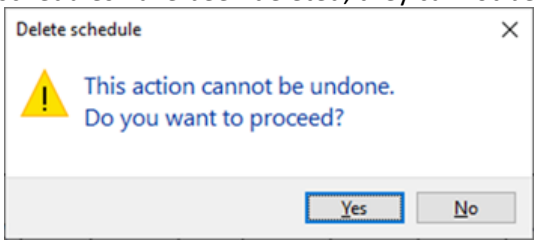
command. This displays the Edit Mesh Summary Report dialog.



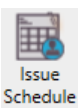
11.10.9 Delete Schedule or Weight Report/Summary

The Delete command 

is used to remove schedules or Weight Reports/Weight Summaries from the list in the Navigation Pane. This will delete the currently highlighted weight report or Weight Summary Report. Once the schedules have been deleted, they cannot be restored.



11.10.10 Issue Schedule

Use the Issue Schedule command 

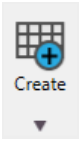
to lock the schedule as per the configuration set in the Revision & Coupler Configuration Tab under Project Settings. Currently, only the schedule can be locked, any editing of the rebar in the model will be annotated with revision marks against each line in the schedule and in the page headers.

Copyright © Computer and Design Services Limited

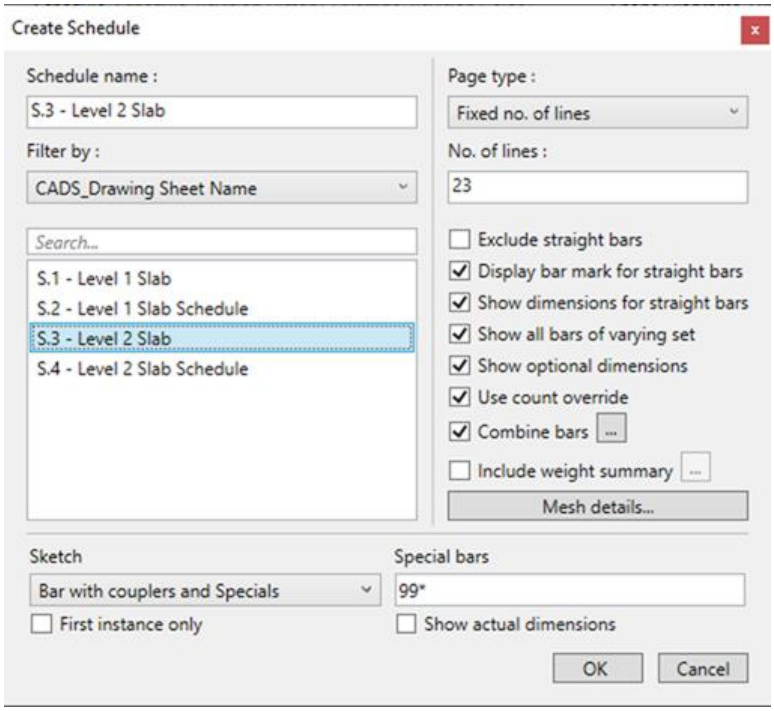
Any rebar that has been issued in the schedule can be frozen in the Revit® project using the Freeze command .

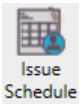
If required, a new Schedule sheet can be created for each revision, so a historical record of each schedule revision can be stored inside the project and referred to at any time.

Issue Schedule Workflow

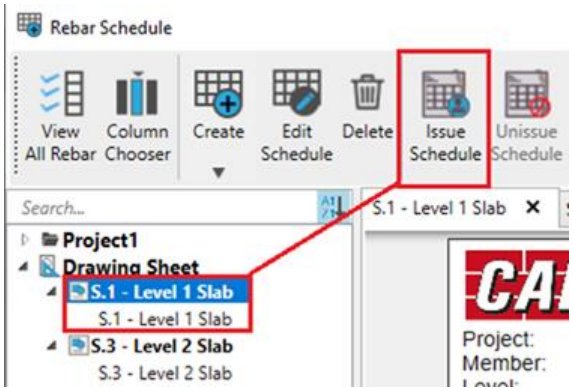
1. Create a schedule, select the Create Schedule 

command to create the schedule sheets for a selected drawing sheet.



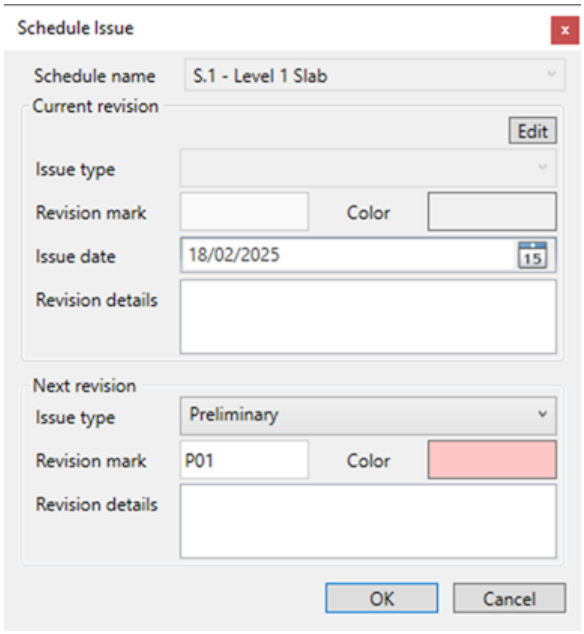
2. Expand the Drawing Sheets in the Navigation Panel.
3. Click on the Schedule sheet to issue to make it active.
4. Select Issue Schedule 

from the toolbar.

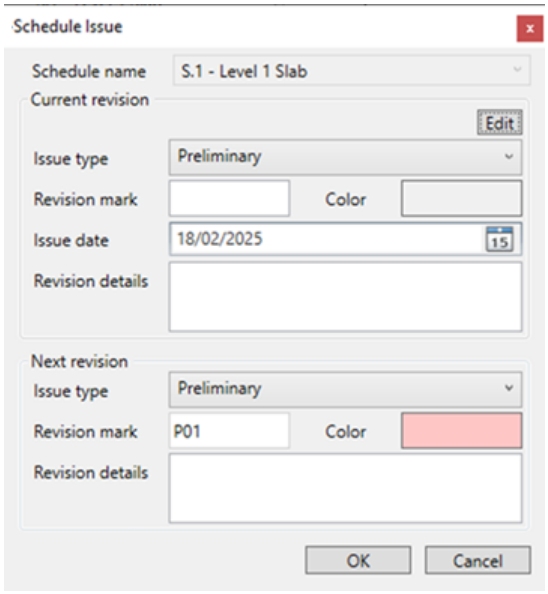


5. The Issue Schedule dialog is displayed.

Copyright © Computer and Design Services Limited

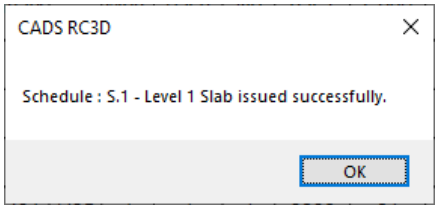


6. The Schedule Name is automatically selected as the current schedule.
7. The first issue of the schedule will be blank (no revision letter number is displayed) as per the Schedule Revision Configuration .
8. Type in the Revision Details.
9. This can be overridden by selecting the Edit Button. The Issue Type, Revision Mark, Issue Date and Revision Details are now editable.

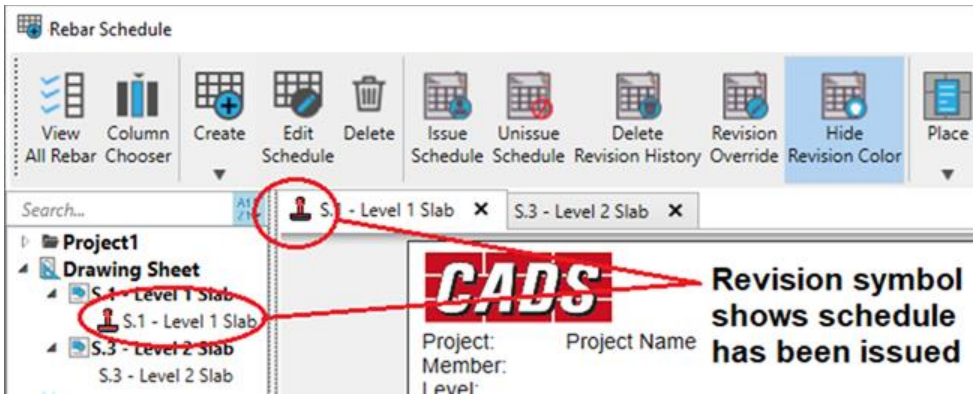


10. In the Next Revision Section set the Issue Type, The Revision Mark and Colour displayed is configured in the Schedule Revision Configuration but can be overwritten as required.
11. Click OK to Issue the Schedule.
12. A message is displayed to show that the schedule has been successfully issued.

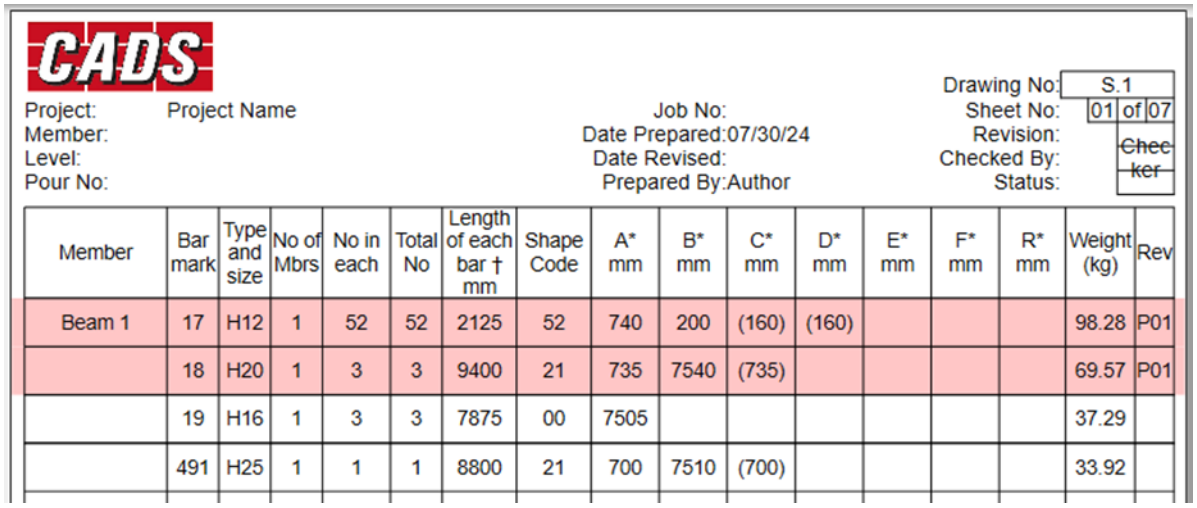
Copyright © Computer and Design Services Limited



13. A revision symbol is now displayed on the Schedule Tab and in the Schedule List.



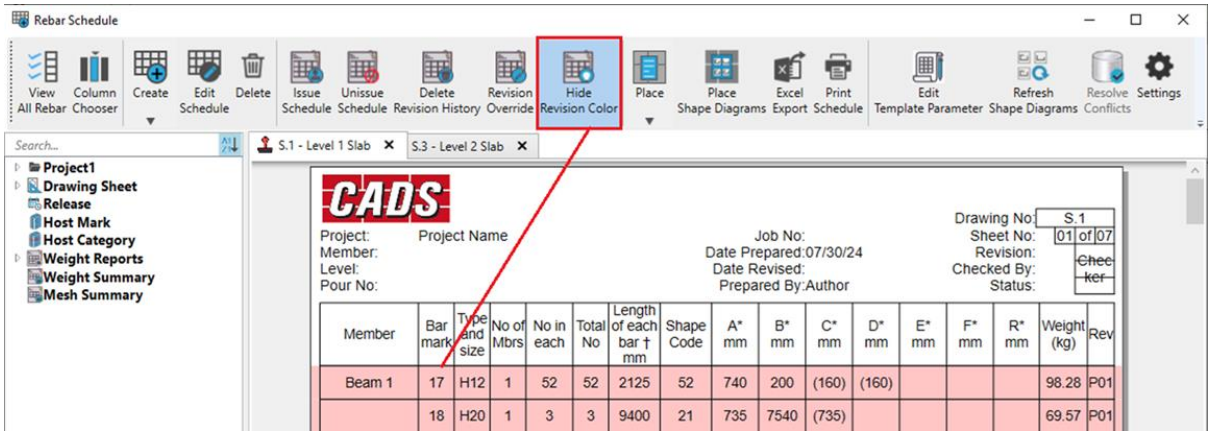
14. Close the Schedule dialog.
15. Edit and remove some of the rebar in the Issued Drawing Sheet.
16. Open the schedule dialog and review the changes to the schedule.



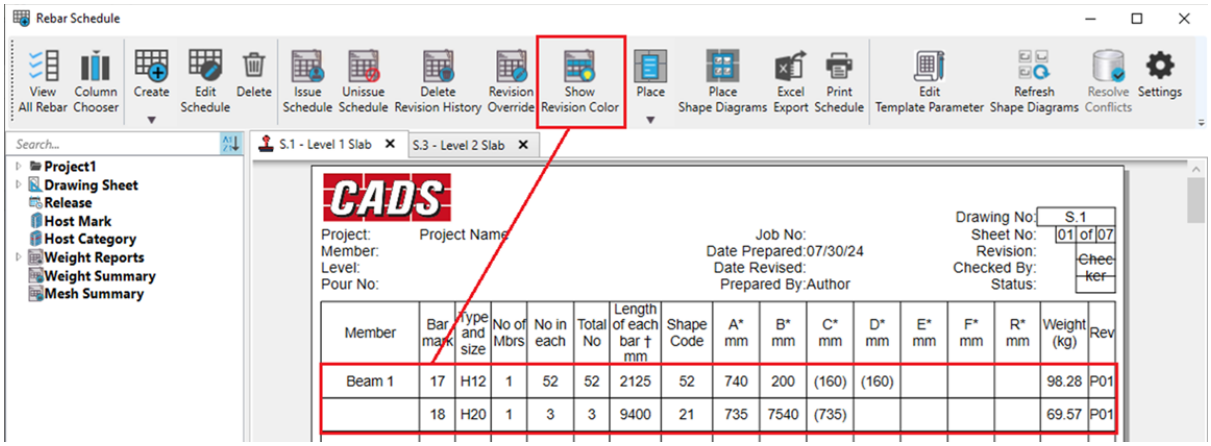
Member	Bar mark	Type and size	No of Mbrs	No in each	Total No	Length of each bar † mm	Shape Code	A* mm	B* mm	C* mm	D* mm	E* mm	F* mm	R* mm	Weight (kg)	Rev
Beam 1	17	H12	1	52	52	2125	52	740	200	(160)	(160)				98.28	P01
	18	H20	1	3	3	9400	21	735	7540	(735)					69.57	P01
	19	H16	1	3	3	7875	00	7505							37.29	
	491	H25	1	1	1	8800	21	700	7510	(700)					33.92	

17. Note that the amended rebar on the schedule are automatically highlighted using the configured colour for the next issue.
18. Click on the Hide Revision Colour to remove the background highlight.

Copyright © Computer and Design Services Limited

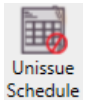


19. Click on Show Revision Colour to reveal the background highlight.



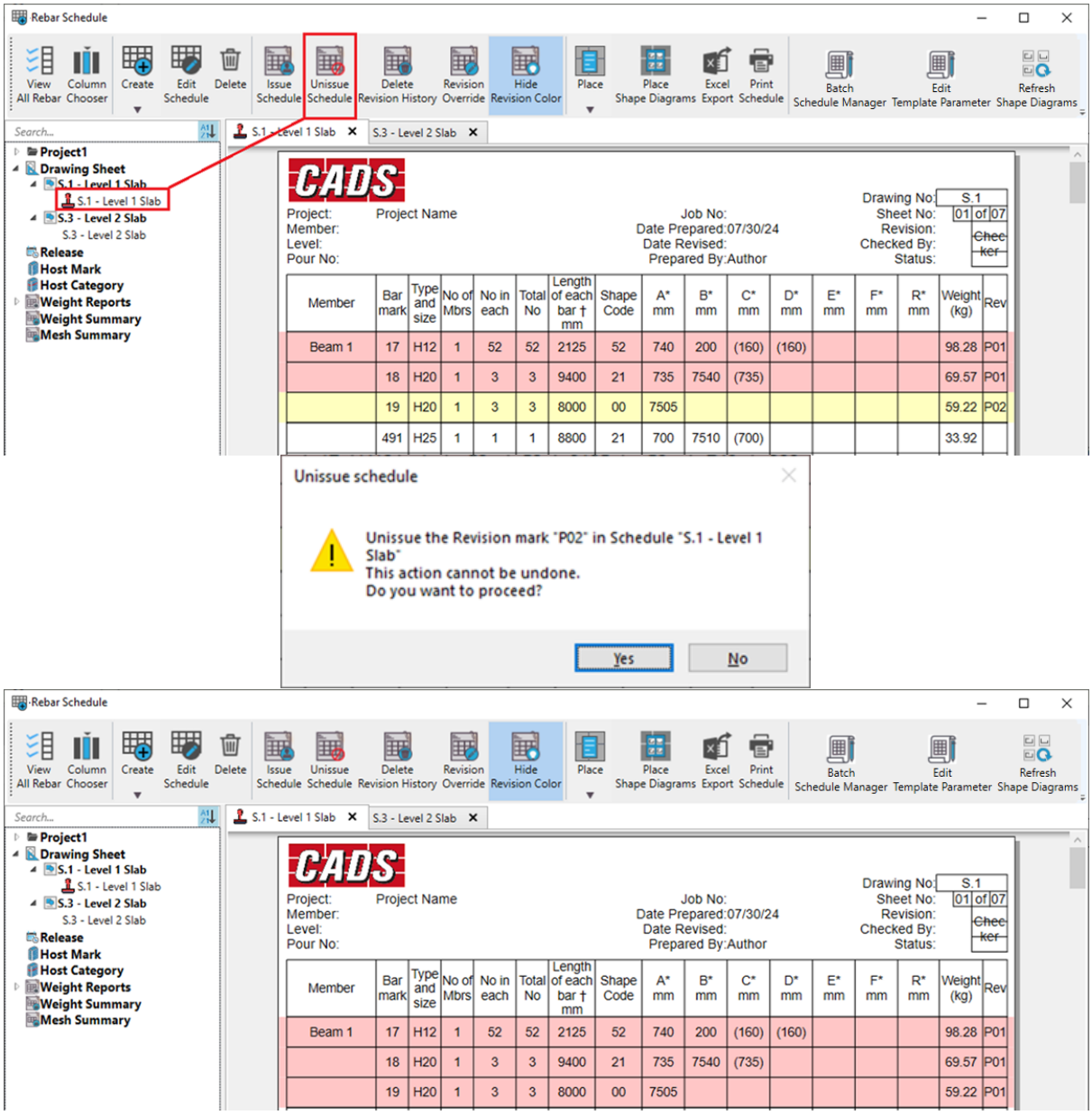
Note: After Issuing the schedule, use the Freeze Rebar command to lock the Issued Rebar inside the model. To edit frozen rebar, first unfreeze the schedule will be annotated with the specified revision.

11.10.11 Unissue Schedule

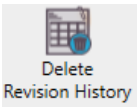


Select the Unissue Schedule option to remove the last Issue from the currently selected Schedule. In the example below Revision P02 has been removed and the Schedule will revert to Rev P01. **This action cannot be undone.**

Copyright © Computer and Design Services Limited

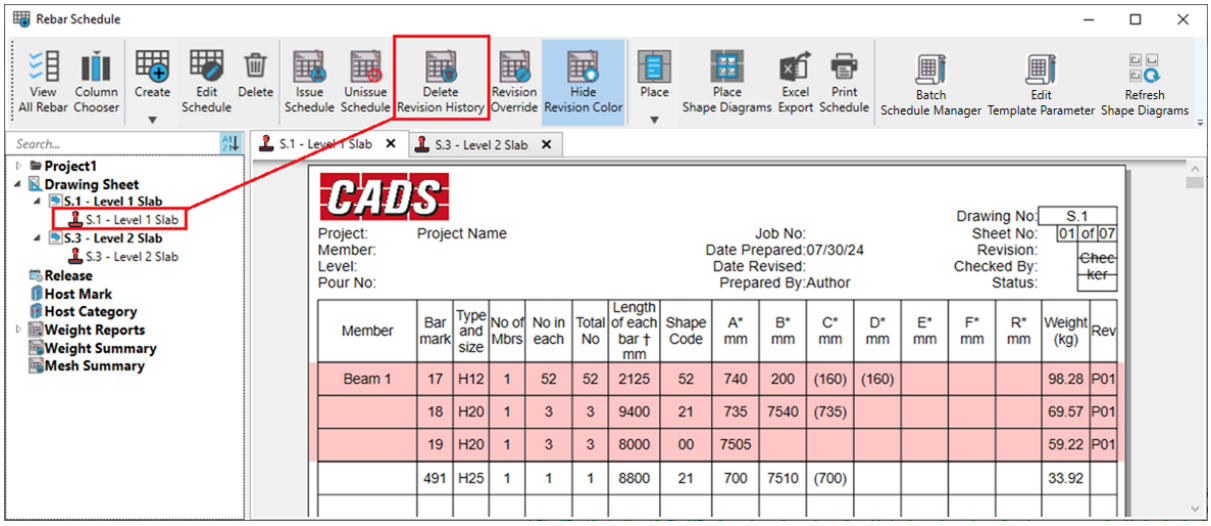


11.10.12 Delete Revision History

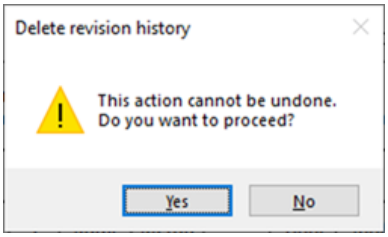
Use the Delete Revision History 

command to remove all the Revisions from the currently selected Schedule.

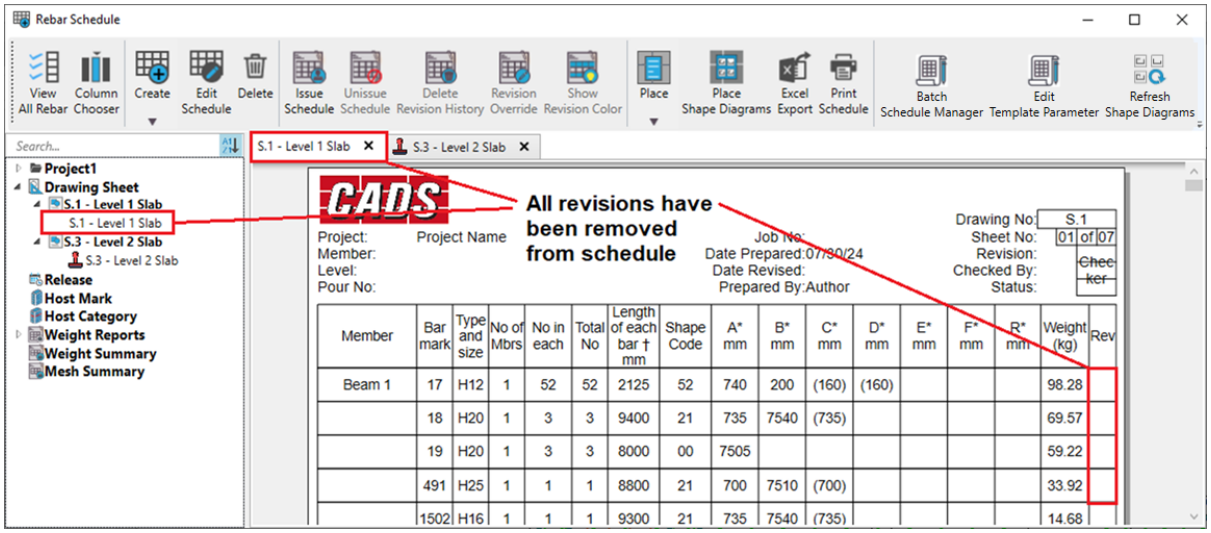
Copyright © Computer and Design Services Limited



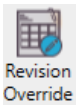
The following warning is displayed.



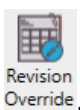
This action cannot be undone.



11.10.13 Override Revision Mark

Use the Override Revision Mark 

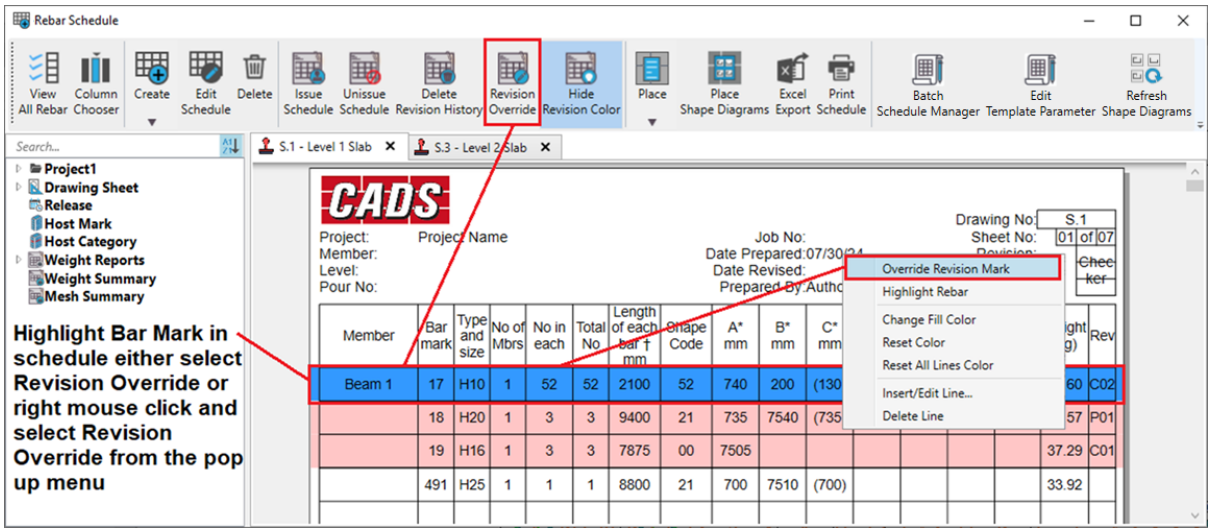
command to remove / change the revision associated with a bark mark in the schedule.

1. Select the line in the schedule and click on the Revision Override button 

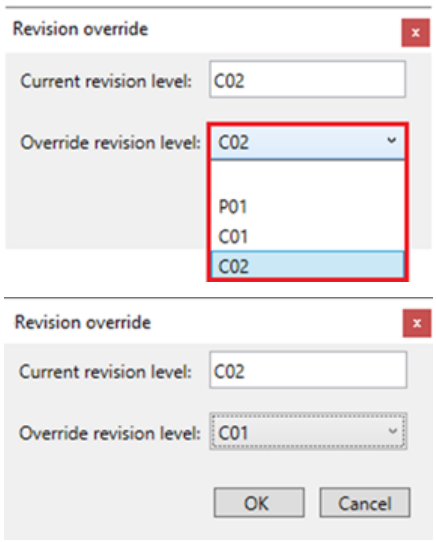
.

Copyright © Computer and Design Services Limited

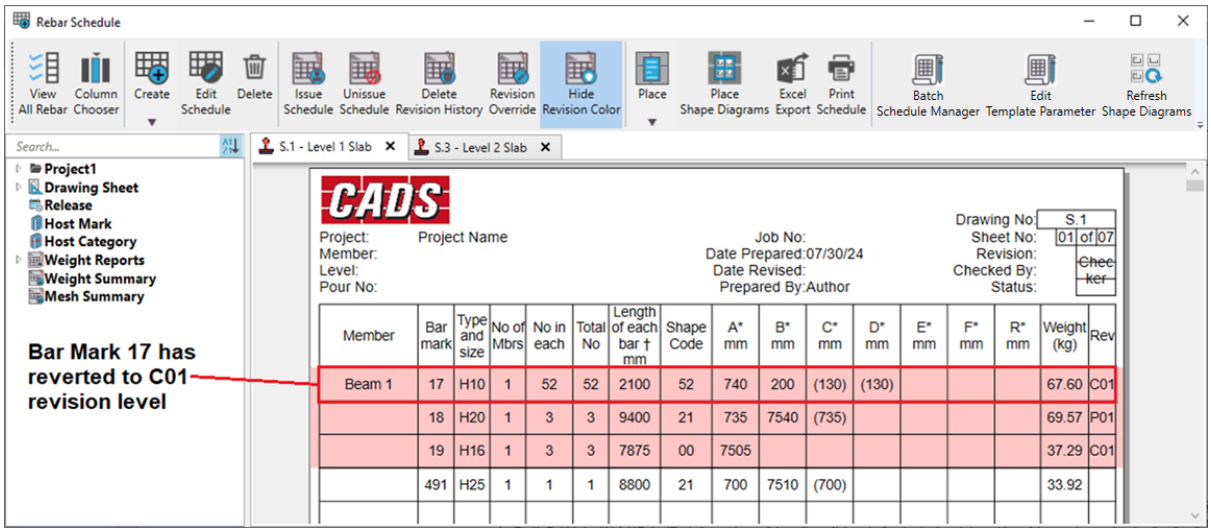
2. Or, right mouse click and select Override Revision Mark from the pop up menu.



3. Choose the override revision level from the drop-down menu and click ok.



4. The revision is changed / removed from the schedule.

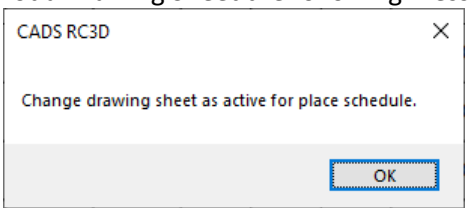


Copyright © Computer and Design Services Limited

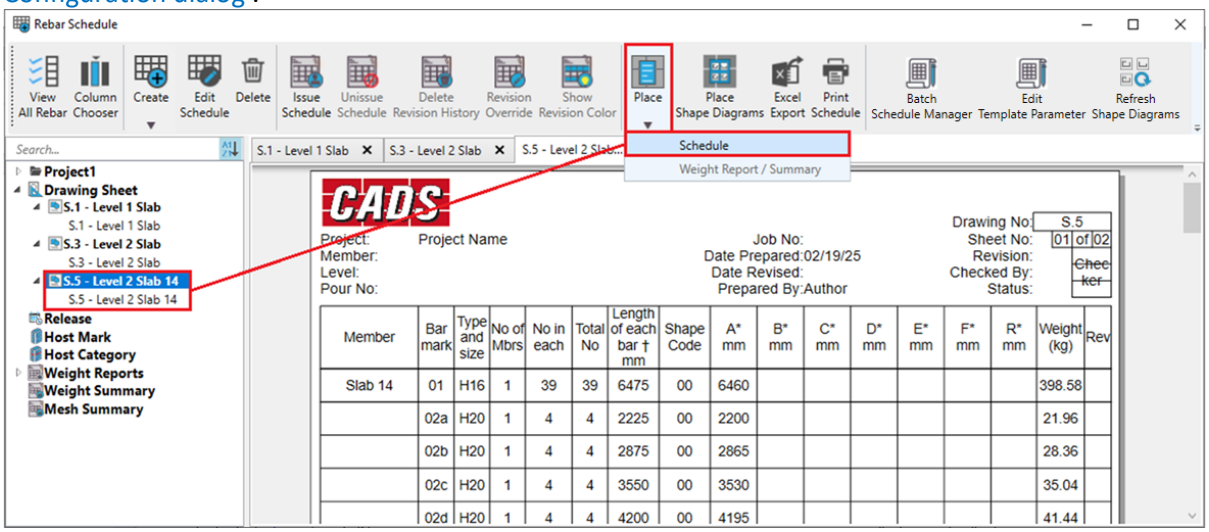
11.10.14 Place Schedule



The schedule can be positioned on a Drawing Sheet using the Place Schedule command Schedule. If the current view is not a Drawing Sheet the following message is displayed.

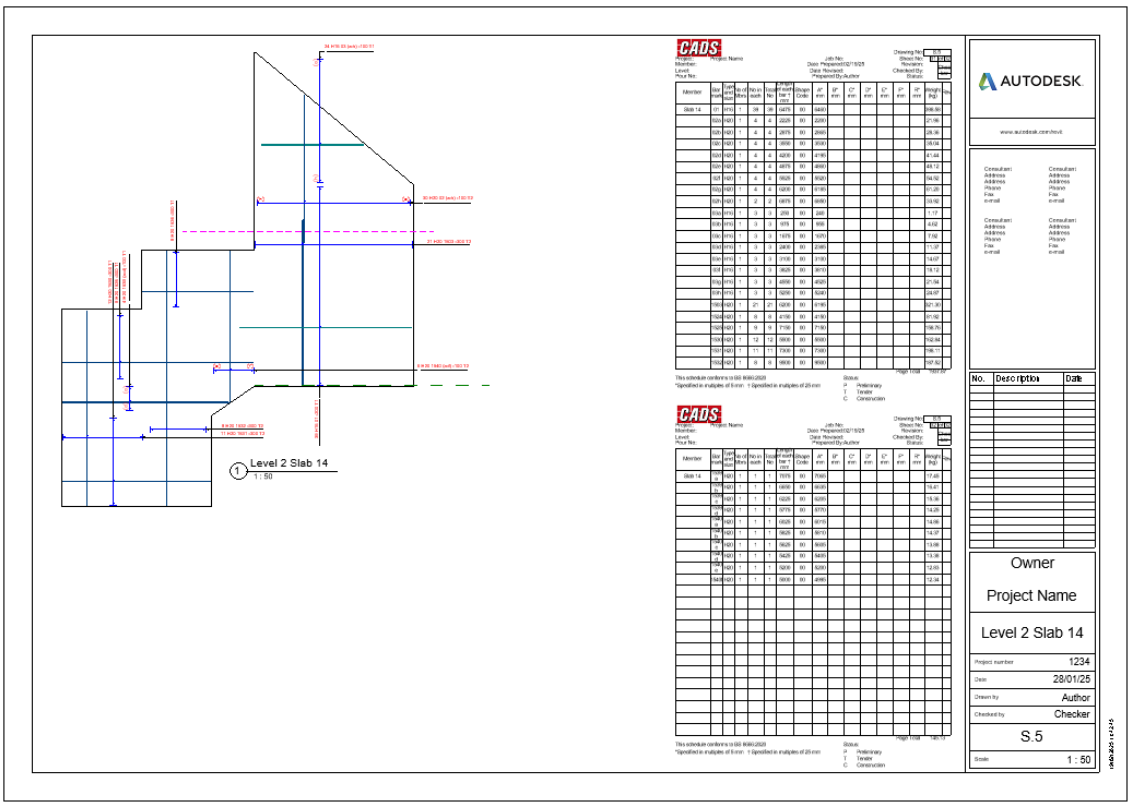


The command will use the template specified as default in the Project Settings Schedule Template Configuration dialog .



The command will ask for the insertion point of the first and subsequent pages in the current Sheet View as shown below;

Copyright © Computer and Design Services Limited



If new rebar are added to the drawing sheet or the existing rebar are edited the schedule on drawing will be marked as Invalid, use the Refresh Schedule command to update the schedule on drawing.

CADS

Project: Project Name
Member:
Level:
Pour No:

Job No:
Date Prepared:02/19/25
Date Revised:
Prepared By:Author

Drawing No: S.5
Sheet No: 02 of 02
Revision:
Checked By: ~~Chec~~ ker
Status:

Member	Bar mark	Type and size	No of Mbrs	No in each	Total No	Length of each bar † mm	Shape Code	A* mm	B* mm	C* mm	D* mm	E* mm	F* mm	R* mm	Weight (kg)	Rev
Slab 14	1539 a	H20	1	1	1	7075	00	7065							17.45	
	1539 b	H20	1	1	1	6650	00	6635							16.41	
	1539 c	H20	1	1	1	6225	00	6205							15.36	
	1539 d	H20	1	1	1	5775	00	5770							14.25	
	1540 a	H20	1	1	1	6025	00	6015							14.86	
	1540 b	H20	1	1	1	5825	00	5810							14.37	
	1540 c	H20	1	1	1	5625	00	5605							13.88	
	1540 d	H20	1	1	1	5425	00	5405							13.38	
	1540 e	H20	1	1	1	5200	00	5200							12.83	
	1540f	H20	1	1	1	5000	00	4995							12.34	

INVALID

Page Total 145.13

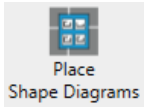
This schedule conforms to BS 8666:2020
*Specified in multiples of 5 mm † Specified in multiples of 25 mm

Status:
P Preliminary
T Tender
C Construction

If the schedule on drawing is marked as invalid when the project is opened, open & close the Show Schedule dialog before trying to run the Refresh Schedule command.

Copyright © Computer and Design Services Limited

11.10.15 Place Shape Diagrams



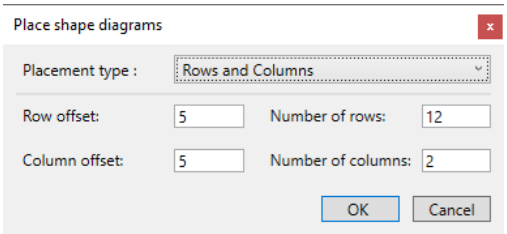
Diagrams of the shapes can be placed on a sheet using the Place Shape Diagrams command.

The command will use the template specified as the default in the Project Settings Schedule Template configuration dialog .

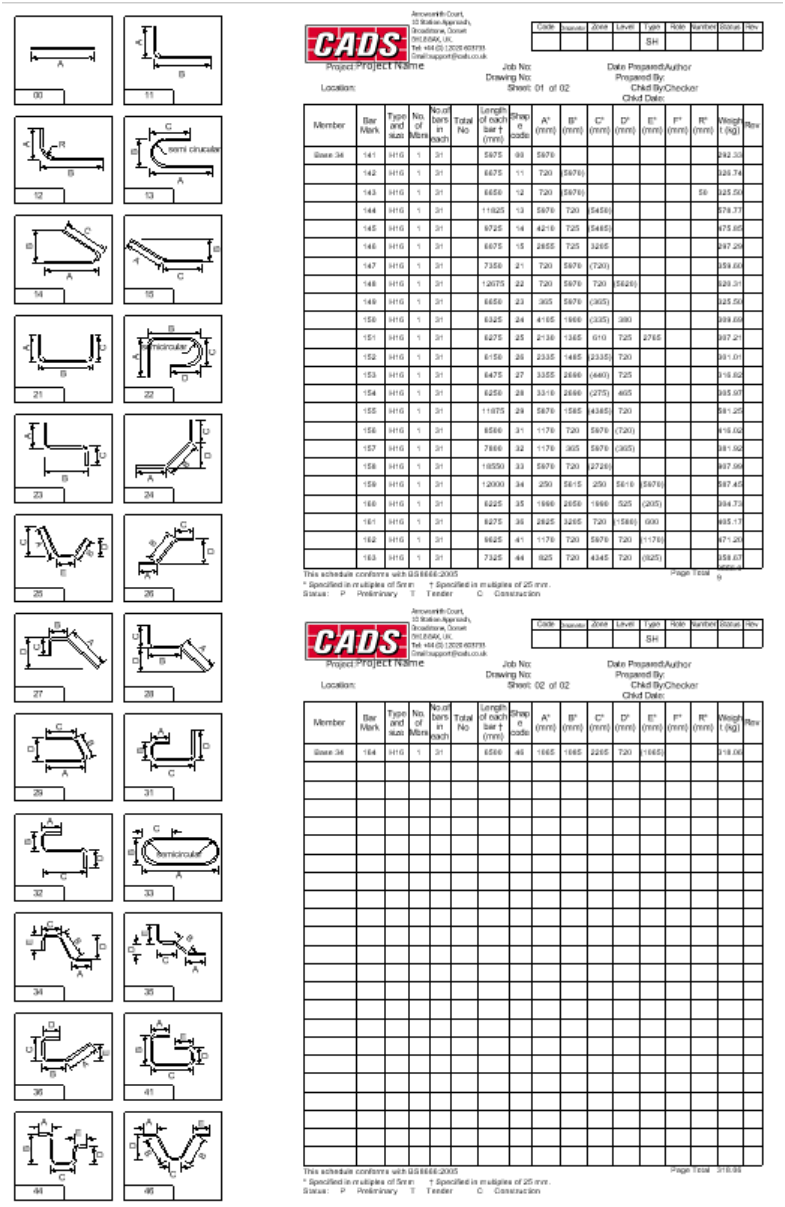
On selection of the Place Shape Diagrams command the user is prompted to choose the Placement Type;

- **Vertical:** One vertical column of diagrams
- **Horizontal:** One horizontal row of diagrams
- **Rows & Columns:** Specify the number of rows and columns required.
- **Rectangular Selection:** Placed in a selected area on the sheet

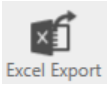
Use the row & column offset to specify the distance in plotted millimetres between the diagrams.



Copyright © Computer and Design Services Limited

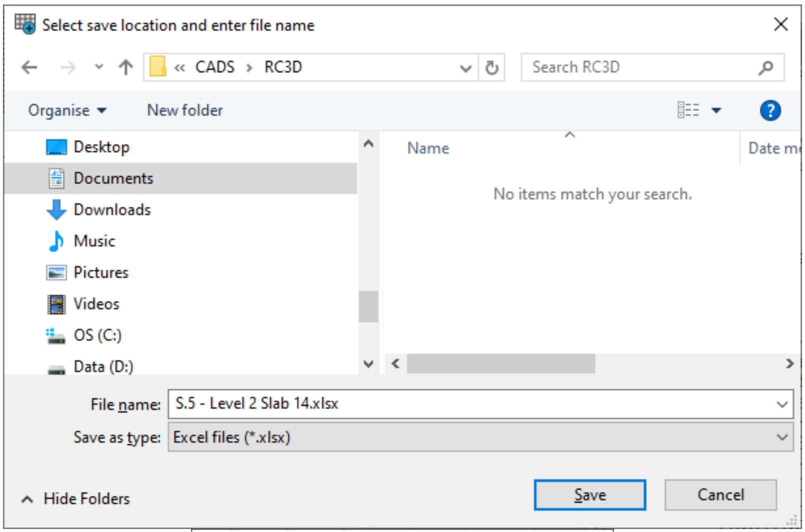


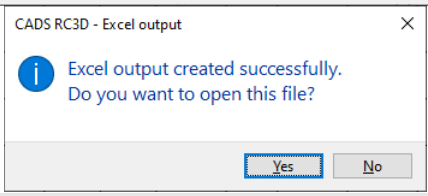
11.10.16 Excel Export

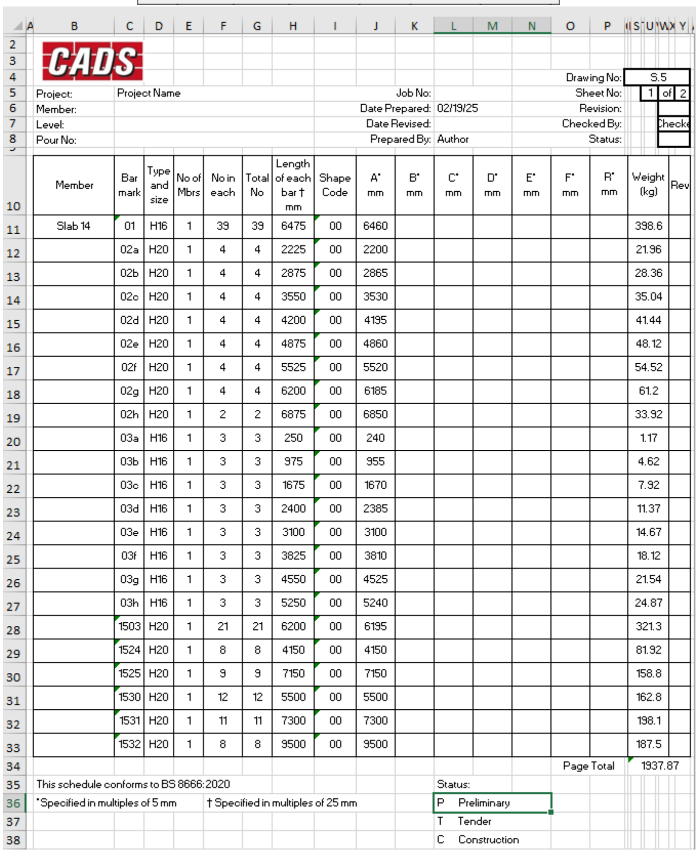
Select the Excel Export command 

to export the active schedule sheet to Excel using the default template configured in the Project Settings under the Template and Sorting Tab.
The command will assign the Excel file the same name as the Sheet View and prompt for a location to save the file. The default location is the same folder as the project. Click Save. A confirmation that the file has been created is displayed and prompts to open the file.

Copyright © Computer and Design Services Limited







Project:	Project Name	Job No:		Drawing No: S.5
Member:		Date Prepared:	02/19/25	Sheet No: 1 of 2
Level:		Date Revised:		Revision:
Pour No:		Prepared By:	Author	Checked By: Checke
				Status:

Member	Bar mark	Type and size	No of Mbrs	No in each	Total No	Length of each bar † mm	Shape Code	A* mm	B* mm	C* mm	D* mm	E* mm	F* mm	R* mm	Weight (kg)	Rev
Slab 14	01	H16	1	39	39	6475	00	6460							398.6	
	02a	H20	1	4	4	2225	00	2200							21.96	
	02b	H20	1	4	4	2875	00	2865							28.36	
	02c	H20	1	4	4	3550	00	3530							35.04	
	02d	H20	1	4	4	4200	00	4195							41.44	
	02e	H20	1	4	4	4875	00	4860							48.12	
	02f	H20	1	4	4	5525	00	5520							54.52	
	02g	H20	1	4	4	6200	00	6185							61.2	
	02h	H20	1	2	2	6875	00	6850							33.92	
	03a	H16	1	3	3	250	00	240							1.17	
	03b	H16	1	3	3	975	00	955							4.62	
	03c	H16	1	3	3	1675	00	1670							7.92	
	03d	H16	1	3	3	2400	00	2385							11.37	
	03e	H16	1	3	3	3100	00	3100							14.67	
	03f	H16	1	3	3	3825	00	3810							18.12	
	03g	H16	1	3	3	4550	00	4525							21.54	
	03h	H16	1	3	3	5250	00	5240							24.87	
	1503	H20	1	21	21	6200	00	6195							321.3	
	1524	H20	1	8	8	4150	00	4150							81.92	
	1525	H20	1	9	9	7150	00	7150							158.8	
	1530	H20	1	12	12	5500	00	5500							162.8	
	1531	H20	1	11	11	7300	00	7300							198.1	
	1532	H20	1	8	8	9500	00	9500							187.5	
														Page Total	1937.87	

This schedule conforms to BS 8666:2020

*Specified in multiples of 5 mm † Specified in multiples of 25 mm

Status:
P Preliminary
T Tender
C Construction

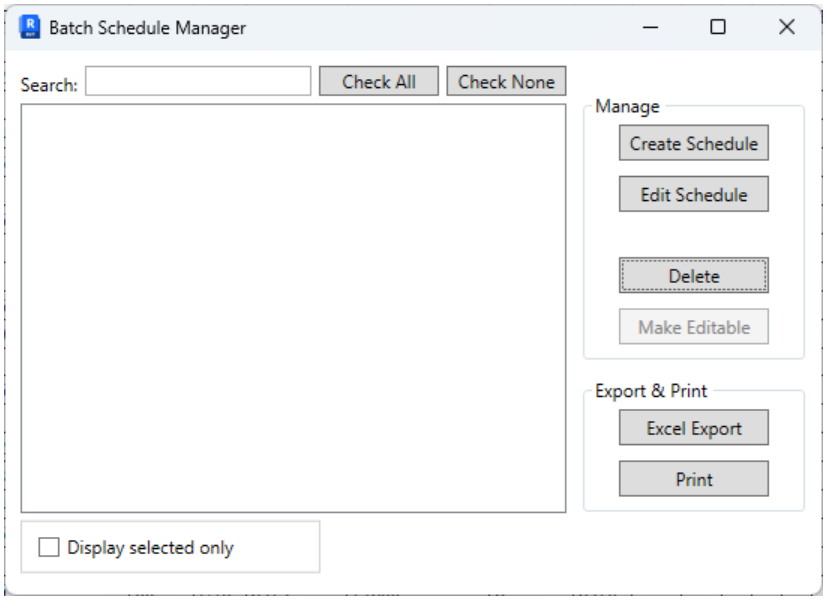
11.10.17 Batch Schedule Manager

The Batch Schedule Manager allows the creation, editing, deletion, exporting & printing of multiple reports at the same time. The Make Editable option will make the selected reports editable in a Central Model.

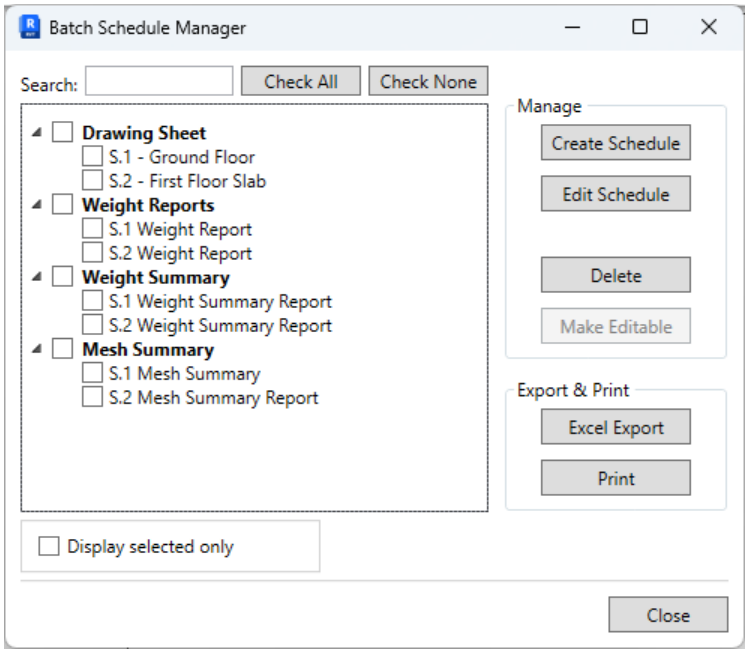
Copyright © Computer and Design Services Limited

Select the Batch Schedule Manager 

option from inside the Schedule dialog to display the dialog below;



If several reports have already been created in the Show Schedule dialog these will also be displayed;



- **Search** Use the Search option to locate specific reports in the list
- **Check All** Use the Check All option to check all reports
- **Check None** Use the Check None option to deselect any previously selected reports.
- **Display Selected only** Use this option to display only the selected reports in the Batch Schedule Manager dialog.

Copyright © Computer and Design Services Limited

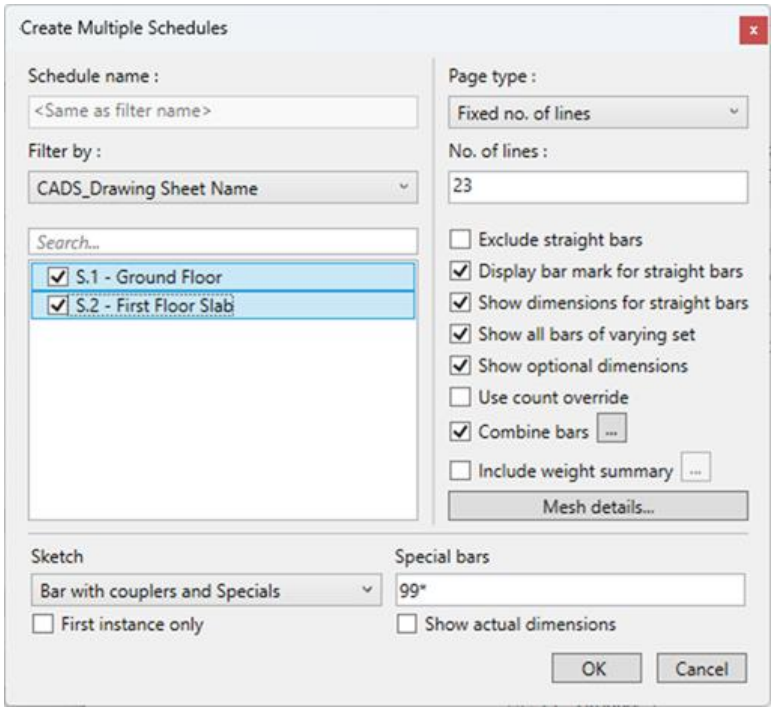
11.10.18 Manage

The Manage options allow the creation & editing of schedule reports. The delete option will delete all selected reports.

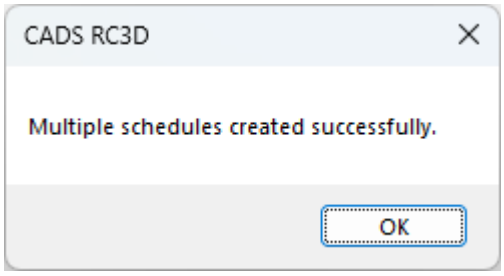
Create Schedule

Use the Create Schedule option to create multiple schedule reports based on the same template at the same time. The Create Schedule by Drawing Sheet (https://help.cads.co.uk/assets/show-schedule-dialog/create-schedule-weight-report-or-weight-summary-report/create-schedule-by-drawing-sheet/#online-help) details all the options available in the dialog.

1. Select Create Schedule.

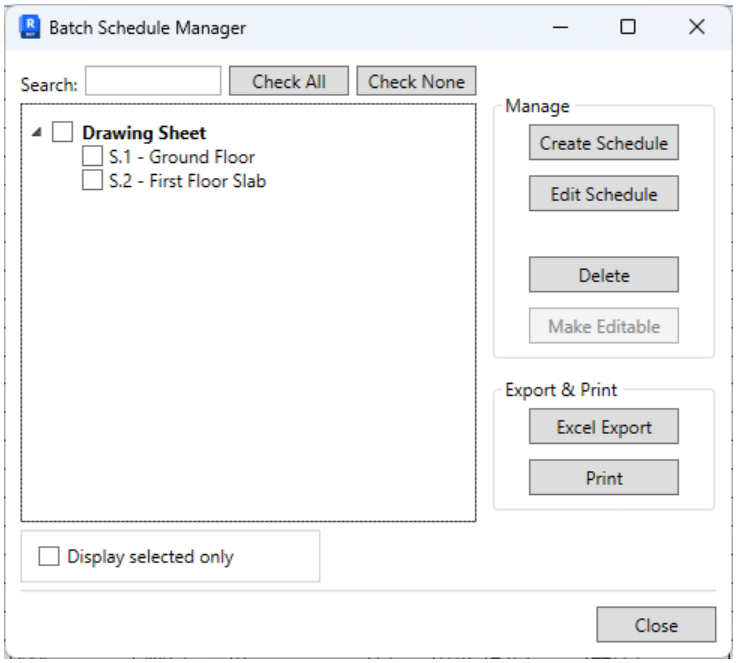


2. To create the schedules, select one or more from the list of Drawing Sheets available, setup the options required and click Ok.
3. The command reports that the schedule were created successfully.



4. Click OK
5. The Batch Schedule Manager displays the successfully created schedules.

Copyright © Computer and Design Services Limited

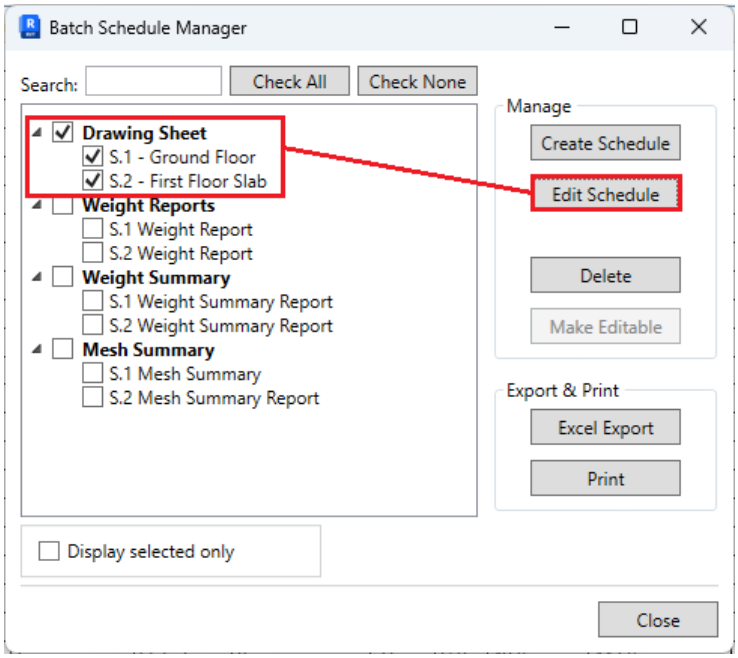


Edit Schedule

This option allows several reports of the same type to be edit at the same time.

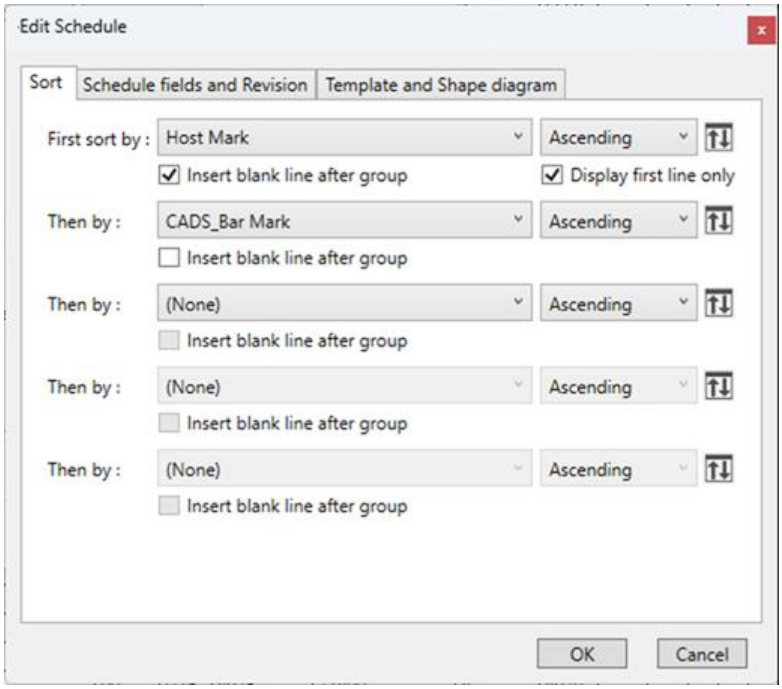
The reports do not need to be opened in the Show Schedule dialog to be edited.

1. Select several Drawing Sheet Reports (Schedules) and select Edit Schedule.

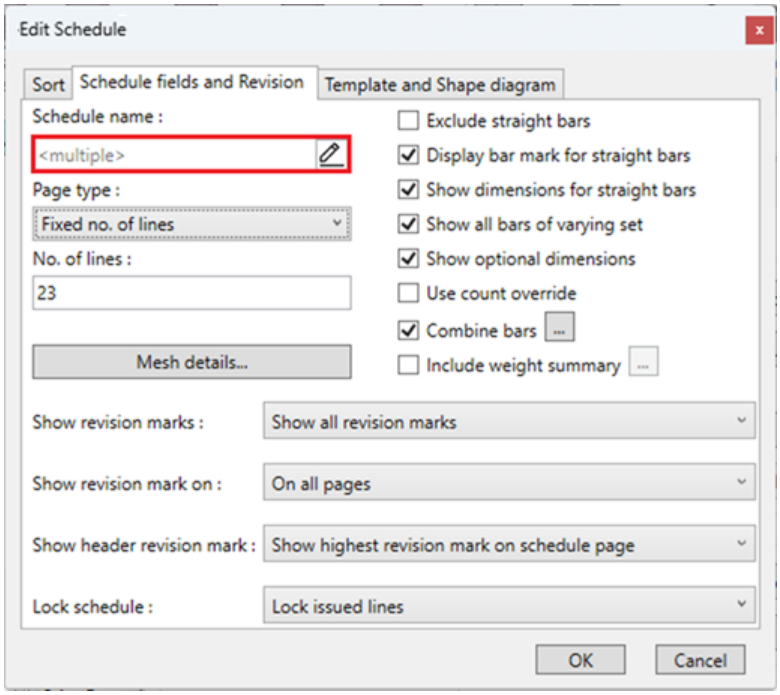


2. The Edit Schedule is displayed,

Copyright © Computer and Design Services Limited

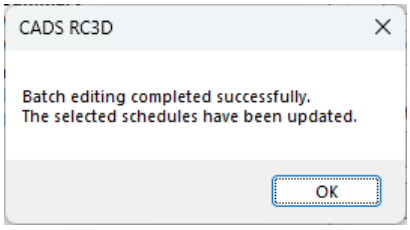


3. The options in the dialog are the same as previously described in Edit Schedule command available in the Show Schedule Dialog. (https://help.cads.co.uk/assets/show-schedule-dialog/edit-schedule/#online-help)
4. The Schedule Name reports as multiple when several schedule reports are selected for editing at one time.

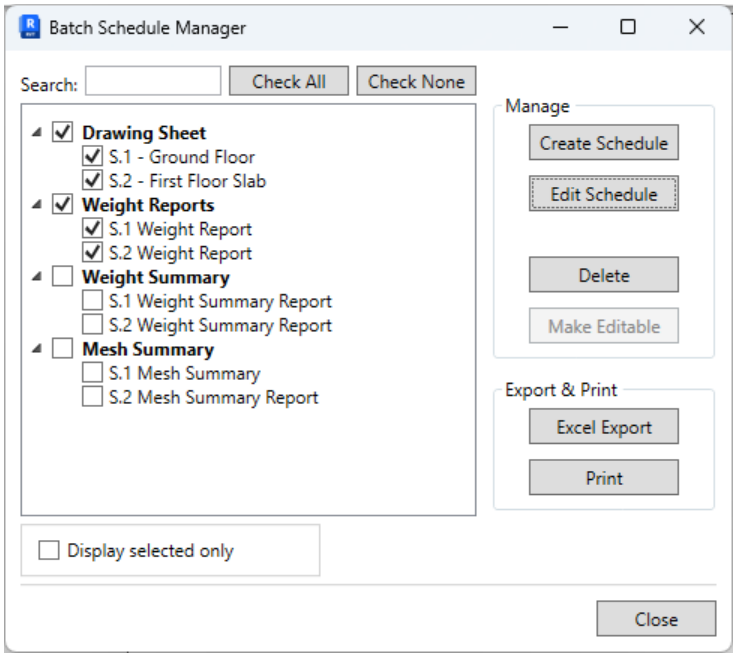


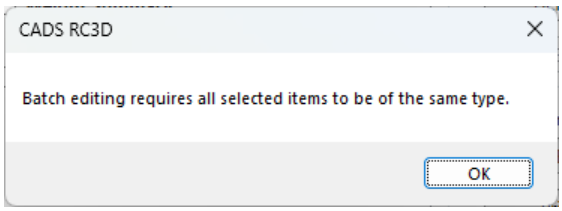
5. Once the required changes have been made, click OK.
6. The following conformation message is displayed.

Copyright © Computer and Design Services Limited

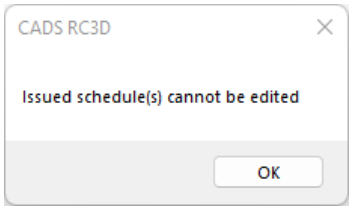


7. Note: If Reports of different types are selected for editing the command reports as follows;





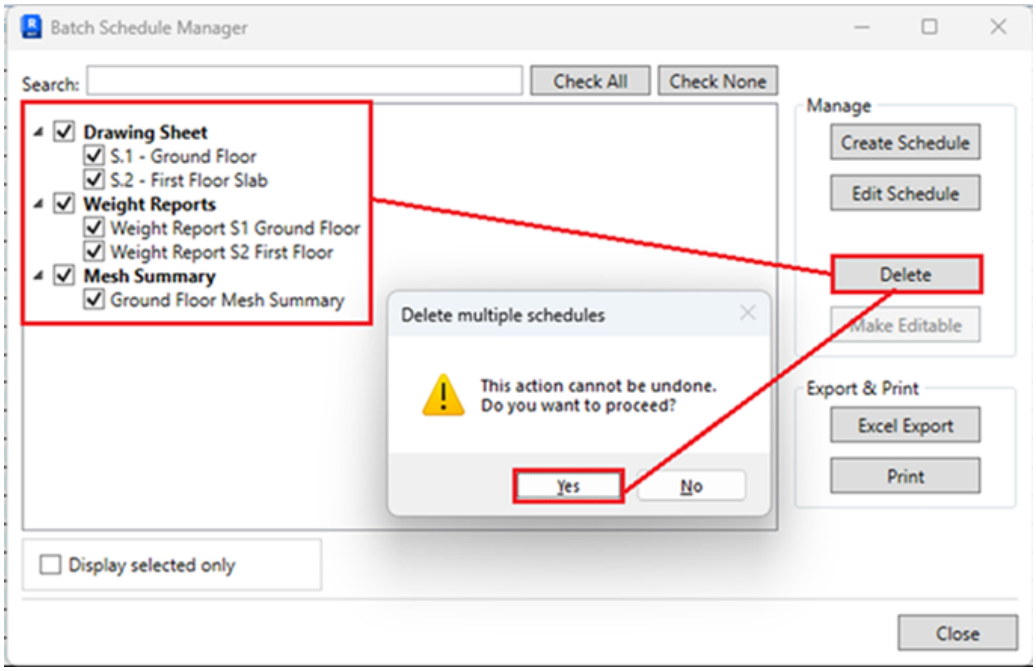
8. Note: If the selected schedules have been issued and the Edit command is selected the following message is displayed.



Delete

1. Select one or more Reports to be deleted and then click the Delete option.
2. Answer Yes to confirm deleting the reports.

Copyright © Computer and Design Services Limited



Make Editable

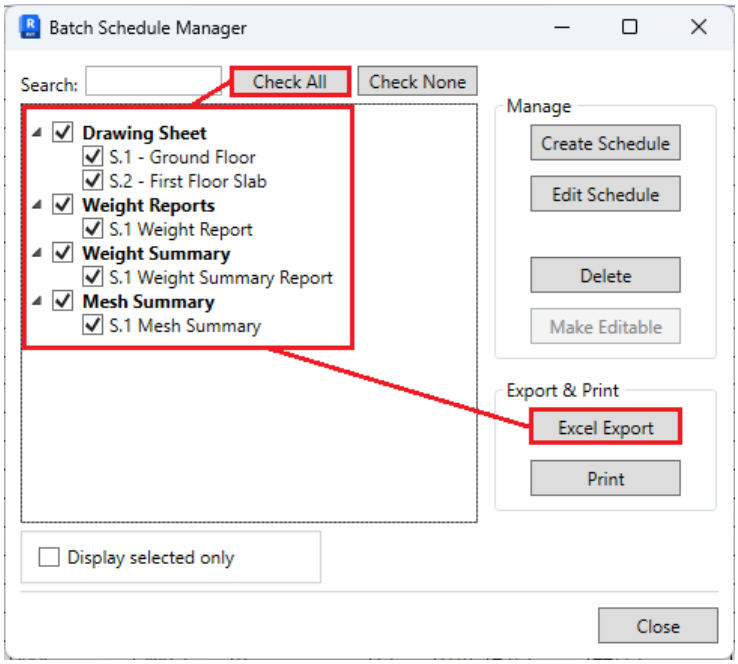
Use the Make Editable option to take ownership of schedule reports in a Central Model.

11.10.19 Export & Print

Use these options to batch Print or export to Excel.

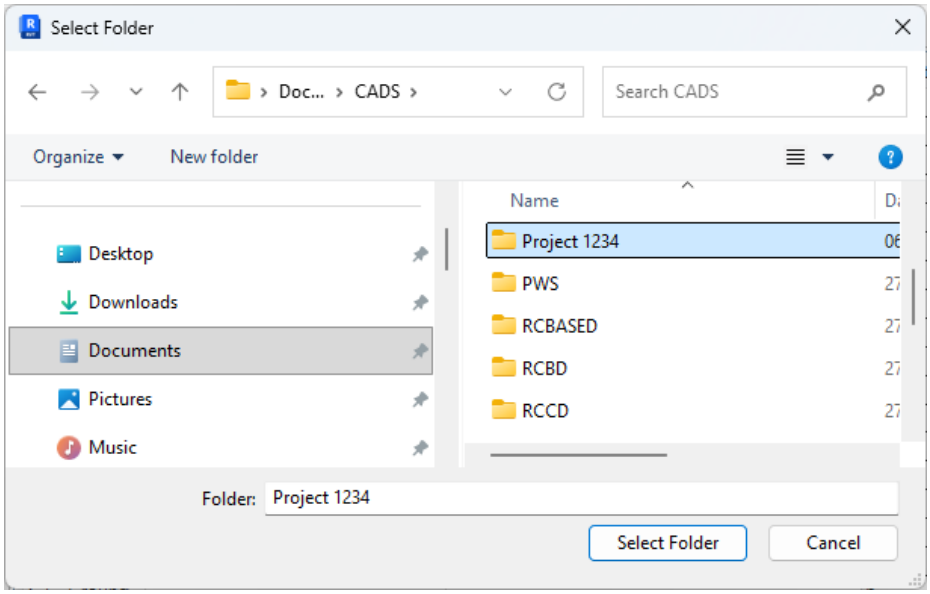
Excel Export

1. Select the Reports to be exported, use the Check All option to select all reports if required.
2. Click on the Excel Export option.

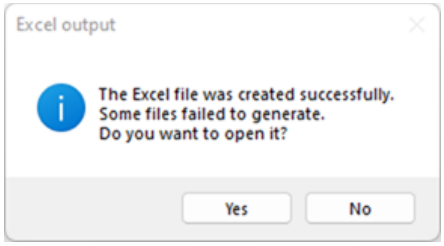


Copyright © Computer and Design Services Limited

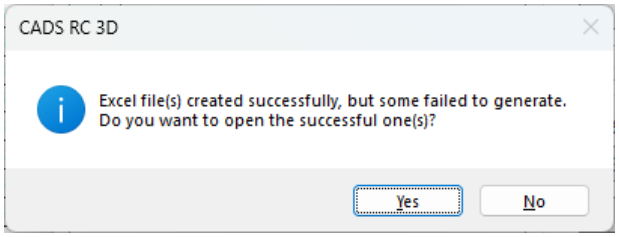
3. Select the folder to save the exported Excel files.



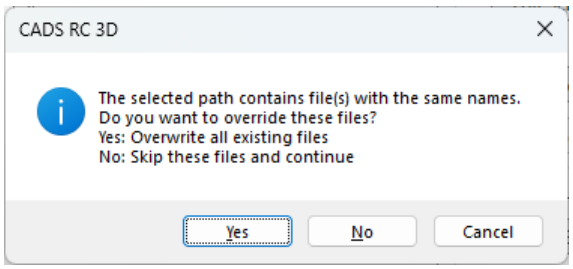
4. Answer Yes to opening the exported Excel files.



5. Note: The following message is displayed if some of the Reports failed to generate as Excel files.



6. Note: If Excel files of the same name already exist in the selected folder the following dialog is displayed.

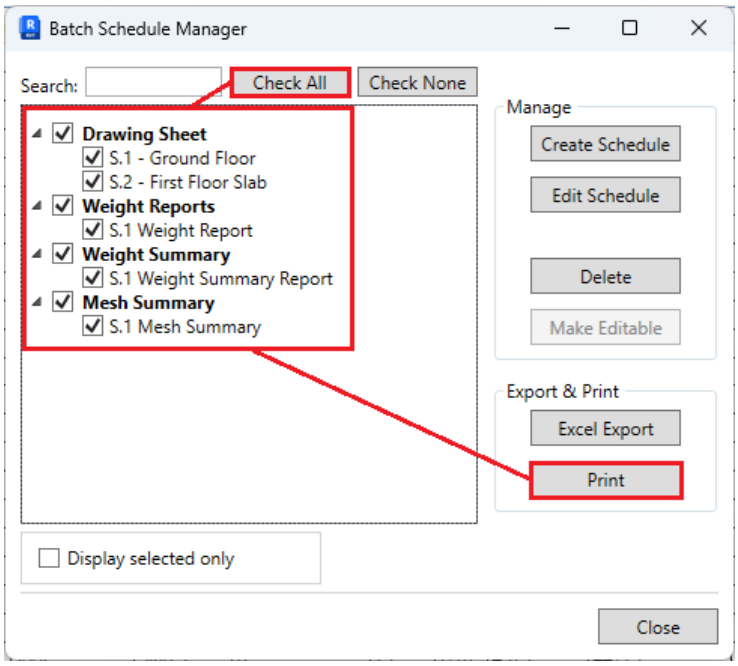


7. Answer Yes, to overwrite existing Excel files.
8. Answer No, to skip the files that already exist.

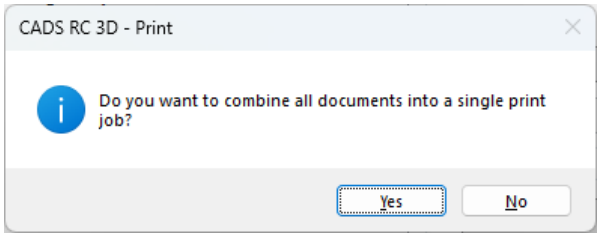
Copyright © Computer and Design Services Limited

Print

1. Select the Reports to be printed, use the Check All option to select all reports if required.
2. Click on the Print option.

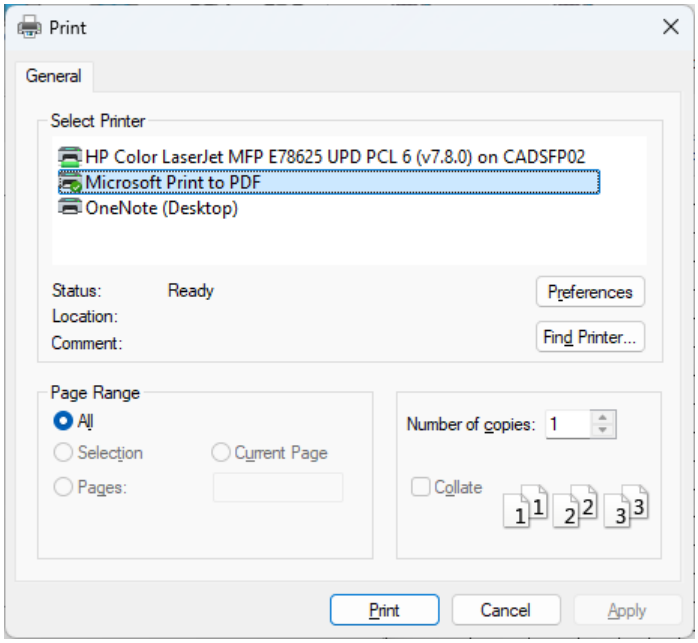


3. Where several reports have been selected the option is given to combine them all into one print job or if printing to PDF, one PDF file. Alternatively, select No to produce several PDF files.

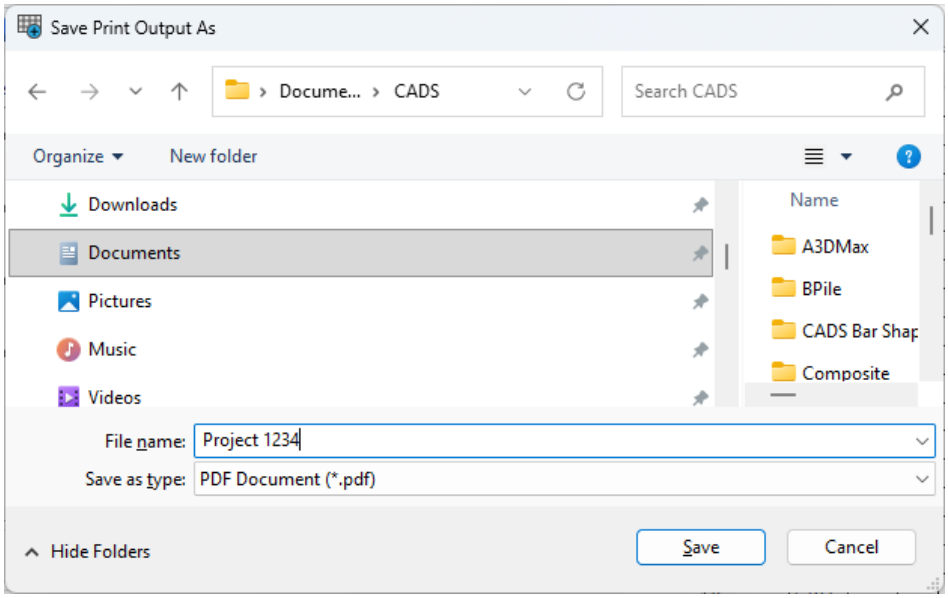


4. The Print dialog is displayed, select the required Printer.

Copyright © Computer and Design Services Limited

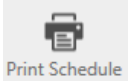


5. As a PDF Printer has been selected the file name and save location are prompted for.



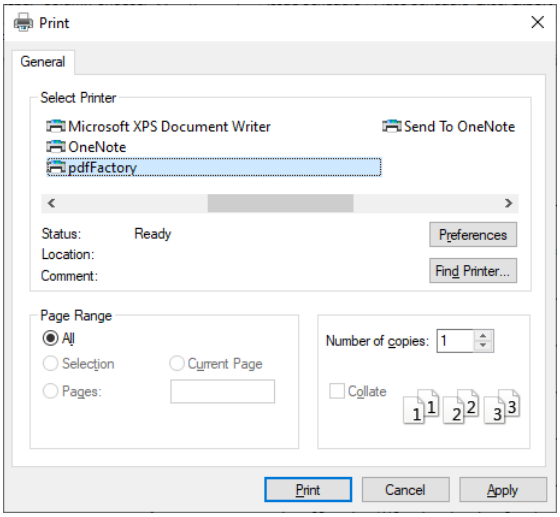
6. Creates a print file of all the selected Reports.

11.10.20 Print Schedule

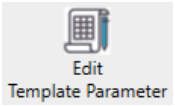
Use the Print Schedule command 

to print the active schedule. Choose a printer from the list, select the options for number of copies etc. and click Print.

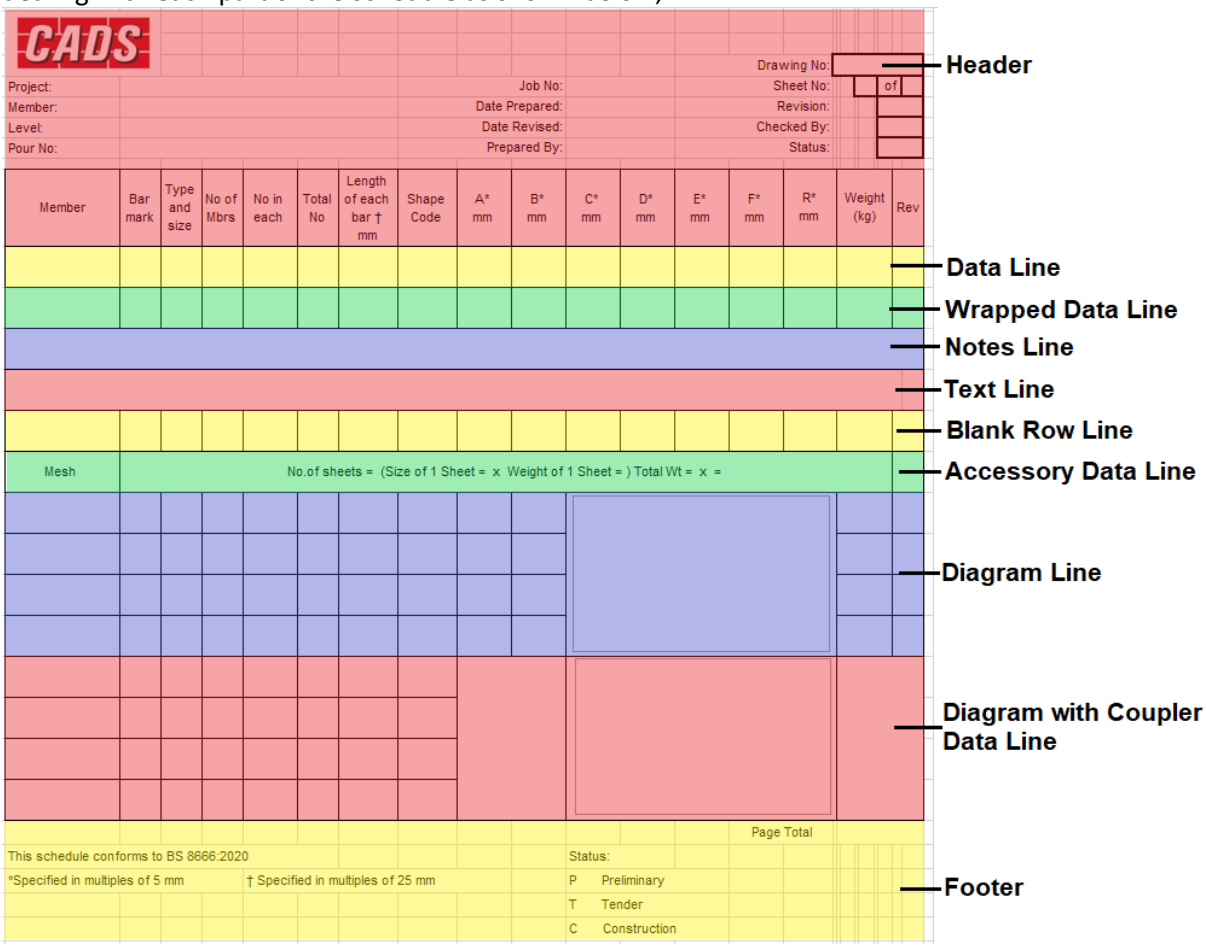
Copyright © Computer and Design Services Limited



11.10.21 Edit Template Parameters

Use the Edit Template Parameter command 

to change the mapping of the Revit® Project Settings & Data Fields to fields in the schedule. The dialog is divided into several sub-tables dealing with each part of the schedule as shown below;



Copyright © Computer and Design Services Limited

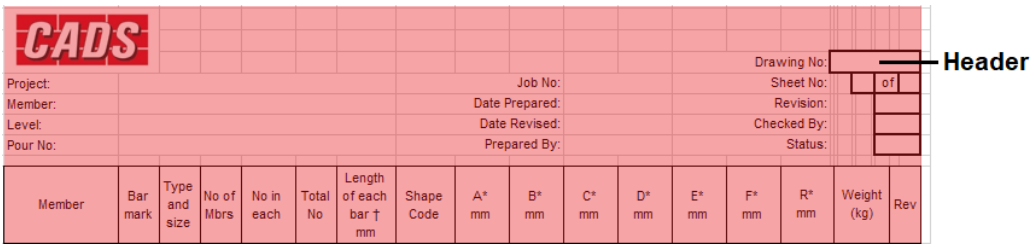
Note: The parameters in an Issued Schedule cannot be edited, the schedule revision history should be deleted.

11.10.22 Edit Template Sub-Tables

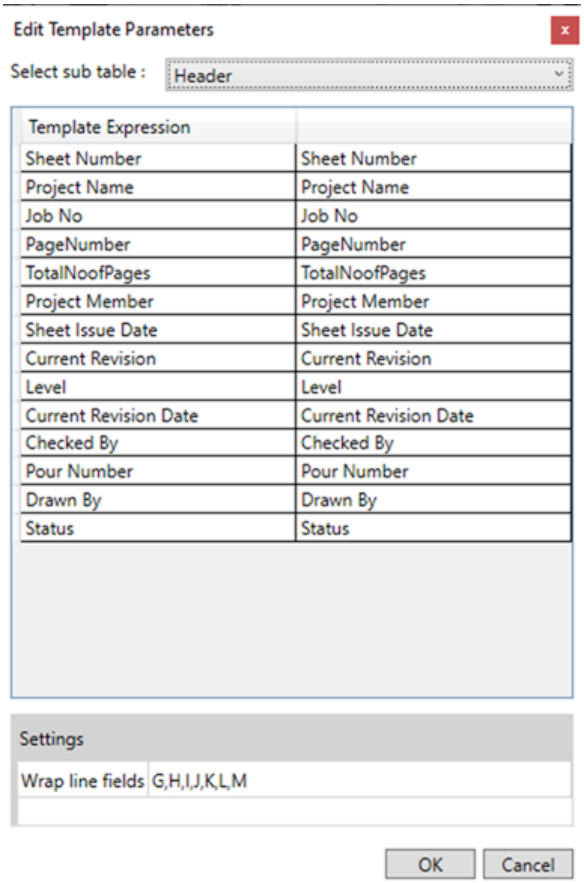
When the Edit Template Parameters command is selected the dialog displayed has a drop-down menu that relates to the different areas of the schedule.

Header

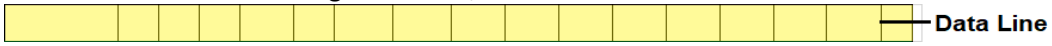
Parameters mapped to the schedule header are indicated in red in the diagram below.



Each of the parameters can be edited and changed to another parameter for the column / cell by selecting the cell on the left hand column & typing in a new value. Prior to changing any parameter please keep a record of the current setup.

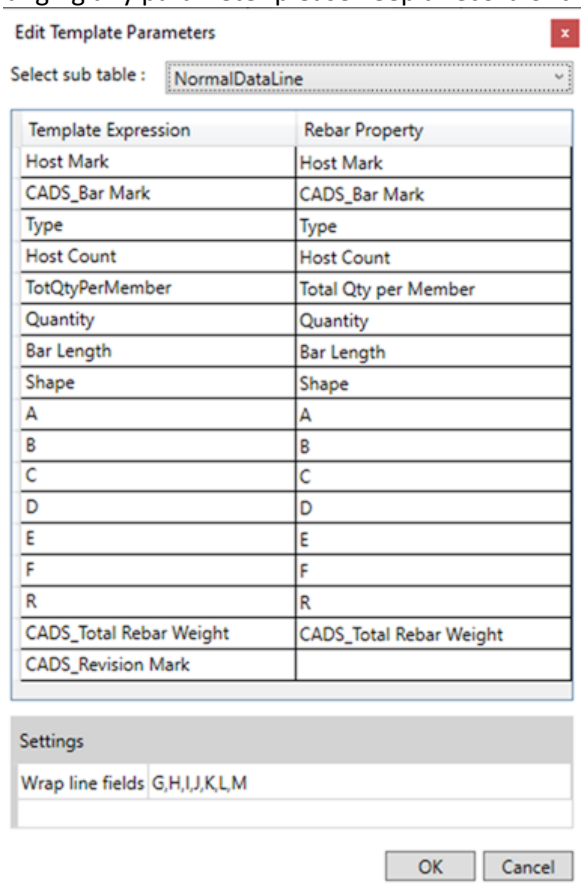


Normal Data Line Parameters mapped to the schedule data line indicated in yellow in the diagram below;



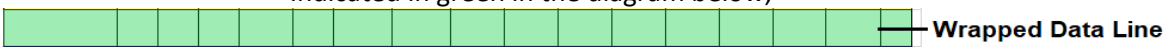
Copyright © Computer and Design Services Limited

Each of the parameters can be edited and changed another parameter for the column / cell by selecting the cell on the left hand column. Prior to changing any parameter please keep a record of the current setup.



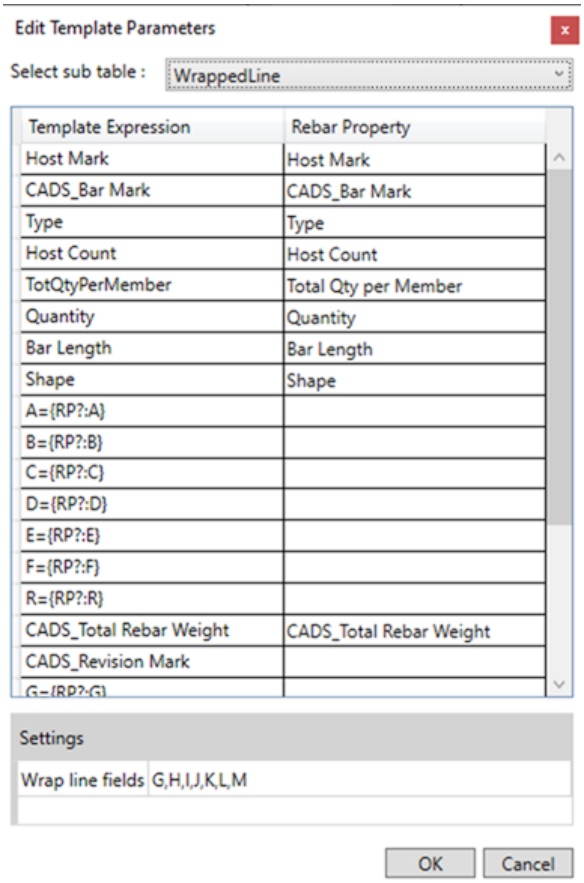
Wrapped Data Line

Parameters mapped to the wrapped data line (additional dimensions line) indicated in green in the diagram below;

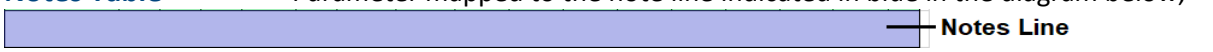


Each of the parameters can be edited and changed another parameter for the column / cell by selecting the cell on the left hand column. Prior to changing any parameter please keep a record of the current setup.

Copyright © Computer and Design Services Limited

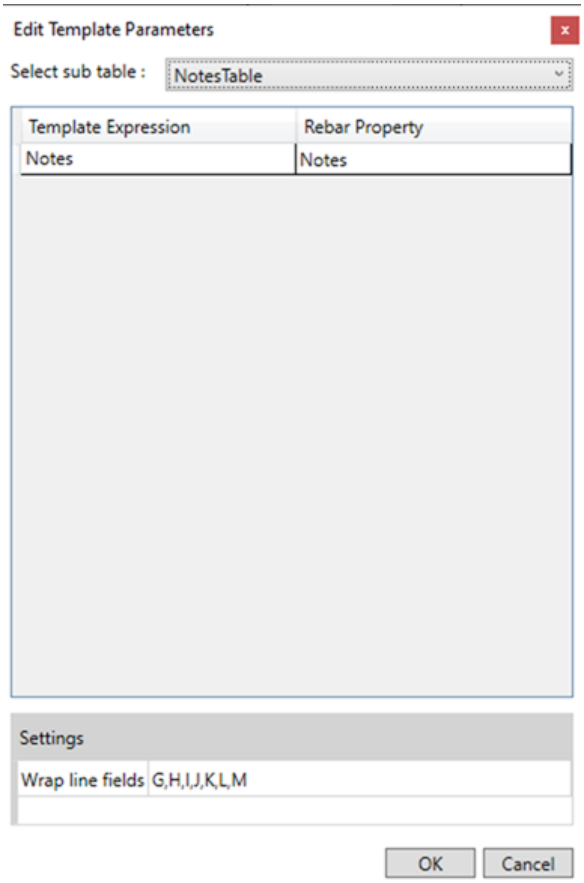


Notes Table Parameter mapped to the note line indicated in blue in the diagram below;



The parameter can be edited and changed another parameter for the column / cell by selecting the cell on the left hand column. Prior to changing any parameter please keep a record of the current setup.

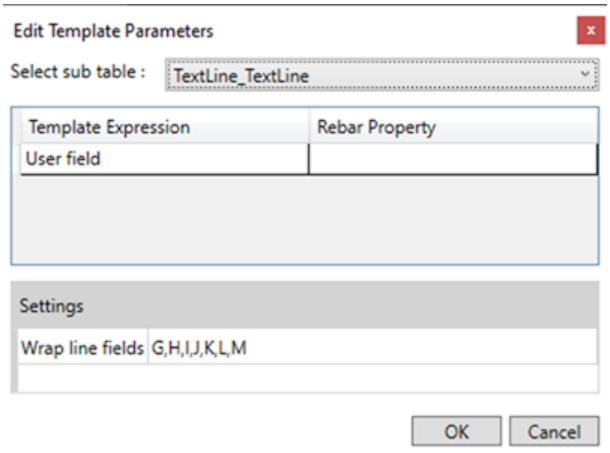
Copyright © Computer and Design Services Limited



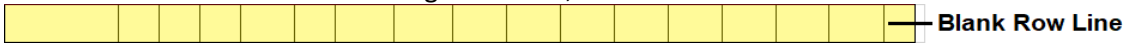
Text Data Line Parameters mapped to the text data line indicated in red in the diagram below;



This is the text line that can be inserted from the right click menu inside the schedule.

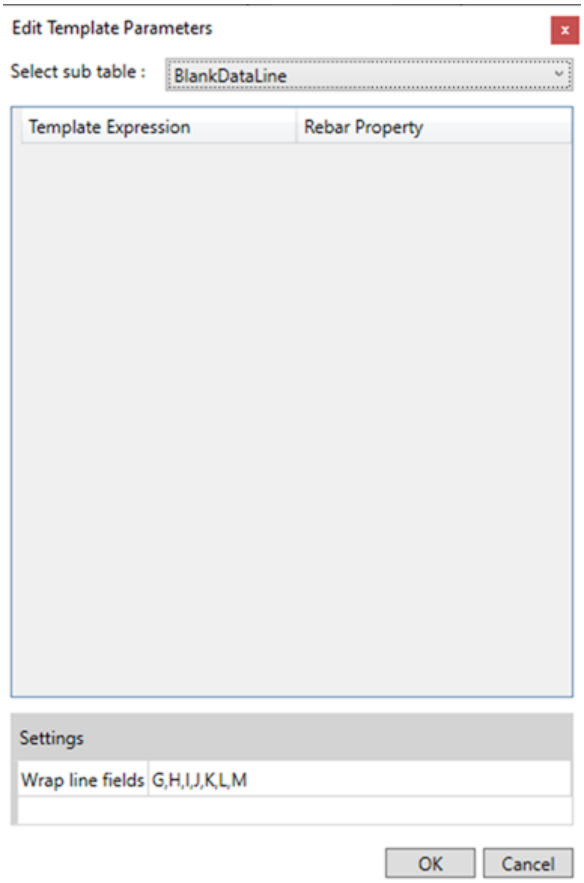


Blank Data Line Parameters mapped to the blank data line indicated in yellow in the diagram below;

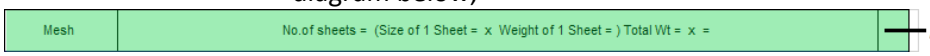


This is the blank line normally inserted between Members.

Copyright © Computer and Design Services Limited

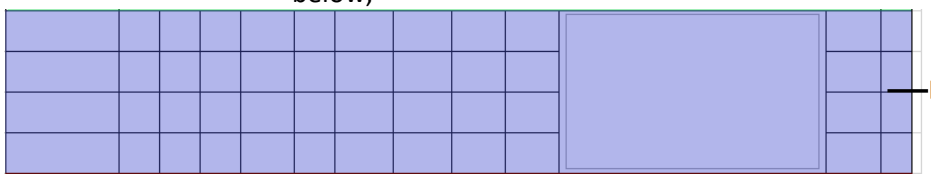


Accessory Data Line Parameters mapped to the accessory data line indicated in green in the diagram below;



This is the accessory line that is inserted if the mesh data has been included in the schedule.

Diagram Line Parameters mapped to the diagram line indicated in blue in the diagram below;



Choose the Sub Table DiagramLine_Unmerged for the Diagram Line. This data line displays the special shape code diagrams if selected.

Copyright © Computer and Design Services Limited

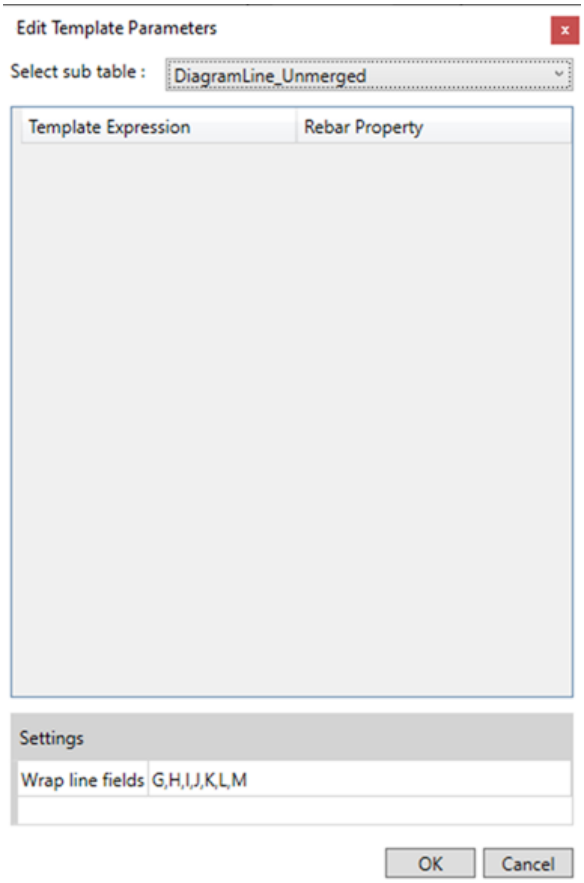


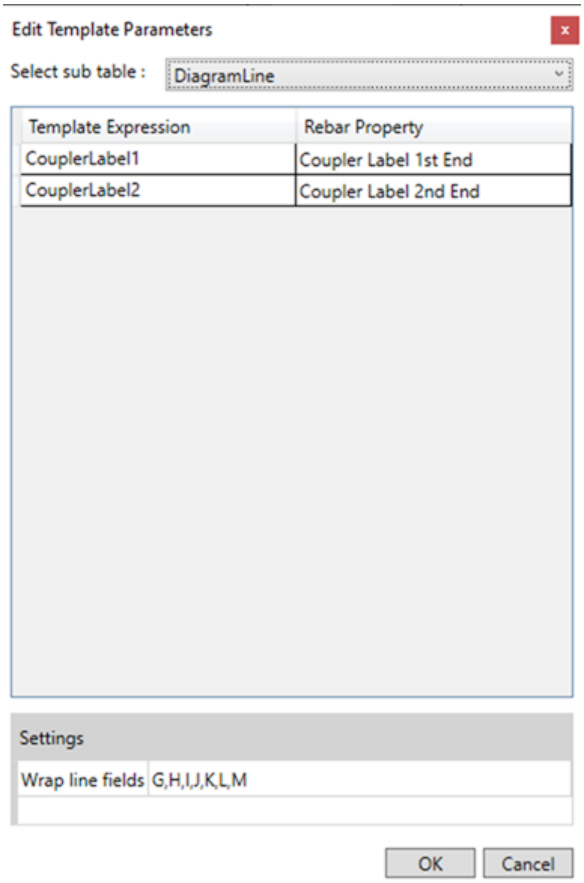
Diagram with Coupler Data Line Parameters mapped to the wrapped data line with an attached diagram (additional dimensions line) indicated in red in the diagram below;



The data line displays an image of a shape code with couplers/threads attached.

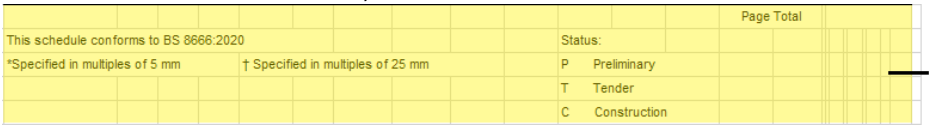
Each of the parameters can be edited and changed another parameter for the column / cell by selecting the cell on the left hand column. Prior to changing any parameter please keep a record of the current setup.

Copyright © Computer and Design Services Limited



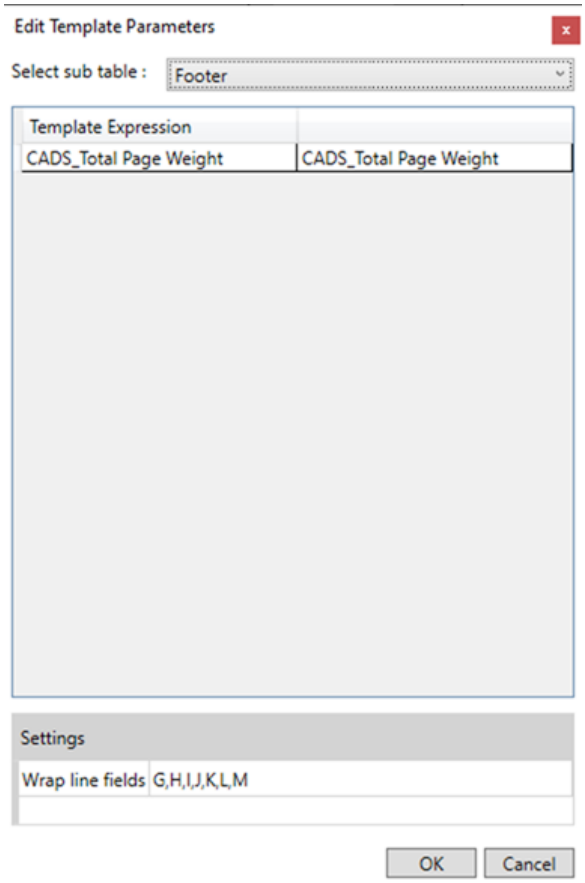
Footer

Parameters mapped to the footer line indicated in yellow in the diagram below;

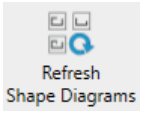


The parameter can be edited and changed another parameter for the column / cell by selecting the cell on the left hand column. Prior to changing any parameter please keep a record of the current setup.

Copyright © Computer and Design Services Limited



11.10.23 Refresh Shape Diagrams

Use Refresh Shape Diagrams 

to update, remove and replace existing diagrams in the shape code table on the Drawing Sheet.

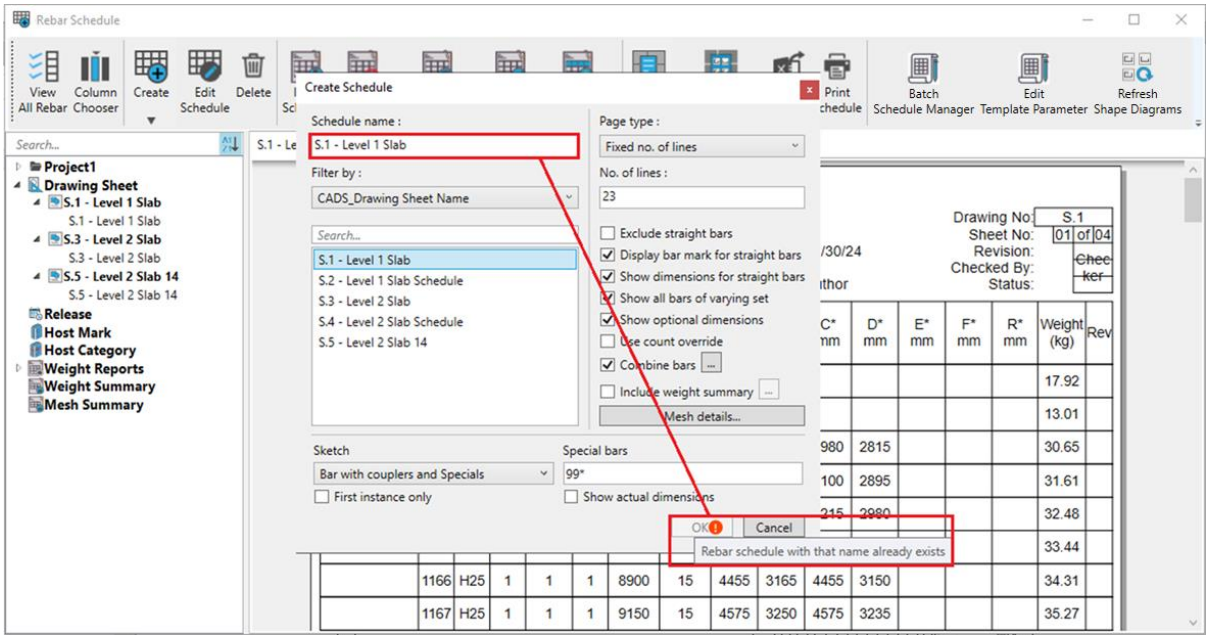
11.10.24 Resolve Conflicts

The Resolve Conflicts 

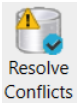
option is used to resolve scheduling naming issues in Central Models where two individual users have created schedules using the same Schedule Name.

In order to create a schedule, the user has to specify a schedule name. The schedule name should be unique to the project. If the user tries to create a schedule with duplicate name a warning message is displayed “Rebar Schedule with the same name already exists” as shown in the image below.

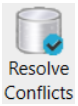
Copyright © Computer and Design Services Limited



However, when working in the central model if multiple users have created schedules with duplicate names and have not updated the model, the check for duplicate names cannot be carried out. Once the model has been synchronized if there are multiple schedules with the same name, The Resolve Conflicts button will be changed with a yellow warning symbol as shown in the image below.

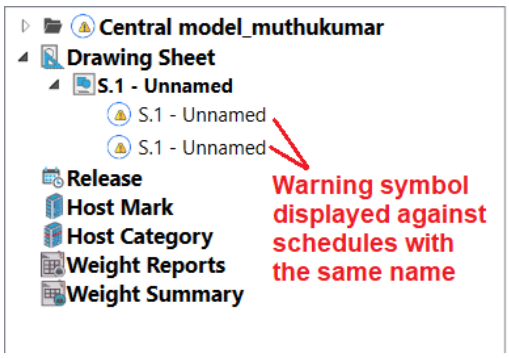


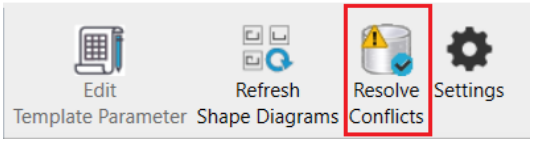
If there are some conflicts in schedule name.

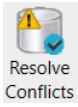


If there are no conflicts in schedule name.

If the Resolve Conflict option & Schedules in the Drawing Sheet list are shown with a yellow warning symbol after synchronizing the central model carry out the following steps;

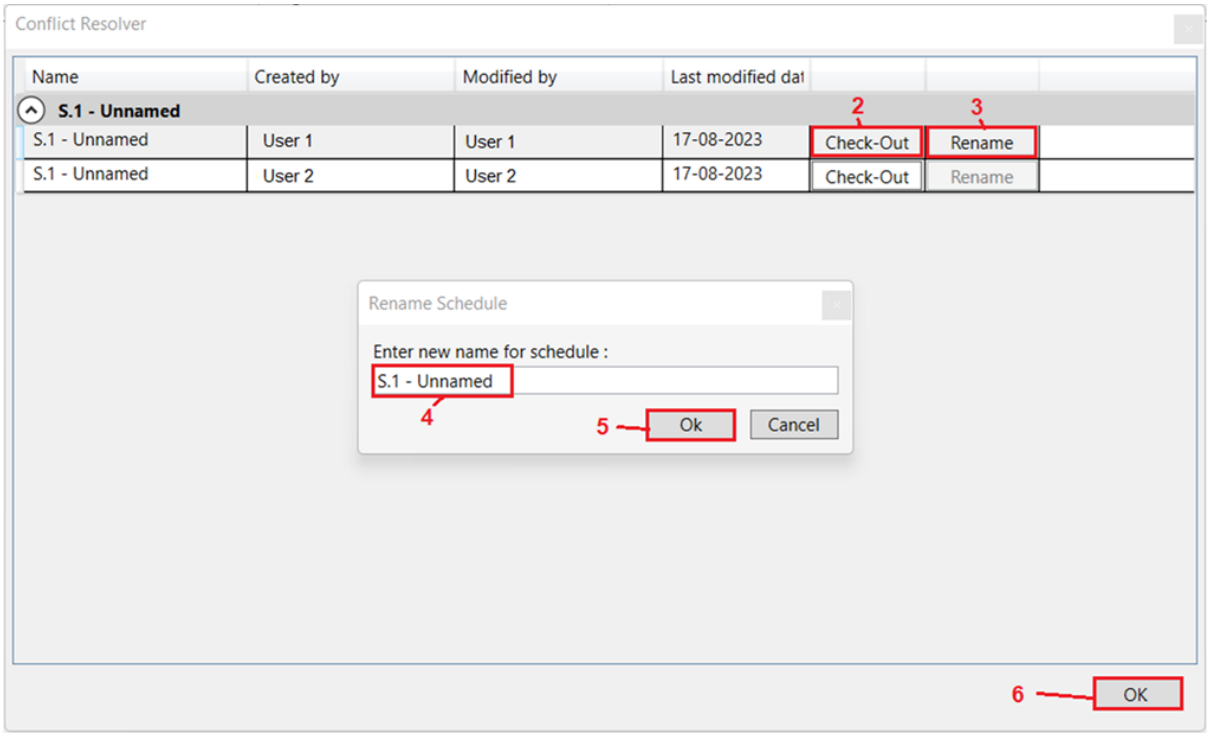






1. Select Resolve Conflicts .
2. The Conflict Resolver dialog is displayed.

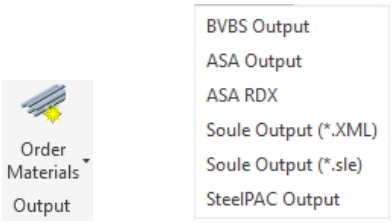
Copyright © Computer and Design Services Limited



3. Click the Check Out button to take Ownership of one of the schedules with the same name.
4. Click Rename to display the Rename Schedule Dialog.
5. Type in a new name for the schedule to resolve the conflict.
6. Click ok twice to finish.

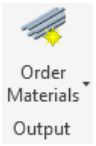
Copyright © Computer and Design Services Limited

12 Output Panel



The Output Panel contain the Production Output commands to release rebar from the drawing for production. Six formats are currently offered BVBS, ASA, ASA RDX, Soulé XML, Soulé SLE and Steelpac. When the reinforcement has been ordered it will be marked in the Releases dialog as ordered. The reinforcement will be frozen in the model once the release has been ordered.

12.1 Order Materials

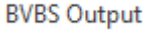
Use the Order Materials 

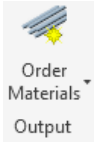
commands to order rebar for fabrication. Six formats are currently offered BVBS, ASA, ASA RDX, Soulé XML, Soulé SLE and Steelpac. When the reinforcement has been ordered it will be marked in the Releases dialog as ordered. The reinforcement will be frozen in the model once the release has been ordered.

The CADS nominal diameter parameter, introduced with the previous release of RC3D & RebarCAD 3D, is now supported in all the production output file types, including the BVBS output. The user can specify whether the weight calculation reported is for the “Bar Diameter” or “Nominal Bar Diameter”.
The BVBS output now supports the varying freeform and the Revit® varying set.

12.1.1 BVBS Output

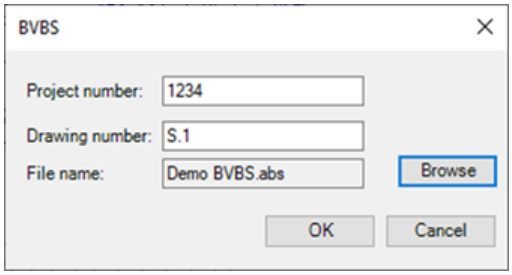
This command will create a BVBS production output file.
(Note: The Bundesverband Bausoftware e.V. (BVBS) published the first version of this guideline for the data exchange of reinforcement data in 1995.)

1. Select the BVBS Output 

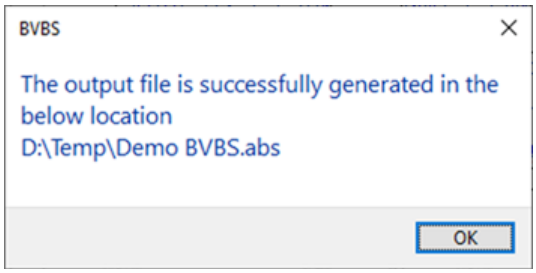
command from the 

Order Materials Drop Down menu on the Output Panel.
2. Select the rebar from the model to send to the production file and then click Finish.
3. The BVBS Dialog box is then displayed.
4. Enter the Project Number and the Drawing Number.
5. Select the Browse button to choose the location to save the file and to enter the file name.

Copyright © Computer and Design Services Limited

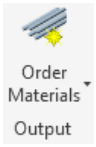


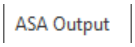
6. Click OK to create the file.



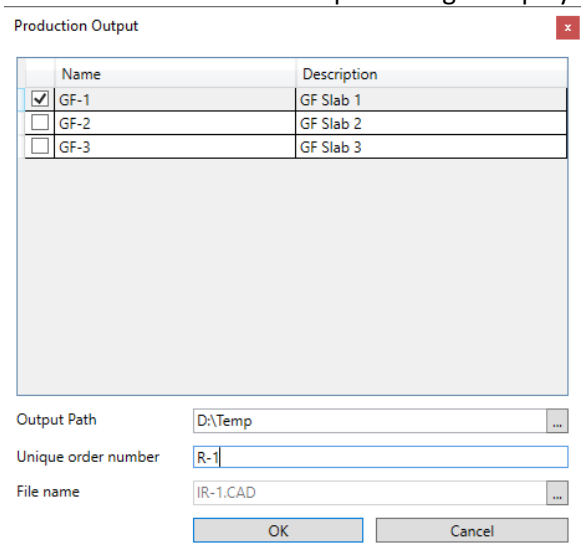
12.1.2 aSa Output

This command will create an ASA production output file. Rebar must have previously been assigned to a release before it can be ordered, Assign Release and Manage Releases .

1. Select the Order Materials drop down menu 

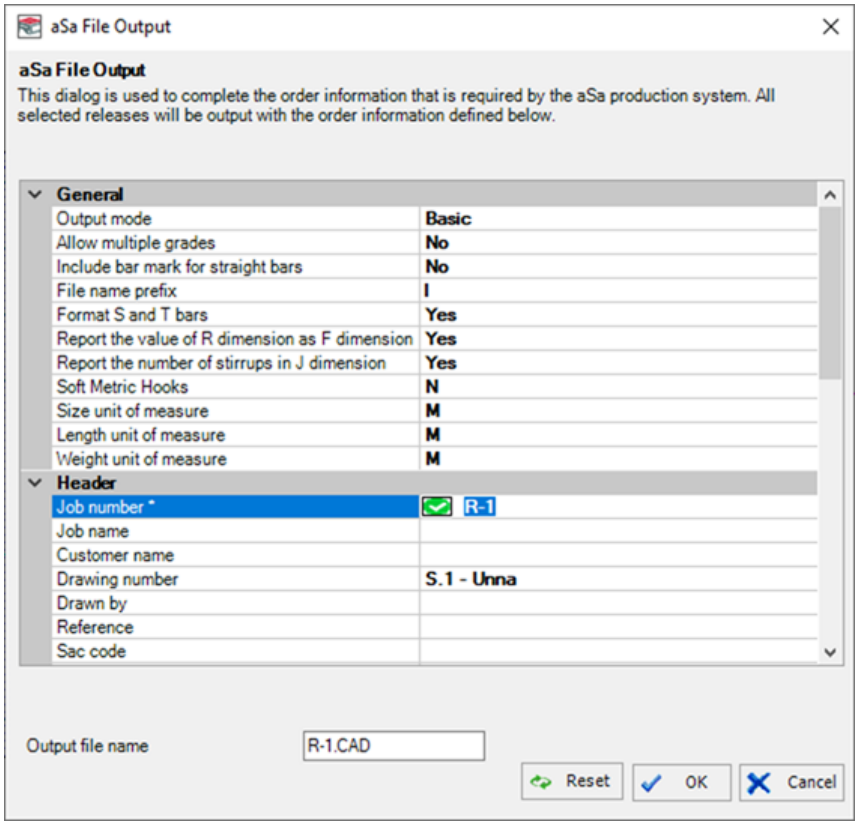
and click on the ASA Output 

option.
2. The Production Output Dialog is displayed.

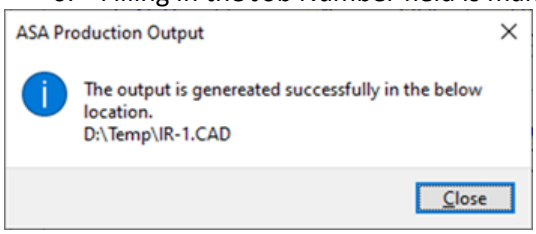


3. Tick the release(s) to output.
4. Set the Output path.
5. Type in the unique order number and click ok.

Copyright © Computer and Design Services Limited



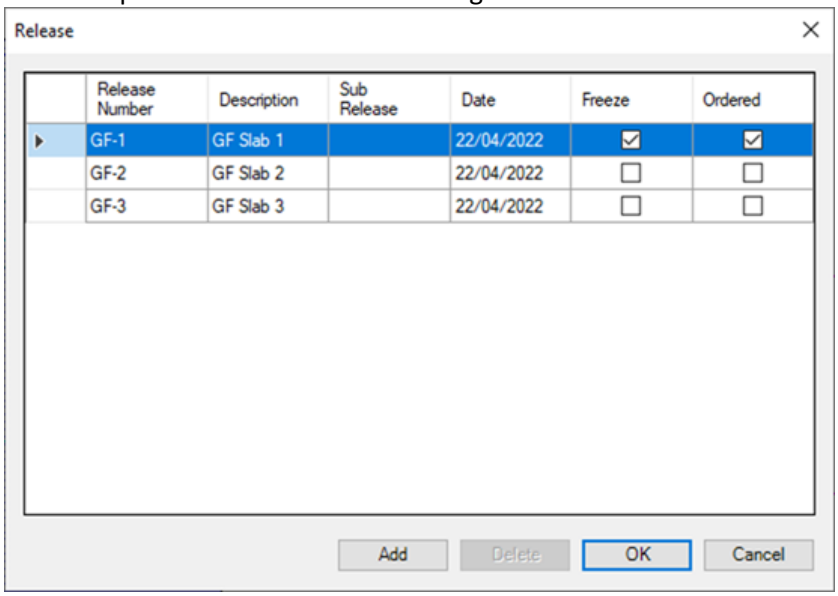
6. Filling in the Job Number field is mandatory. All other fields are optional.



7. Click Ok to complete the order process.

8. Open the Releases 

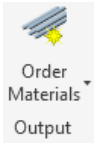
dialog to check the release has been ordered and the rebar frozen.



Copyright © Computer and Design Services Limited

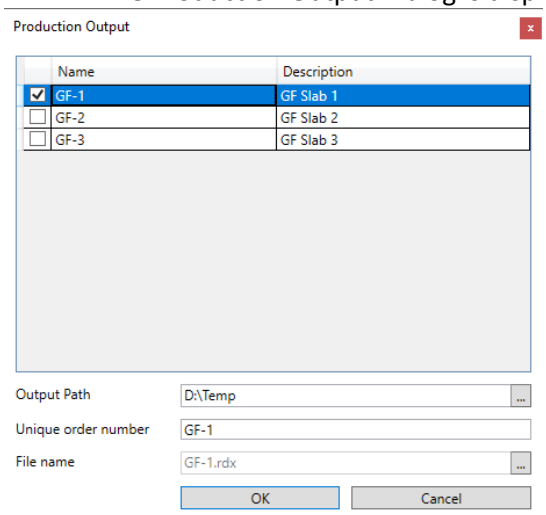
12.1.3 aSa RDX Output

This command will create an ASA RDX production output file. Rebar must have previously been assigned to a release before it can be ordered, Assign Release and Manage Releases .

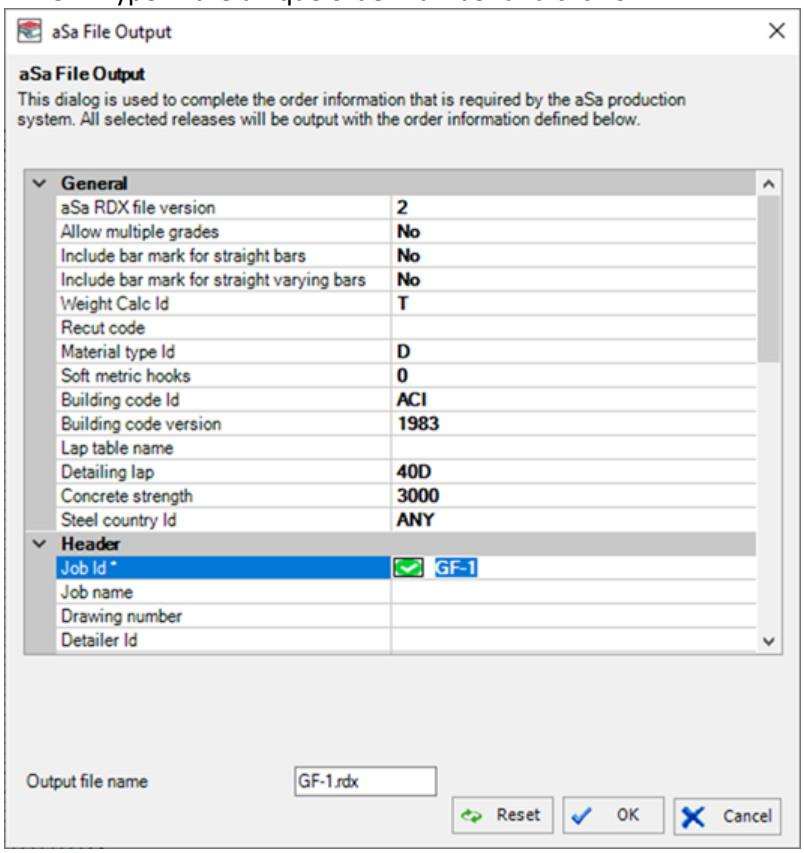
1. Select the Order Materials drop down menu 

and click on the ASA RDX 

option.
2. The Production Output Dialog is displayed.

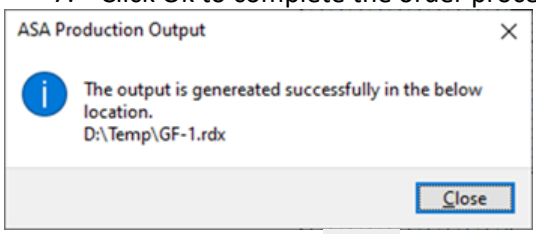


3. Tick the release(s) to output.
4. Set the Output path.
5. Type in the unique order number and click ok.



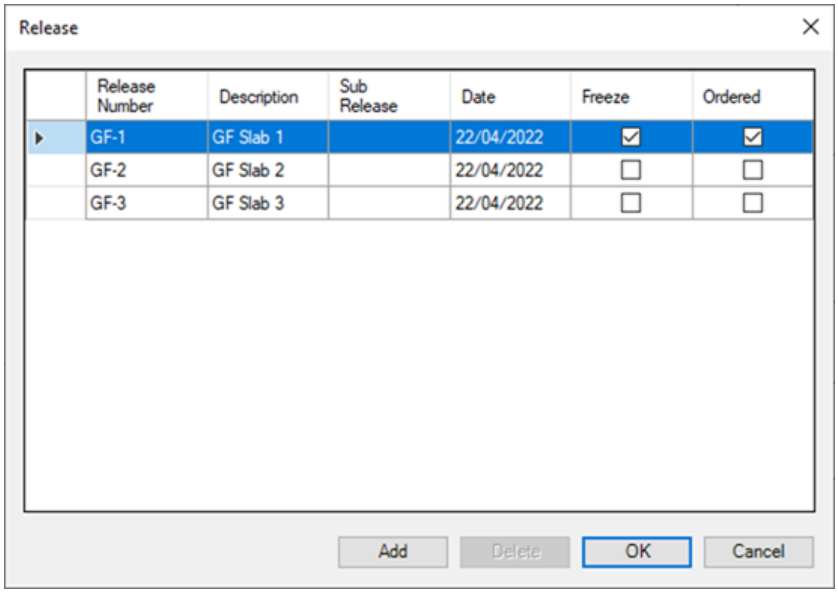
Copyright © Computer and Design Services Limited

6. Filling in the Job Number field is mandatory. All other fields are optional.
7. Click Ok to complete the order process. The ordered rebar is frozen in the model.



8. Open the Releases 

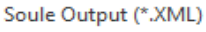
dialog to check the release has been ordered. GF-1 shows as ordered and frozen.



12.1.4 Soulé XML Output

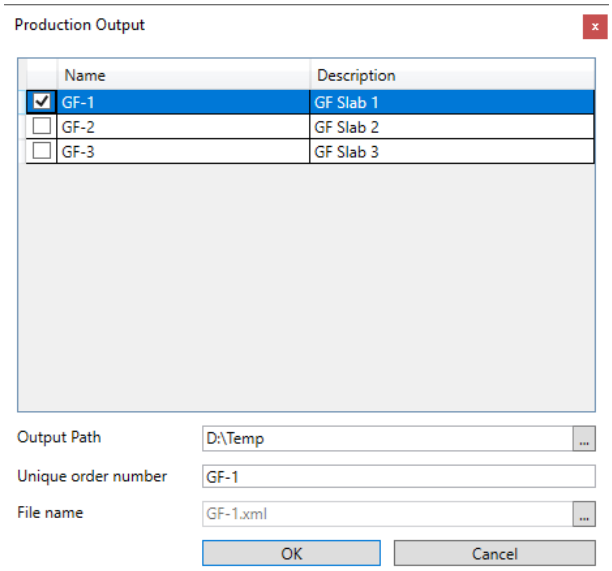
This command will create a Soulé XML production output file. Rebar must have previously been assigned to a release before it can be ordered, Assign Release and Manage Releases .

1. Select the Order Materials drop down menu 

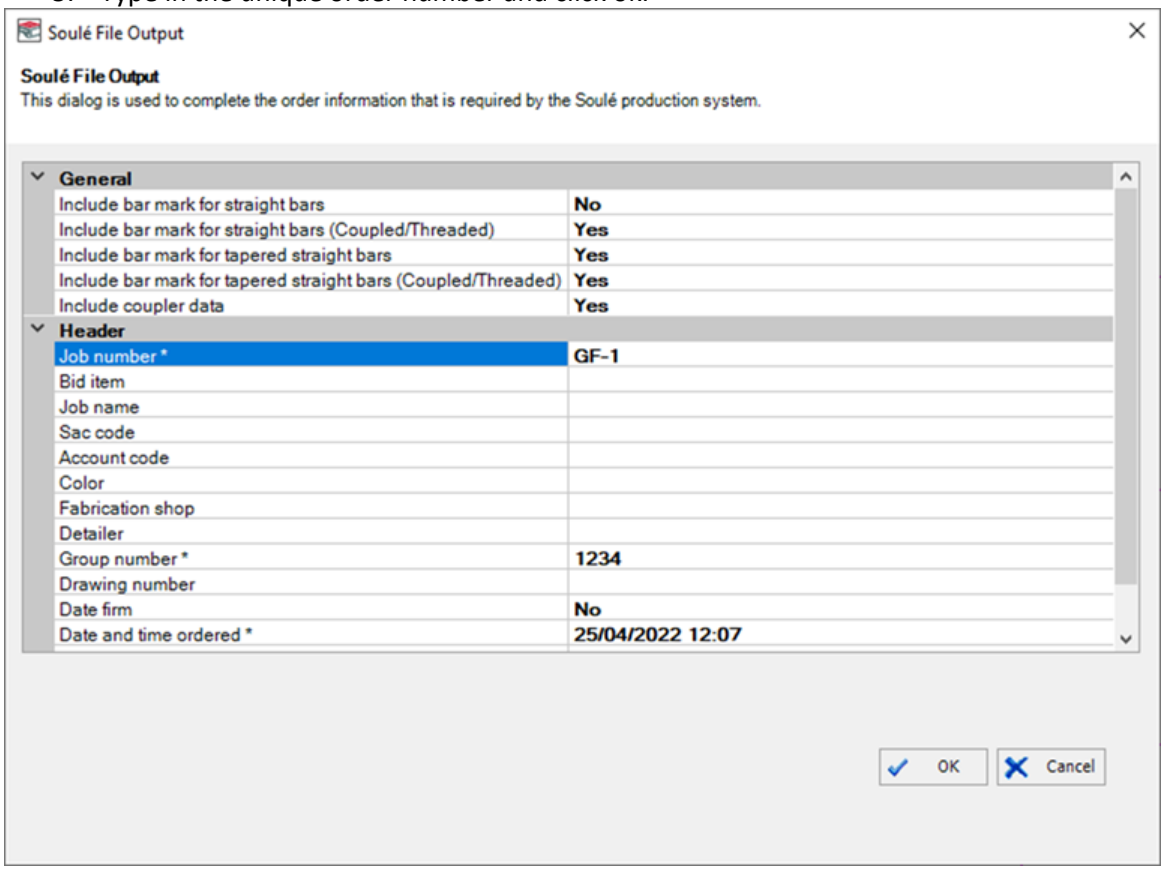
and click on the Soulé XML Output 

option.
2. The Production Output Dialog is displayed.

Copyright © Computer and Design Services Limited

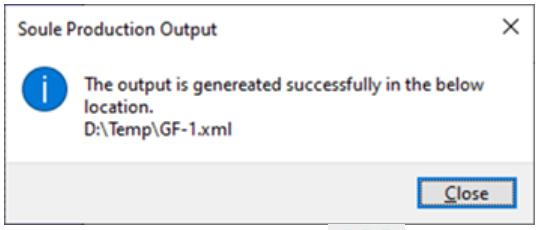


3. Tick the release(s) to output.
4. Set the Output path.
5. Type in the unique order number and click ok.



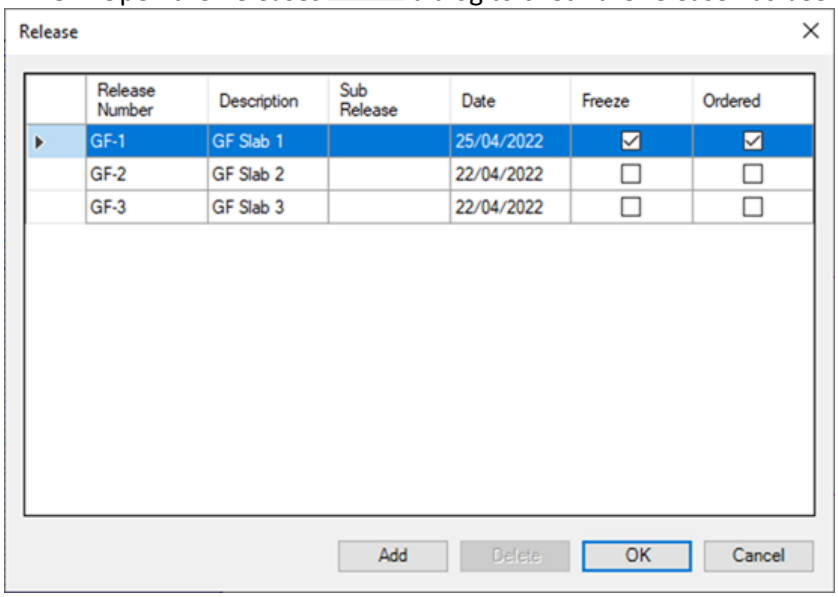
6. Filling in the Job Number and the Group Number fields is mandatory. All other fields are optional.
7. Click Ok to complete the order process.

Copyright © Computer and Design Services Limited



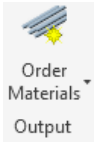
8. Open the Releases 

dialog to check the release has been ordered and the rebar frozen.



12.1.5 Soulé SLE Output

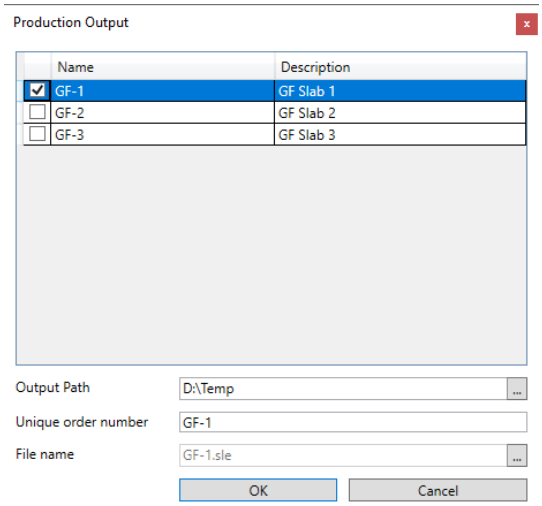
This command will create a Soulé SLE production output file. Rebar must have previously been assigned to a release before it can be ordered, Assign Release and Manage Releases .

1. Select the Order Materials drop down menu 

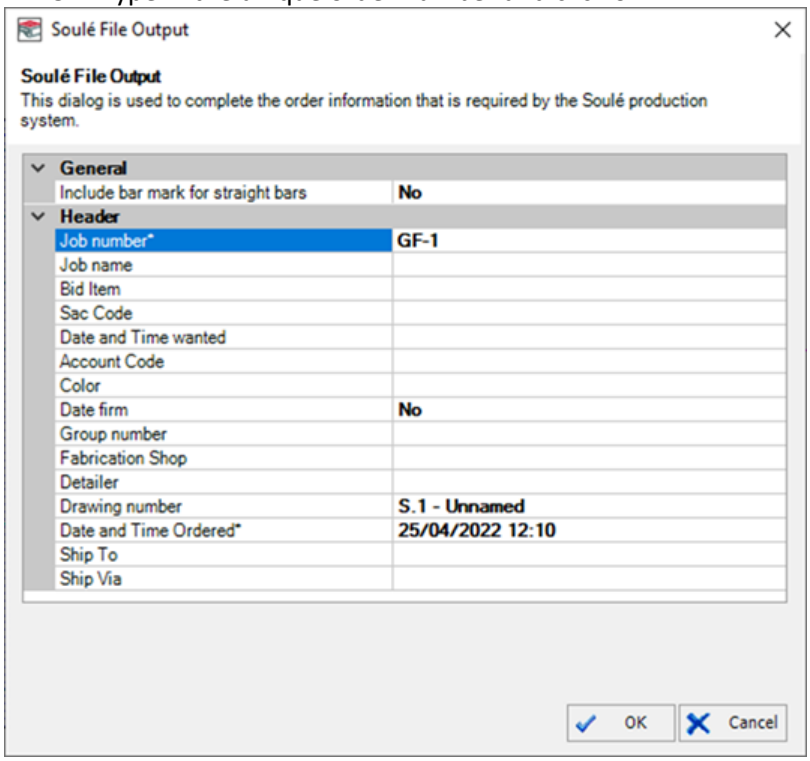
and click on the Soulé SLE Output 

option.
2. The Production Output Dialog is displayed.

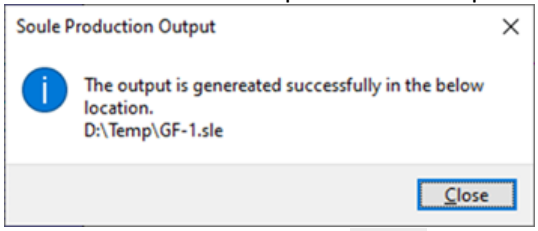
Copyright © Computer and Design Services Limited

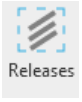


3. Tick the release(s) to output.
4. Set the Output path.
5. Type in the unique order number and click ok.



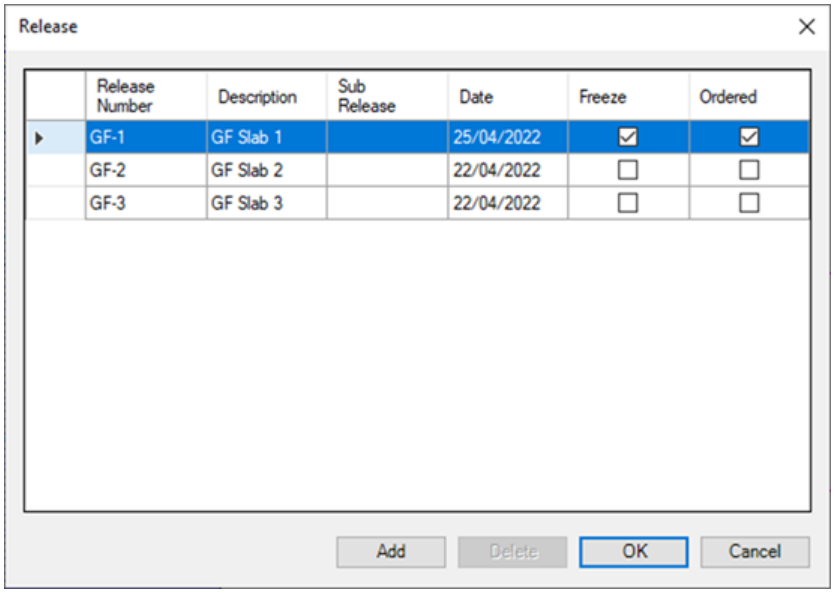
6. Filling in the Job Number field is mandatory. All other fields are optional.
7. Click Ok to complete the order process.



8. Open the Releases 

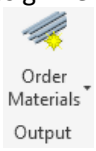
dialog to check the release has been ordered and the rebar is frozen.

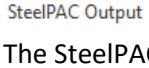
Copyright © Computer and Design Services Limited



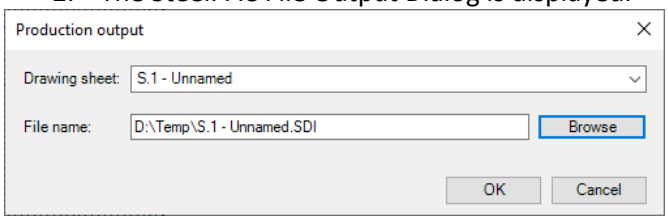
12.1.6 SteelPAC Output

This command will create a SteelPAC production output file. Rebar must have previously been assigned to a Drawing Sheet before it can be ordered, Assign Release and Manage Releases .

1. Select the Order Materials drop down menu 

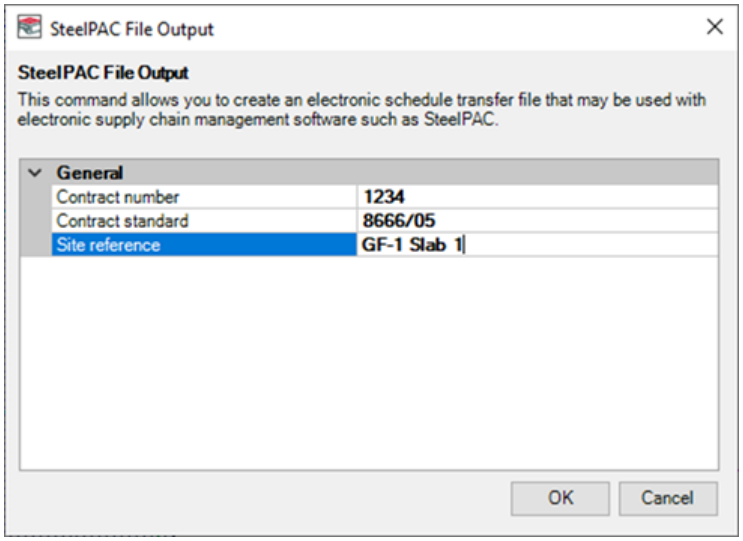
and click on the SteelPAC Output 

option.
2. The SteelPAC File Output Dialog is displayed.

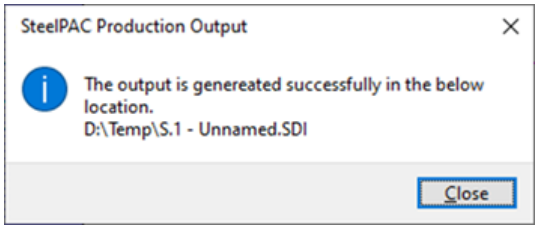


3. Select the Drawing Sheet to output from the drop-down menu and choose the file location by selecting the browse button.
4. Click Ok.
5. Enter the Contract number, choose the Contract Standard from the drop-down menu and enter the Site Reference.

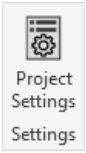
Copyright © Computer and Design Services Limited



6. Click Ok.

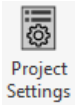


13 Settings Panel



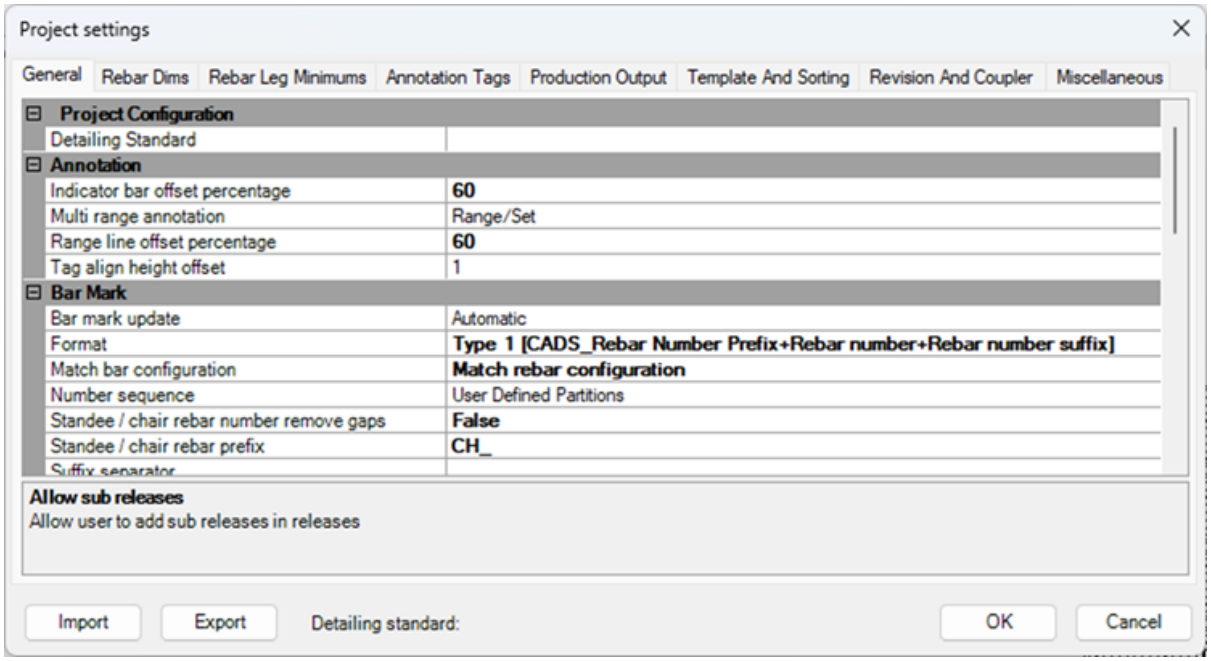
The Settings Panel only contains the Project Settings command. The Project settings dialog has several tabs that control the configuration of RC3D / RebarCAD 3D for Revit. Once configured as required the configuration can be exported to a *.CRS file which can be imported on another PC.

.

Select the Project Settings option 

from the Support Panel on the CADS RC3D Tab.

Copyright © Computer and Design Services Limited

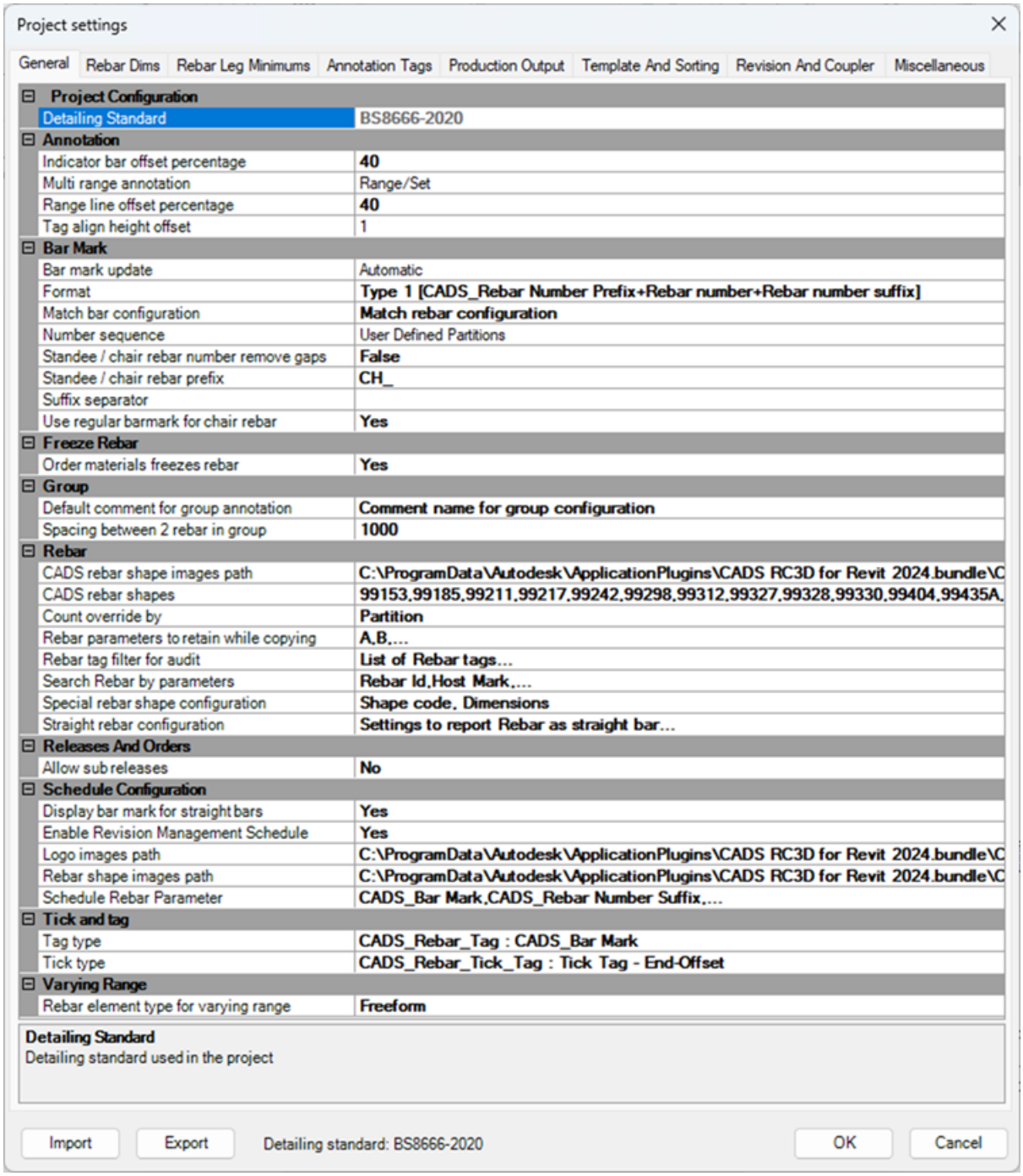


13.1 Project Settings

Select the Project Settings option 

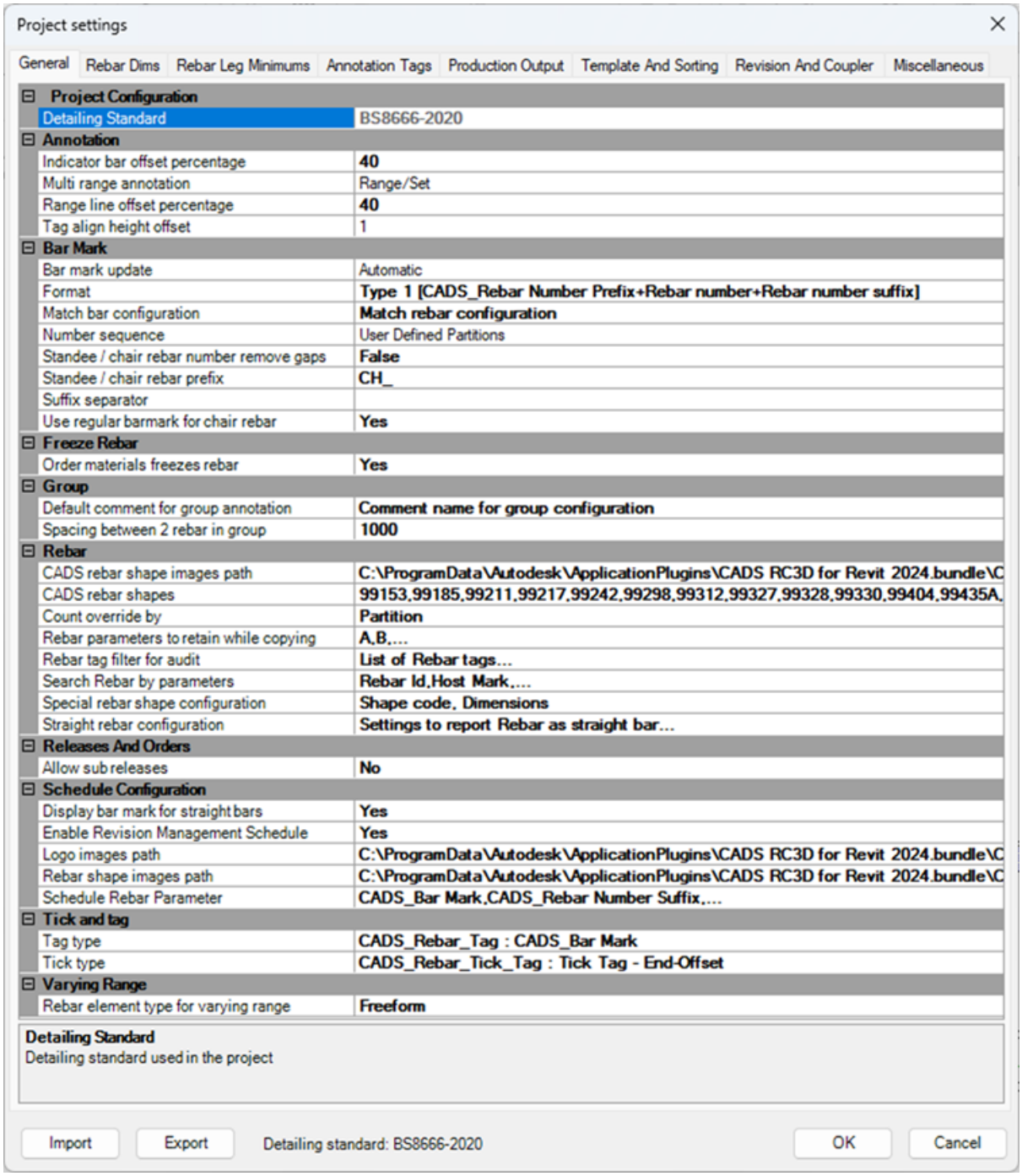
from the Support Panel. This dialog has several tabs that control the bar mark format, search parameters, schedule template, dimensions and file locations etc.

Copyright © Computer and Design Services Limited



Copyright © Computer and Design Services Limited

13.2 General Tab

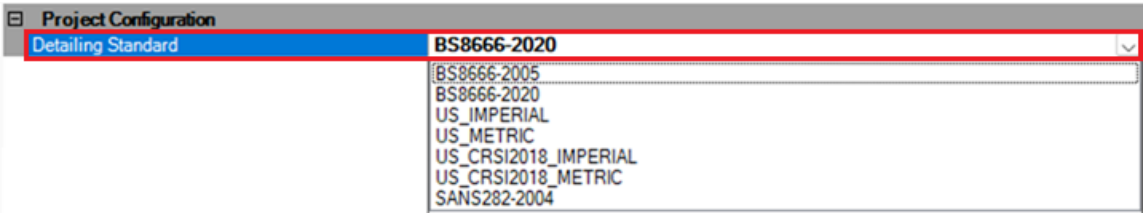


The General Tab controls the position of the Rebar Annotation, the Bar Mark Format, the loading of CADS special shape codes, location of images and the types of ticks & tags and varying ranges.

13.2.1 Project Configuration

Select the Project Detailing Standard from the Detailing Standard drop-down menu.

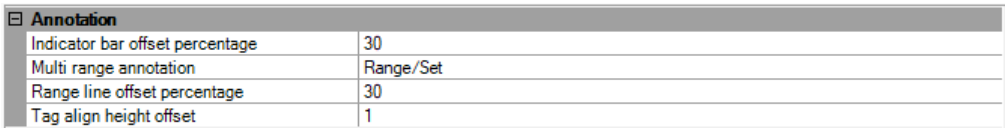
Copyright © Computer and Design Services Limited



The option reads in the predefined configuration files *.CRS from the "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\GlobalConfiguration" folder.

- BS8666-2020 UK Metric_BS 8666-2020.crs
- BS8666-2005 UK Metric.crs
- US_Imperial US Imperial.crs
- US_Metric US Metric.crs
- US_CRSI2018_Imperial US_ CRSI2018_Imperial
- US_CRSI2018_Metric US_ CRSI2018_Metric
- SANS282-2004 SANS282-2004

13.2.2 Annotation



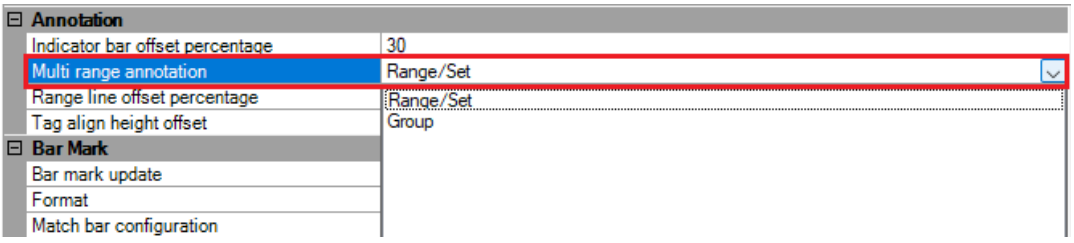
Indicator bar offset percentage

Default setting is 30%, the rebar will be displayed 30% along the range line from the assembly's starting position.



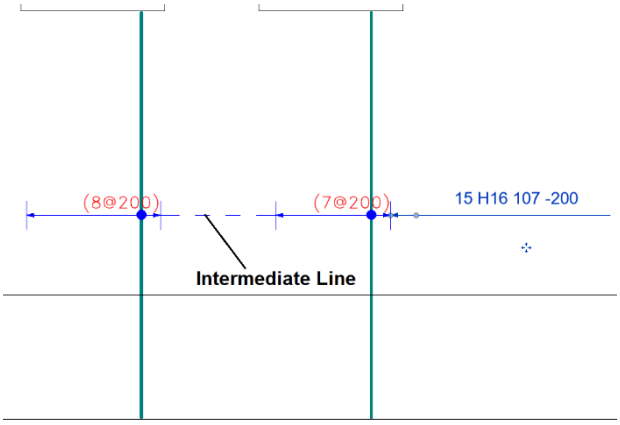
Multi range annotation

Choose whether to use the Range/Set Annotation or the Group Annotation for Multi Range Annotation.



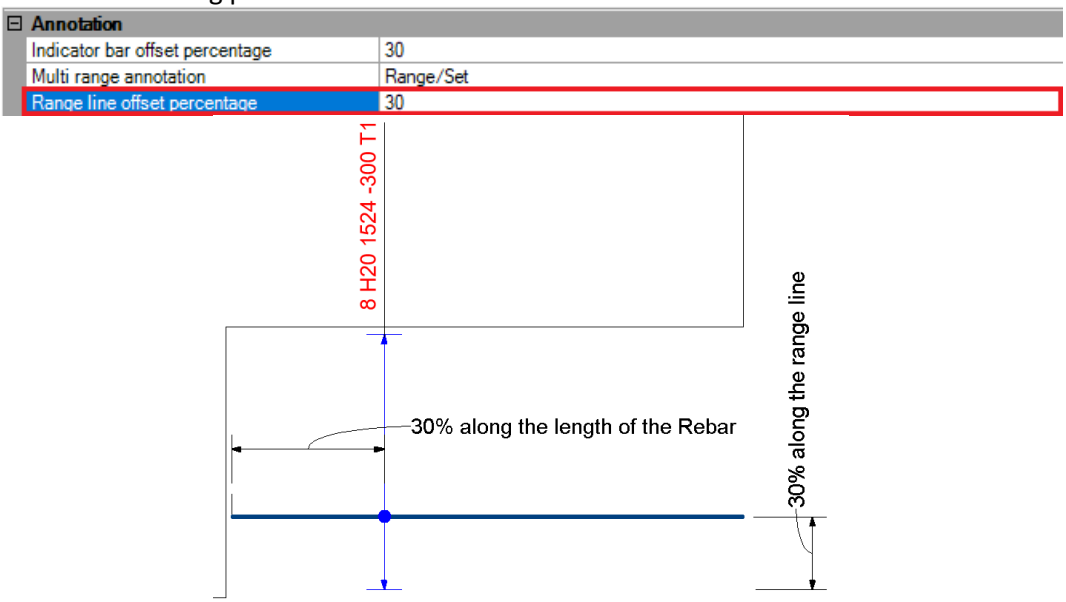
If Group is select the Intermediate line between assemblies will be shown with a dashed line.

Copyright © Computer and Design Services Limited



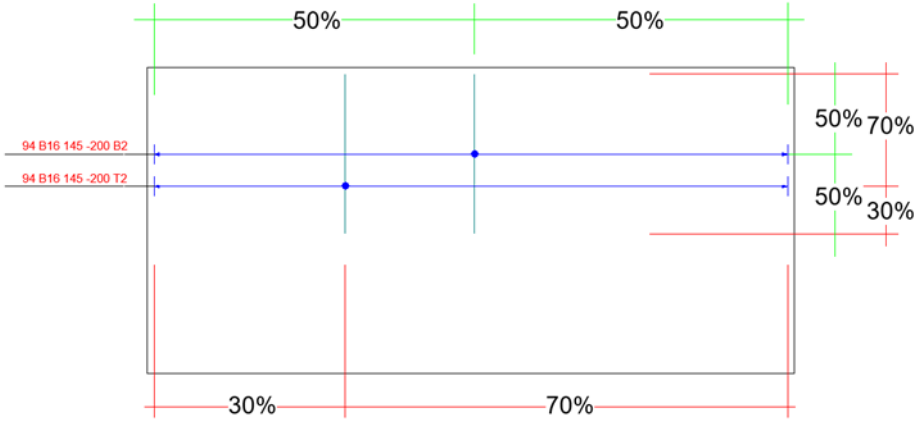
Range line offset percentage

Default setting is 30%, the range line annotation will be positioned 30% along the length of the rebar from the rebar's starting position.



Hint

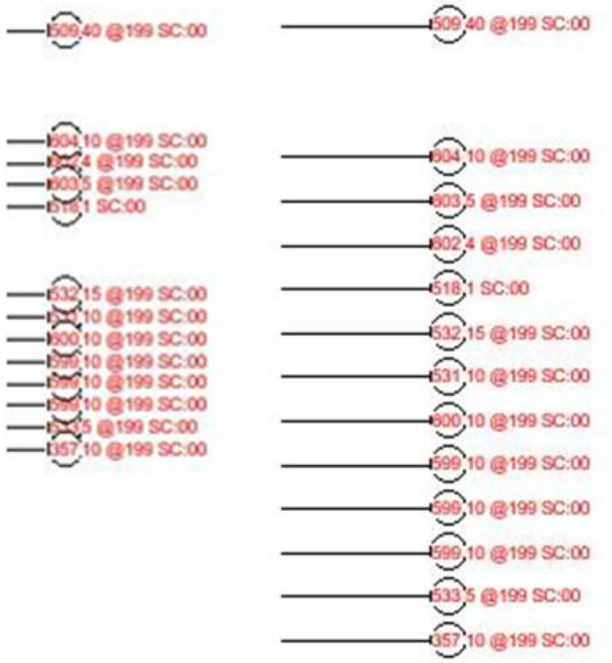
When annotating different reinforcement layers on the same view, you could make the bottom layers the only ones visible, annotate at 30%. Hide the bottom the layers and reveal the top layers, change the range and bar percentage to 50% to control their position without having to move them after the annotation.



Tag Align Height Offset

Copyright © Computer and Design Services Limited

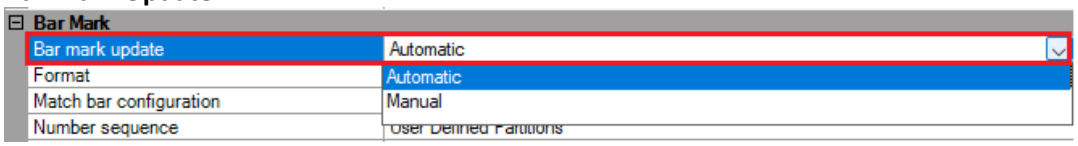
Use this setting to adjust the distance between vertically aligned annotation tags. 1 is the default distance and 2 in the maximum distance apart. The image below shows bar tags with circles around the bar marks, they are overlapping if the setting is 1. Change the setting to 2 and the bar tags are moved apart.



13.2.3 Bar Mark

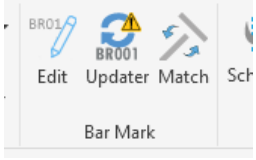
Bar Mark	
Bar mark update	Automatic
Format	**Type 1 [CADS_Rebar Number Prefix+Rebar number+Rebar number suffix]**
Match bar configuration	**Match rebar configuration**
Number sequence	User Defined Partitions
Standee / chair rebar number remove gaps	**False**
Standee / chair rebar prefix	**CH_**
Suffix separator	.
Use regular barmark for chair rebar	**Yes**

Bar Mark Update



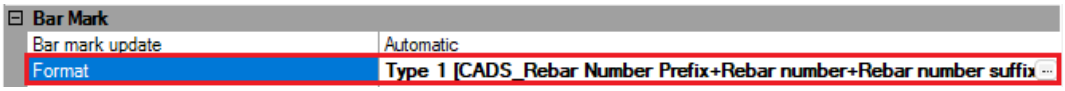
Choose to allow CADS RC3D / RebarCAD 3D to automatically update bar marks as changes occur or set to manual update. When set to manual, the Bar Mark Updater button in the ribbon would display a warning symbol.



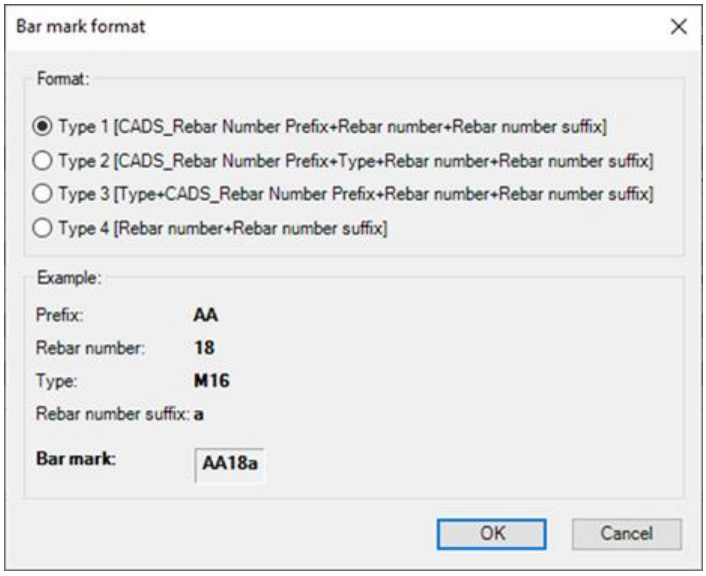


Format

Copyright © Computer and Design Services Limited



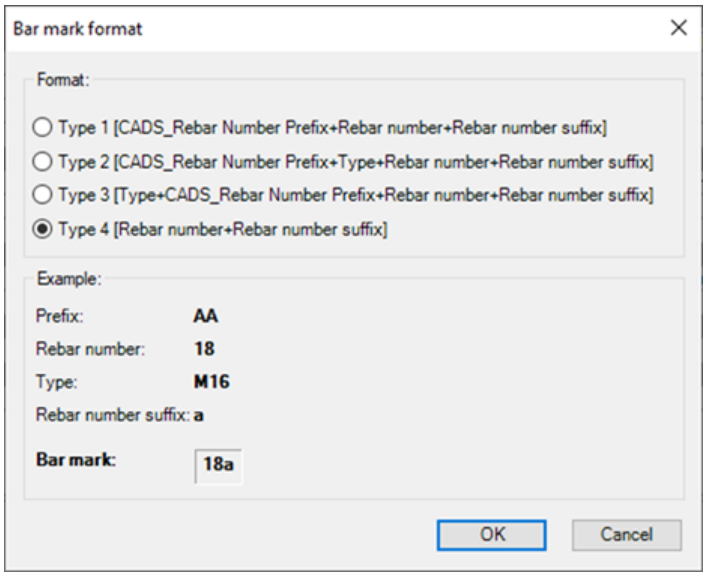
The Bar Mark Format consists of a Bar Mark Number field along with one or more of the other fields. Click on the browse button to access the Bar Mark Format dialog as shown below.



- **CADS Rebar Number** Mapped to Rebar number field of Rebar.
- **Prefix** Mapped to Partition field of Rebar.
- **Size** Mapped to Type field of Rebar.
- **Suffix** Mapped to Rebar number suffix field of rebar for Revit®, varying range and the custom field for CADS varying range.

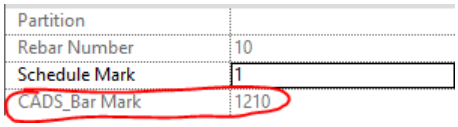
Bar Mark Format Configuration

Create a new configuration Bar Mark Format similar to Revit's® Schedule Properties dialog listing all the fields mentioned above.



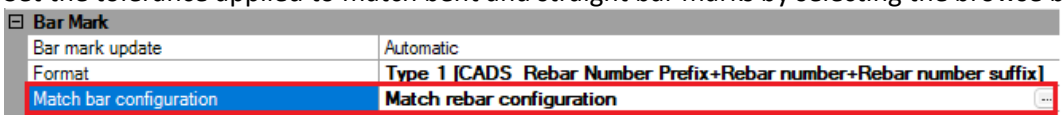
A new field will be added to the rebar properties as "CADS_Bar Mark" to display a bar mark value. This field is a shared parameter and can be used while generating a rebar schedule.
This field is updated by concatenating the fields configured for the selected bar mark format in the bar mark format dialog as shown above.

Copyright © Computer and Design Services Limited

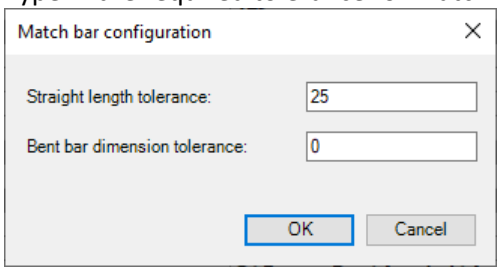


Match Bar Configuration

Set the tolerance applied to match bent and straight bar marks by selecting the browse button.



Type in the required tolerance for matching straight and bent bars.



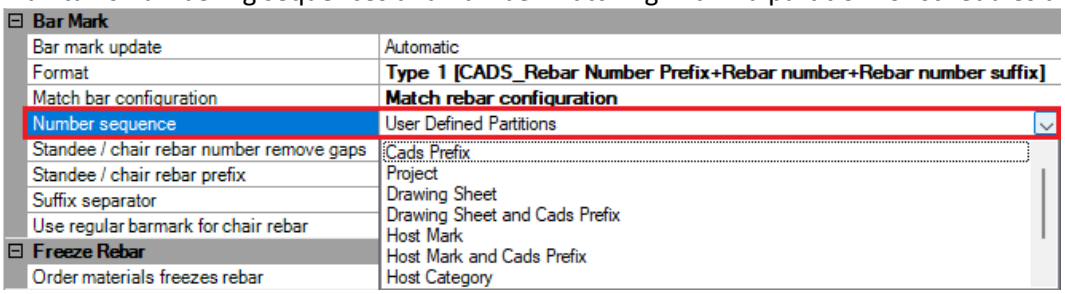
Number Sequence

Sets which parameter to use when partitioning rebar. Partitioning for reinforcement identification serves a number of organizational purposes depending on how a building is designed or how it will be constructed.

Design, ordering, fabrication, and ultimately the placement location of rebar on site all have an impact on the partitioning needs of the contractor. Such factors include, but are not limited to:

- Construction sequences and phasing
- Host element types (concrete columns, beams, or slabs for example)
- Precast fabrication needs
- Location within a host (such as top and bottom in slabs, or inner and exterior in walls)
- Location in the model

Any rebar, rebar set, or fabric sheet instance in a model can only be assigned to one partition. This maintains numbering sequences and number matching within a partition for schedules and tags.



The Number sequence supports the following options;

- **User Defined Partitions** Specify the partition name for each rebar or a selection of rebar in the Partition option in the Properties panel.
- **CADS Prefix** Will automatically create the partitions based on the CADS Rebar Number Prefix assigned in the Properties panel. The bar mark numbers will be managed according to the CADS Prefix.
- **Project** Will automatically create the partition based on the Project name and will manage the bar marks per project.
- **Drawing Sheet** Will automatically create the partition based on the drawing sheet number and will manage the bar marks per drawing sheet.
- **Drawing Sheet and CADS Prefix** Will automatically create the partition based on the

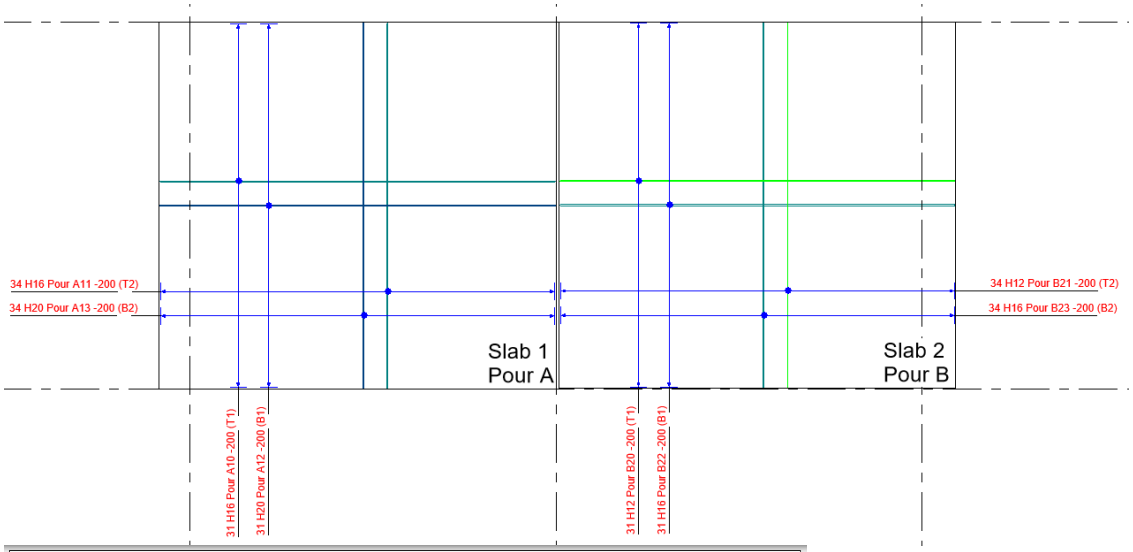
Copyright © Computer and Design Services Limited

Drawing Sheet and CADS Prefix. The CADS Prefix could be used to separate different structures per drawing sheet.

- **Host Mark** Will automatically create the partition based on the Mark assigned to the member and will manage the bar marks per Host Mark.
- **Host Mark and CADS Prefix** Will automatically create the partition based on the Host Mark and the CADS Prefix. The CAD Prefix could be used to divide the structure into different pours.
- **Host Category** Will create the partition based on the type of structure, for instance floor, column, beam etc and will manage the bar marks based on each category.
- **Host Category and CADS Prefix** Will automatically create the partition based on the Host Category and the CADS Prefix.

Note:

Types 1, 2 & 3 Bar Tag (Label) Formats as described in the previous section will include any prefixes in the bar mark number that have been added to the rebar.

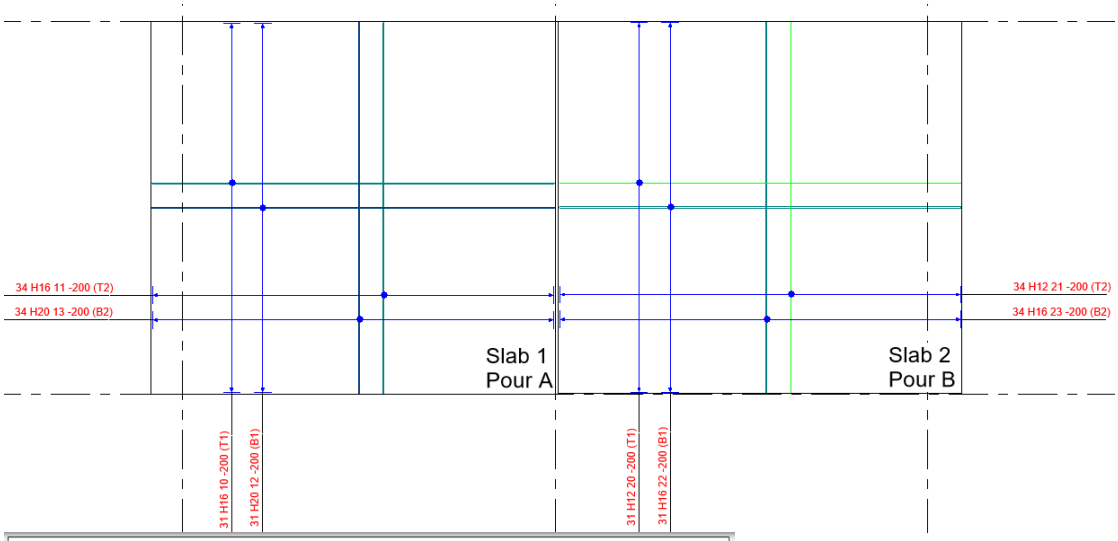


Project : Project Name
Client : Owner
Job No : Project Number
By : Author
Date : 11/11/19
Last revised :
Sheet No S.2 - Ground Floor
Page No 0 1
Revn
Status

Member	Bar Mark	Type and size	No. of Mbrs	No.of bars in each	Total No.	Length of each bar †mm	Shape code	A * mm	B * mm	C * mm	D * mm	E/R * mm	Rev letter
Slab 1	Pour A10	H16	1	31	31	6475	00	6470					
	Pour A11	H16	1	34	34	5975	00	5970					
	Pour A12	H20	1	31	31	6475	00	6470					
	Pour A13	H20	1	34	34	5975	00	5970					
Slab 2	Pour B20	H12	1	31	31	6475	00	6470					
	Pour B21	H12	1	34	34	5975	00	5970					
	Pour B22	H16	1	31	31	6475	00	6470					
	Pour B23	H16	1	34	34	5975	00	5970					

Type 4 Format omits the prefixes from the bar mark number.

Copyright © Computer and Design Services Limited

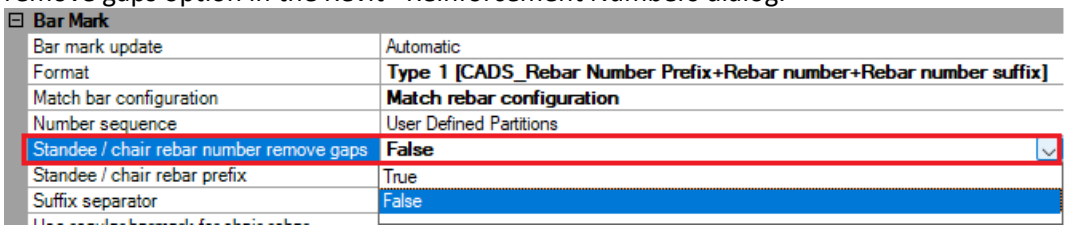


Project : Project Name
Client : Owner
Job No : Project Number
By : Author
Date : 11/11/19
Last revised :
Sheet No S.2 - Ground Floor
Page No 0 1
Revn
Status

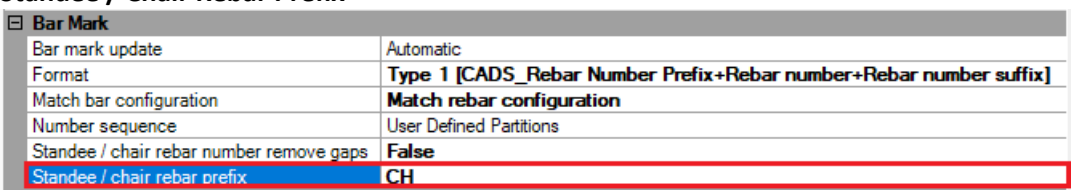
Member	Bar Mark	Type and size	No. of Mbrs	No.of bars in each	Total No.	Length of each bar †mm	Shape code	A * mm	B * mm	C * mm	D * mm	E/R * mm	Rev letter
Slab 1	10	H16	1	31	31	6475	00	6470					
	11	H16	1	34	34	5975	00	5970					
	12	H20	1	31	31	6475	00	6470					
	13	H20	1	34	34	5975	00	5970					
Slab 2	20	H12	1	31	31	6475	00	6470					
	21	H12	1	34	34	5975	00	5970					
	22	H16	1	31	31	6475	00	6470					
	23	H16	1	34	34	5975	00	5970					

Standee / Chair Rebar Number remove gaps

The configuration option is to clear the gaps (Compact bar marks) in Chair rebar bar marks and make the numbering sequential. However, the Bar Mark number compacting is done in Revit® using the remove gaps option in the Revit® Reinforcement Numbers dialog.

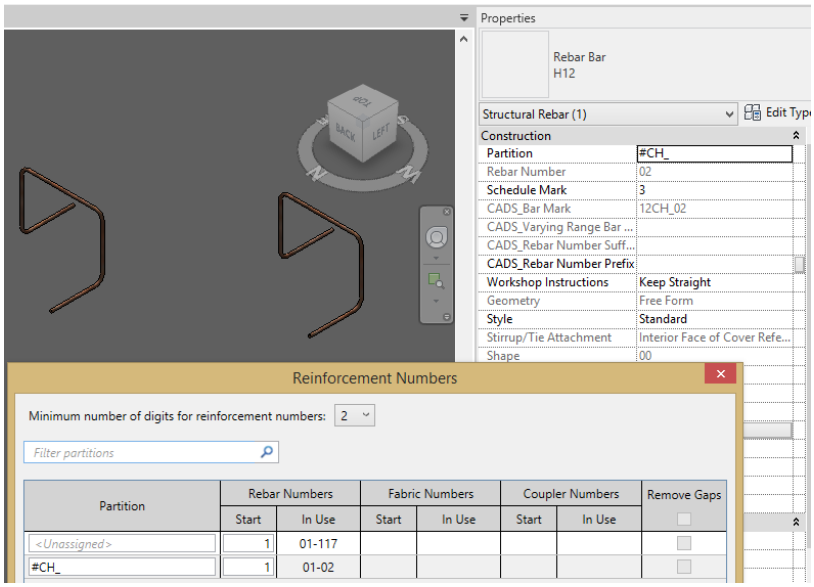


Standee / Chair Rebar Prefix

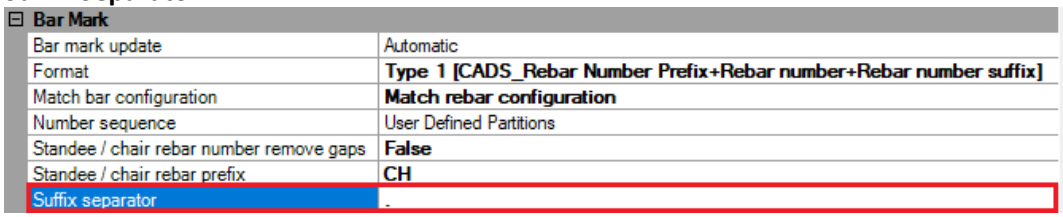


Assign a prefix for the Chair reinforcement. A partition will be created in the Reinforcement Numbers and all chair rebar will have a prefix of CH_ in front of the bar mark.

Copyright © Computer and Design Services Limited

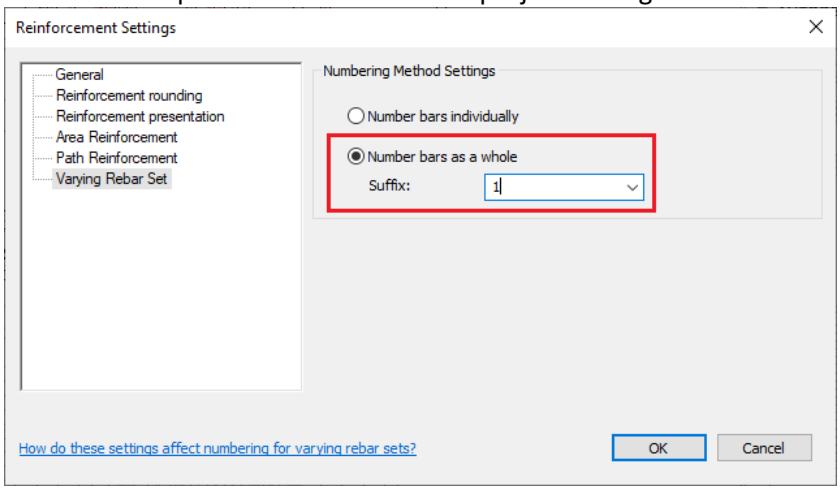


Suffix Separator



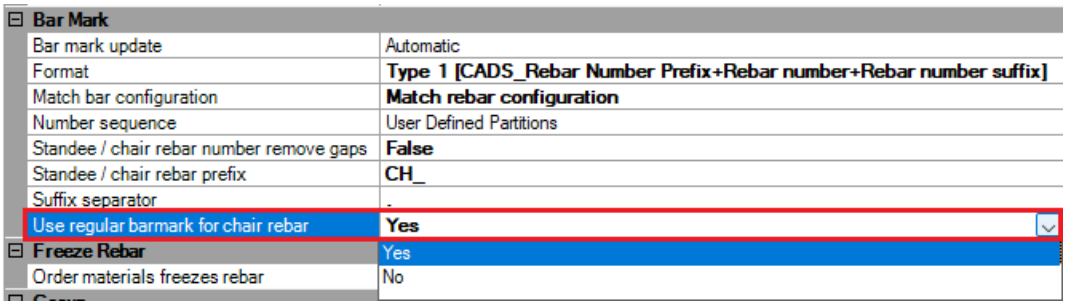
The suffix separator is used to add a suffix such as a full stop into the tapered range bar mark numbering.

For instance, in the Reinforcement Settings under the Varying Rebar Set the Numbering method can be set to number bars as a whole. If you enter a number in this field bar mark 1 would show as 11. Enter a full stop in the suffix field in the project settings and the bar mark number will show as 1.1.



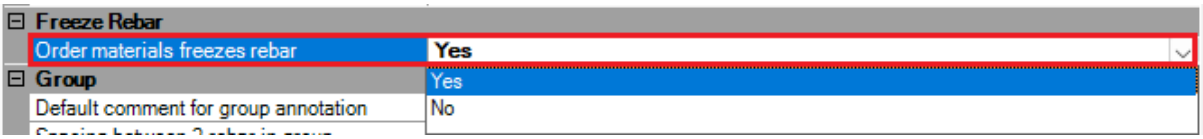
Use Regular Bar Mark for Chair Rebar

Copyright © Computer and Design Services Limited



If set to Yes this will force Chair Rebar to use the standard bar mark numbers used by all other rebar in the project.
If set to No, all Chair Rebar will have the prefix specified in the Standee / chair rebar prefix.

13.2.4 Freeze Rebar



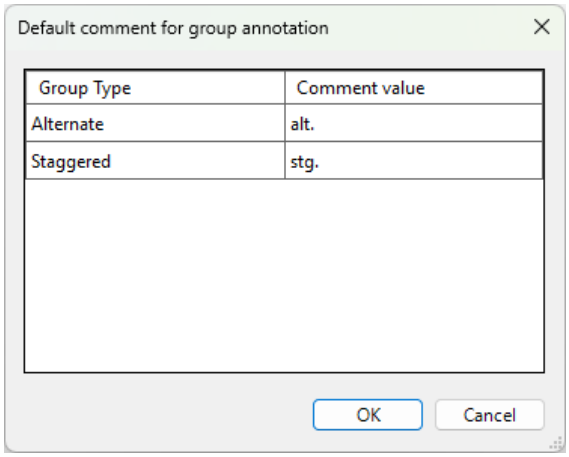
Order materials freezes rebar
When a release is ticked as being ordered the rebar assigned to the release are automatically frozen in the project.

13.2.5 Group

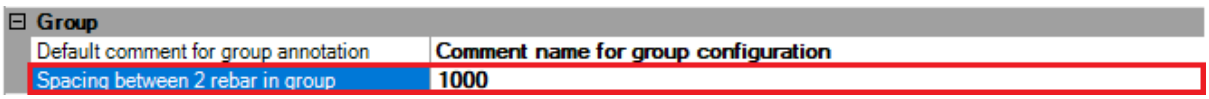
Default Comment for Group Annotation



Select the Browse button to define the comment at the end of the Rebar Annotation for Staggered and alternate Range Styles.



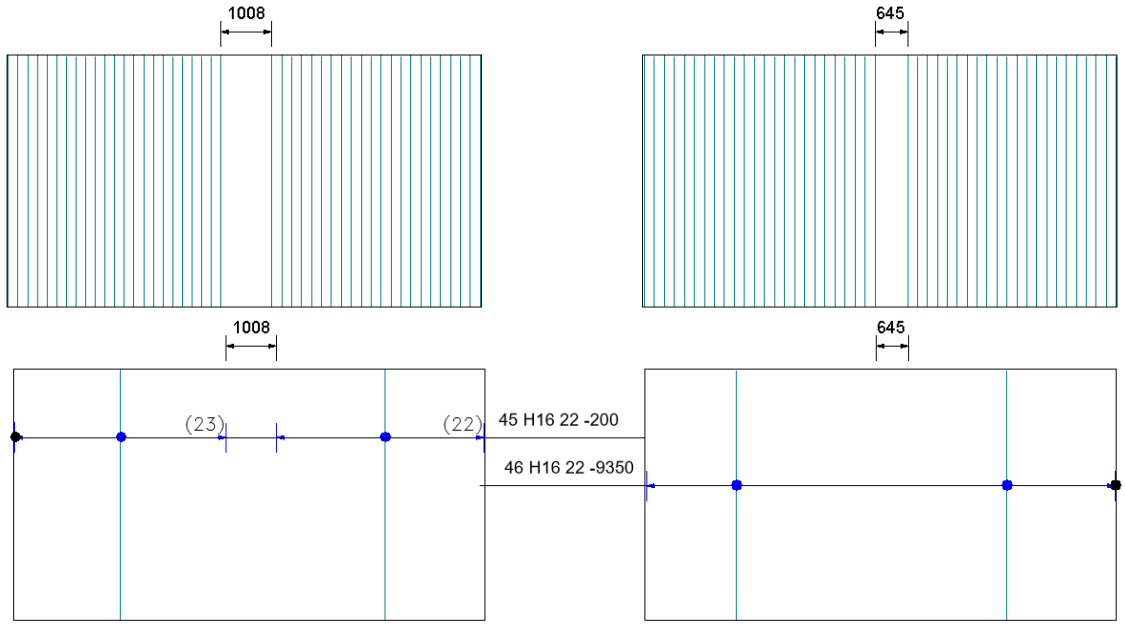
Spacing between 2 Rebar Groups



When several rebar or rebar assemblies are selected to form a range in RC3D / RebarCAD 3D for Revit®, the application assesses the spacing between each consecutive rebar in the selection. If the

Copyright © Computer and Design Services Limited

spacing exceeds the pre-set value for 'Spacing between 2 Rebar in Group', RC3D / RebarCAD 3D for Revit® will create separate individual groups and then combine them into single nested group called a ‘Multi-Range Barset Group’. A 'Multi-Range Annotation' can then be applied to this group. If the spacing within these subgroups is consistent, it will be automatically designated as the CADS_Group Spacing' for the ‘Multi-Range Barset Group’. However, if the spacing varies, the user must manually enter a spacing value into the ‘CADS_Group Spacing’ parameter to reflect the desired presentation in the drawing.
In the example below the distance between the range groups is over 1000mm and in the right detail under 1000mm. When annotated the left detail is split into a multi range annotation and the right kept as a single range annotation.



In the case of native Revit® Bar Sets, the behaviour differs slightly. If a Native Rebar Set with non-uniform spacing is selected, due to some rebars being moved or removed to accommodate openings, for example—RC3D / RebarCAD 3D for Revit® checks the spacing between each consecutive rebar in the set. If the spacing exceeds the configured value for ‘Spacing between 2 Rebar in Group’, RC3D / RebarCAD 3D will apply the 'Multi-Range Annotation' taking this gap into account. However, it will not split the bar set into multiple subgroups.

13.2.6 Rebar

Rebar	
CADS rebar shape images path	C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 2024.
CADS rebar shapes	99153,99185,99211,99217,99242,99298,99312,99327,99328,99330,99404
Count override by	Partition
Rebar parameters to retain while copying	A,B,...
Rebar tag filter for audit	List of Rebar tags...
Search Rebar by parameters	Rebar Id,Host Mark,...
Special rebar shape configuration	Shape code, Dimensions
Straight rebar configuration	Settings to report Rebar as straight bar...

Specify the CADS Rebar shape codes to be loaded into the project, rebar copying, auditing and search parameters in the Rebar section. 3

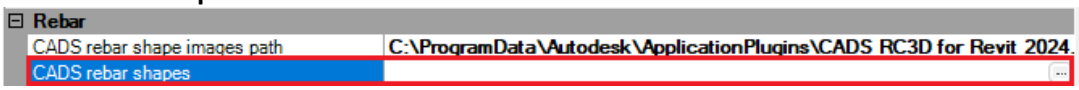
CADS Rebar Shape Images Path

Rebar	
CADS rebar shape images path	C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 2024

Copyright © Computer and Design Services Limited

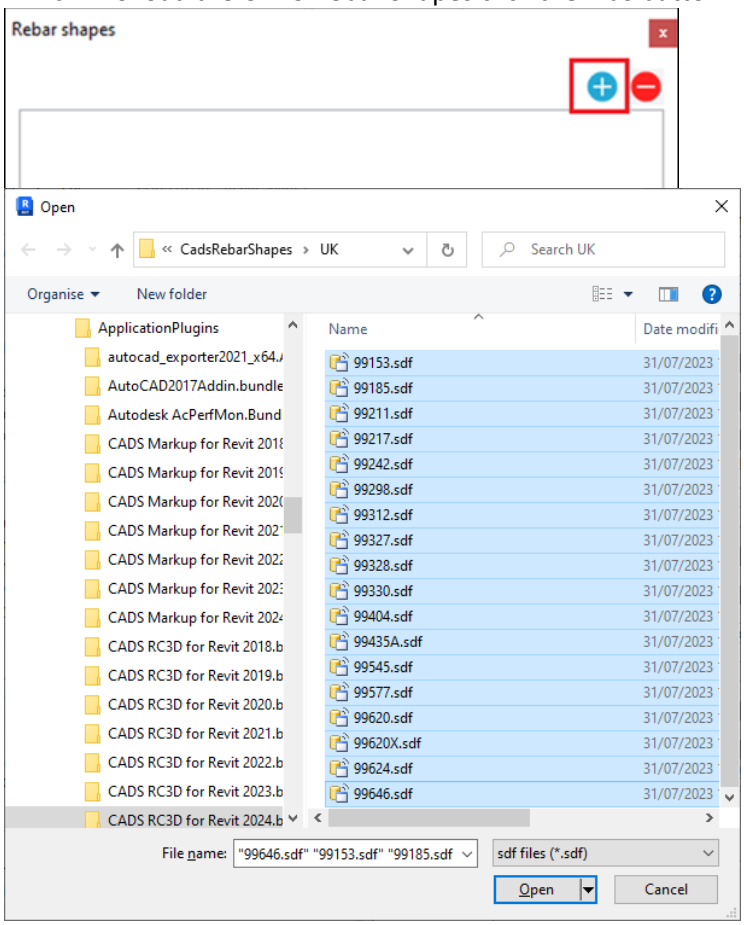
Specify the path to the CADS Rebar Shape Code images, the default path is "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\CadsRebarShapes\UK". These images are used to display the shape code in the CADS Create Rebar command .

CADS Rebar Shapes



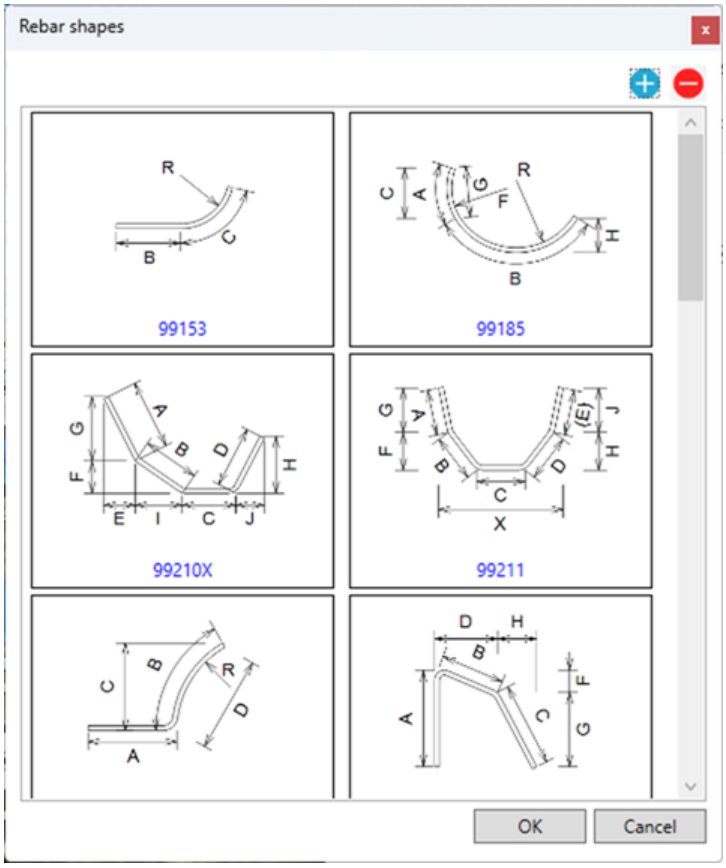
Use this option to load the CADS Draw Rebar Shape Codes for use with the CADS Create Rebar command .

1. Click on the link to display the Diagrams of the currently shipped CADS Rebar Shapes .
2. Select the CADS rebar shape line in the dialog and pick the browse button and the CADS Rebar Shapes dialog is displayed. This will be blank until you load some shapes.
3. To load the CADS Rebar Shapes click the Plus button.

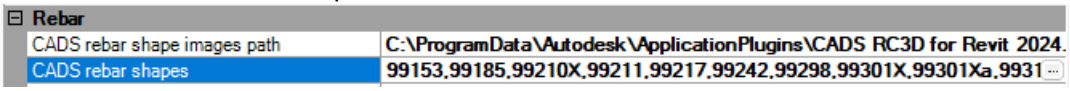


4. The images of the loaded shapes are displayed in the Rebar Shapes dialog.
5. Use the minus option to remove shape codes from the list.

Copyright © Computer and Design Services Limited



6. Click ok to return to the Project settings dialog where the loaded shape names are added to the CADS Rebar Shapes.



CADS Country Specific Shape Code Libraries

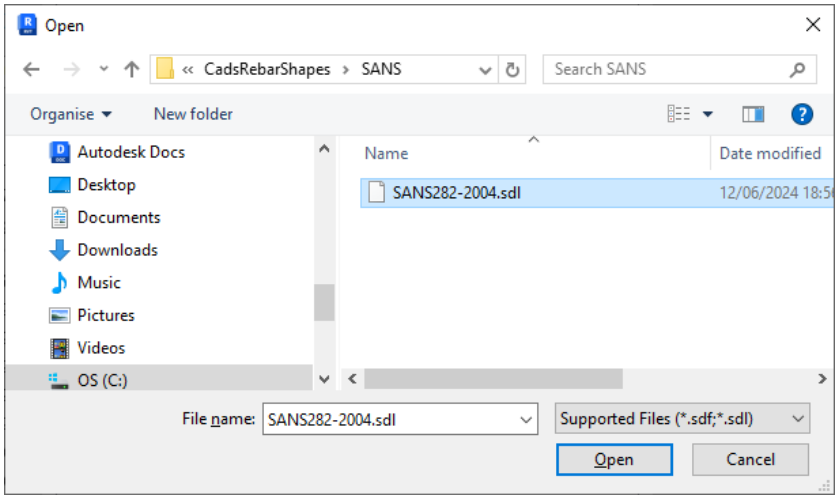
Use this option to load the CADS Country Specific Shape Codes for use with the CADS Create Rebar command .

1. Click on the link to display the Diagrams of the currently shipped CADS Country Code Libraries .
2. The default location for the CADS Country Code Libraries is "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\CadsRebarShapes\" in a subfolder specific to the country code.
3. Select the CADS rebar shape line in the dialog and pick the browse button and the CADS Rebar Shapes dialog is displayed. This will be blank until you load some shapes.
4. To load the CADS Rebar Shapes, click the Plus button.

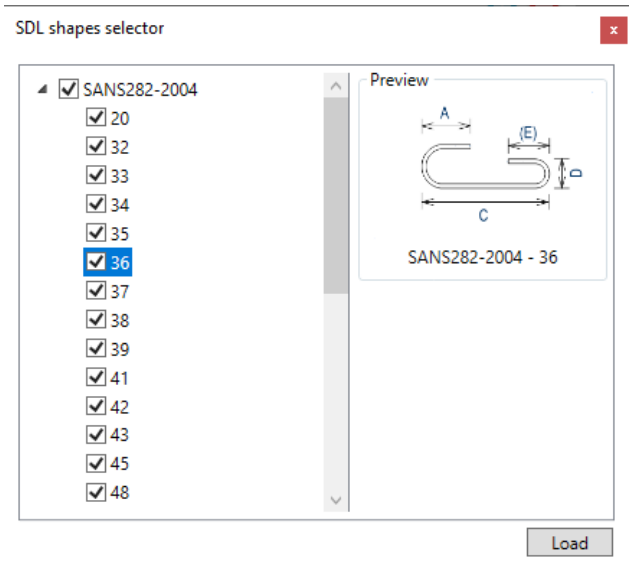


5. Highlight the shapes to load in the Explorer dialog and click Open. In the example below the SANS Encrypted Country Code library (SANS282-2004.SDL) has been selected.

Copyright © Computer and Design Services Limited

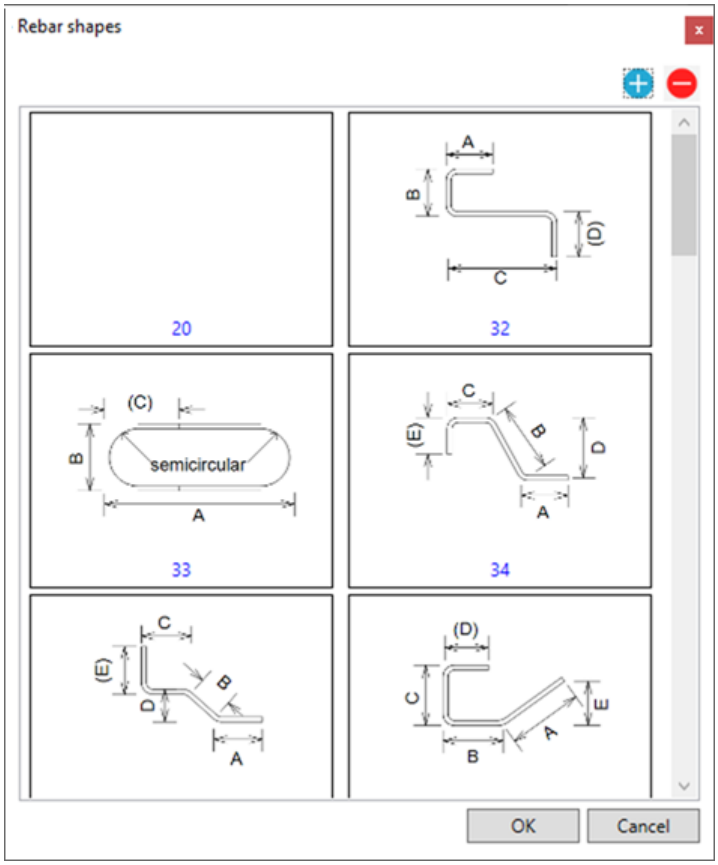


6. The SDL Shape Selector dialog is displayed, select the shapes to be loaded into the project and click Load.

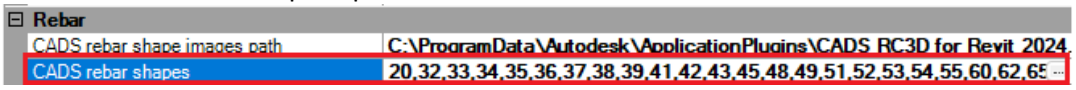


7. The CADS Rebar Shapes dialog is displayed showing the loaded shapes.

Copyright © Computer and Design Services Limited

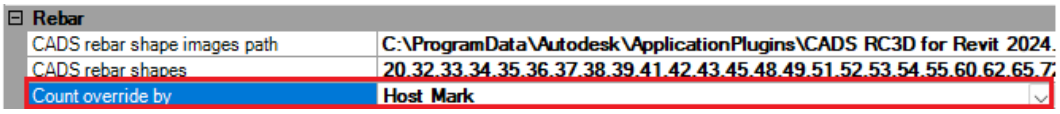


8. Click OK to return to the Project Settings dialog and the shape names are displayed in the CADS Rebar Shapes option.



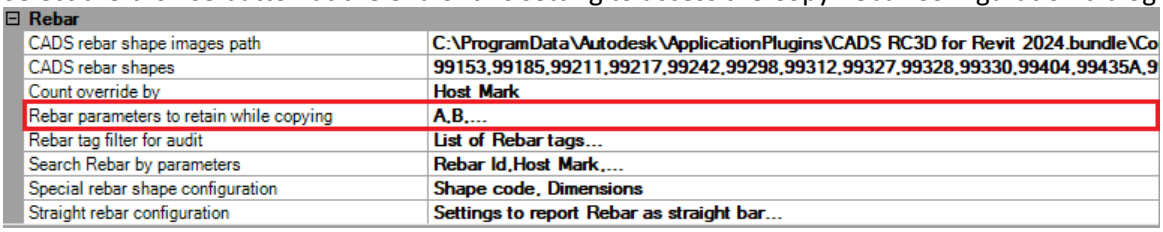
Count Override by

Choose to apply the Count Override by either Host Mark or Bar Mark Partition, click on the link for full details of the Override command .



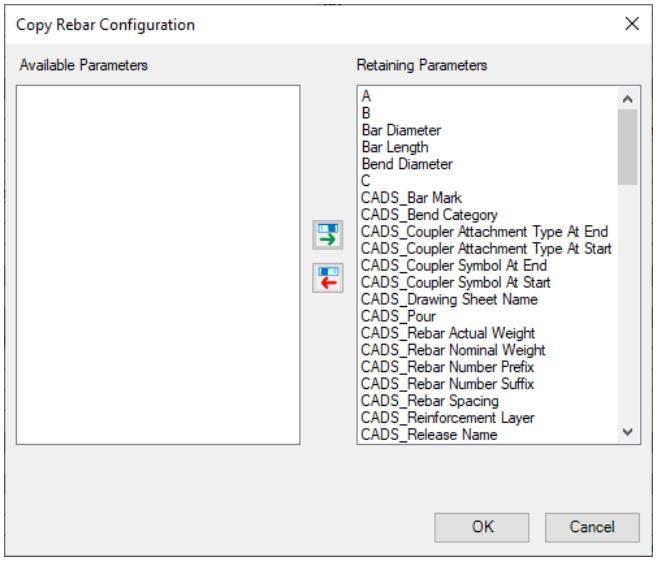
Rebar Parameters to Retain while Copying

Select the browse button at the end of this setting to access the Copy Rebar Configuration dialog.



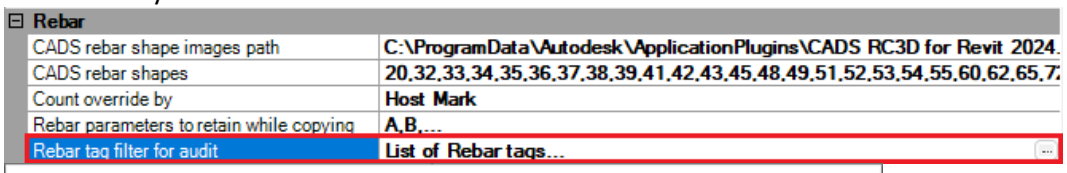
Use the Add (green) & Remove (red) buttons to choose which parameters are included / excluded when copying rebar from one host to another.

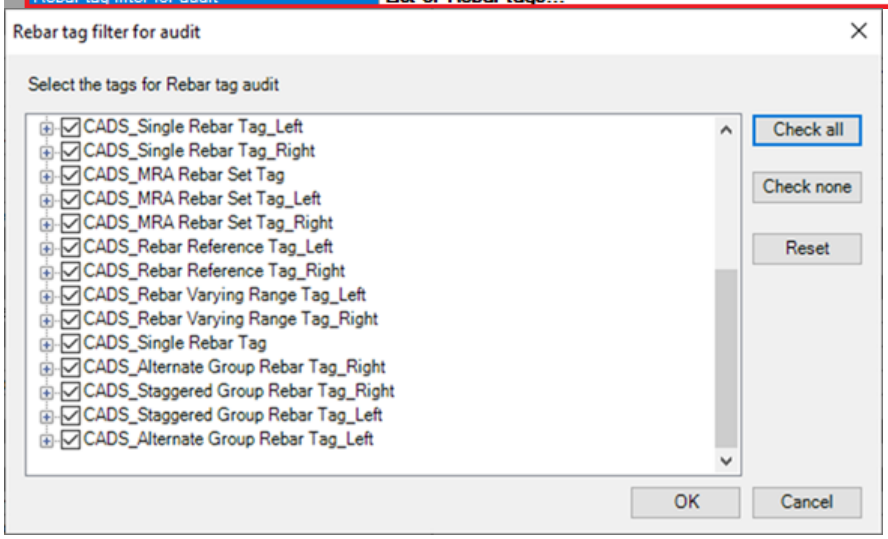
Copyright © Computer and Design Services Limited



Rebar Tag Filter for Audit

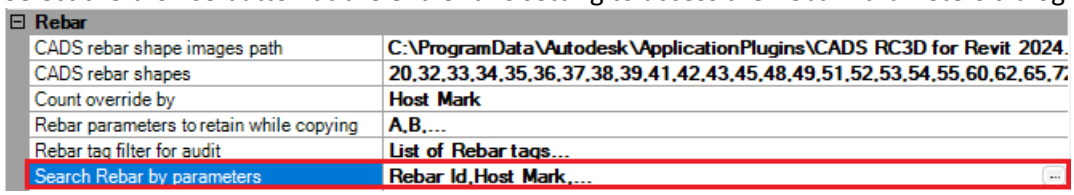
Lists the available Rebar Tags in the current project. The Tag Audit will search for bar assemblies that have been annotated more than once. Use the dialog to indicate the tags used in the project that are to be used by the audit command.





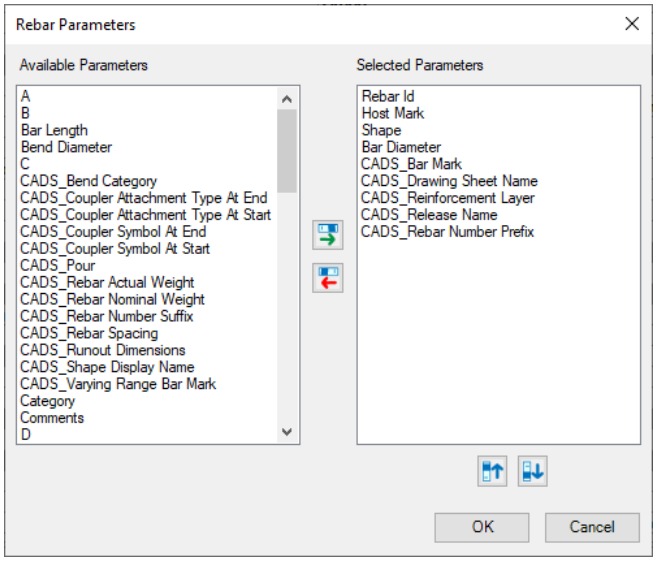
Search Rebar by parameters

Select the browse button at the end of this setting to access the Rebar Parameters dialog.



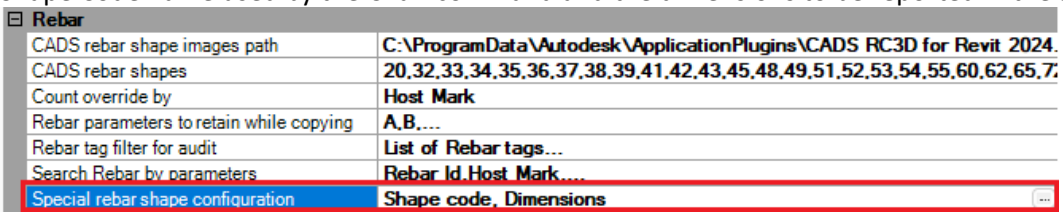
Use the Add (green) & Remove (red) buttons to choose which parameters are included / excluded when searching for rebar in the model.

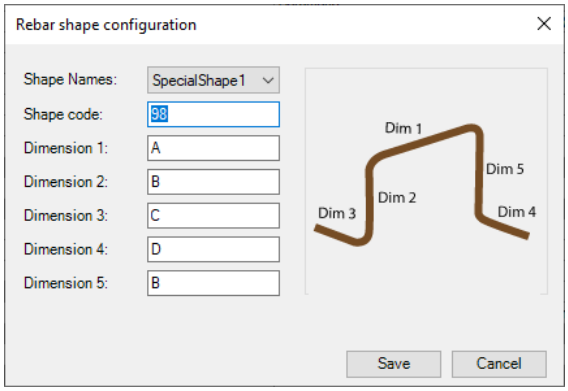
Copyright © Computer and Design Services Limited

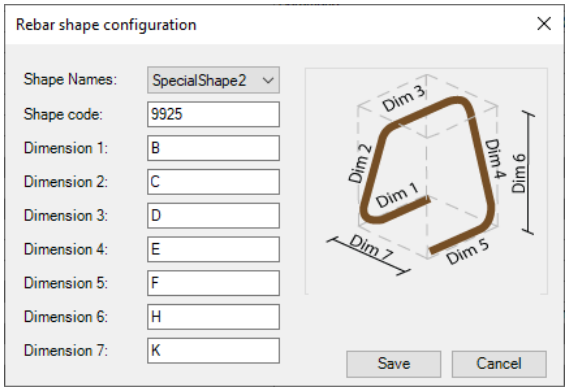


Special Rebar Shape Configuration

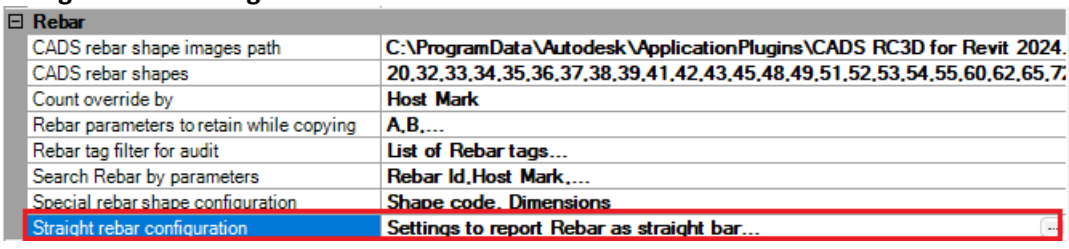
Shape Code name used by the Chair command and the dimensions to be reported in the schedule.





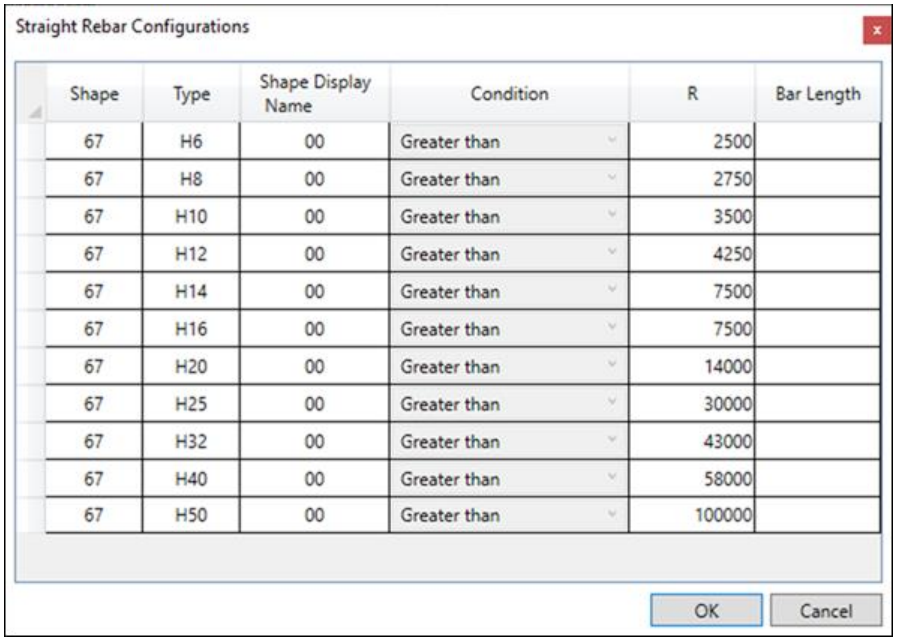


Straight Rebar Configuration



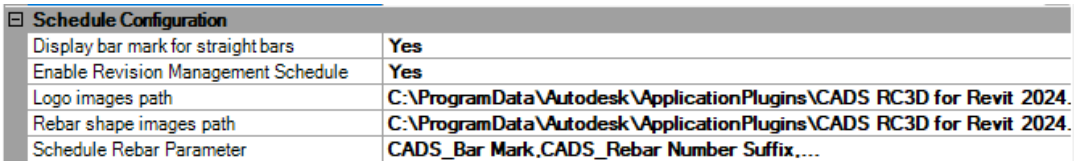
Arc / Curved rebar can be reported as straight bars in the schedule using this option by setting the radius for Dim R when the change can occur. Select the browse button to access the Straight Rebars Configuration dialog as shown below;

Copyright © Computer and Design Services Limited



The curved shapes loaded into the project are displayed in the dialog along with the available rebar grades and sizes.
If you do not want the curved shapes to be reported as a straight bar change the Shape Display Name to 67 instead of 00 and click ok.

13.2.7 Schedule Configuration



Display bar mark for straight bars



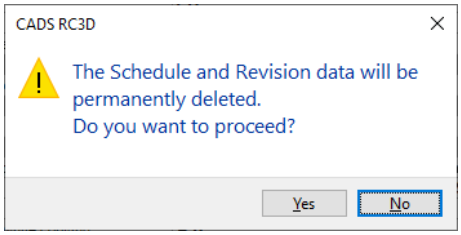
Set to Yes to display bar mark numbers in the schedule for straight bars.
Set to No to disable the display of bar marks for straight bars in the schedule.

Enable Revision Management Schedule

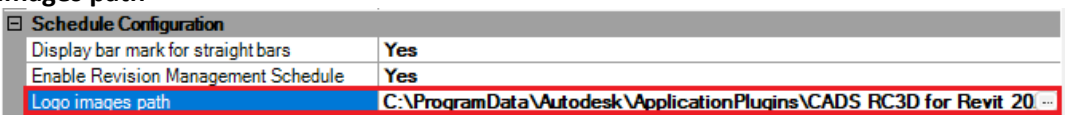


Toggle between Yes and No to enabled or disable the ability to issue schedules in the Show Schedule dialog.
If the schedule dialog will not open for any reason after creating schedules/weight reports. Setting the Enable Revision Management System to No will delete any schedules/weight reports, a warning is issued when this setting is changed and Ok to exit the dialog is selected.

Copyright © Computer and Design Services Limited

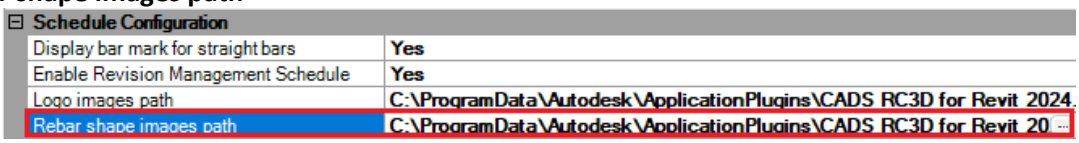


Logo images path



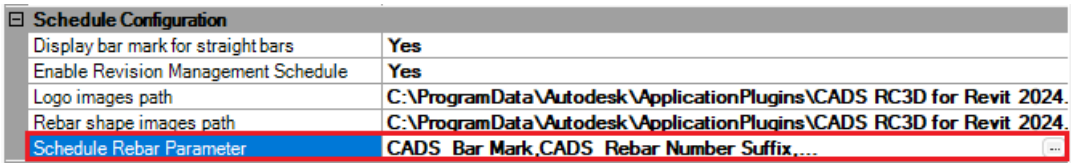
Stores the path to the logos used in the schedule templates, the default path is "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\RebarSchedule".

Rebar shape images path

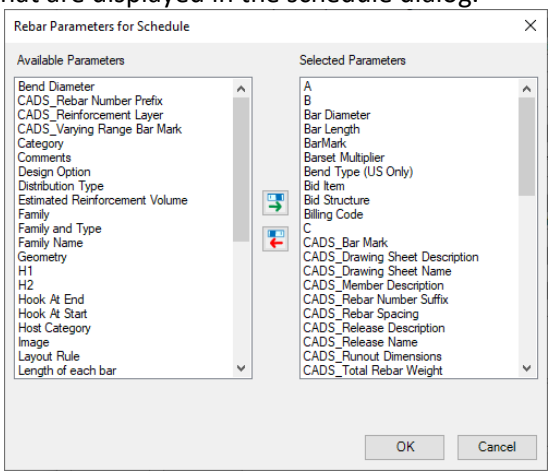


Stores the path to the location of the shape code images. The default location is "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\Families\UK\Structural Rebar Shapes\DXF".

Schedule Rebar Parameter

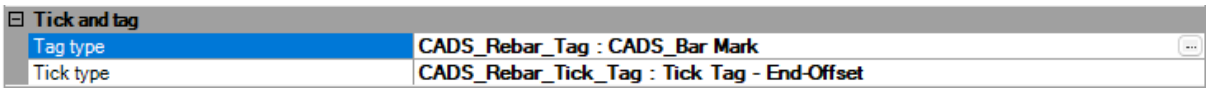


Use this option display the Rebar Parameters for Schedule dialog. Use the Add and Remove options to change the parameters that are displayed in the schedule dialog.

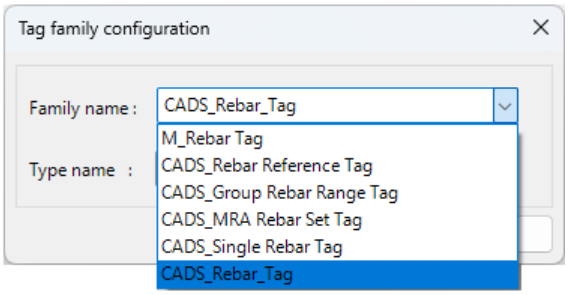


Copyright © Computer and Design Services Limited

13.2.8 Tick and Tag

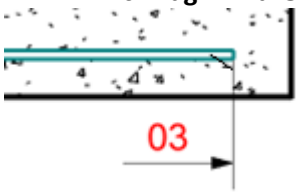


Tag Type

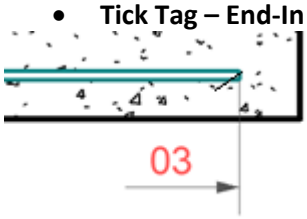


Choose from one of three tick and tag styles on the drop-down menu.

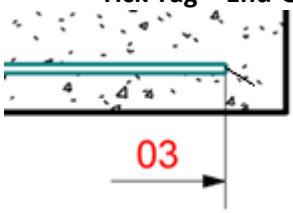
- **Tick Tag – End-Offset**



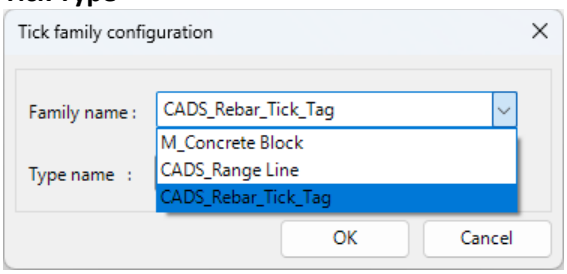
- **Tick Tag – End-In**



- **Tick Tag – End-Out**



Tick Type



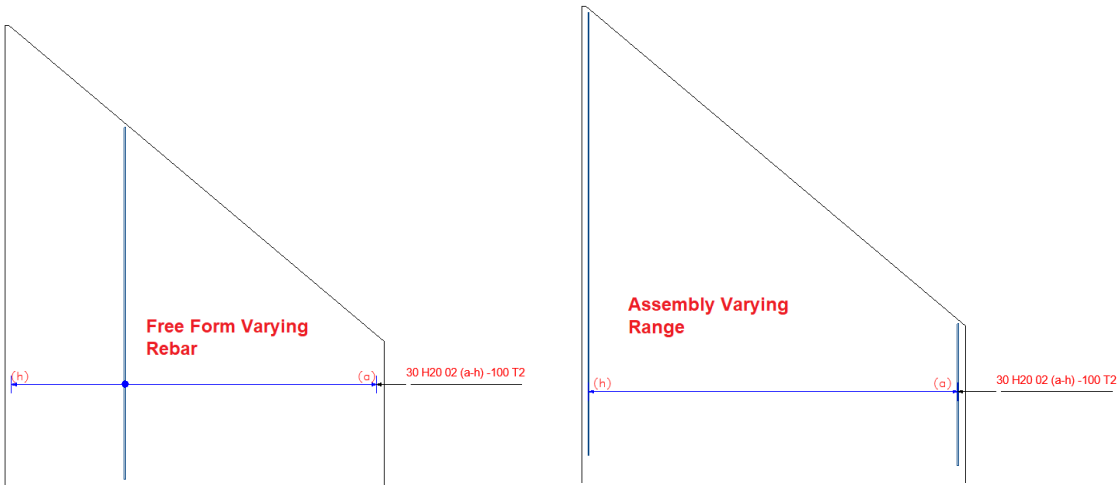
Copyright © Computer and Design Services Limited

13.2.9 Varying Range



Rebar Element type for varying range
Specify whether tapered ranges are created using free form rebar or an assembly. Depending which style is chosen the tapered range annotation will vary when the 2D RC drawing is created.

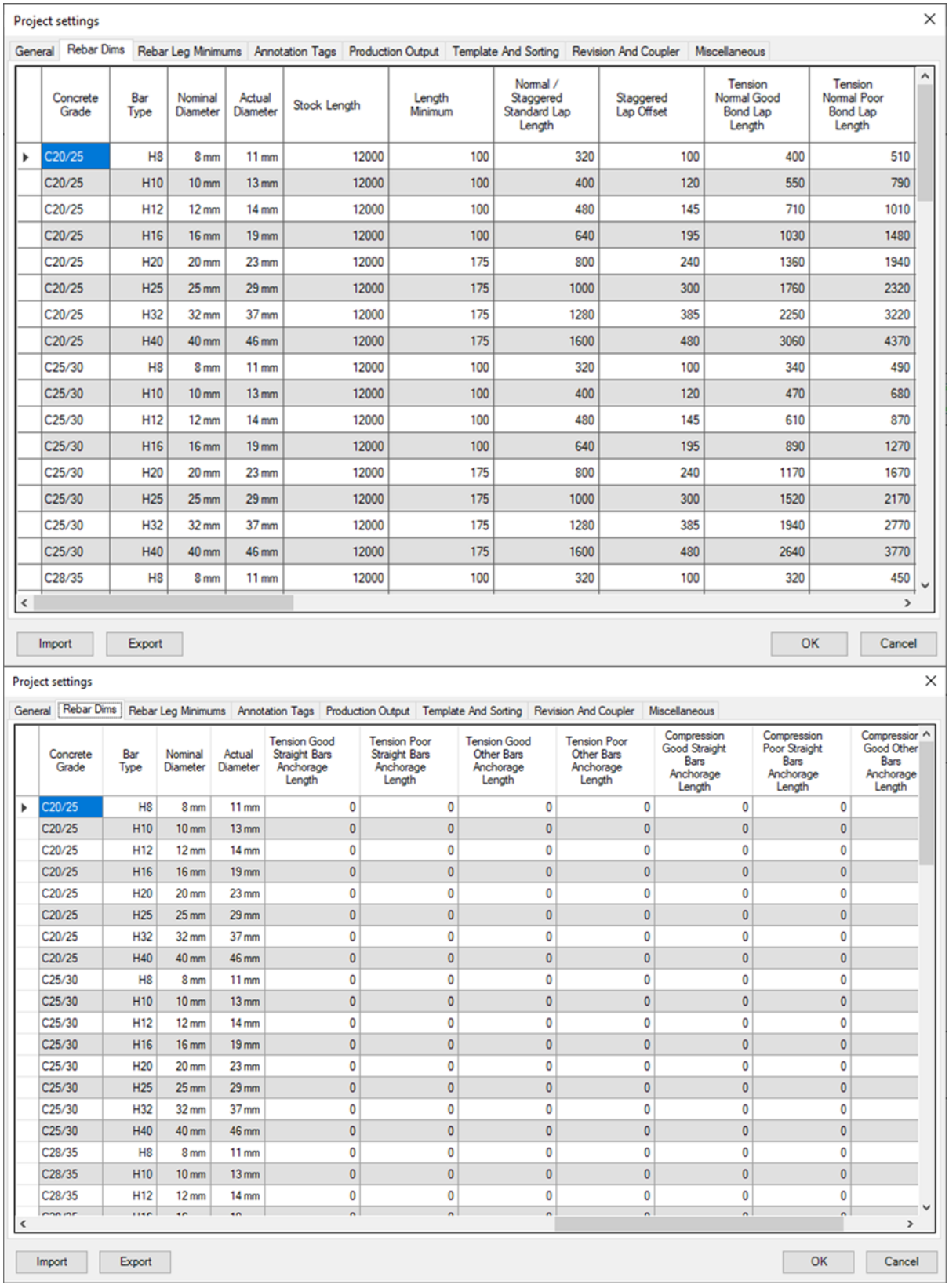
- **Free form** The default annotation is to show the middle bar of the tapered range.



- **Assembly** The default annotation is to show the first and last bars of the tapered range.

Copyright © Computer and Design Services Limited

13.3 Rebar Dims Tab

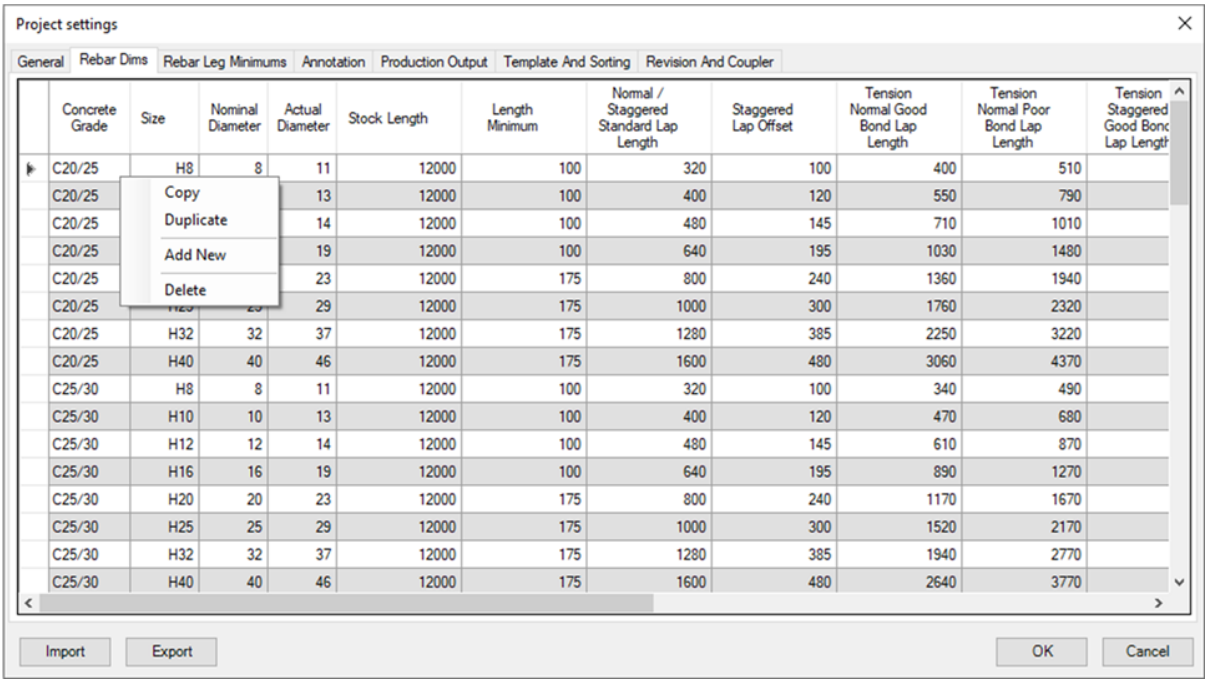


The project settings display the default settings used by CADS RC3D / RebarCAD 3D for Revit® for the bar diameters, actual diameters (deformed), stock lengths and minimum lengths.

Copyright © Computer and Design Services Limited

For the UK / European Configuration it also holds the lap length dimensions & the anchorage length dimensions for tension and compression laps to EC2.

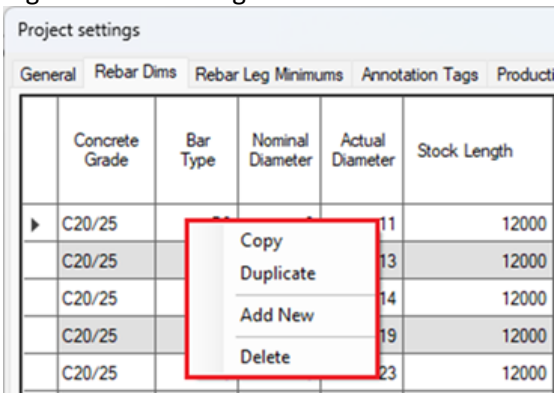
13.3.1 Duplicating and Editing Fields



Edit the default values in the Project Settings by clicking in each field. The changes made will be for the current project only.

- **Right Mouse Click Menu**

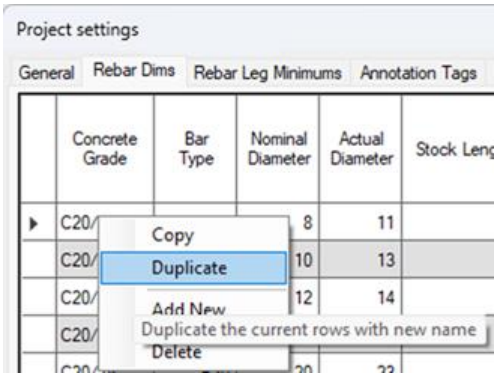
Right mouse clicking on the Rebar Dims Tab dialog displays the Right Click Menu.

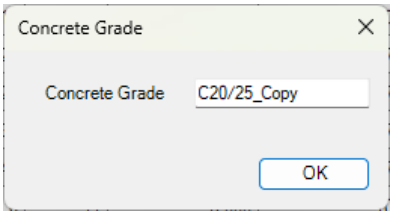


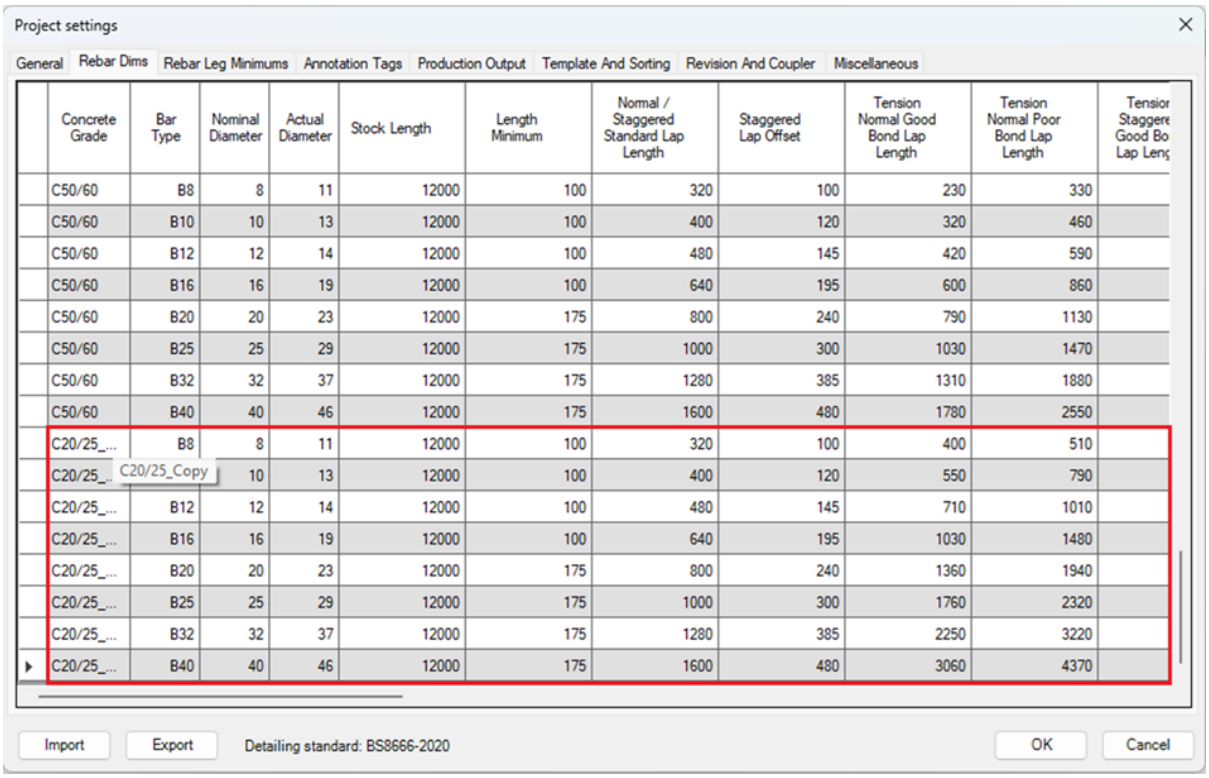
- **Copy** Highlight a line in the projects setting, right mouse click on the dialog and select copy. The copied line will be added at the bottom of the list ready for editing.

- **Duplicate Grade** Highlight the Grade to copy and then select Duplicate Grade from the right click menu. A dialog box displays asking for the name of the new Concrete Grade. Type in the new Grade name and click OK. The duplicated grade will be added to the bottom of the list ready for editing.

Copyright © Computer and Design Services Limited



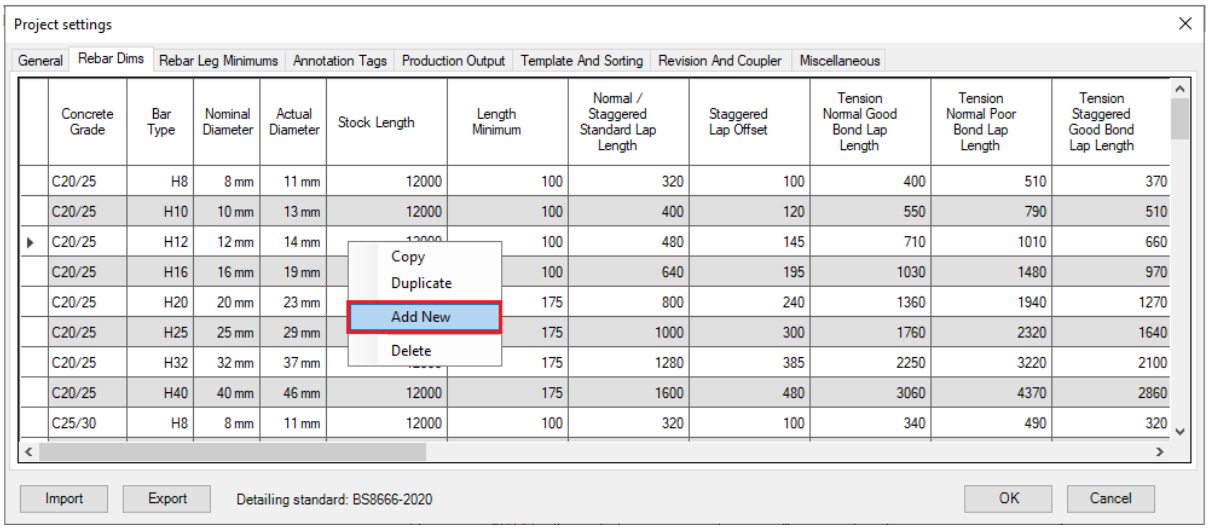


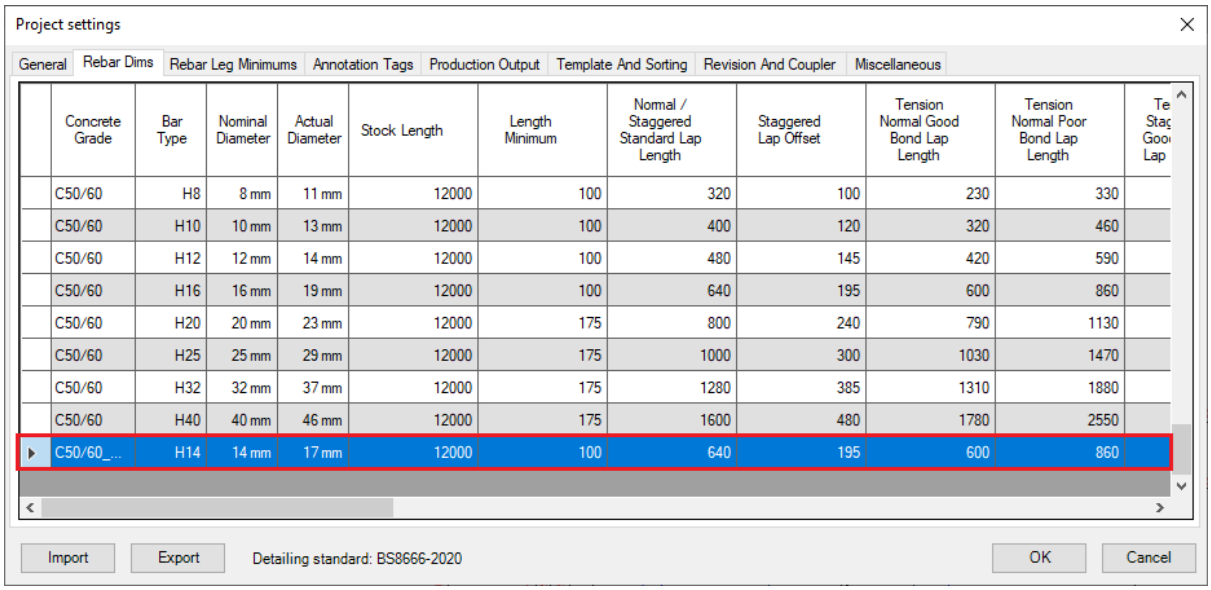


The values for the new concrete grade can be edited as required.

- **Add New** Select Add New from the right click mouse menu to add a blank line at the bottom of the list. This could be used to add a new bar diameter into the Rebar Dims dialog. The example below shows an H14 bar diameter added to the list.

Copyright © Computer and Design Services Limited



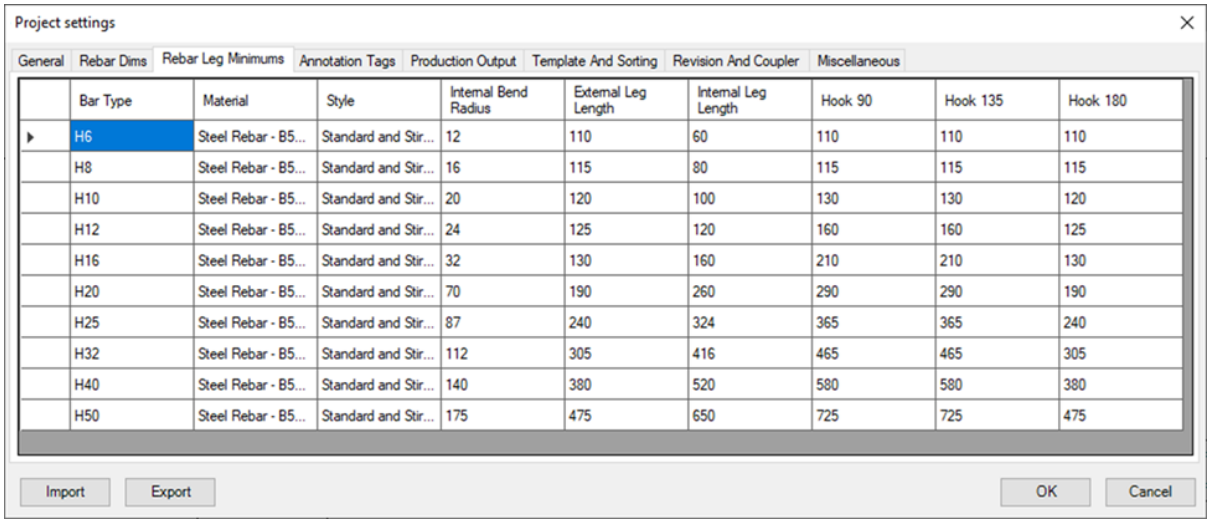


- **Delete** Select Delete from the right mouse click menu to delete the highlighted line in the list.

13.4 Rebar Leg Minimums Tab

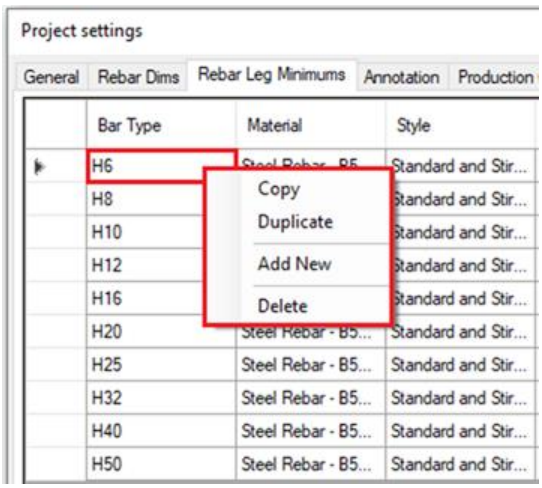
The default minimum dimensions for internal bend radii, Internal & External Leg lengths as well as hook dimensions are set in the Rebar Leg Minimums tab. This allows the Audit command to identify rebar which do not comply with these values.

Copyright © Computer and Design Services Limited



Bar Type	Material	Style	Internal Bend Radius	External Leg Length	Internal Leg Length	Hook 90	Hook 135	Hook 180
H6	Steel Rebar - B5...	Standard and Stir...	12	110	60	110	110	110
H8	Steel Rebar - B5...	Standard and Stir...	16	115	80	115	115	115
H10	Steel Rebar - B5...	Standard and Stir...	20	120	100	130	130	120
H12	Steel Rebar - B5...	Standard and Stir...	24	125	120	160	160	125
H16	Steel Rebar - B5...	Standard and Stir...	32	130	160	210	210	130
H20	Steel Rebar - B5...	Standard and Stir...	70	190	260	290	290	190
H25	Steel Rebar - B5...	Standard and Stir...	87	240	324	365	365	240
H32	Steel Rebar - B5...	Standard and Stir...	112	305	416	465	465	305
H40	Steel Rebar - B5...	Standard and Stir...	140	380	520	580	580	380
H50	Steel Rebar - B5...	Standard and Stir...	175	475	650	725	725	475

13.4.1 Right Mouse Click Menu



- **Copy** Highlight a line in the under the Bar Types, right mouse click on the dialog and select copy. The copied line will be added at the bottom of the list ready for editing.

- **Duplicate** Select Duplicate from the right click menu. A dialog box displays asking for the name of the new Concrete Grade. Type in the new Grade name and click OK. The New Grade will be added to the bottom of the list ready for editing.

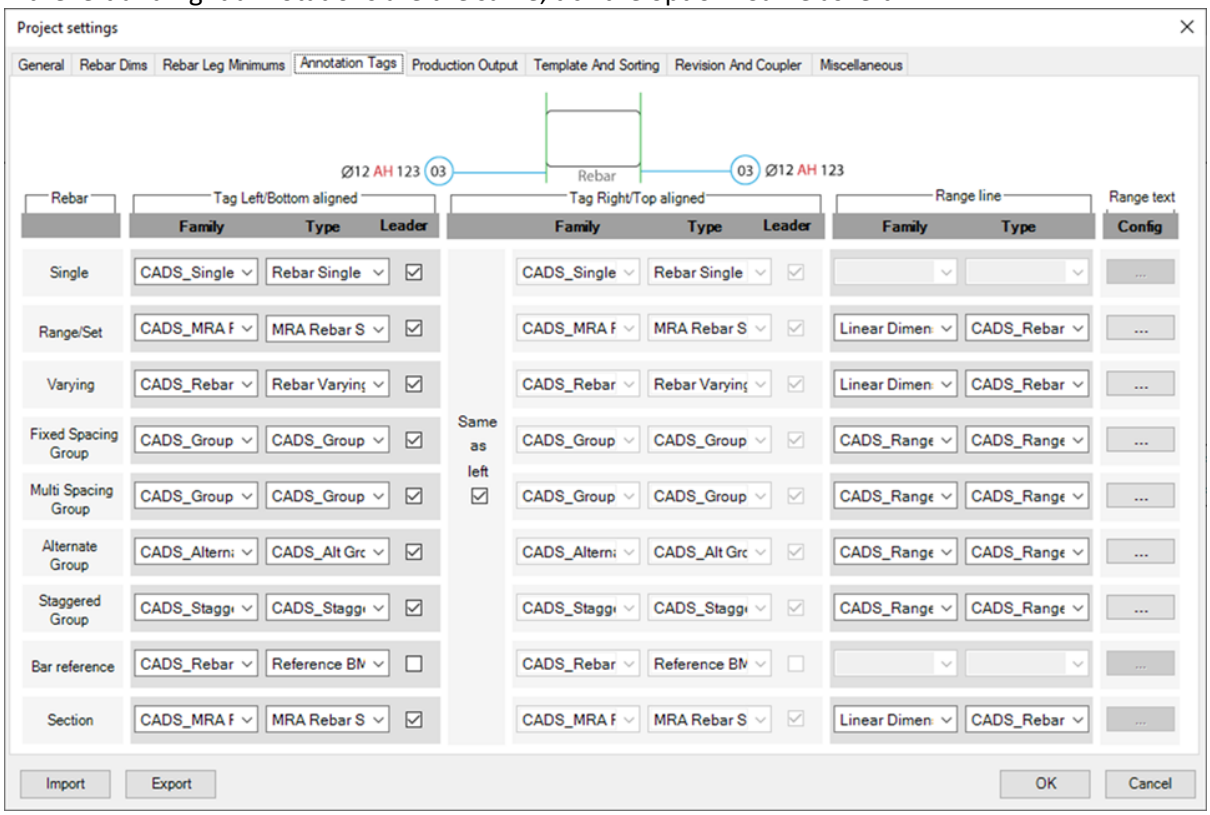
- **Add New** Select Add New from the right click mouse menu to add a blank line at the bottom of the list. This could be used to add a new bar diameter into the Rebar Legs Minimums Tab.

- **Delete** Select Delete from the right mouse click menu to delete the highlighted line in the list.

Copyright © Computer and Design Services Limited

13.5 Annotation Tags Tab

Use the Annotation Tab to configure the default Tag families, types and whether they have a leader. If the left and right annotations are the same, tick the option “Same as left”.



13.5.1 Annotation Family Configuration

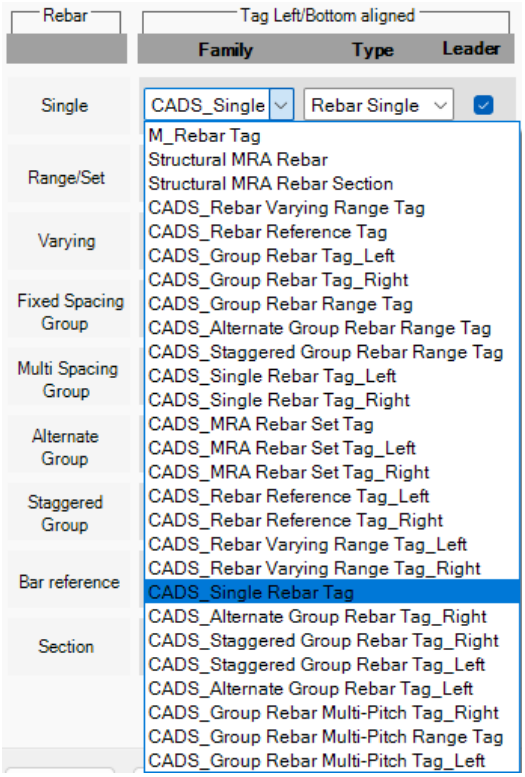
Rebar

The first column Rebar describes the Rebar/Range Style being configured as illustrated in Rebar Annotation Types.

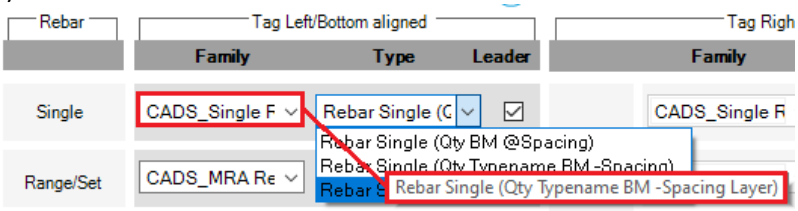
Tag Left/Bottom Aligned

The first column Family shows the selection of Annotation Tags that can be configured. For instance, the default style for the Single Rebar Tag is “CADS_Single Rebar Tag”.

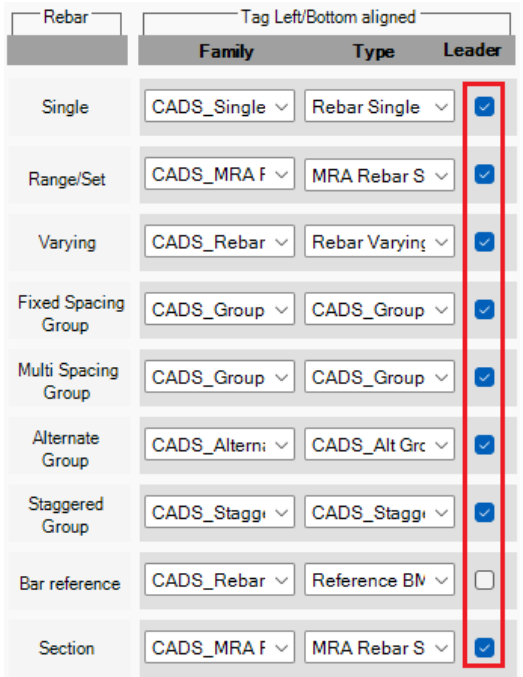
Copyright © Computer and Design Services Limited



The second column Type shows the selection of Types available for Family selected in the second column. For instance, the default Single Rebar type is “Rebar Single (Qty, Type Name Bar Mark, Spacing and Layer)”.



The third column Leader is used to choose whether a leader is drawn from the end of the Range Annotation to the Tag Annotation.



Copyright © Computer and Design Services Limited

Tag Right/Top Aligned

Same as Left

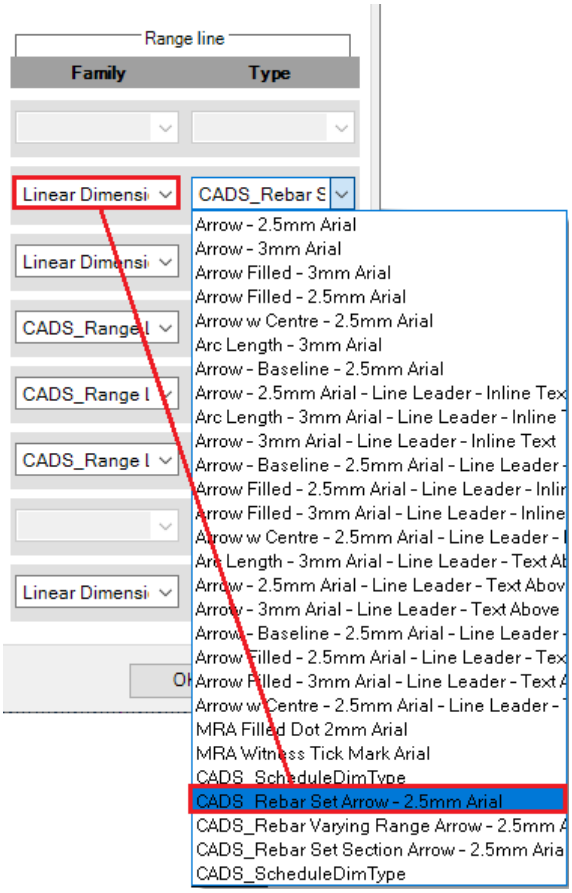
Use the tick box in the centre to use the same families and types on the left and right annotation. The top and bottom annotation will use the same settings rotated about 90 degrees to the right.



If the Same as Left is not ticked the Tag Right/Top Aligned options become available for configuration. This allows the configuration of different Families and Tags to be selected if required for the Right/Top Aligned Annotation.

Range Line

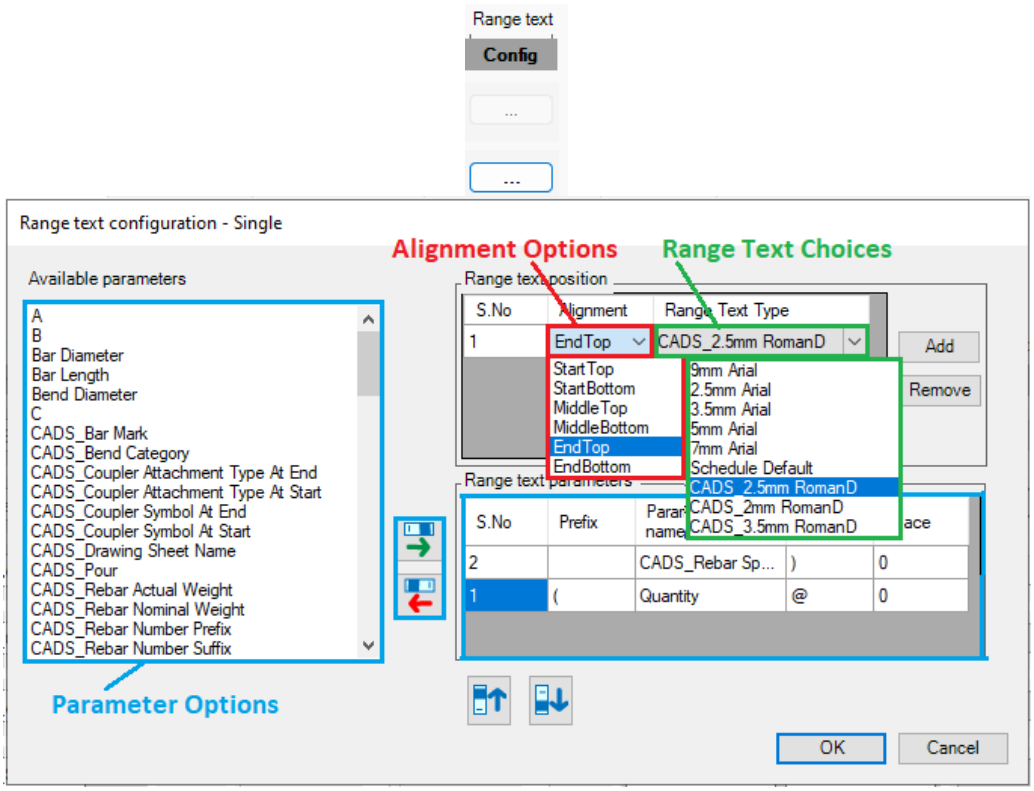
Range Line Families and Types can also be configured in the Annotation Tab.
For instance, the Range/Set Rebar Annotation is configured to use a liner dimension with a 2.5mm arrow.



13.5.2 Range Text Configuration

Select the Browse button alongside each of the Range Annotation Styles to access the Range Text Configuration dialog.

Copyright © Computer and Design Services Limited



Range Text Position

The Range Text Alignment and Range Text Type can be amended using the drop-down menus.

Range Text Parameters

Parameters can be added or removed using the left and right arrows to change the range text content being displayed on the range annotation.

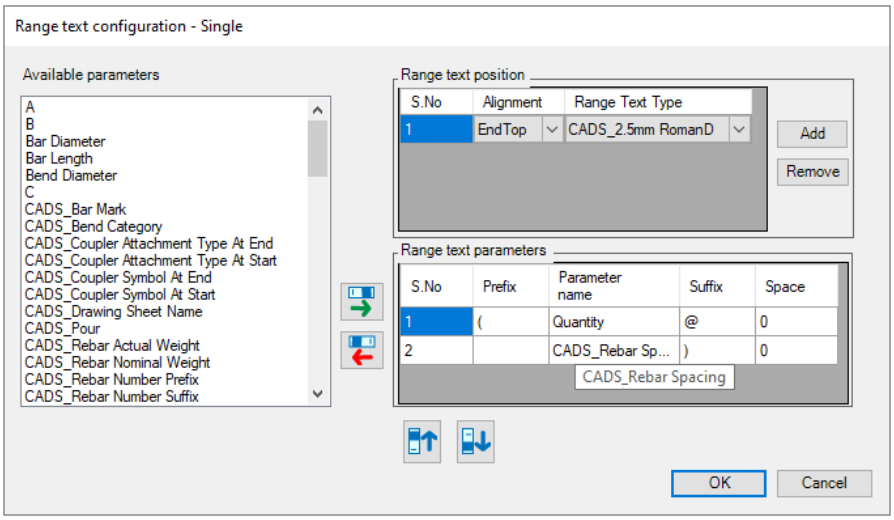
13.5.3 Range Text Annotation Styles

Each of the Range Text default styles are illustrated below.

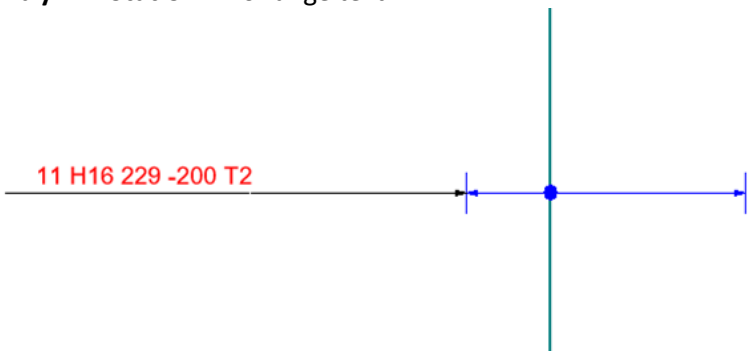
Range/Set Annotation

This the Range/Set is used to annotate single and fixed pitch multiple ranges, when the range is annotated it will show as follows along the range line.

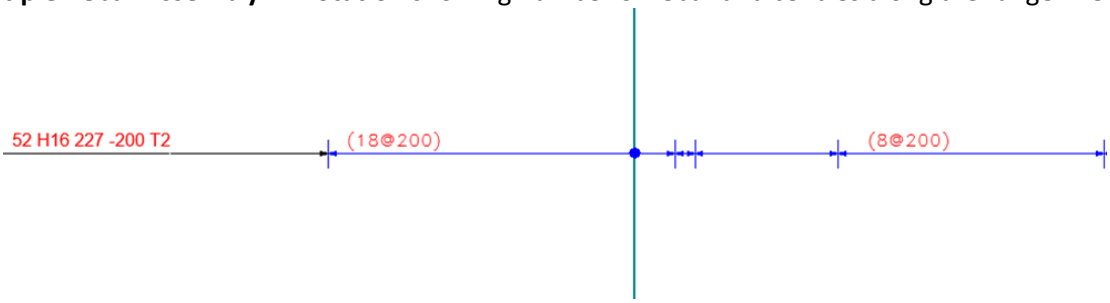
Copyright © Computer and Design Services Limited



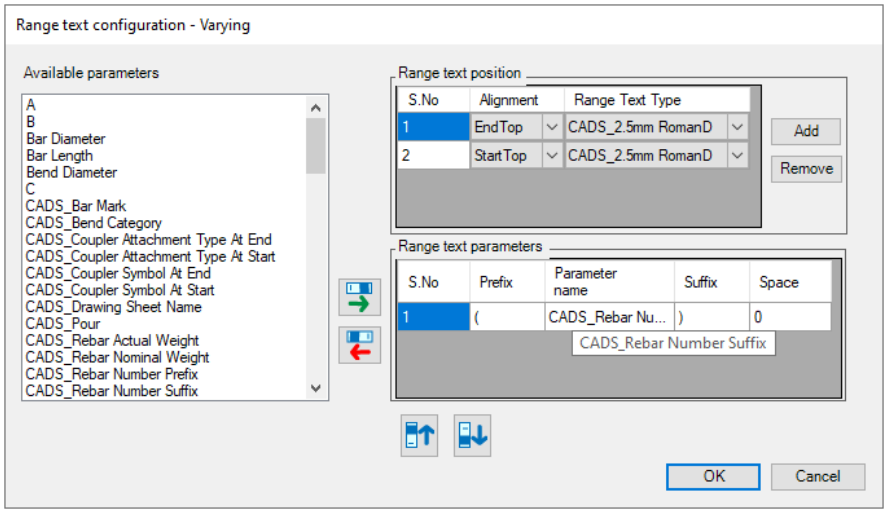
Single Rebar Assembly Annotation – no range text.



Multiple Rebar Assembly Annotation showing number of rebar and centres along the range line.

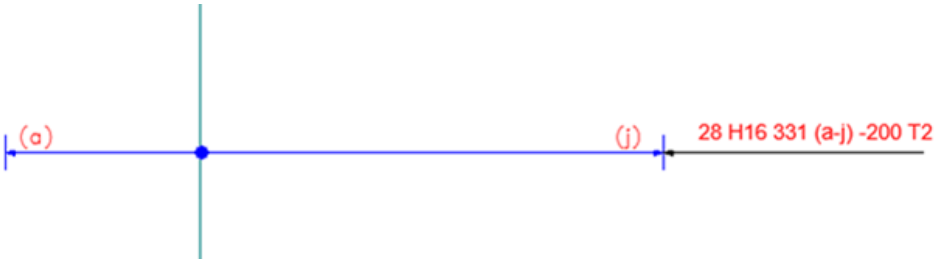


Varying Annotation

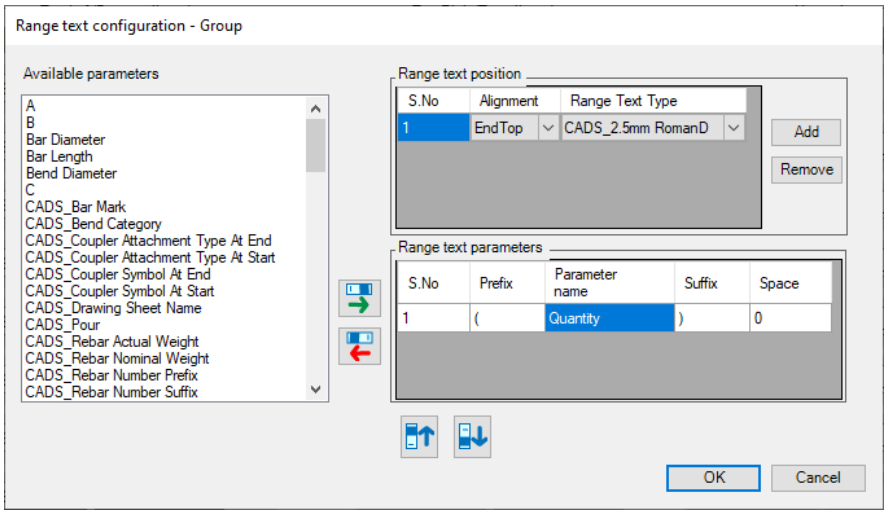


Varying Annotation – showing first and last bar indicators in brackets along range line.

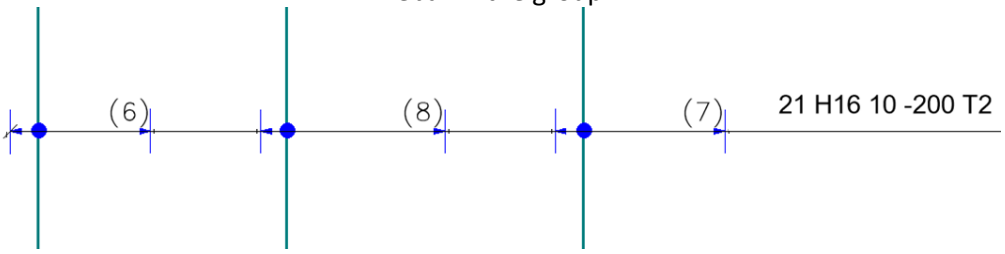
Copyright © Computer and Design Services Limited



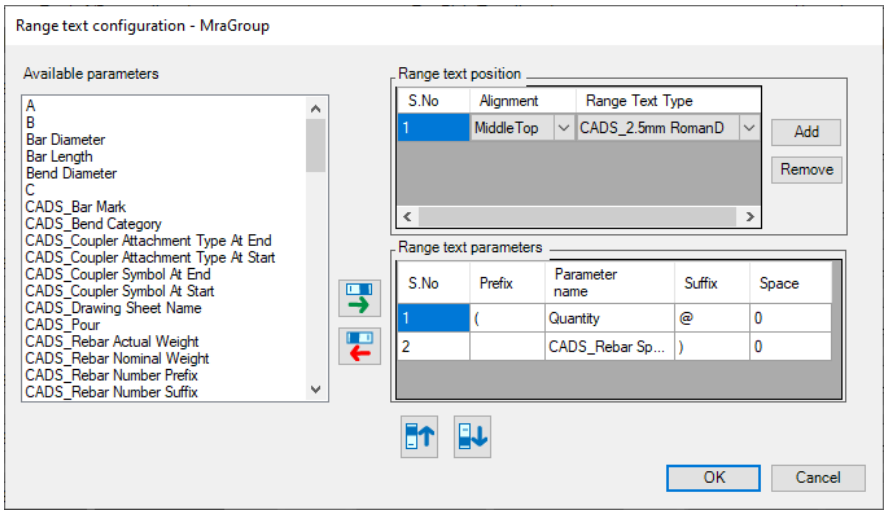
Fixed Spacing Group Annotation



Fixed Spacing Group Annotation - showing range text, the number of rebar for each assembly of rebar in the group.

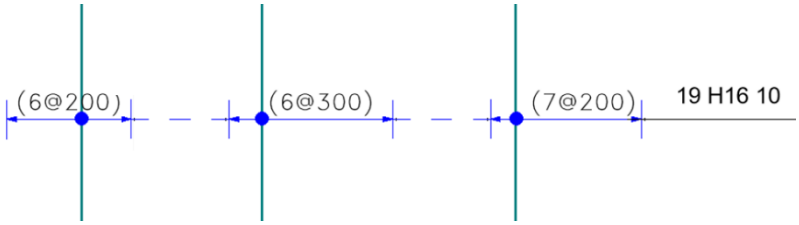


Multi Spacing Group Annotation

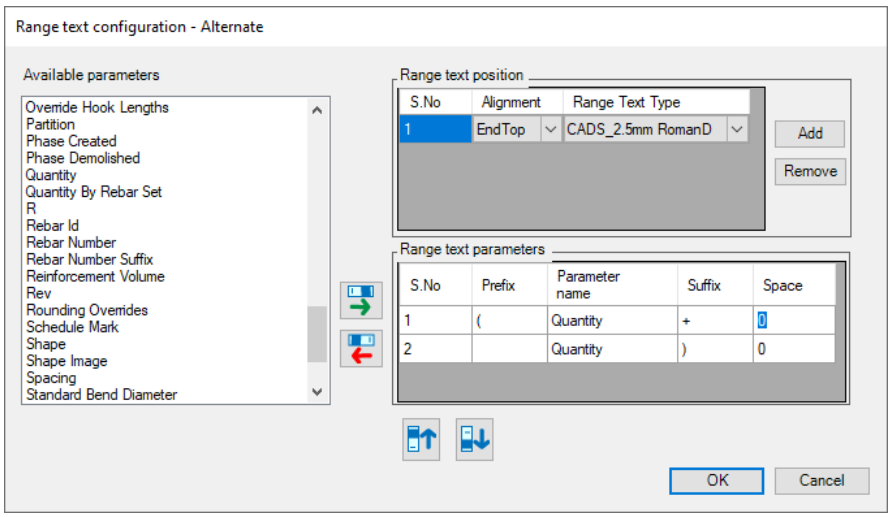


Multi Spacing Group Annotation – showing range text, the number of rebar and spacing for each assembly of rebar in the group.

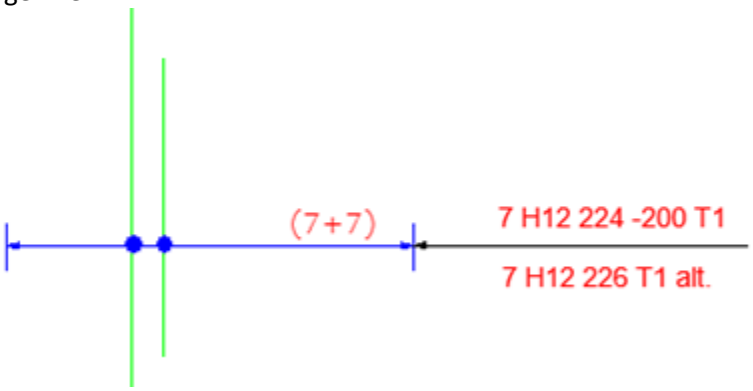
Copyright © Computer and Design Services Limited



Alternate Group Annotation

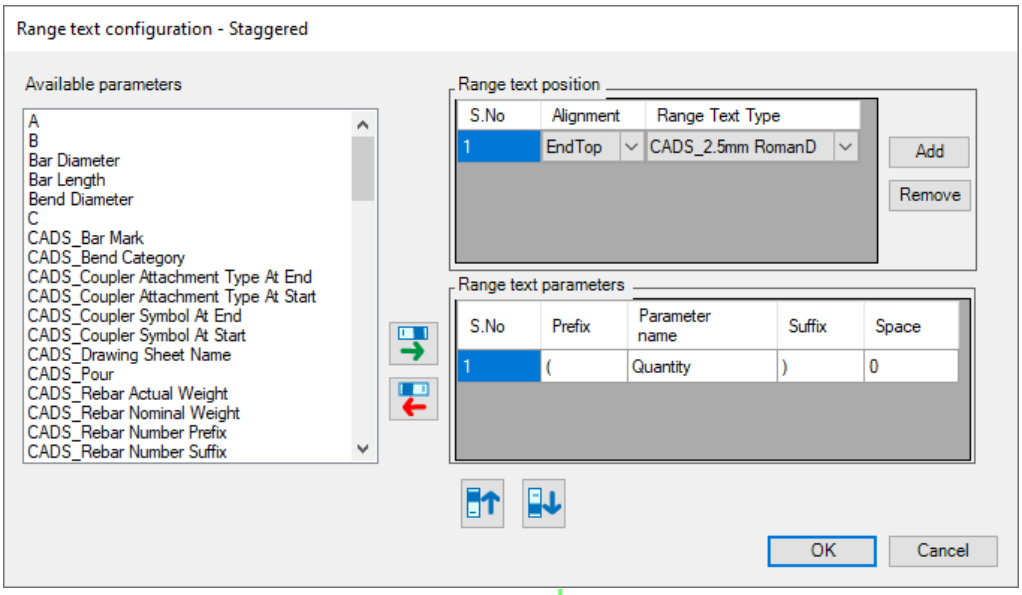


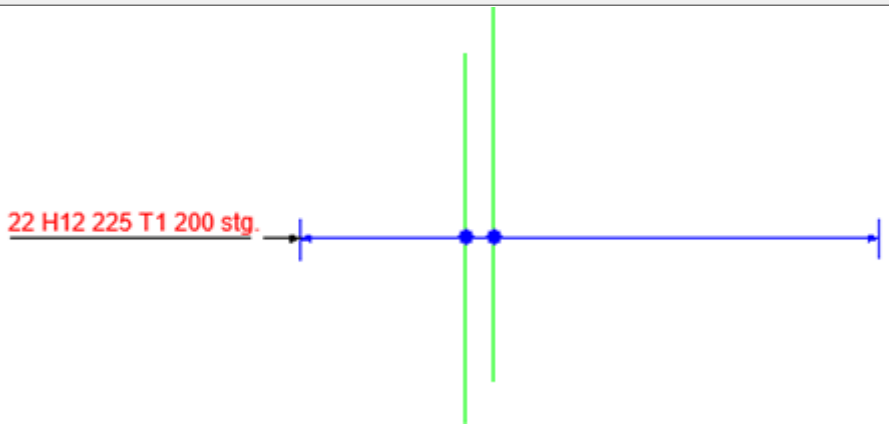
Alternate Group Annotation – showing the range text, the number of alternate rebar in the assembly along range line.



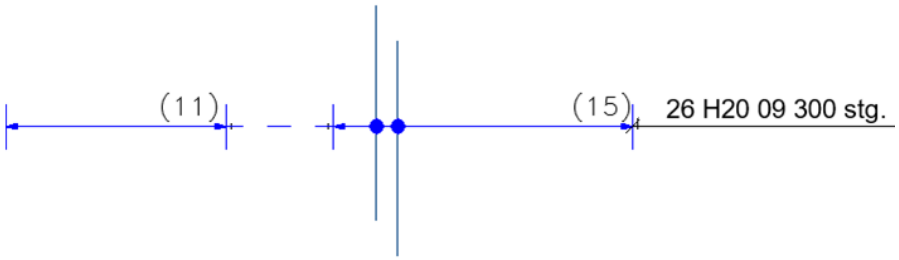
Copyright © Computer and Design Services Limited

Staggered Group Annotation





Staggered Group Annotation - Multiple assembly group of Staggered Rebar showing range text, the number of rebar in each assembly.



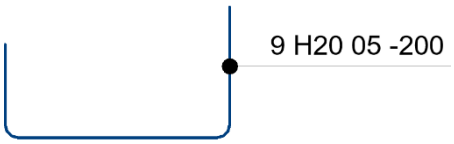
13.5.4 Rebar Annotation Types

This section illustrates the different types of Range and Tag Annotation range that can be configured in the Annotation Tab.

Single

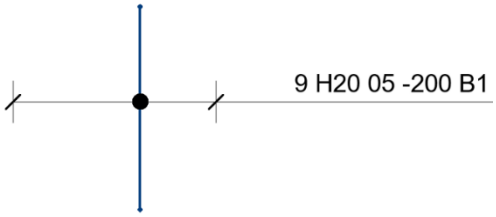
Single rebar with a bar label annotation.

Copyright © Computer and Design Services Limited



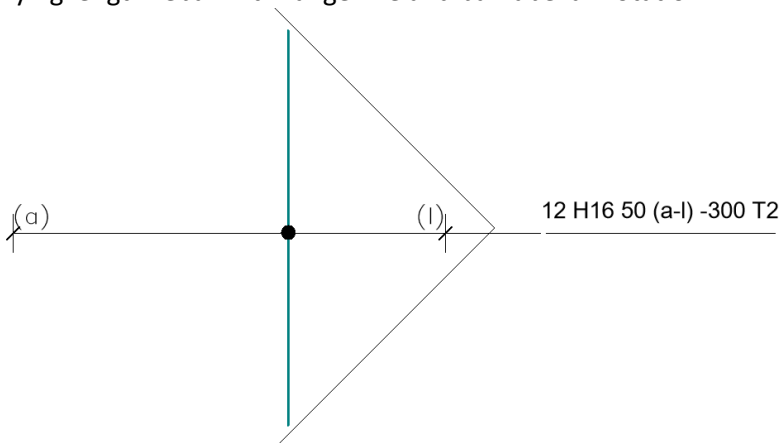
Range/Set

Standard assembly of rebar with a range line and bar label annotation.



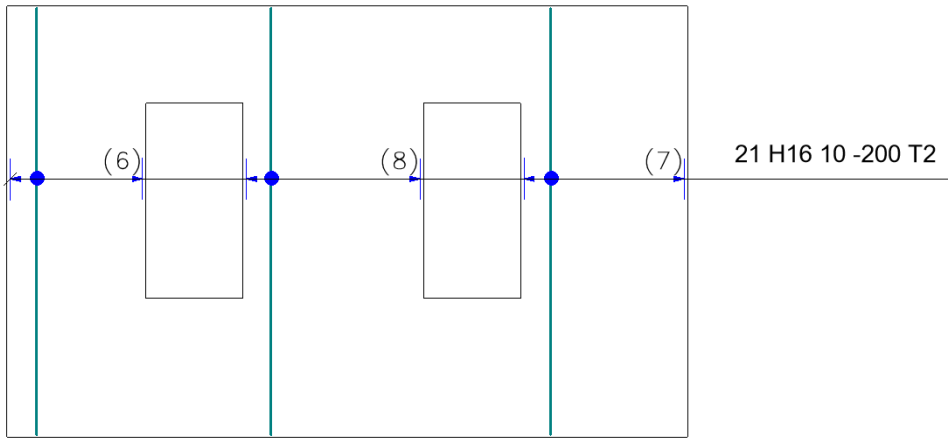
Varying

An assembly of Varying length rebar with range line and bar label annotation.



Fixed Spacing Group

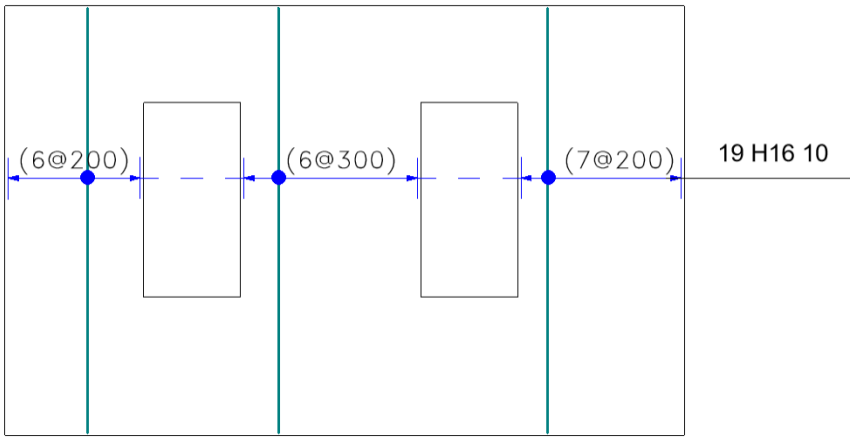
Group of rebar assemblies of the same bar mark at the same centres grouped together with a range line and bar label annotation.



Multi Spacing Group

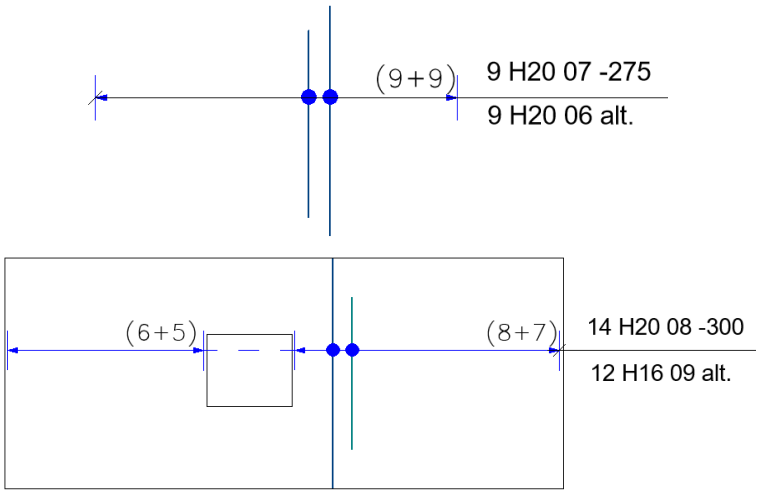
Group of rebar assemblies of the same bar mark at the different centres grouped together with a range line and bar label annotation.

Copyright © Computer and Design Services Limited



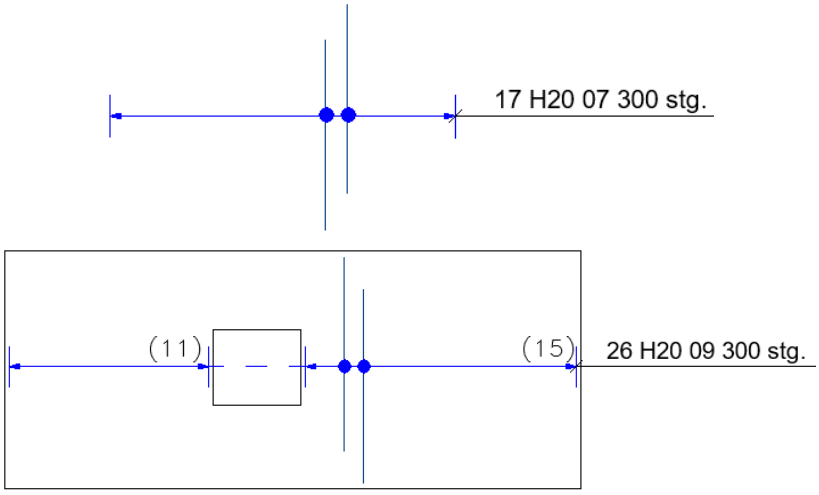
Alternate Group

Group of two rebar assemblies of different bar marks grouped together with a range line and two bar labels. Multiple groups of the same two bar marks placed at the same centres can be annotated as shown in the second image.



Staggered Group

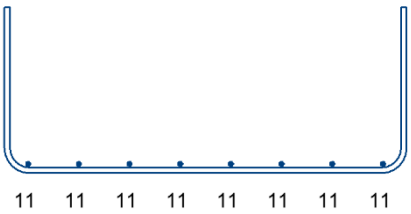
Group of two rebar assemblies of the same bar mark staggered across a structure with a range line and one bar label. Multiple groups of the same bar mark of staggered groups placed at the same centres can be annotated as shown in the second image.



Copyright © Computer and Design Services Limited

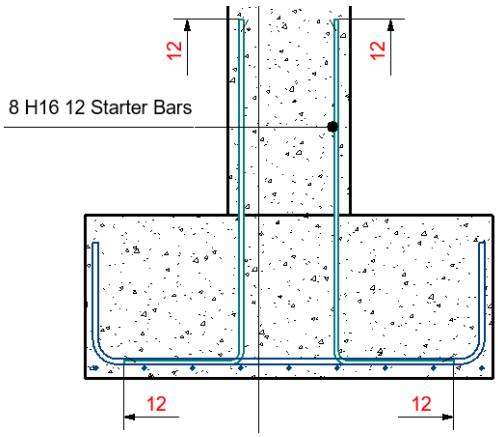
Bar Reference

Bar Mark Annotation to indicate individual rebar or runs of bars in section.



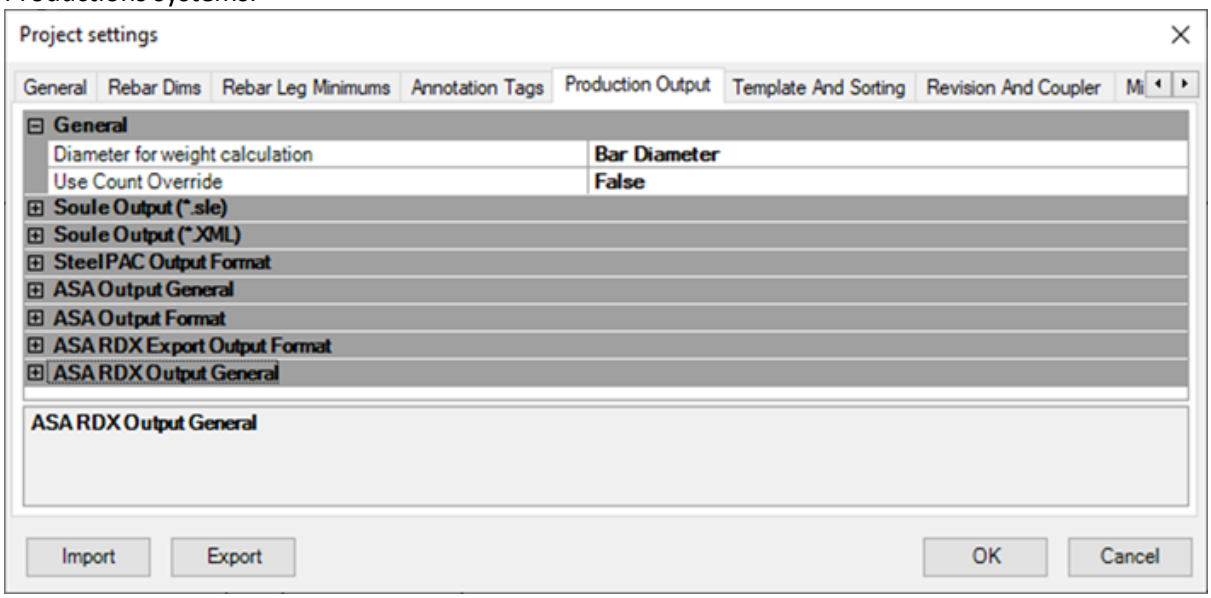
Section

Specific Bar Label Annotation for presentation in Structural Sections such as Grouped Starter Bars in a Padbase for a Column.



13.6 Production Output Tab

Configuration Settings for the Production Output commands which supports Soule, SteelPAC & aSa Productions systems.



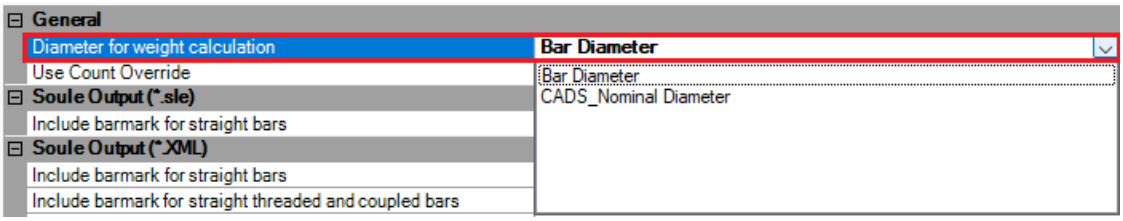
Copyright © Computer and Design Services Limited

13.6.1 General

General	
Diameter for weight calculation	Bar Diameter
Use Count Override	False

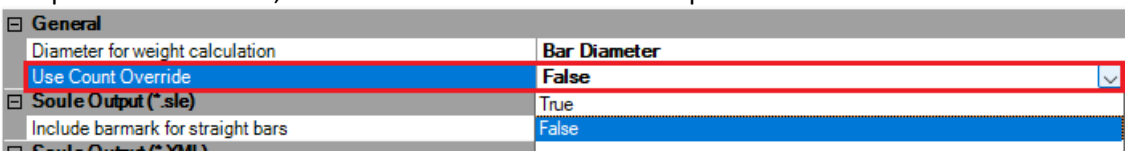
Diameter for weight calculation

Bar weights can be calculated either using the drawn diameter or the CADS Nominal Diameter. This allows the rebar to be detailed using their deformed diameter but the weight calculated on their nominal bar diameter.



Use Host Count Override

If this option is set to True, the host count override value set per release will be considered.

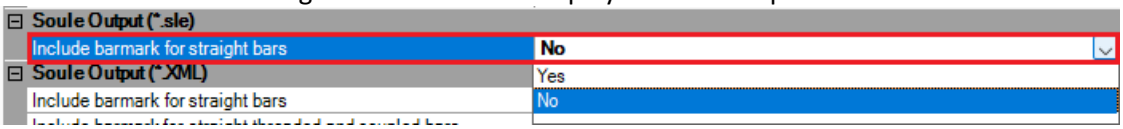


13.6.2 Soule Output (*.sle)

Soule Output (*.sle)	
Include barmark for straight bars	No

Include bar mark for straight bars

Display of bar marks for straight bars is controlled via this setting. Default value is “No” and this will mean the bar marks for straight bars will not be displayed in the output file.



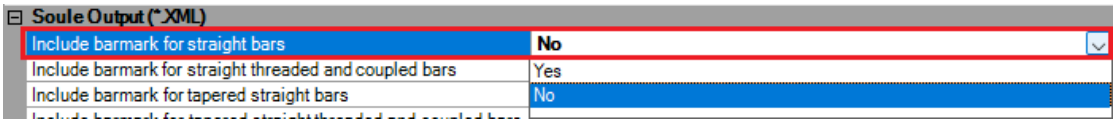
13.6.3 Soule Output (*.XML)

Soule Output (*.XML)	
Include barmark for straight bars	No
Include barmark for straight threaded and coupled bars	Yes
Include barmark for tapered straight bars	Yes
Include barmark for tapered straight threaded and coupled bars	Yes
Include coupler data	Yes

Include bar mark for straight bars

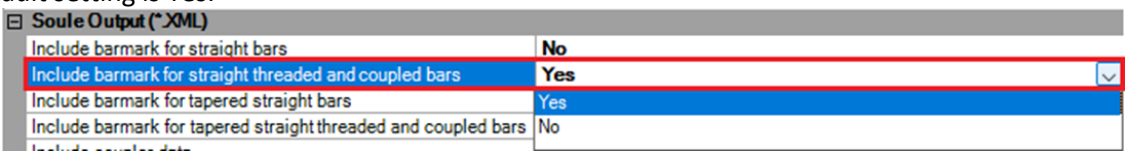
The display of bar marks for straight bars is controlled via this setting. Default value is “No” and this will mean the bar marks for straight bars will not be displayed in the output file.

Copyright © Computer and Design Services Limited



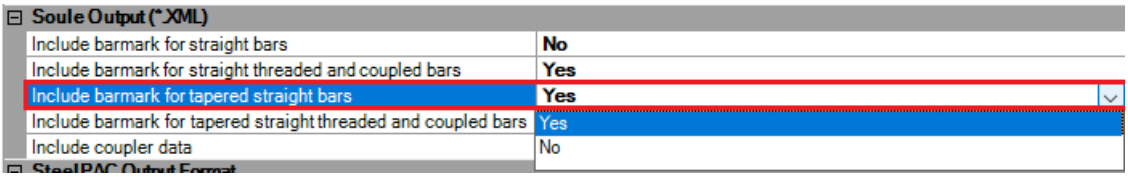
Include bar mark for straight threaded and coupled bars

The display of bar marks of rebar with coupler is controlled through this configuration option, the default setting is Yes.



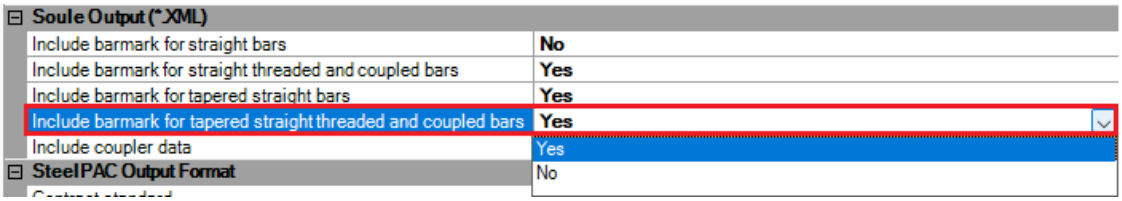
Include bar mark for tapered straight bars

Controls whether bar marks are displayed for straight tapered ranges, the default setting is set to Yes.



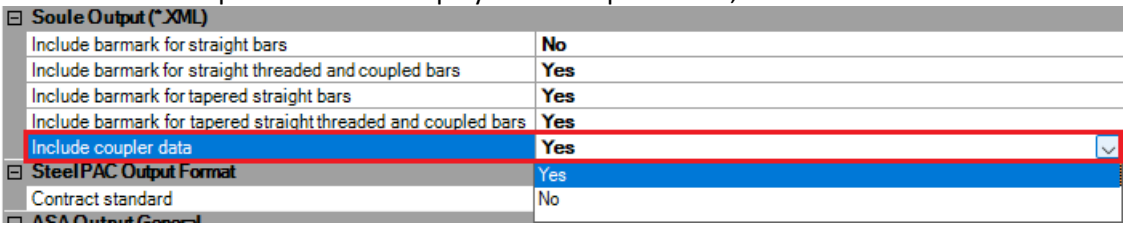
Include bar mark for tapered straight threaded and coupled bars

Controls whether bar marks are displayed for straight tapered ranges, the default setting is set to Yes.

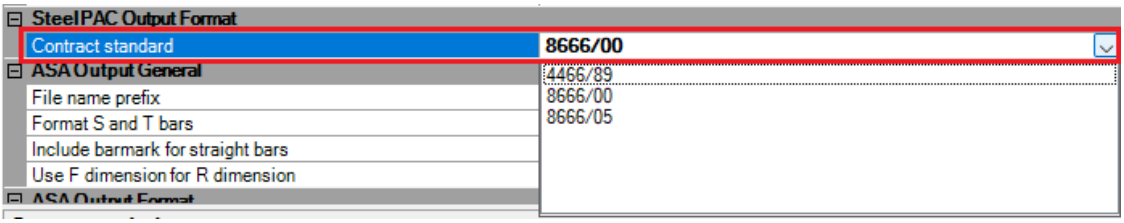


Include Coupler data

Controls whether coupler details are displayed for coupled rebar, default is set to Yes.



13.6.4 SteelPAC Output Format

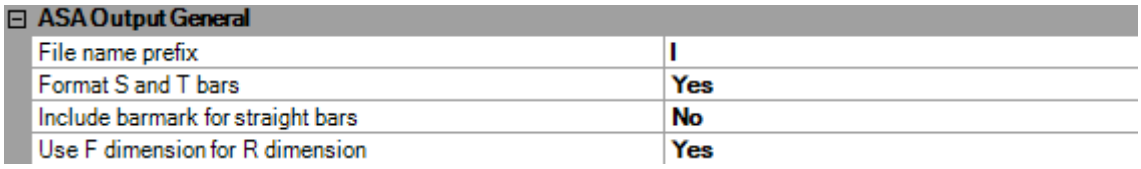


Copyright © Computer and Design Services Limited

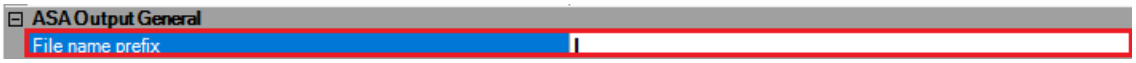
Contract Standard

Steelpac output displays a value such as 8666/05 or 8666/00 or 4466/89 as contract standard in the output file, specify these values when producing the output file.

13.6.5 ASA Output General

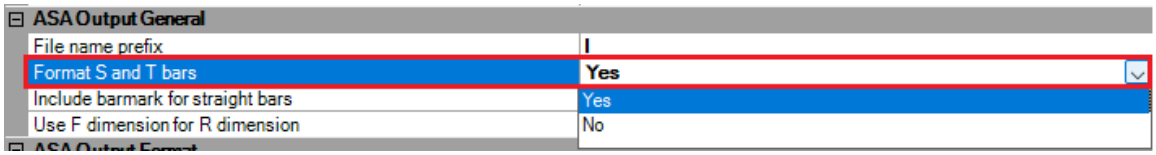


File name prefix



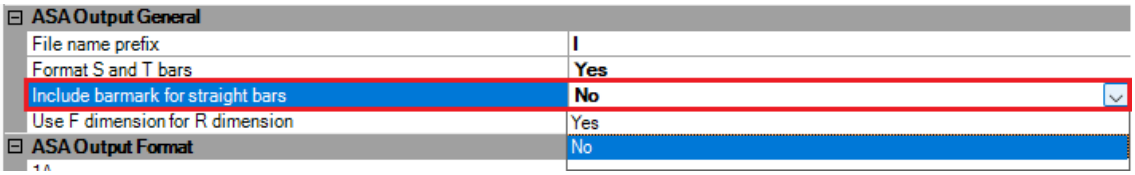
Indicated the prefix to be added to the production output filename.

Format S and T bars



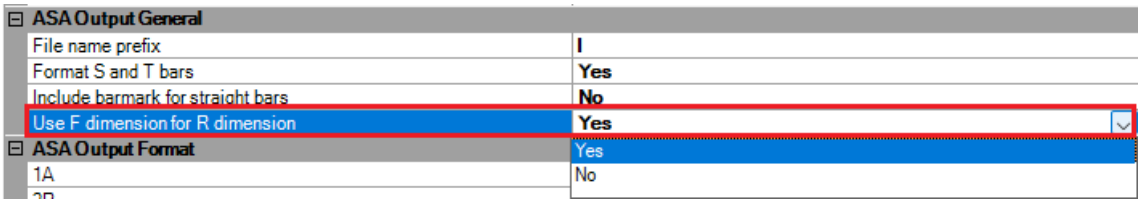
Format S and T bars, default set to Yes

Include bar mark for straight bars



The display of bar marks for straight bars is controlled via this setting. Default value is “No” and this will mean the bar marks for straight bars will not be displayed in the output file.

Use F dimension for R dimension



Default set to Yes, so the R dimension is displayed in the F Dimension position.

Copyright © Computer and Design Services Limited

13.6.6 ASA Output Format

ASA Output Format	
1A	1A %-10s%-21s%-20s%23s%s
2R	2R%2s%3s %-1s%-5s
2R BC code position	78
2R BCD code position	79
2R Coupler1 code position	74
2R Coupler2 code position	75
2R critical dimension code position	76
3B	3B %-18s%3s %3s %-6s
6R Coupler1 code position	31
6R Coupler2 code position	32
6R(Not straight)	6R%6d%6s%6s %-10s
6R(Straight)	6R%6d%6s%7s%6s
Blank 4T	4T
Coupler text	N
Dimension format	%5s
End line 8	8 WEIGHT:%8.0f DEF: I3TTTYA XX X X
Length format	%5s
Line 8	8
Max number of dimension	11
New 4T	4T MK %-6s VARYING BARS Y Y Y
Strips characters from size	#M
Units code(Imperial)	40000
Units code(Metric)	30000

For detailed information on the ASA configuration output, please contact CADS Technical Support.

Unit String explanations

Select the appropriate unit string setting from the drop-down menu. Each option is described below;

- NIII US imperial bar sizes with imperial dimensions.
- YSMM US soft metric bar sizes with metric dimensions.
- NSII US soft metric bar sizes with Imperial dimensions.
- NIMM US imperial bar sizes with metric dimensions.
- YMMM Canadian pure metric bar sizes with metric dimensions.
- NIMI Canadian pure metric bar sizes with imperial dimensions.

13.6.7 ASA RDX Export Output Format

ASA RDX Export Output Format	
Accumulate	0
Alpha character	A
Auto mark	1
Bend precision	
Bent vary code id	A
Cutting precision	
Direct ship	0
Disable bar marks	0
Generate tags	0
Line closed	0
Straight vary code id	S
Unique bent marks	0
Unique straight marks	0

For detailed information on the ASA RDX Export Output format configuration, please contact CADS Technical Support.

Copyright © Computer and Design Services Limited

13.6.8 ASA RDX Output General

ASA RDX Output General	
LengthUM	M
SizeUM	M
WeightUM	M
Allow multiple grades	No
aSa RDX file version	2
Building code Id	ACI
Detailing lap	40D
Include bar mark for straight bars	No
Include bar mark for straight varying bars	No
Lap table name	
Material type Id	D
Recut code	
Soft metric hooks	0
Steel country Id	ANY
Weight Calc Id	T

For detailed information on the ASA RDX Output General configuration, please contact CADS Technical Support.

New additions to the ASA RDX Output have been included to config the units for the production output for length, size and weight as Imperial or metric.

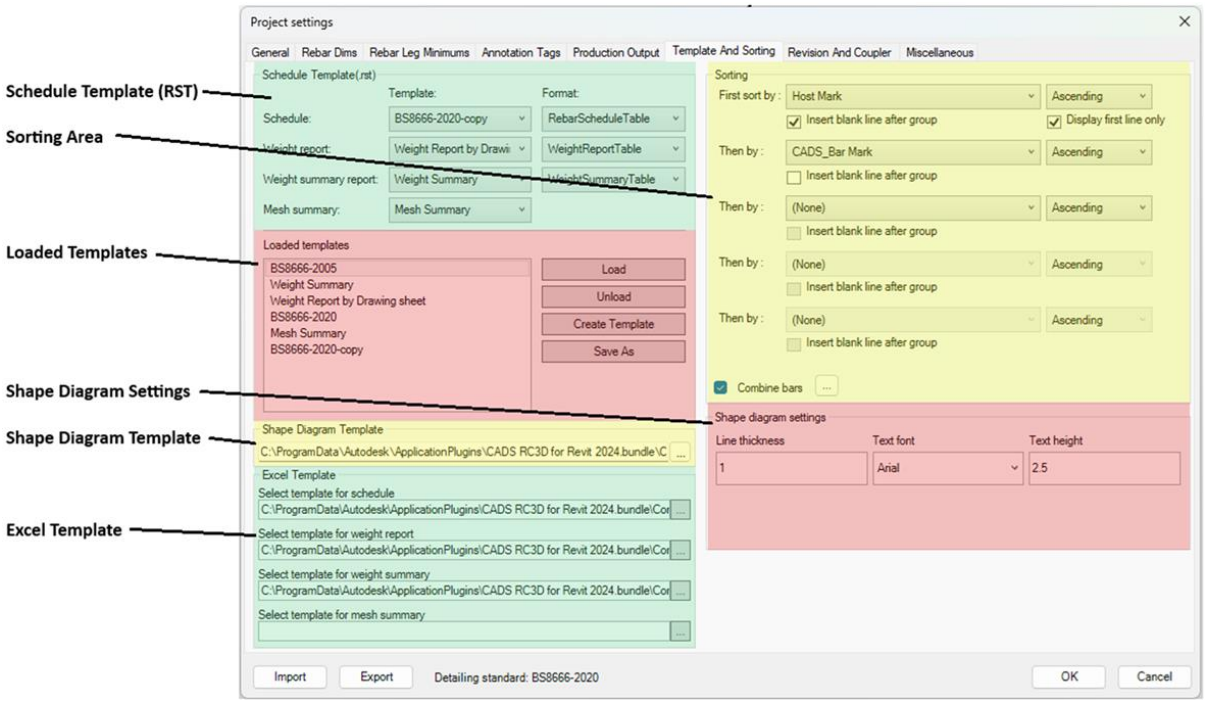
- LengthUM Length measurement unit setting either (I) Imperial or (M) Metric.
- SizeUM Size measurement unit setting either (I) Imperial or (M) Metric.
- WeightUM Weight measurement unit setting either (I) Imperial or (M) Metric.

13.7 Template and Sorting Tab

The Schedule and Sorting Tab is divided into five areas, Schedule Templates, Loaded Templates, Excel Template, Sorting and Shape Diagram Settings.

- **Schedule Template:** Used to define the template that is used in the Schedule Viewer and in the Place Schedule command.
- **Loaded Templates:** Lists the currently loaded schedule & weights templates.
- **Excel Template:** Used to define the template used by the Excel Export Schedule command.
- **Sorting Area:** Used to define the sorting method for the Schedule.
- **Shape Diagram Settings:** Used to define the line thickness, font etc for the diagrams.

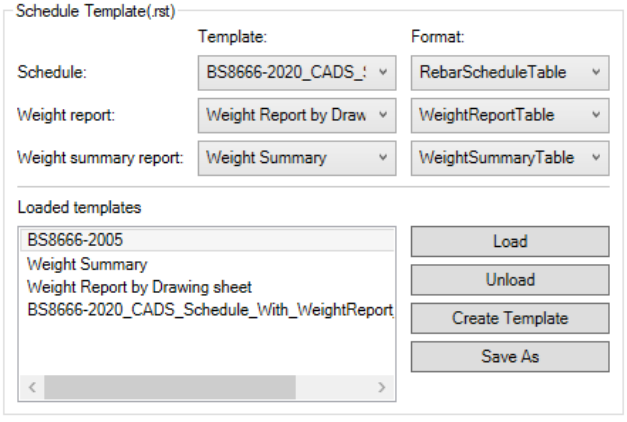
Copyright © Computer and Design Services Limited



- **Schedule Template (RST):** The schedule templates have the file extension RST and by default are loaded from the "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\RebarSchedule\UK" folder.

13.7.1 Schedule Template (RST) & Loaded Templates

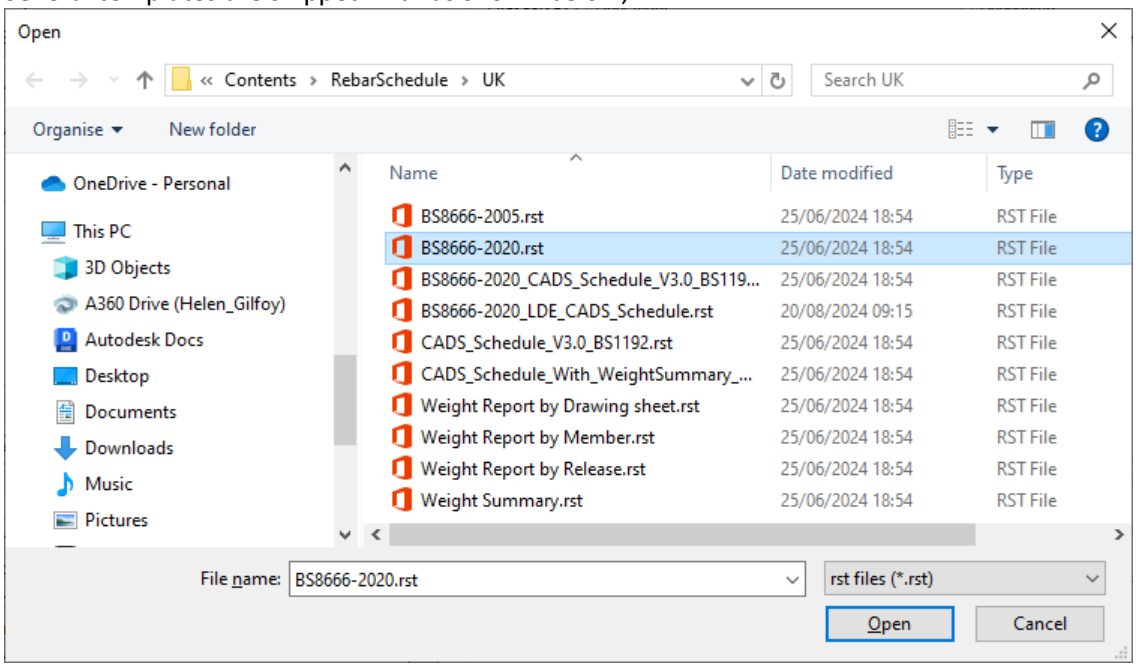
Each Template can contain several schedule formats. Configure the schedule, weight report & weight summary report on the drop-down menus.



- **Template:** Name of the template loaded.
- **Format:** Format of the table loaded, schedule, weight report or weight summary.
- **Schedule:** Shows the name of the loaded schedule template that will be used by default when creating a schedule.
- **Weight Report:** Shows the name of the loaded weight report that will be used by default when creating a schedule.
- **Weight Summary Report:** Shows the name of the loaded weight summary report that will be used by default when creating a schedule.

Copyright © Computer and Design Services Limited

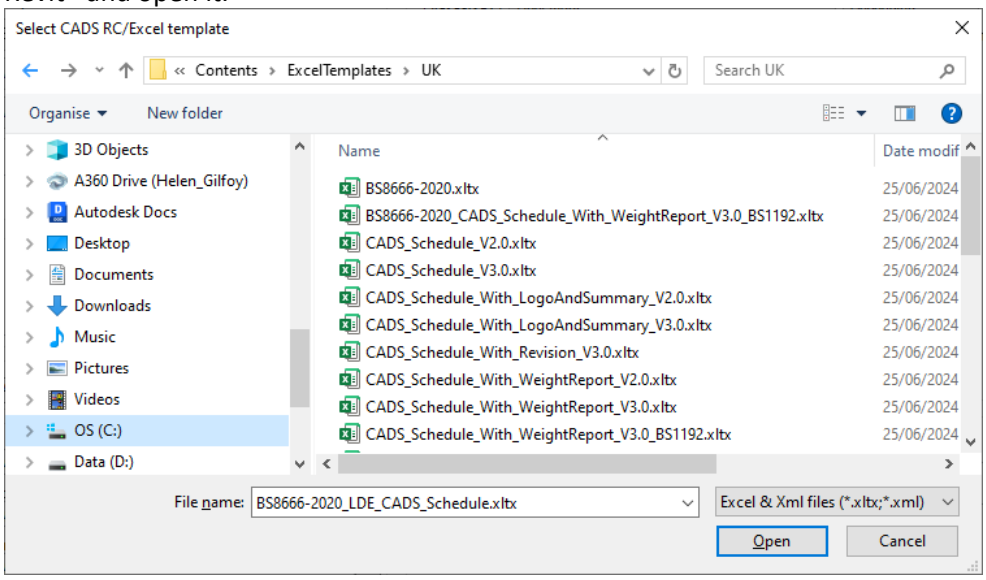
- **Loaded Templates:** Displays a list of templates that are currently loaded into the Revit® Project.
- **Load:** Select the Load button to open a predefined schedule template. Several templates are shipped with as shown below;



This will then show in the list of templates in the dialog. Several templates can be loaded into the project. The appropriate schedule template can be selected when generating views of each schedule.

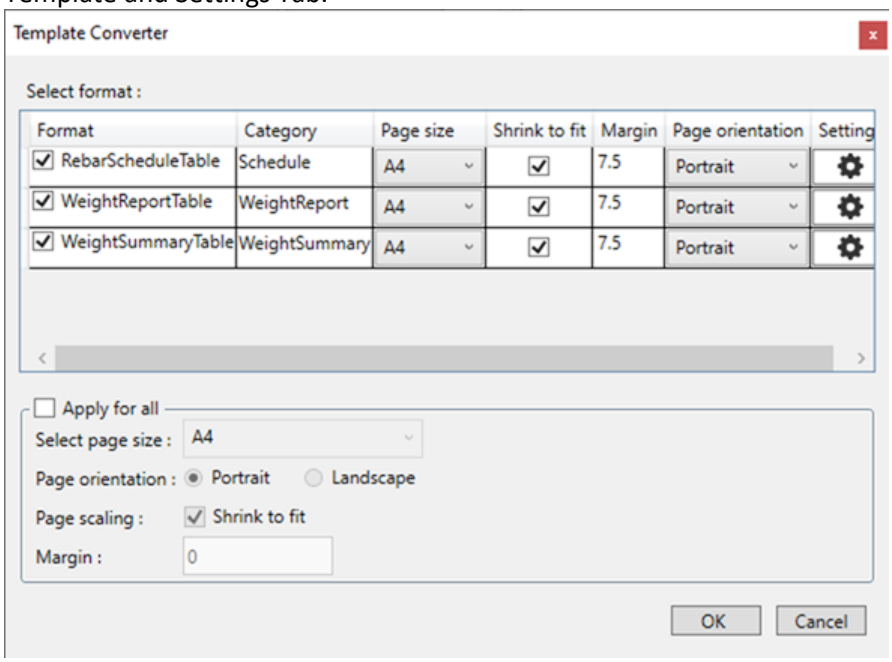
- **Unload:** Use the Unload option to remove a schedule template from the list. The template can only be unloaded if it has not been used to Create a Schedule in the Schedule dialog.
- **Create Template:** The Create Template option can open either an Excel Schedule Template file (*.XLTX) or a CADS RC 2D / RebarCAD 2D for AutoCAD Schedule on Drawing Template file (*.XML).

Click the Create Template option and locate the CADS RC 2D / RebarCAD 2D Schedule on drawing template (*.XML) or Excel template created to be compatible with CADS RC3D / RebarCAD 3D for Revit® and open it.

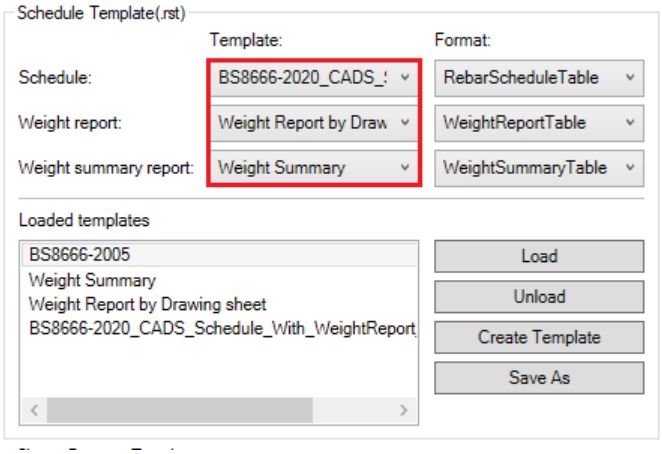


Copyright © Computer and Design Services Limited

In the Template Convertor dialog select which schedule format needs to be converted, the page size, scaling, margin and orientation. Alternatively, select the Apply to All option so all templates are selected with the same settings. Click OK to load the selected templates into the CADS RC3D Template and Settings Tab.

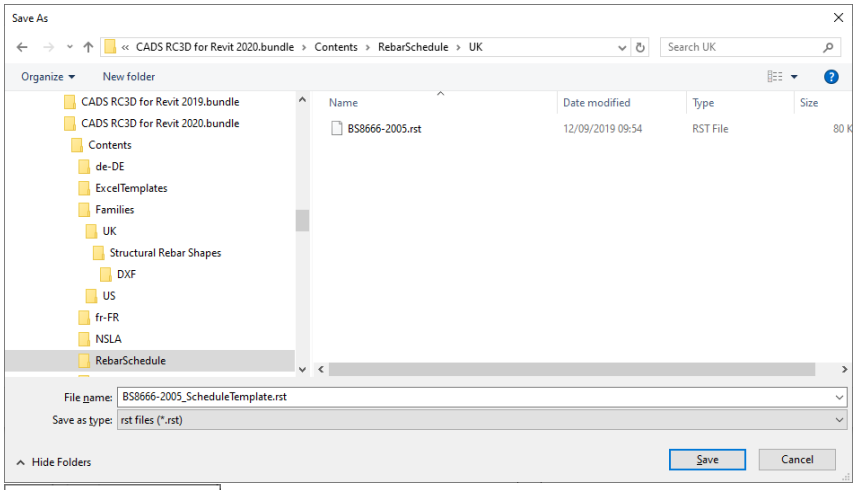


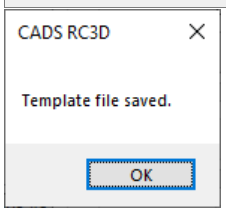
The Schedule template is displayed in the list of available templates. The templates used by default to create the schedule and weight reports are displayed alongside each template type shown in the red box in the diagram below;



- **Save As:** Any imported templates can be saved as CADS RC3D schedule templates (*.rst) by selecting the Save As option.

Copyright © Computer and Design Services Limited

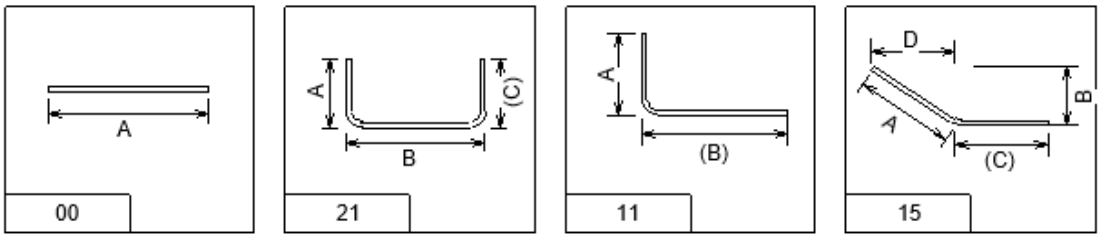




Note: In the current version there are no editing facilities for RST files.

13.7.2 Shape Diagram Template

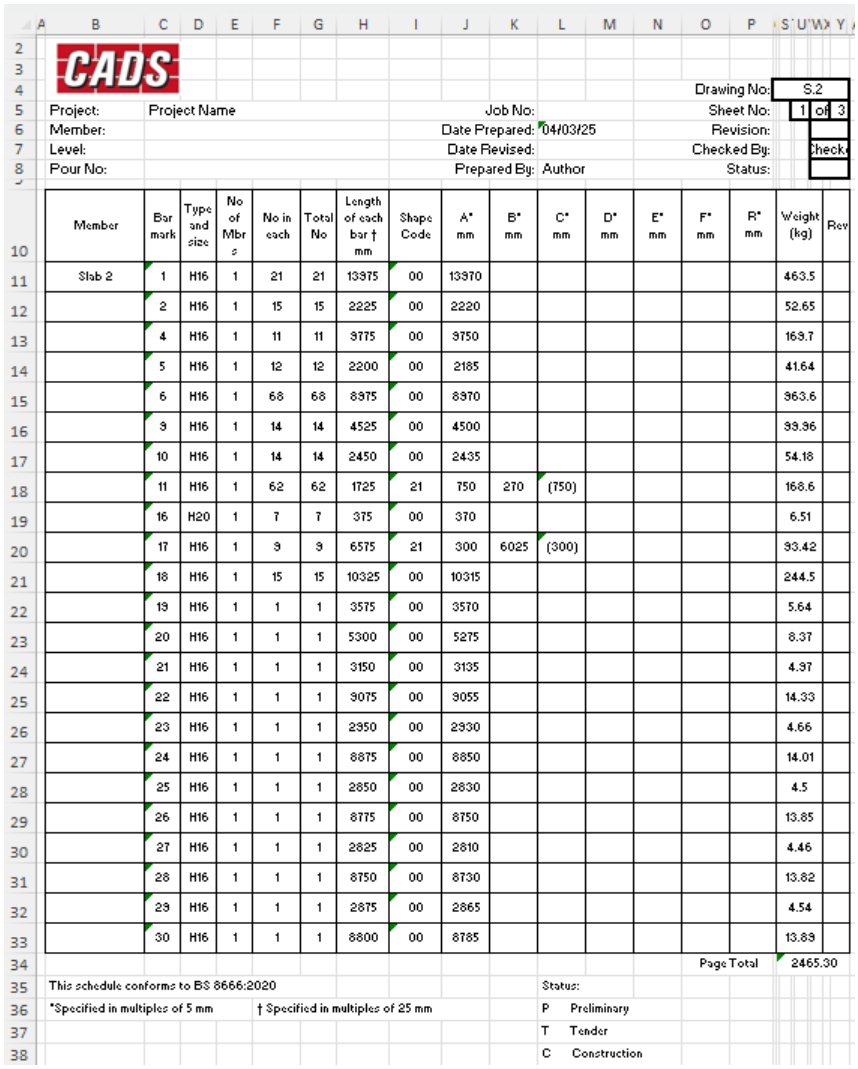
- **Shape Diagram Template:** Defines the family template used to place the shape diagrams on the drawing. The default family is "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\RebarSchedule\Template\CADS_ShapeDiagramtemplate.rfa".



13.7.3 Excel Templates

- **Excel Template:** Use the Excel Template browse buttons to load the Excel Templates for the Schedule, Weight Report and the Weight Summary. These templates are used when the schedule, weight report or weight summary are exported to Excel from inside the Schedule Viewer. Only select the v3 Templates, these support diagrams, weights and revisions.

Copyright © Computer and Design Services Limited



CADS

Drawing No: S.2
Project: Project Name — Job No:
Sheet No: 1 of 3
Member: — Date Prepared: 04/03/25
Revision:
Level: — Date Revised:
Checked By: Check
Pour No: — Prepared By: Author
Status:

Member	Bar mark	Type and size	No of Mbrs	No in each	Total No	Length of each bar † mm	Shape Code	A* mm	B* mm	C* mm	D* mm	E* mm	F* mm	R* mm	Weight (kg)	Rev
Slab 2	1	H16	1	21	21	13975	00	13970							463.5	
	2	H16	1	15	15	2225	00	2220							52.65	
	4	H16	1	11	11	3775	00	3750							163.7	
	5	H16	1	12	12	2200	00	2185							41.64	
	6	H16	1	68	68	8975	00	8970							363.6	
	9	H16	1	14	14	4525	00	4500							33.36	
	10	H16	1	14	14	2450	00	2435							54.18	
	11	H16	1	62	62	1725	21	750	270	(750)					168.6	
	16	H20	1	7	7	375	00	370							6.51	
	17	H16	1	9	9	6575	21	300	6025	(300)					93.42	
	18	H16	1	15	15	10325	00	10315							244.5	
	19	H16	1	1	1	3575	00	3570							5.64	
	20	H16	1	1	1	5300	00	5275							8.37	
	21	H16	1	1	1	3150	00	3135							4.97	
	22	H16	1	1	1	9075	00	9055							14.33	
	23	H16	1	1	1	2950	00	2930							4.66	
	24	H16	1	1	1	8875	00	8850							14.01	
	25	H16	1	1	1	2850	00	2830							4.5	
	26	H16	1	1	1	8775	00	8750							13.85	
	27	H16	1	1	1	2825	00	2810							4.46	
	28	H16	1	1	1	8750	00	8730							13.82	
	29	H16	1	1	1	2875	00	2865							4.54	
	30	H16	1	1	1	8800	00	8785							13.89	
													Page Total		2465.30	

This schedule conforms to BS 8666:2020

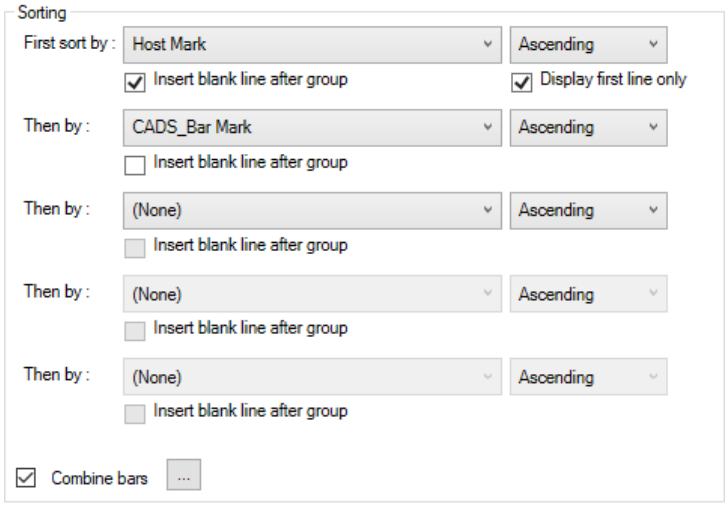
*Specified in multiples of 5 mm † Specified in multiples of 25 mm

Status:
P Preliminary
T Tender
C Construction

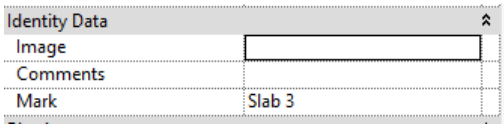
13.7.4 Sorting

The Sorting area configures the default fields used for sorting and the grouping applied to the schedule data.

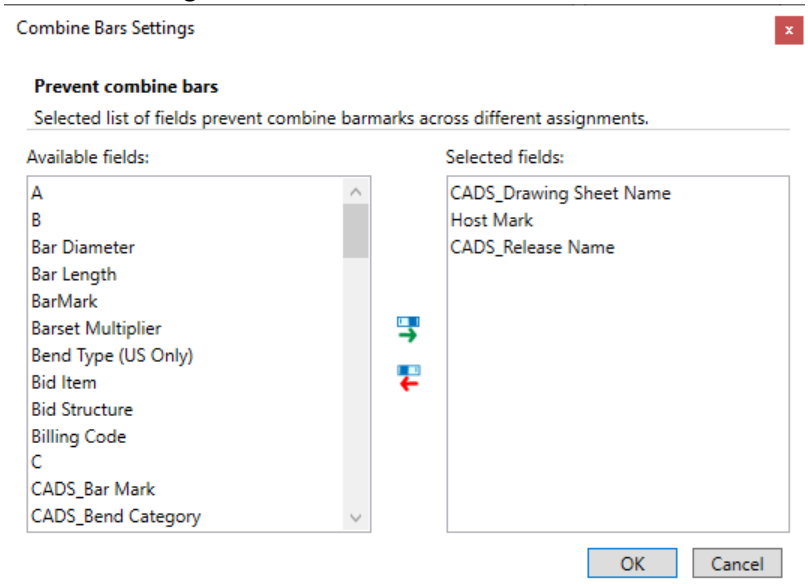
Copyright © Computer and Design Services Limited



- **First Sort by:** By default, the UK Sorting is set to the Host Mark as the first sort item. This is the Mark name of concrete host assigned in the Revit® Properties dialog, as shown below. You can also choose whether to sort in ascending or descending order.
- **Insert Blank Line after Group:** Additionally, you can separate the first sort item with a Blank Line between each item.



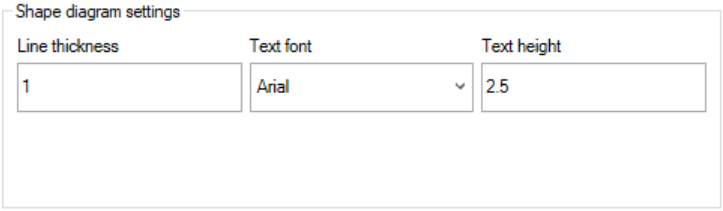
- **Then by:** CADS Bar Mark is the default selection in ascending order. The separator should normally be set to None. You can amend the sort criteria to meet your own requirements.
- **Then by:** A third sort item can be configured if required.
- **Display first sort item in first line only:** Tick this option to display the Host Mark once per host, if Host Mark is configured as the first sort item.
- **Combine Bars:** Combines together all rebar with the same bar mark when checked. In this case the values displayed for 'No. of bars each' and 'Weight' are the totals for the set. The schedule can be prevented from combining bars across different assignments. Select the Browse button to configure the fields.



Copyright © Computer and Design Services Limited

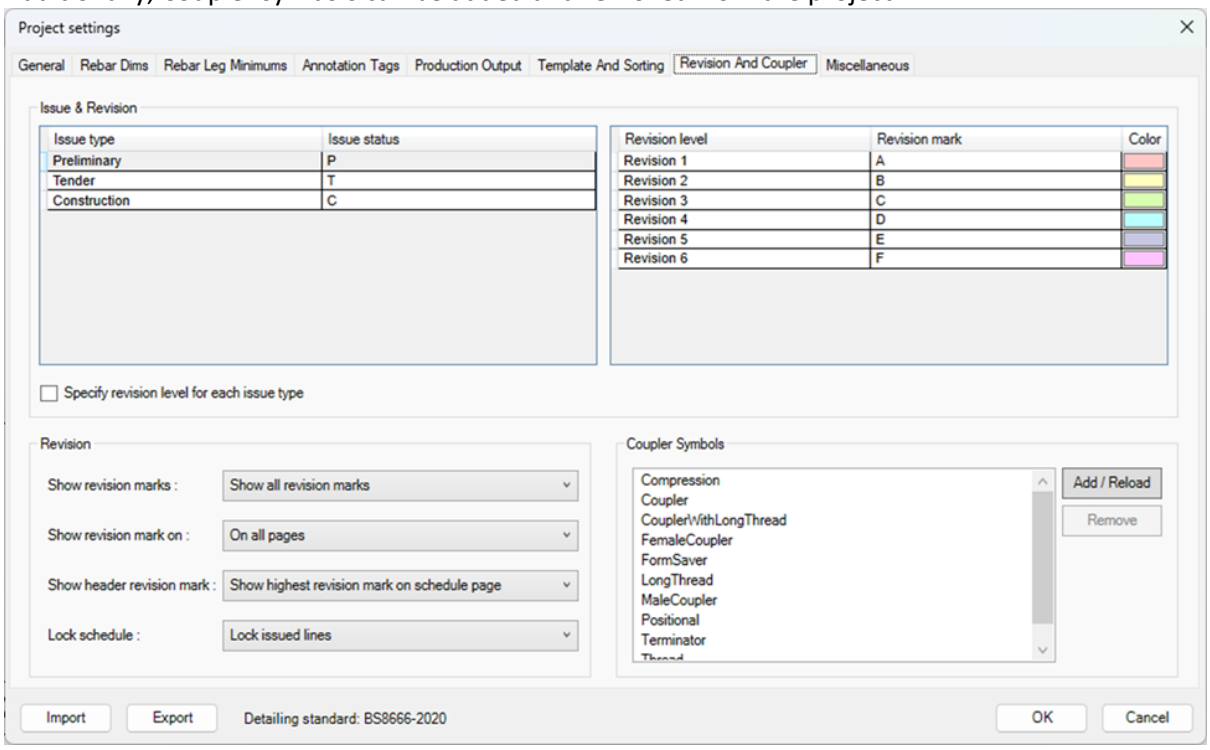
13.7.5 Shape Diagram Settings

- **Shape Diagram Settings:** The Shape diagram settings to control the line thickness, font style and height used when creating the diagrams to add to the schedule.



13.8 Revision & Coupler Tab

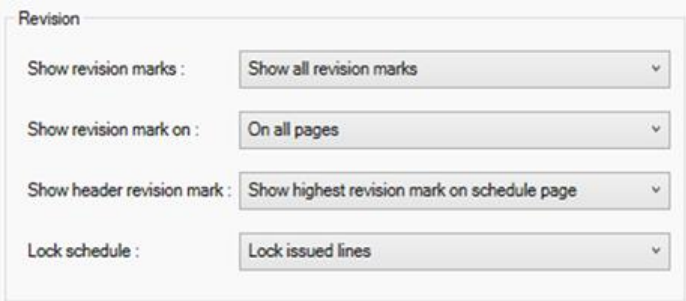
Use the settings on the Revision & Coupler Tab to control how the schedule revisions are handled in the Schedule Viewer. Currently only the schedule can be locked, any editing of the rebar in the model will be annotated with revision marks against each line in the schedule and in the page headers. Revision clouds will have to be manually added to the edited rebar in the model. Revision Levels can be specified for each issue type and the revisions can be assigned a colour. Additionally, Coupler symbols can be added and removed from the project.



All text in this section to be identical to Show Schedule – Project Settings - Revision & Coupler Tab

Copyright © Computer and Design Services Limited

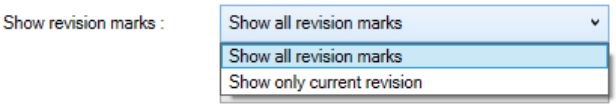
13.8.1 Revision



- **Show Revision Marks:** Select either “Show all revisions marks” or “Only current revision marks” from the drop-down menu.

Show all revision marks This will display the current and previous revision marks against the relevant lines in the schedule view.

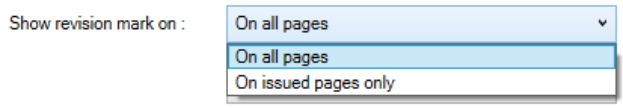
Show only current revision marks Only displays the current revision mark in the schedule against the relevant lines in the schedule view.



- **Show Revision Mark on:** Select either “On all pages” or “On issued pages only” from the drop-down menu.

On all pages Show the revision mark in the header of all pages even if the rebar has not been edited.

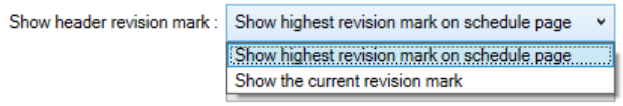
On issued pages only Show the revision mark only on pages where the rebar has been edited.



- **Show Header Revision Mark:** Select either “Show highest revision mark on schedule page” or Show the current revision mark” from the drop-down menu.

Show highest revision mark on schedule page Show the current and previous revision marks.

Show the current revision mark Display only the current revision mark.



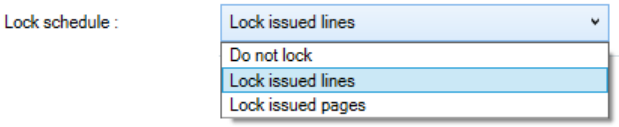
Lock Schedule: Select either “Do not lock”, Lock issued line” or “Lock issued pages” from the drop-down menu.

- **Do not lock** Do not lock the schedule lines after issuing. Any rebar deleted from the model will be deleted from the schedule.

- **Lock issued lines** Lock all schedule lines containing rebar. New rebar will be added to the next available line in the schedule. Rebar deleted from the model will be shown in the schedule with a strike out line.

Copyright © Computer and Design Services Limited

- **Lock issued pages** Lock all schedule pages containing rebar. New rebar will be added to the next schedule page. Rebar deleted from the model will be shown in the schedule with a strike out line.

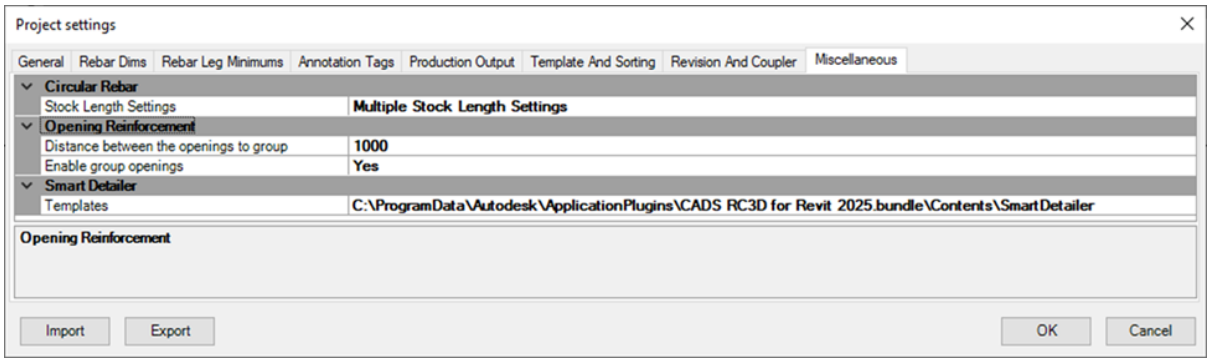


13.8.2 Coupler Symbols

The default coupler symbols are located in the "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\RebarSchedule\CouplerSymbols" folder.

- **Add/Reload** Use the Add / Reload option to add the coupler symbols to the list of available symbols.
- **Remove** Use the Remove option to remove symbols from the list.

13.9 Miscellaneous Tab



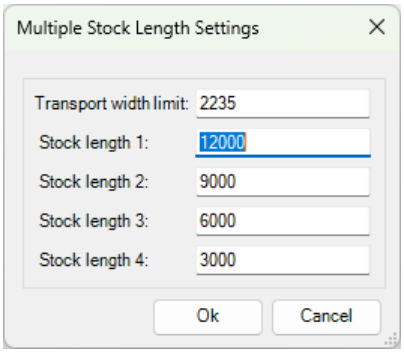
13.9.1 Circular Rebar

Stock Length Settings

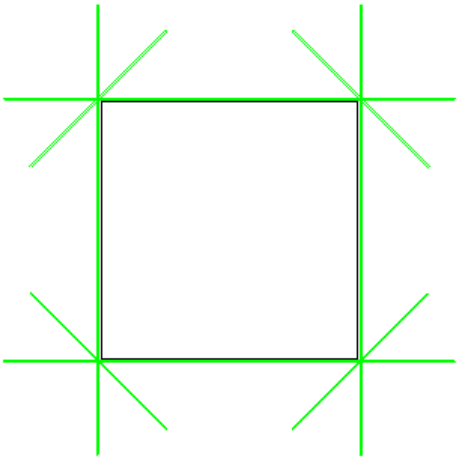


The Stock Length of Rebar used in the Circular Rebar can be configured by selecting the browse button to access the Multiple Stock Length Settings dialog.
Select the browse button to display the Multiple Stock Length Settings dialog. Edit this dialog to suit your required stock lengths.

Copyright © Computer and Design Services Limited



13.9.2 Opening Reinforcement



Opening Reinforcement	
Distance between the openings to group	1000
Enable group openings	Yes

The Opening reinforcement command will now combine the trimmer reinforcement of adjacent openings if the option is switched on and the openings are within the configured distance.

Distance between the openings to group

Opening Reinforcement	
Distance between the openings to group	1000

Use this option to specify the distance between the openings, where the openings are below the configured distance the trimming rebar will continue across both openings.

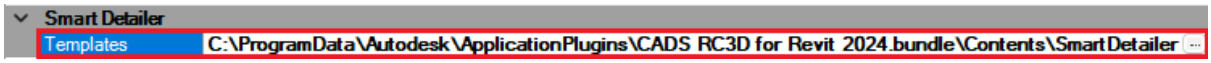
Enable Group Openings

Opening Reinforcement	
Distance between the openings to group	1000
Enable group openings	Yes
Smart Detailer	Yes
Templates	No

Use this option to enable or disable combining reinforcement across adjacent openings.

Copyright © Computer and Design Services Limited

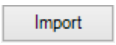
13.9.3 Smart Detailer



Templates

Contains the default path to the templates and folders for the Smart Detailer files "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\SmartDetailer". The folders & files can be moved to a central location.

13.9.4 Import

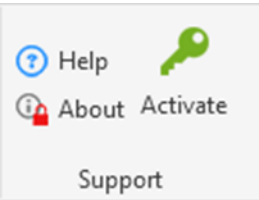
Use the Import option 

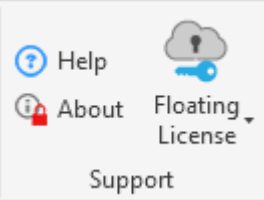
to load a configuration file into the current project. This is the method used to change between BS8666:2005 & BS8666:2020 or client / project specific configurations.

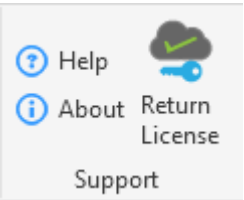
Copyright © Computer and Design Services Limited

14 Support Panel

The Support Panel gives access to the User Guide via the Help option. Use the About option to review the version of RC3D / RebarCAD 3D for Revit® and to Manage the Cloud Licence.

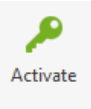




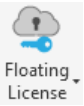


14.1 Licensing

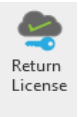
There are three options that appear for licensing



Activate, activate the software with a cloud licence number or Account Based Licensing details.



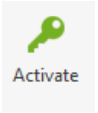
Floating Licence, options to acquire the licence on starting Revit.



Return Licence, use to return the cloud licence to the cloud.

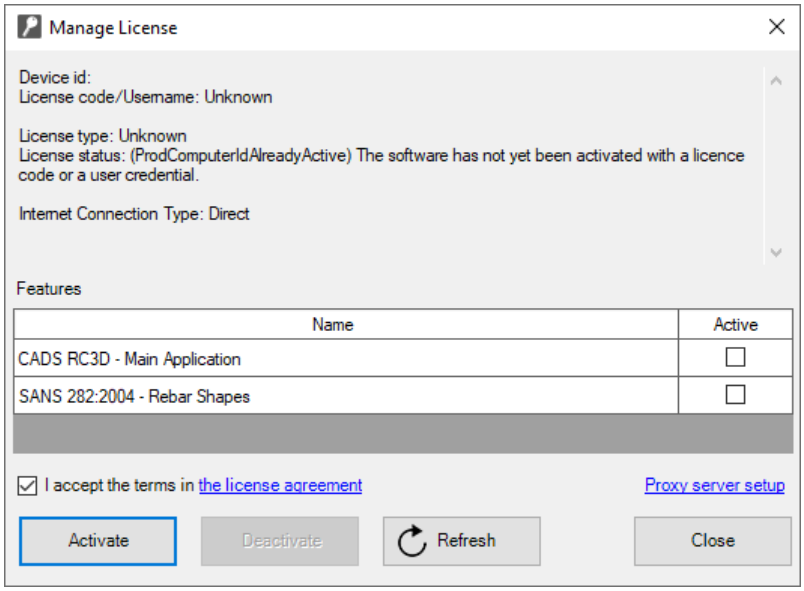
14.1.1 Activate Cloud Licence

When you subscribe to CADS RC3D / RebarCAD 3D, CADS will supply either an 18-digit licence code or a username & password. This will be sent via email with the download details;

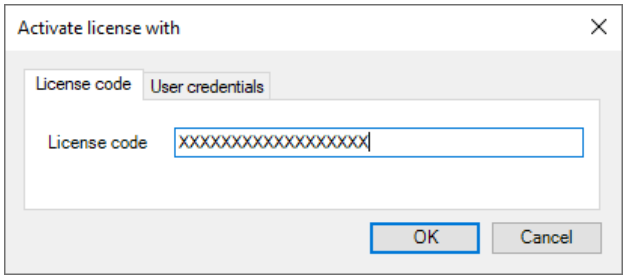
1. Open Revit® and select the CADS RC3D / RebarCAD 3D Tab.
2. To activate the licence, go to the Support Panel and select the Activate 

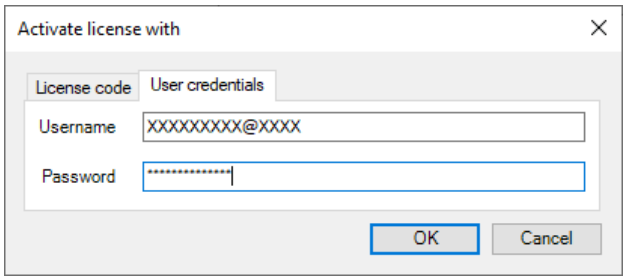
button on the far right of the CADS RC3D / RebarCAD 3D Tab. Alternatively, the Manage License dialog can also be accessed via the About dialog.

Copyright © Computer and Design Services Limited



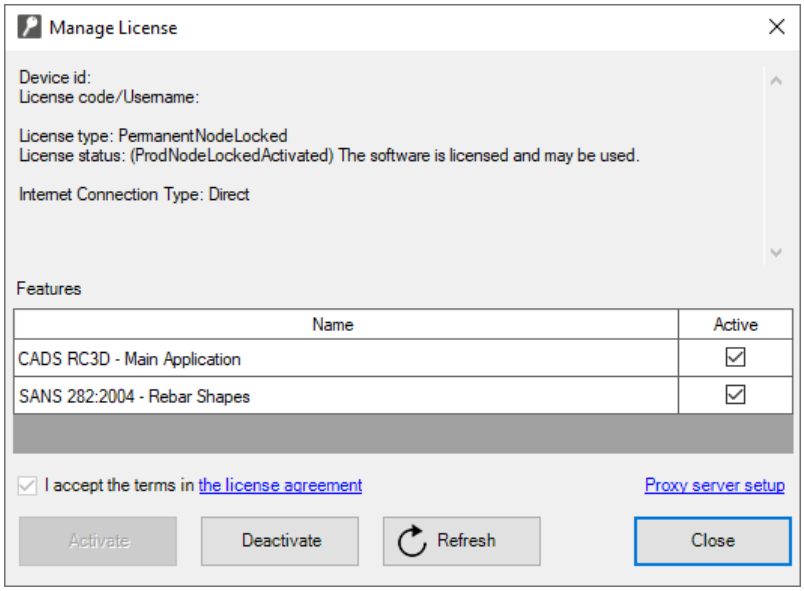
3. Tick to accept the terms of the Licence Agreement and then click the Activate button.





4. Select the Licence Code Tab to enter the 18 digit Licence Code, or select the User Credentials Tab to enter the User name and Password for the Account Based Licensing and click ok.

Copyright © Computer and Design Services Limited

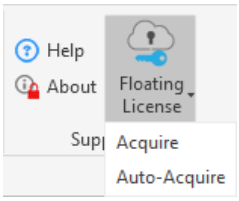


5. The Manage License dialog is then displayed showing that the License is active.
6. Close the dialog.

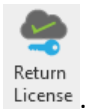
14.1.2 Floating Licence

When you exit from Revit® the License will automatically be returned.

To reactivate the licence when you next open Revit® go to the CADS RC3D / RebarCAD 3D tab, select the Floating Licence drop down menu and click on Acquire.



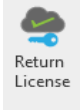
An option to Auto-Acquire the licence is also available. This will activate CADS RC3D / RebarCAD 3D every time Revit® is opened and take a licence when it may not be needed.

In the situation where the licence is automatically acquired and not required, go to the Support Panel, select Return Licence 

.

The choice to Acquire or Auto-Acquire will then be available in the Floating Licence drop down. Choose the Acquire option.

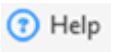
14.1.3 Return Licence

When the cloud licence is active a Return Licence option is available in the Support Panel. 

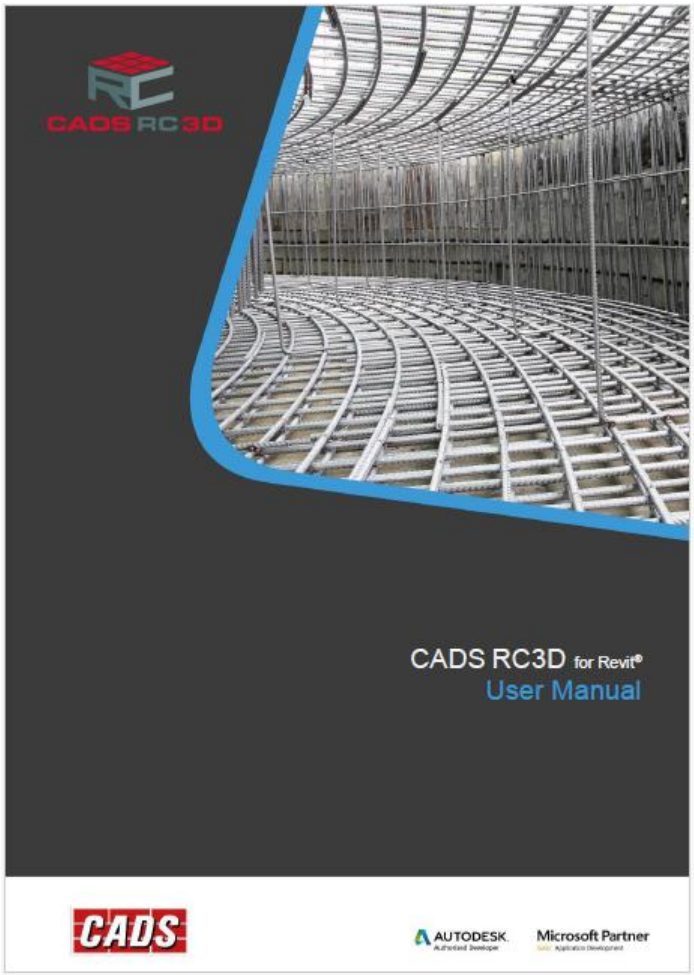
Copyright © Computer and Design Services Limited

This will return the licence to the cloud to allow another user to acquire a licence.

14.2 Help

Select Help 

option to display the CADS RC3D / RebarCAD 3D for Revit® User Guide in PDF Format.

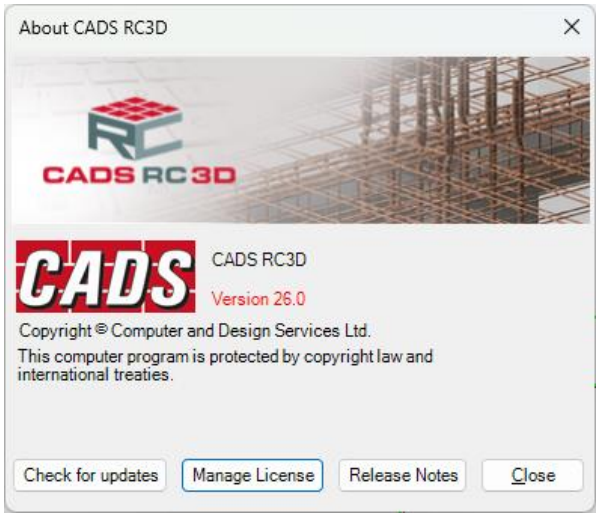


14.3 About

Select the About 

option to display the version details, release notes, check for updates and to Manage the License.

Copyright © Computer and Design Services Limited

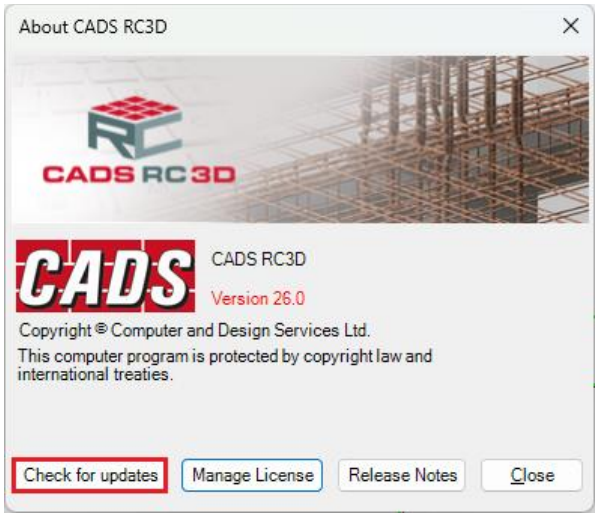


14.3.1 Check for Updates

The Check for Updates option is included on the About dialog.

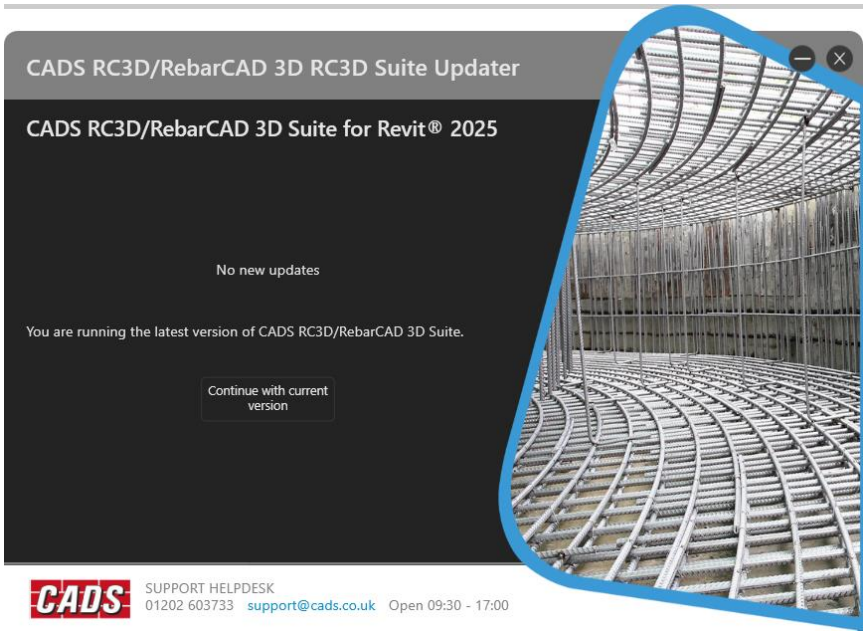
1. Open Revit® and select the CADS RC3D / RebarCAD 3D Tab.
2. Go to the Support Panel and select the About 

button.



3. Select the Check for Updates option.
4. If the software is up to date the following dialog is displayed.
5. Select Continue with the current version.

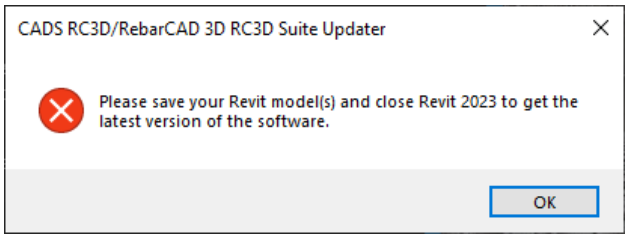
Copyright © Computer and Design Services Limited



6. Click the Check for Updates button, if an update is available the following dialog is displayed.

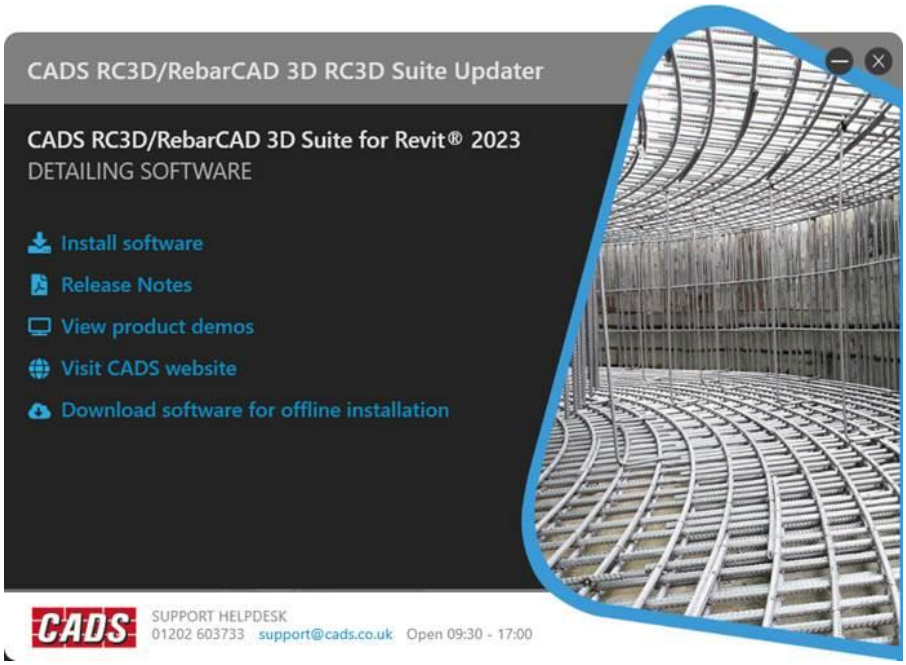


7. Click “Get Latest Version” to install the latest version.
8. The following message box is shown if the Revit® is not closed.

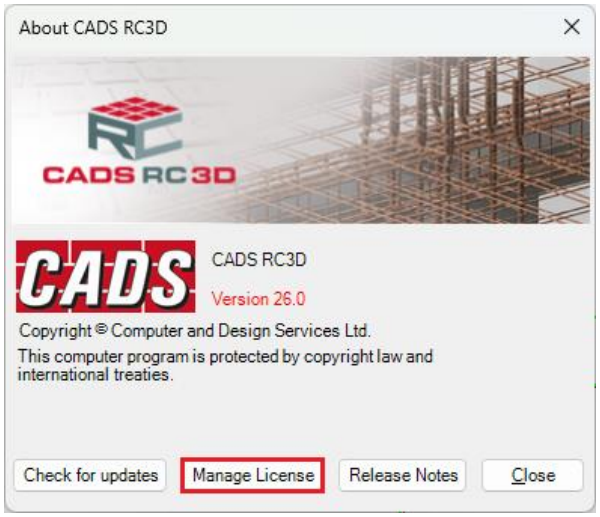


9. After closing the message box and Revit®, click again the “Get latest version” button to install the latest version.

Copyright © Computer and Design Services Limited

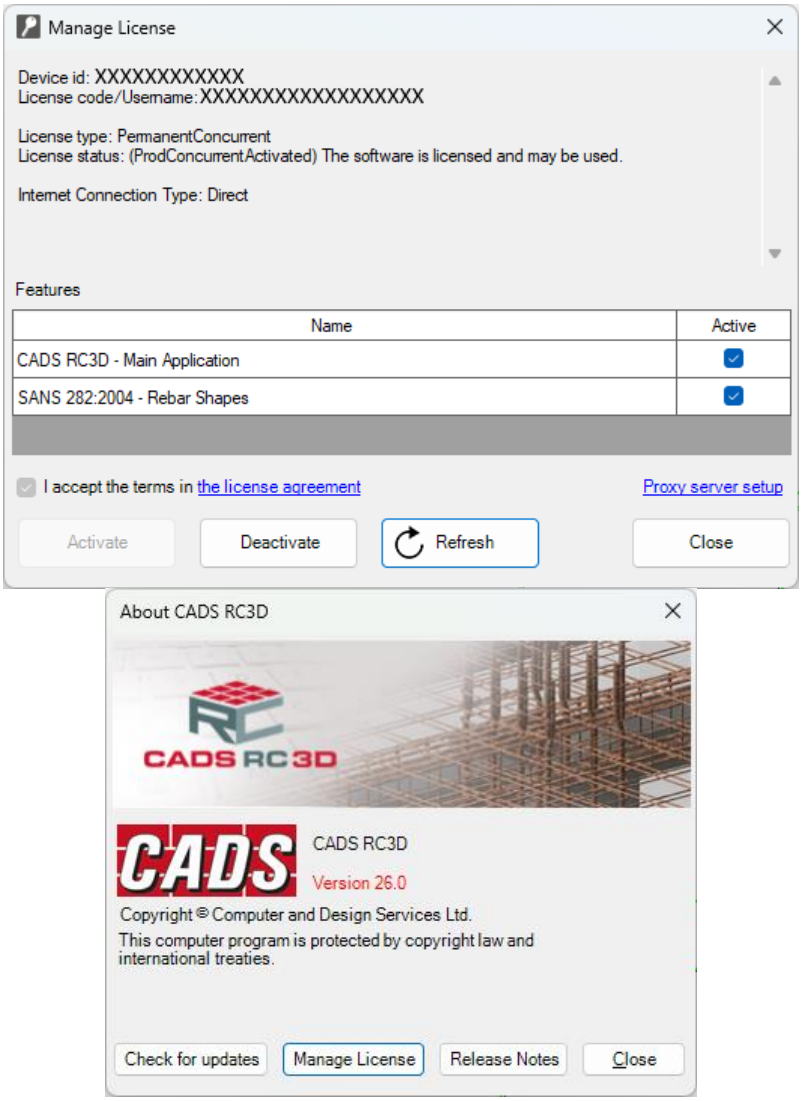


14.3.2 Manage Licence



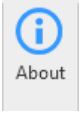
Select the Manage Licence Button from the About dialog to access the License dialog. The CADS RC3D / RebarCAD 3D licence can be deactivated or refreshed from this dialog. Where the Internet is accessed through a firewall, details will need to be added to the Proxy Server setup dialog.

Copyright © Computer and Design Services Limited



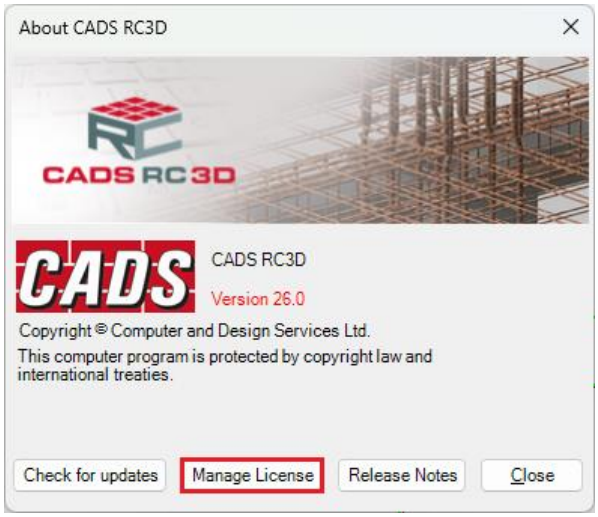
14.3.3 Deactivate Cloud Licence

The software is deactivated from inside Revit®.

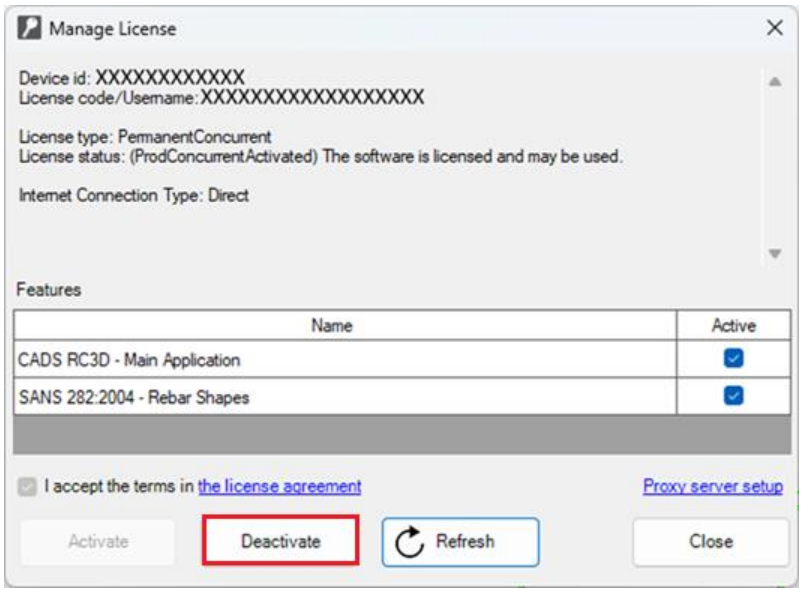
8. Open Revit® and select the CADS RC3D / RebarCAD 3D Tab.
9. To deactivate the licence, go to the Support Panel and select the About 

button .
10. Select the Manage License button on the About dialog.

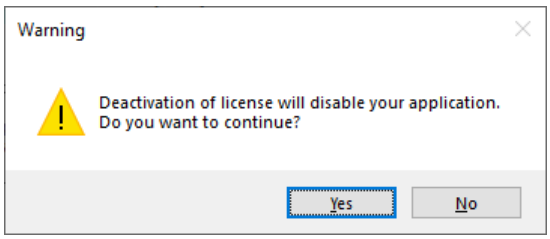
Copyright © Computer and Design Services Limited



11. Click on Deactivate on the Manage License dialog.

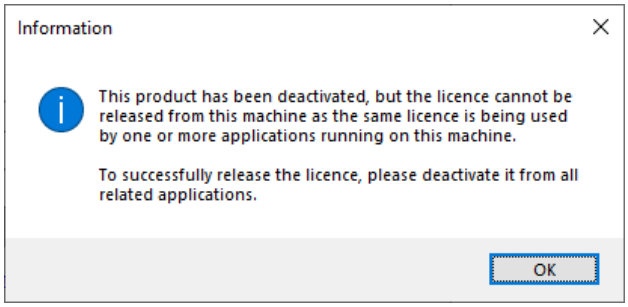


12. Answer Yes to continue.

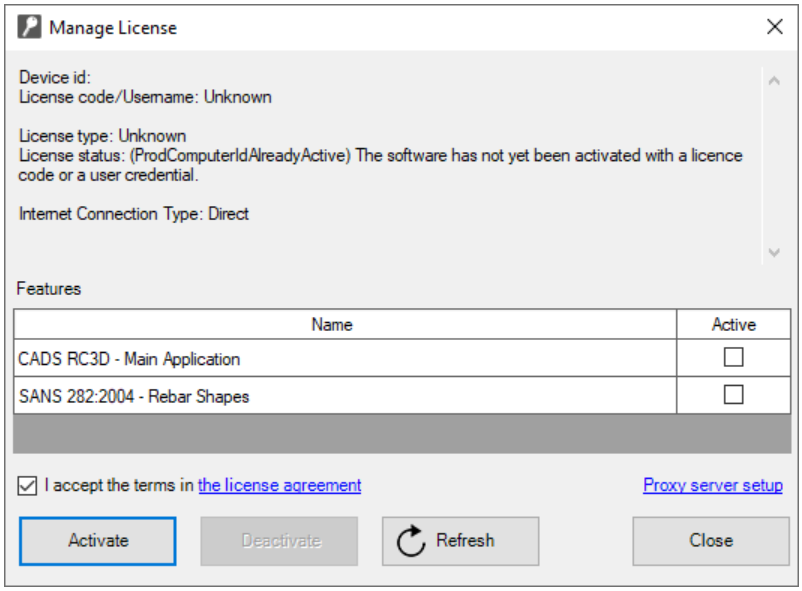


13. As the cloud licence is being used by other open applications on the PC please deactivate them as well.

Copyright © Computer and Design Services Limited

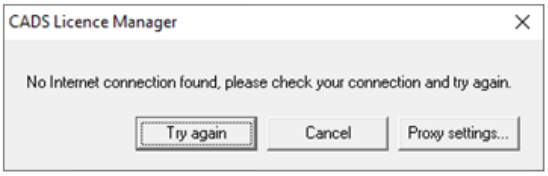


14. The Manage License dialog box is displayed confirming the software has been deactivated.



14.3.4 Proxy Server Setup

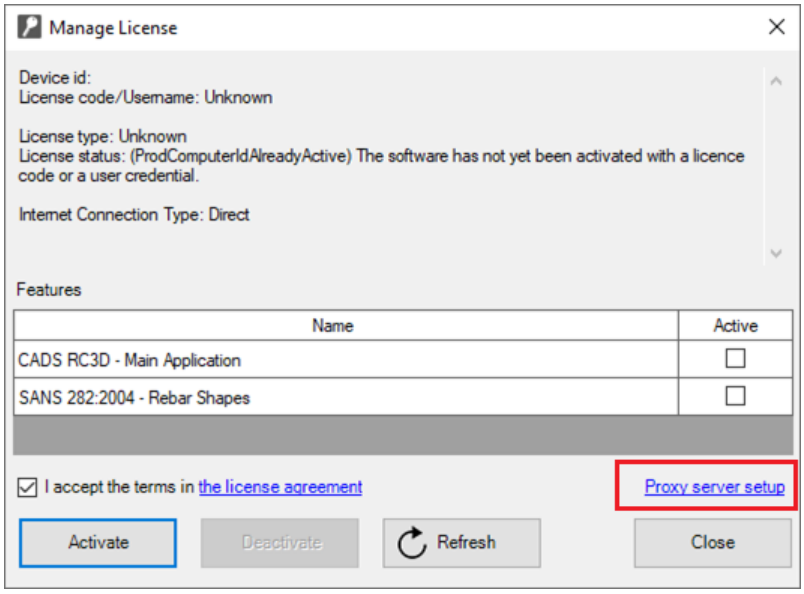
If the following dialog is displayed when try to apply the cloud licence it indicates that your computer is blocked from direct access to the Internet.



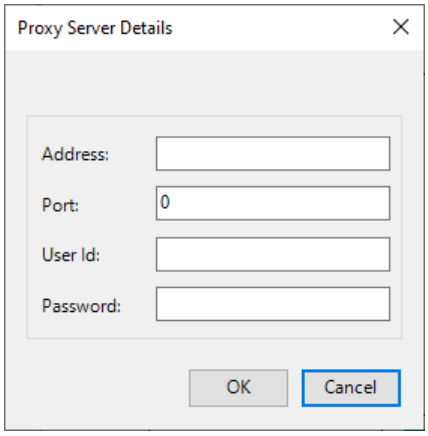
The Internet is accessed through a proxy server. Your IT department will need to be involved to enter the information required to give permission to access the Internet when activating the licence.

1. Select the Manage Licence Option and then select the Proxy Server Setup.

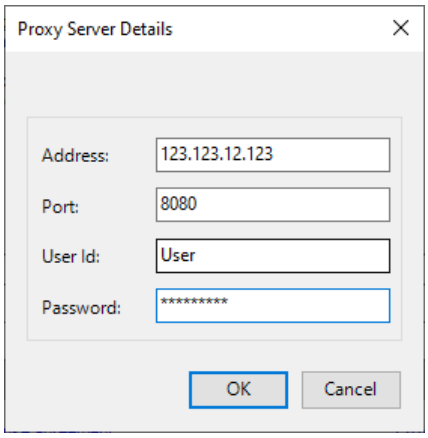
Copyright © Computer and Design Services Limited



2. Select the Proxy Settings option from the Manage Licence dialog.

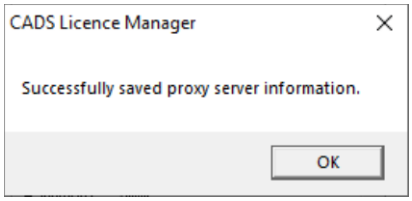


3. Enter the proxy address and port along with the User name and Password to allow access to the Internet, then click Ok.



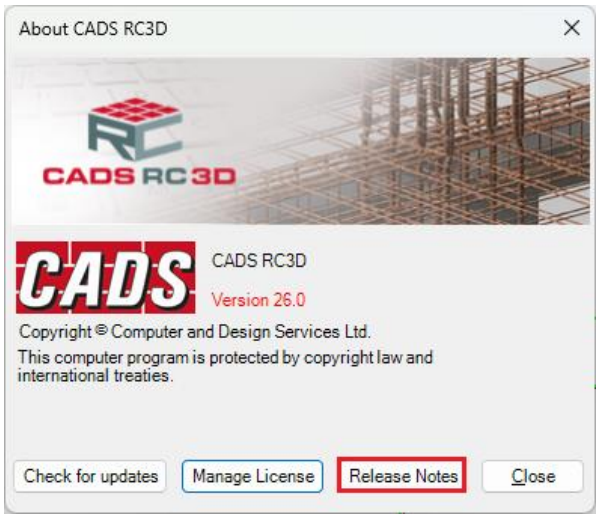
4. Once setup successfully the following message is displayed.

Copyright © Computer and Design Services Limited

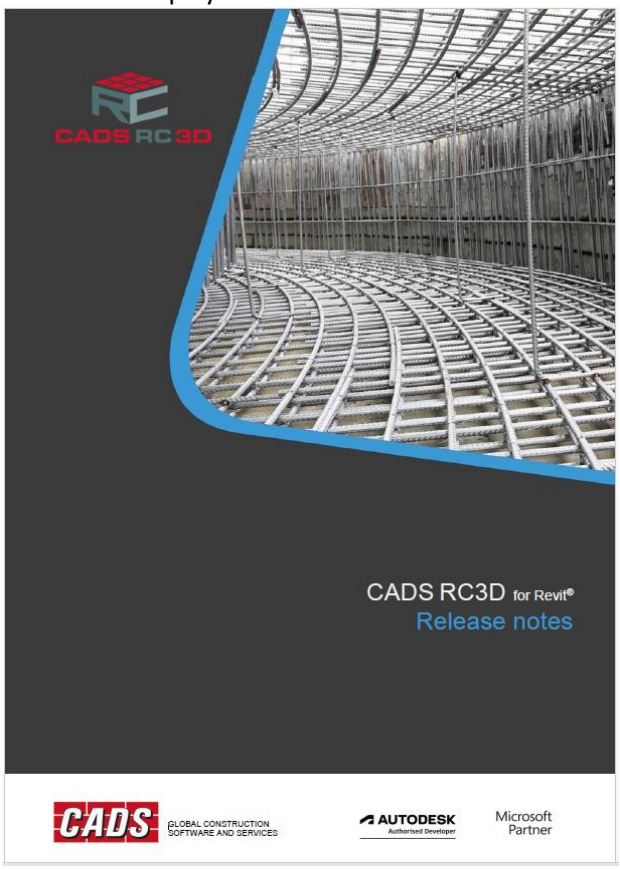


5. Then continue to Activate the Cloud Licence .

14.3.5 Release Notes



Selecting the Release Notes button displays the Release Notes for the current version.



Copyright © Computer and Design Services Limited

15 Schedule on Drawing Sheet Customisation

The CADS RC3D / RebarCAD 3D for Revit® Schedule Template Family can be customised to meet your company's requirements.

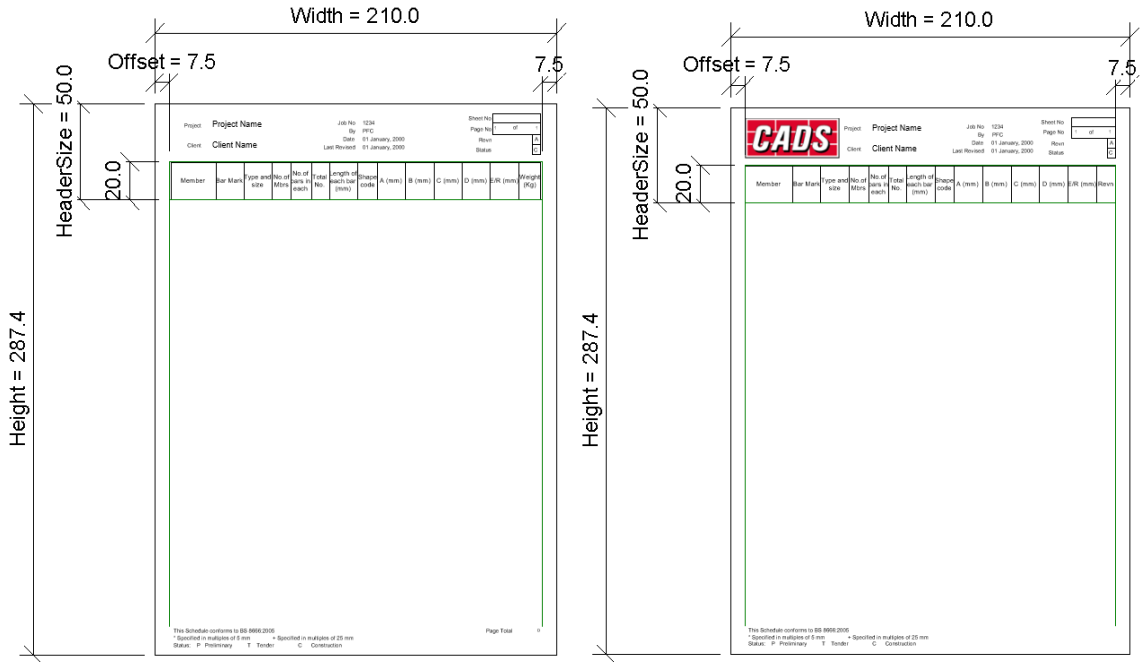
Make a copy of the original .RFA family file, the file is located in the "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\Families\UK" folder.

The default families are called "CADS_Schedule.rfa " & "CADS_Schedule_With_Logo.rfa".

The copied file should be stored in the same folder as the default template.

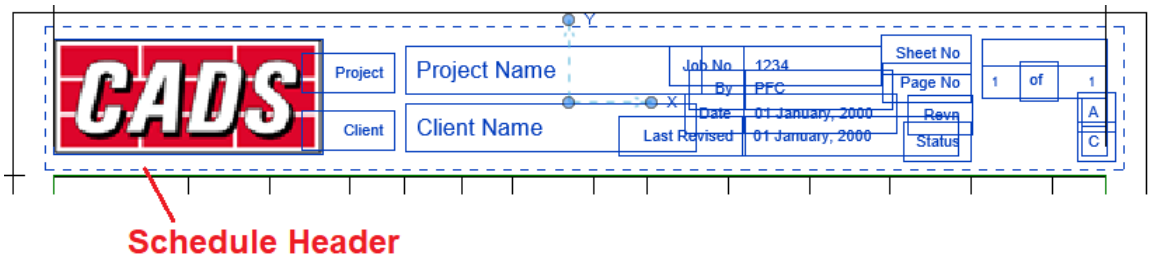
Rename the copied file to a suitable name.

To edit the family, either double click the copied family file to launch the Revit® Family Editor or open as a Family from inside Revit®.

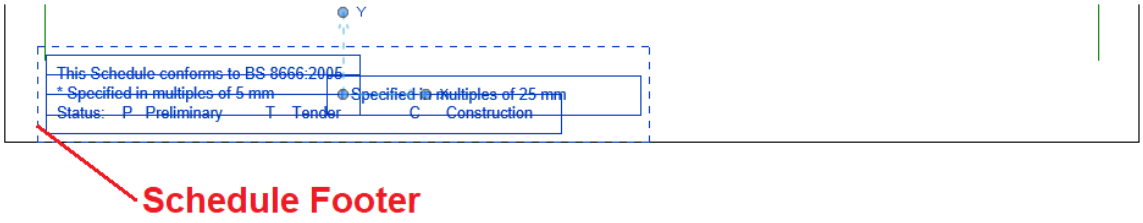


15.1 Schedule appearance

The schedule family contains two detail groups the header detail group and the footer detail group.



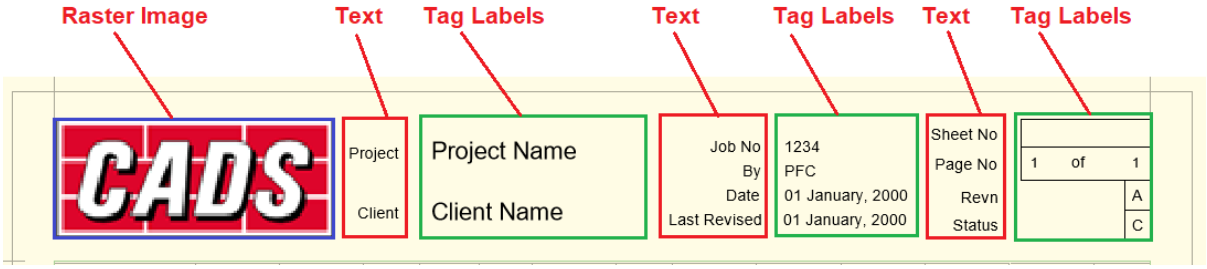
Copyright © Computer and Design Services Limited



To edit the Header or Footer Layout.

Select either the Header or the Footer, then select Edit Group 

.

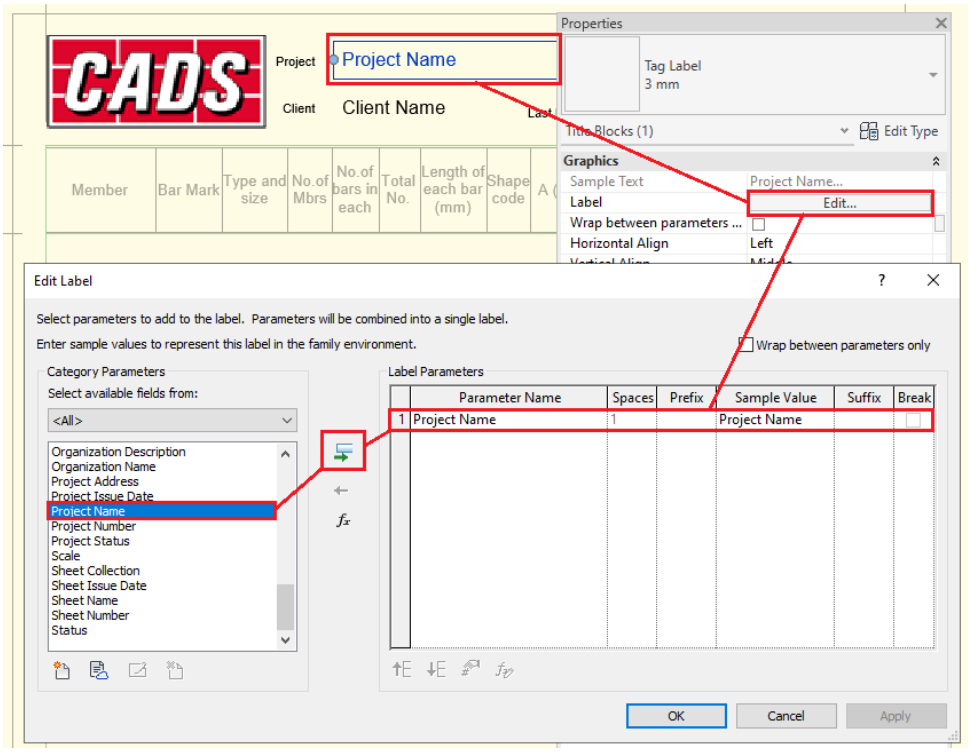


To add a new field to the schedule, copy a cell in the header/footer detail group and insert it in the desired location, edit its contents to suit.

To change the appearance of the Schedule, modify the text labels or Tag Labels in the header or footer as described in the following sections.

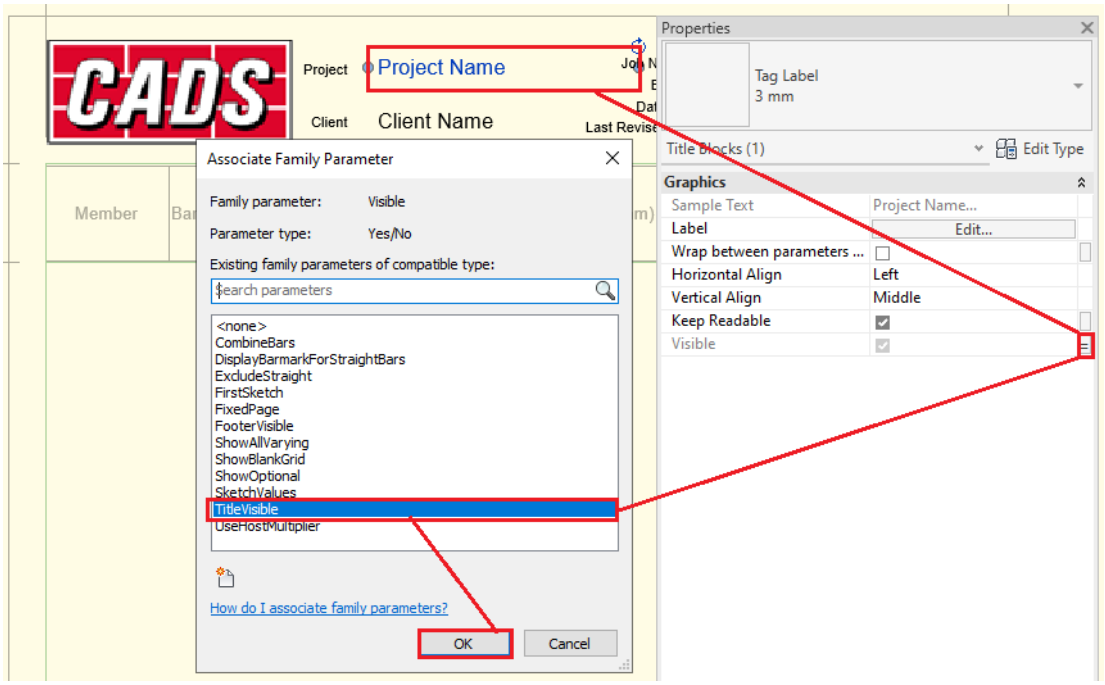
15.1.1 Tag Label Properties

Project Parameters can be assigned to the Label Tags in the Schedule Header or Footer.



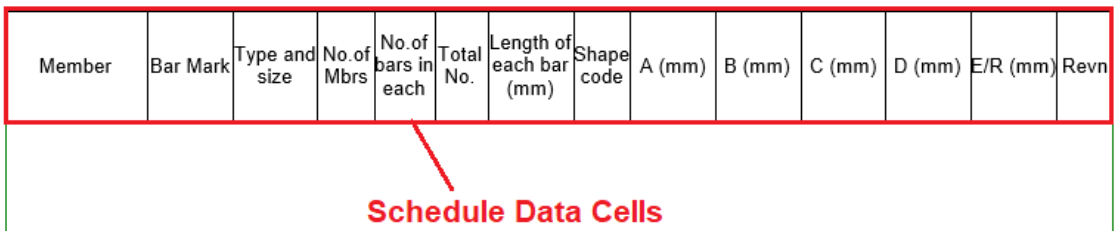
Copyright © Computer and Design Services Limited

1. If a cell has been copied a different parameter can be assigned.
2. Select the Label Tag to edit.
3. Select the Edit option in the Properties.
4. Move the correct parameter in the Edit Label dialog from the left to the right column
5. Click Ok.



6. Ensure that the Visible parameter to set to the correct value.
7. Select the 'Equals' button alongside the Visible parameter.
8. Select the 'TitleVisible' Parameter from the list and click ok.
9. If setting up a Tag Label for the footer the parameter should be set to 'FooterVisible'.
10. Check that the horizontal and vertical alignments are configured correctly.

15.1.2 Schedule Data Cell Properties

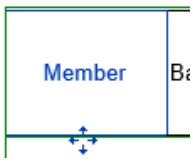


Use Schedule Cells in the Column headers to control the parameters assigned & the appearance of each Data Cell.

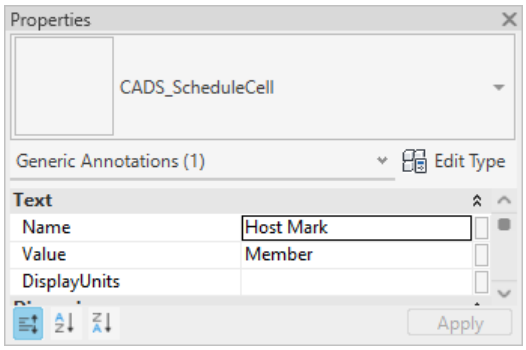
Change the Data Cell properties by selecting a cell and changing the setup in the Properties dialog.

The diagram below displays the Properties for the Member Title Cell and an explanation of the cell properties.

Copyright © Computer and Design Services Limited

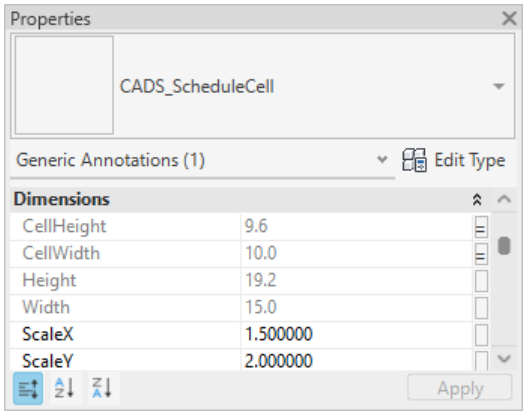


Text



- **Name** The Revit® rebar parameter to be used in the cell for the column data below, select from the drop-down menu. To create a combined parameter, list the rebar parameters required and separate with '&'.
- **Value** The text displayed in the header cell for the column.
- **DisplayUnits** The display units to use if a conversion is required.

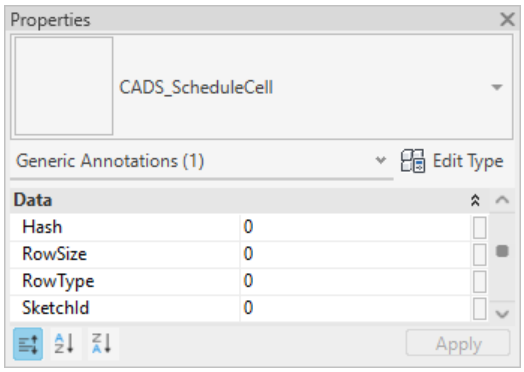
Dimensions



- **CellHeight** Base height of the cell – associate with 'RowHeight' by selecting the Associate Family Parameter button to the right and select the 'RowHeight' parameter in the Associate Family Parameter dialog.
- **CellWidth** Base width of the cell – associate with 'CellSize by selecting Associate Family Parameter button to the right, then select the 'CellSize' parameter in the Associate Family Parameter dialog''.
- **ScaleX** Width multiplier determines the number of unit cells occupied in the X direction.
- **ScaleY** Height multiplier determines the number of unit cells occupied in the Y direction.

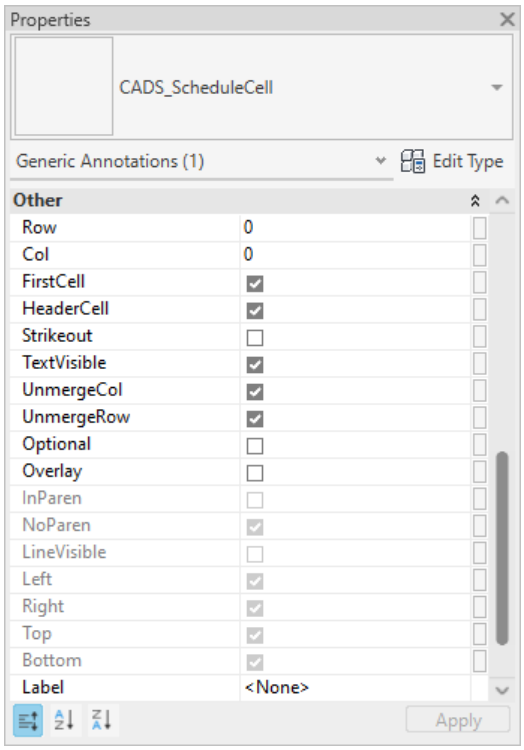
Copyright © Computer and Design Services Limited

Data



Do not edit the data in these fields.

Other



- **Row** Set to 0.
- **Col** Set to the required column heading number (indexed from 0).
- **FirstCell** Uncheck to hide the cell left vertical border.
- **HeaderCell** Uncheck to hide the cell top horizontal border.
- **Strikeout** Always false.
- **TextVisible** Always true.
- **UnMergeCol** Uncheck to hide the cell right vertical border.
- **UnMergeRow** Uncheck to hide the cell bottom horizontal border.
- **Optional** Check to display brackets.
- **Overlay** Check to overlay on another cell (see below).

Copyright © Computer and Design Services Limited

15.1.3 Overlaying Cells

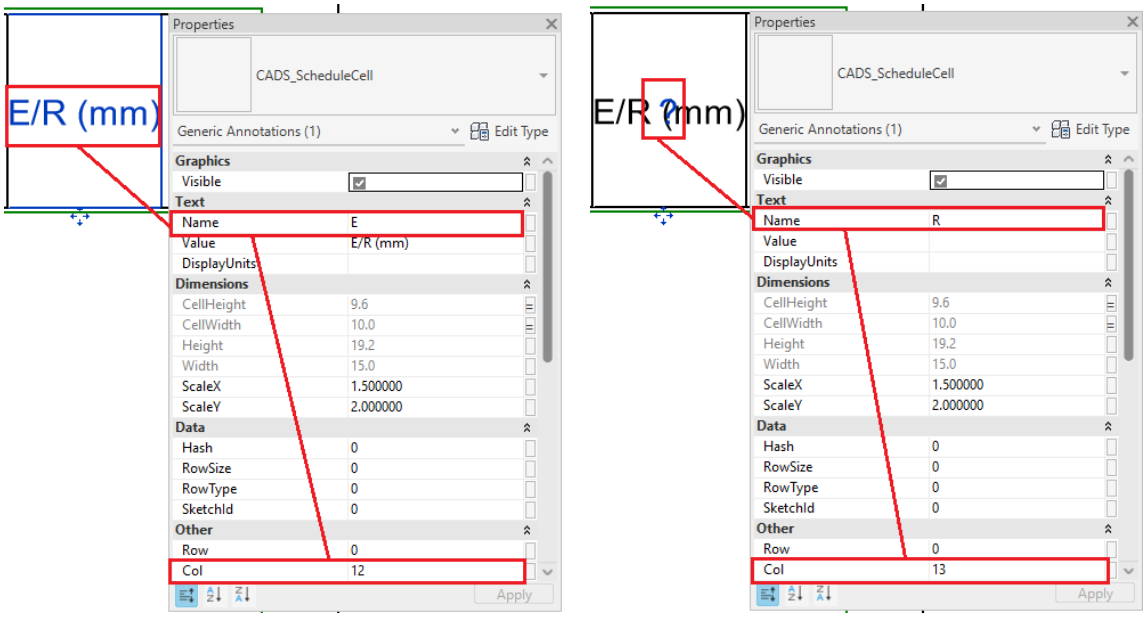
Use overlaid cells to display alternative dimensions.

Only use this if the Revit® parameters do not coexist - only one at a time can have a value.

To use an overlaid cell in the header, copy the cell you wish to overlay and place it in exactly the same position as the original.

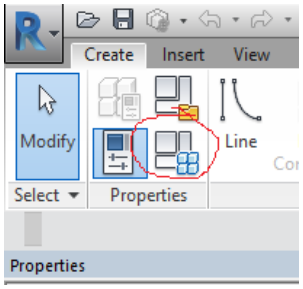
Now define its properties as follows:

- **Overlay** Tick this option in the Properties.
- **Name** Select the Revit® rebar parameter to overlay from the drop-down menu.
- **Value** Leave empty.
- **Col** Increment of the column number of the overlaid cell. The E column number is 12, so the R column number would be 13.



15.1.4 Family Properties

Use Family Properties to configure the appearance of the Schedule-On-Sheet. To edit the properties, click the Properties button on the Create tab.

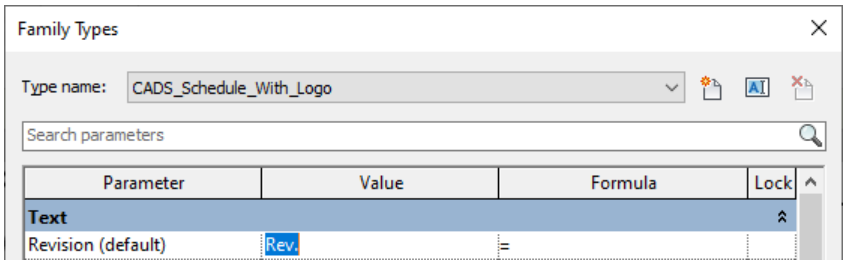


Copyright © Computer and Design Services Limited

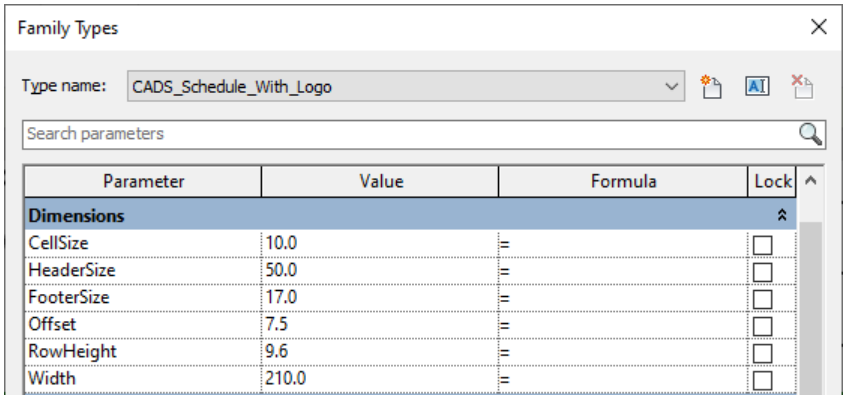
Properties are split into three groups – 'Dimensions', 'Data' and 'Other'. All groups other than Data are Type parameters, i.e. they apply to all instances (Pages) of a particular Schedule type. A new type is created whenever a schedule is placed or printed.

Parameters should not be added to or deleted, and should have the same number of separators (comma) where appropriate.

Text

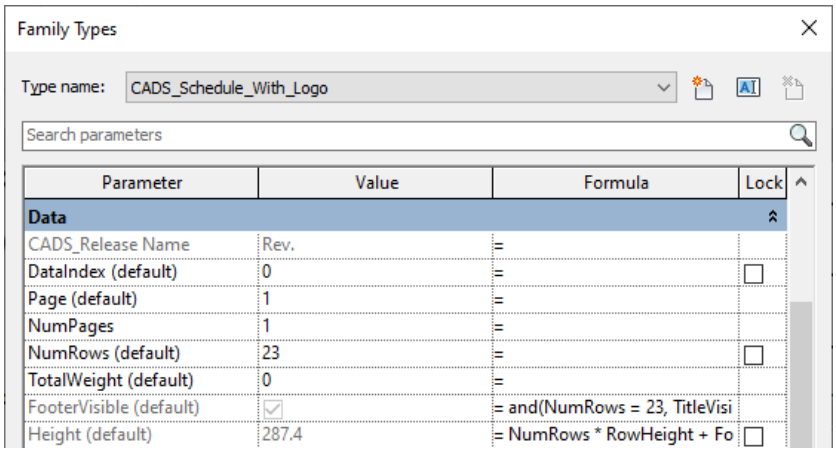


Dimensions



Controls the appearance of the Title Block.

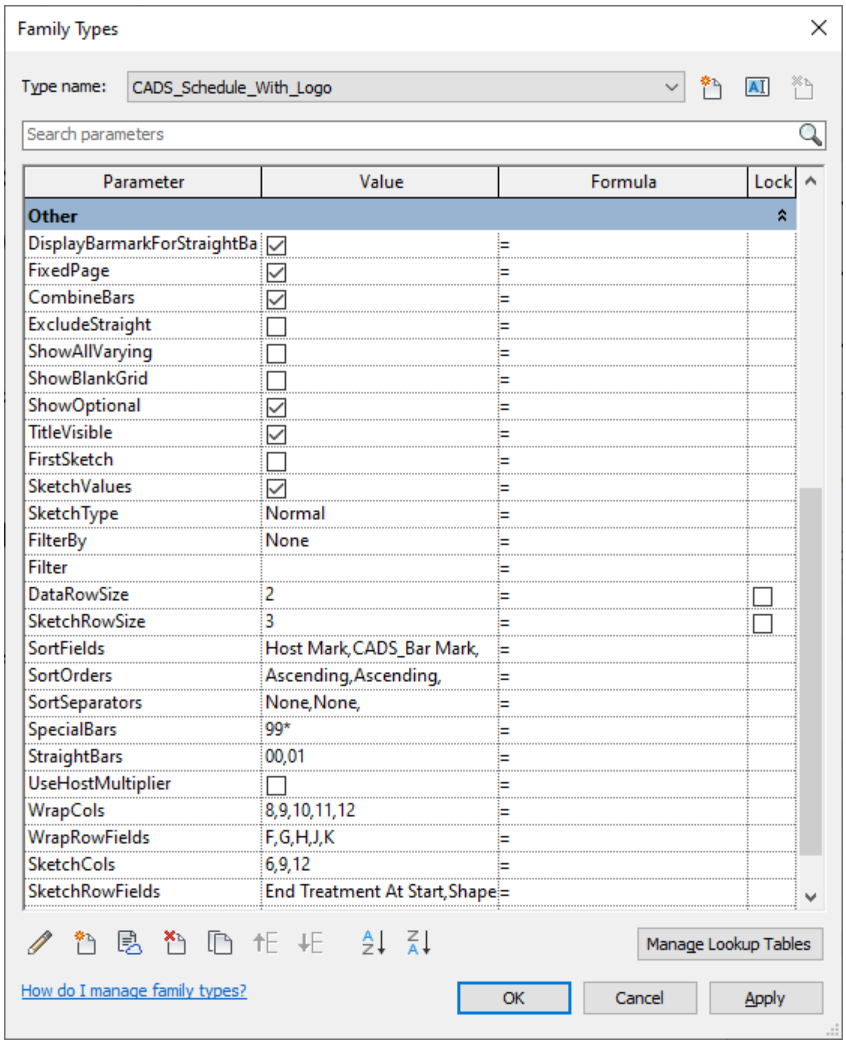
Data



Modify only 'NumRows' and the 'FooterVisible' formula to change the default number of rows.

Copyright © Computer and Design Services Limited

Other



Most fields are configured during placement – changing the values will just alter the default. The remainder can be set as follows.

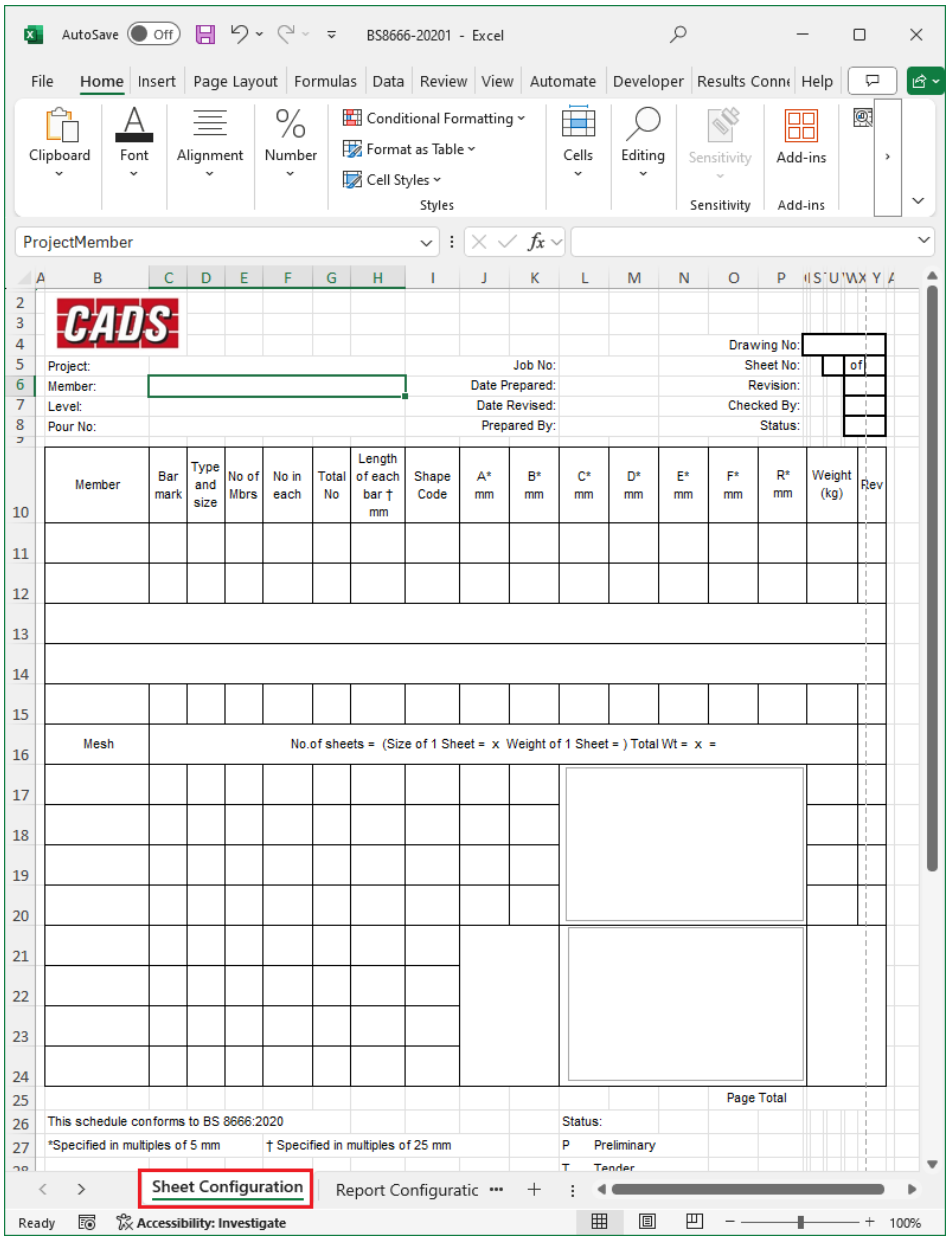
- **DataRowSize** The maximum number of data rows (i.e. when wrapping).
- **SketchRowSize** The number of rows occupied by sketches.
- **SortFields** Maximum of 3 fields to set the default sort order.
- **SortOrders** ‘Ascending’ or ‘Descending’ to correspond to the above fields.
- **SortSeparators** ‘None’ or ‘Blank Line’ to correspond to the above fields.
- **SpecialBars** List of bar codes regarded as ‘Special’.
- **StraightBars** List of bar codes regarded as ‘Straight’.
- **WrapCols** List of column numbers to identify the cells used for wrap data.
- **WrapRowFields** List of Revit® rebar parameter names used to display wrap data.
- **SketchCols** List of column numbers to identify the cells used for sketch data.
- **SketchRowFields** List of Revit® rebar parameter names used to display sketch data.

Copyright © Computer and Design Services Limited

16 Customising the Excel Report Templates

This section of the manual explains how to create custom Excel Schedule & Weights Templates. MS Office v2010 or higher will need to be installed to edit the Excel Template.

The Excel output routine reads data from the Revit® Reinforcement model and prints this data in the appropriate cell. For example, the Host Mark assigned in Revit® to a structure will be printed Member Title data cell in Excel.



The default CADS RC3D for Revit® Excel bar list templates are located in the folder, "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\ExcelTemplates".

The installed Excel Templates available are as follows;

Copyright © Computer and Design Services Limited

CADS RC3D for Revit®
BS8666:2020 Schedule Templates

"BS8666-2020.xltx"
"BS8666-2020_CADS_Schedule_With_WeightReport_V3.0_BS1192.xltx"

BS8666:2005 Schedule Templates

"CADS_Schedule_V2.0.xltx"
"CADS_Schedule_V3.0.xltx"
"CADS_Schedule_With_LogoAndSummary_V2.0.xltx"
"CADS_Schedule_With_LogoAndSummary_V3.0.xltx"
"CADS_Schedule_With_Revision_V3.0.xltx"
"CADS_Schedule_With_WeightReport_V2.0.xltx"
"CADS_Schedule_With_WeightReport_V3.0.xltx"
"CADS_Schedule_With_WeightReport_V3.0_BS1192.xltx"
"CADS_Schedule_With_WeightSummary_V4.0.xltx"

Weight Report Templates

"Weight Report by Drawing sheet.xltx"
"Weight Report by Member.xltx"
"Weight Report by Release.xltx"
"Weight Summary.xltx"

Mesh Summary Report Templates

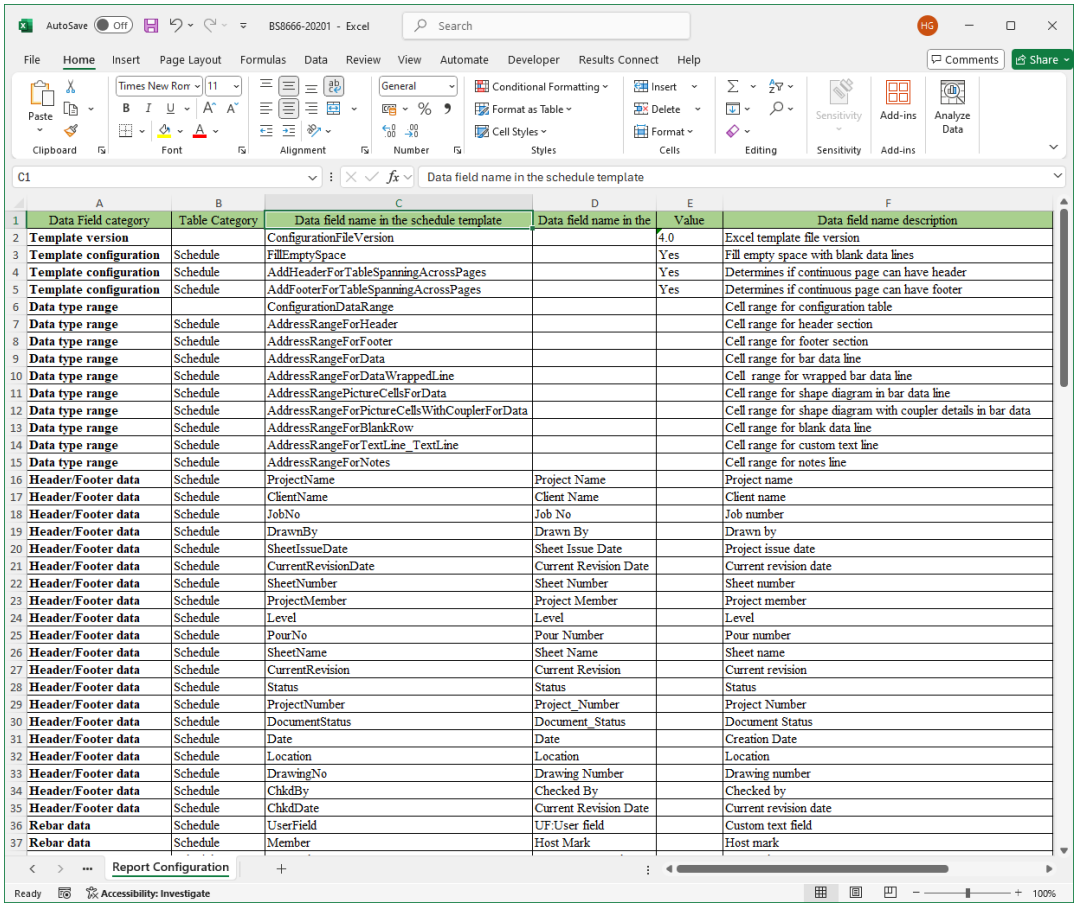
"Mesh Summary.xltx"

RebarCAD 3D for Revit®

"CADS_Schedule_US_V2.0.xltx"
"CADS_Schedule_US_V4.0.xltx"

Each template consists of two tabs, the first tab is the graphical layout of the bar list (Sheet Configuration, see image above) and the second tab describes the supported fields (Report Configuration, see image below) in the first tab.
It is important that any custom template has the two tabs named as **Sheet Configuration** and **Report Configuration**.
The diagrams above and below show the contents of the "BS8666-2020.xlt" template Sheet Configuration and Report Configuration Tabs.
Carry out the following processes to create a custom schedule template, each of the steps are described in the following sections.

Copyright © Computer and Design Services Limited



Data Field category	Table Category	Data field name in the schedule template	Data field name in the	Value	Data field name description
Template version		ConfigurationFileVersion		4.0	Excel template file version
Template configuration	Schedule	FillEmptySpace		Yes	Fill empty space with blank data lines
Template configuration	Schedule	AddHeaderForTableSpanningAcrossPages		Yes	Determines if continuous page can have header
Template configuration	Schedule	AddFooterForTableSpanningAcrossPages		Yes	Determines if continuous page can have footer
Data type range		ConfigurationDataRange			Cell range for configuration table
Data type range	Schedule	AddressRangeForHeader			Cell range for header section
Data type range	Schedule	AddressRangeForFooter			Cell range for footer section
Data type range	Schedule	AddressRangeForData			Cell range for bar data line
Data type range	Schedule	AddressRangeForDataWrappedLine			Cell range for wrapped bar data line
Data type range	Schedule	AddressRangePictureCellsForData			Cell range for shape diagram in bar data line
Data type range	Schedule	AddressRangeForPictureCellsWithCouplerForData			Cell range for shape diagram with coupler details in bar data
Data type range	Schedule	AddressRangeForBlankRow			Cell range for blank data line
Data type range	Schedule	AddressRangeForTextLine_TextLine			Cell range for custom text line
Data type range	Schedule	AddressRangeForNotes			Cell range for notes line
Header/Footer data	Schedule	ProjectName	Project Name		Project name
Header/Footer data	Schedule	ClientName	Client Name		Client name
Header/Footer data	Schedule	JobNo	Job No		Job number
Header/Footer data	Schedule	DrawnBy	Drawn By		Drawn by
Header/Footer data	Schedule	SheetIssueDate	Sheet Issue Date		Project issue date
Header/Footer data	Schedule	CurrentRevisionDate	Current Revision Date		Current revision date
Header/Footer data	Schedule	SheetNumber	Sheet Number		Sheet number
Header/Footer data	Schedule	ProjectMember	Project Member		Project member
Header/Footer data	Schedule	Level	Level		Level
Header/Footer data	Schedule	PourNo	Pour Number		Pour number
Header/Footer data	Schedule	SheetName	Sheet Name		Sheet name
Header/Footer data	Schedule	CurrentRevision	Current Revision		Current revision
Header/Footer data	Schedule	Status	Status		Status
Header/Footer data	Schedule	ProjectNumber	Project_Number		Project Number
Header/Footer data	Schedule	DocumentStatus	Document_Status		Document Status
Header/Footer data	Schedule	Date	Date		Creation Date
Header/Footer data	Schedule	Location	Location		Location
Header/Footer data	Schedule	DrawingNo	Drawing Number		Drawing number
Header/Footer data	Schedule	ChkdBy	Checked By		Checked by
Header/Footer data	Schedule	ChkdDate	Current Revision Date		Current revision date
Rebar data	Schedule	UserField	UF:User field		Custom text field
Rebar data	Schedule	Member	Host Mark		Host mark

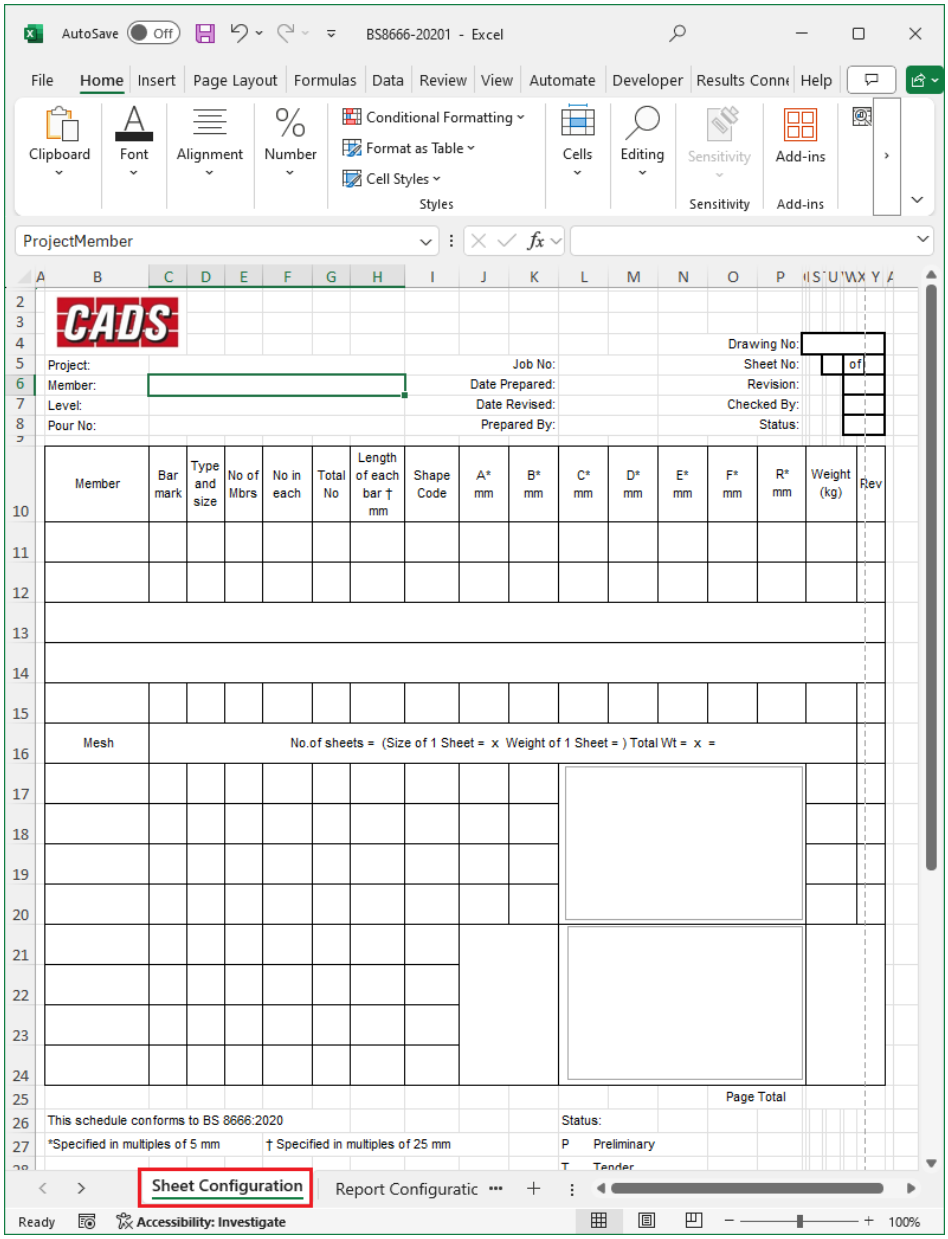
16.1 Defining the Schedule Template

The following describes the process to carry out to create a custom Excel Schedule Template.

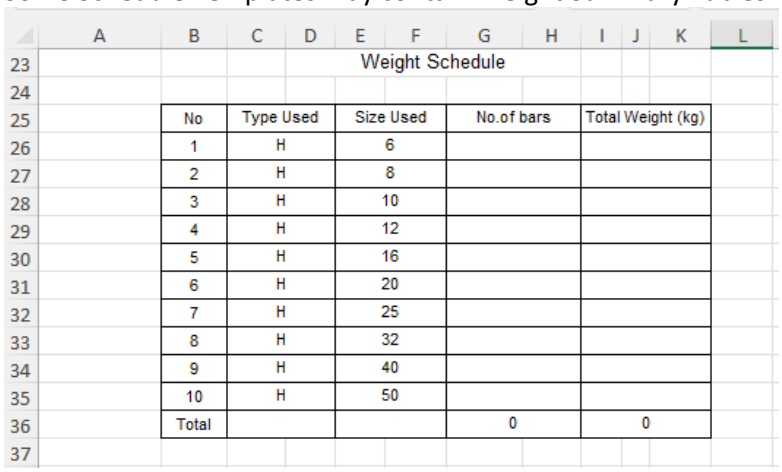
16.1.1 Reviewing an Existing Schedule Template

Use the CADS Default Schedule template to review the set-up of the schedule template.
The default location for the Weight Reports is “C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\ExcelTemplates\UK”.
The file shown below is the “BS8666-2020.xltx”.

Copyright © Computer and Design Services Limited



Some Schedule Templates may contain Weight Summary Tables.

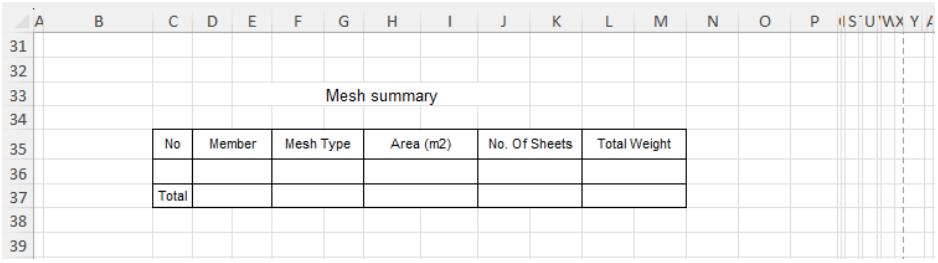


Weight Schedule

No	Type Used	Size Used	No.of bars	Total Weight (kg)
1	H	6		
2	H	8		
3	H	10		
4	H	12		
5	H	16		
6	H	20		
7	H	25		
8	H	32		
9	H	40		
10	H	50		
Total			0	0

Some Schedule Templates may contain Mesh Summary Tables.

Copyright © Computer and Design Services Limited



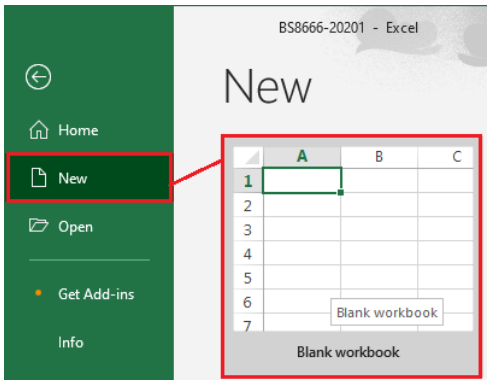
Mesh summary

No	Member	Mesh Type	Area (m2)	No. Of Sheets	Total Weight
Total					

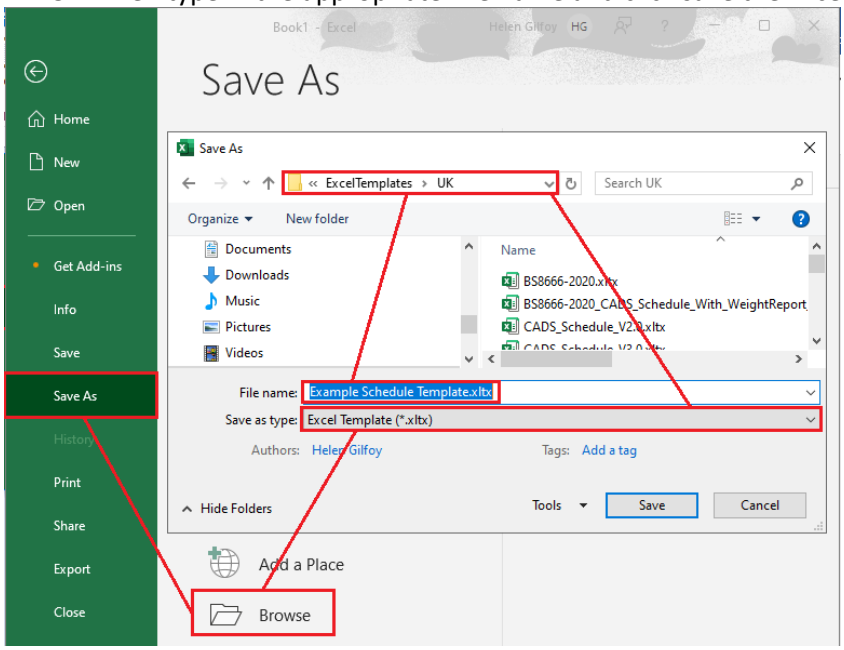
16.1.2 Create a New Excel Schedule Template

Create a new Excel Schedule Report Template by carrying out the following steps;

1. Launch the MS Office 'Excel' Application;
2. Open a new workbook, select the File pull down menu – New - Blank Workbook' to create a new Excel Workbook.



3. Immediately save the Workbook, select the File pull down menu - Save As, click Browse, set the 'Save as type' as 'Excel Template (.xltx)'.
4. Navigate to the "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\ExcelTemplates\UK" folder.
5. Then type in the appropriate File name and click save the Excel template.

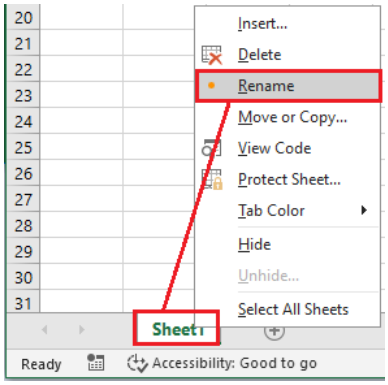


6. The Excel report templates comprise of the following two worksheets:

Copyright © Computer and Design Services Limited

Sheet Configuration Template.

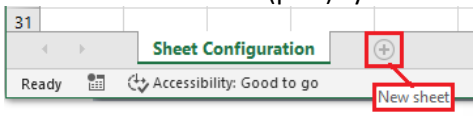
7. Create a new worksheet for the schedule layout view, by renaming the default worksheet ‘Sheet1’ as Schedule Report.
8. Please ensure that the tab is named **Sheet Configuration**, the Export of data from Revit to Excel will not work otherwise.



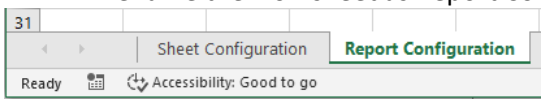


Report Configuration.

9. Create a new worksheet with the name ‘Report Configuration’ for the report configuration.
10. Click on the + (plus) symbol to create a New Sheet.



11. Rename the worksheet as Report Configuration.

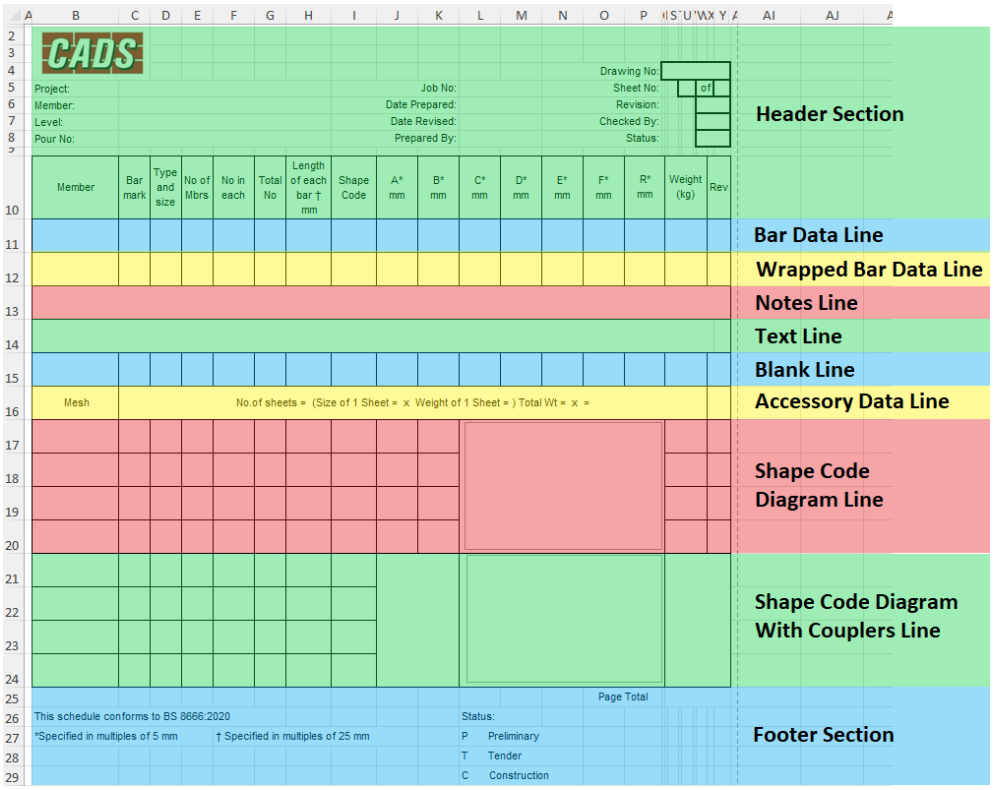


12. Please ensure that the tab is named **Report Configuration**, the export will not work otherwise.
13. Save the Template.

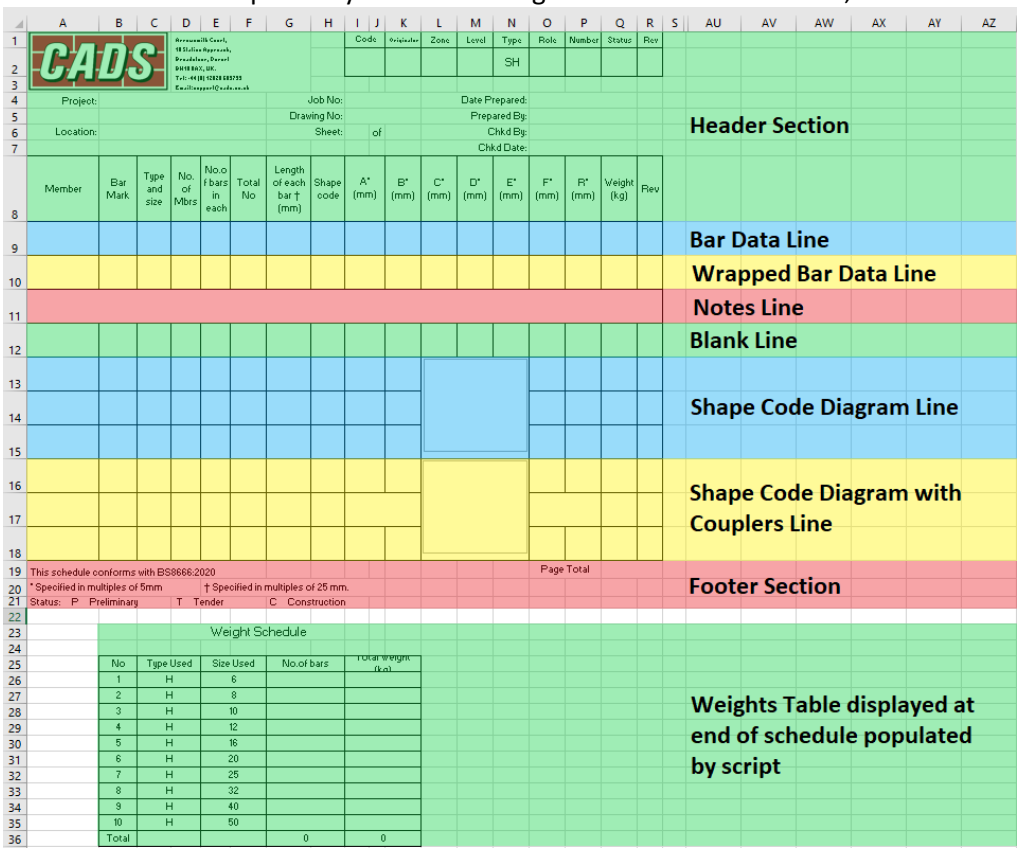
16.1.3 Creating the Schedule Template Graphics

On the Report Template Tab, create the graphical layout of the schedule template based on your standard office layout. An example of the default CADS template is shown below:

Copyright © Computer and Design Services Limited



The Template should be designed to include the areas shown above.
Please note that the Data Lines are defined individually and are reproduced to match the schedule layout when the schedule is created.
Your schedule template should include all the defined areas shown.
A description of defining the keywords and data areas is described in the following web pages.
An alternative Schedule Template Layout with a Weights Table is shown below;



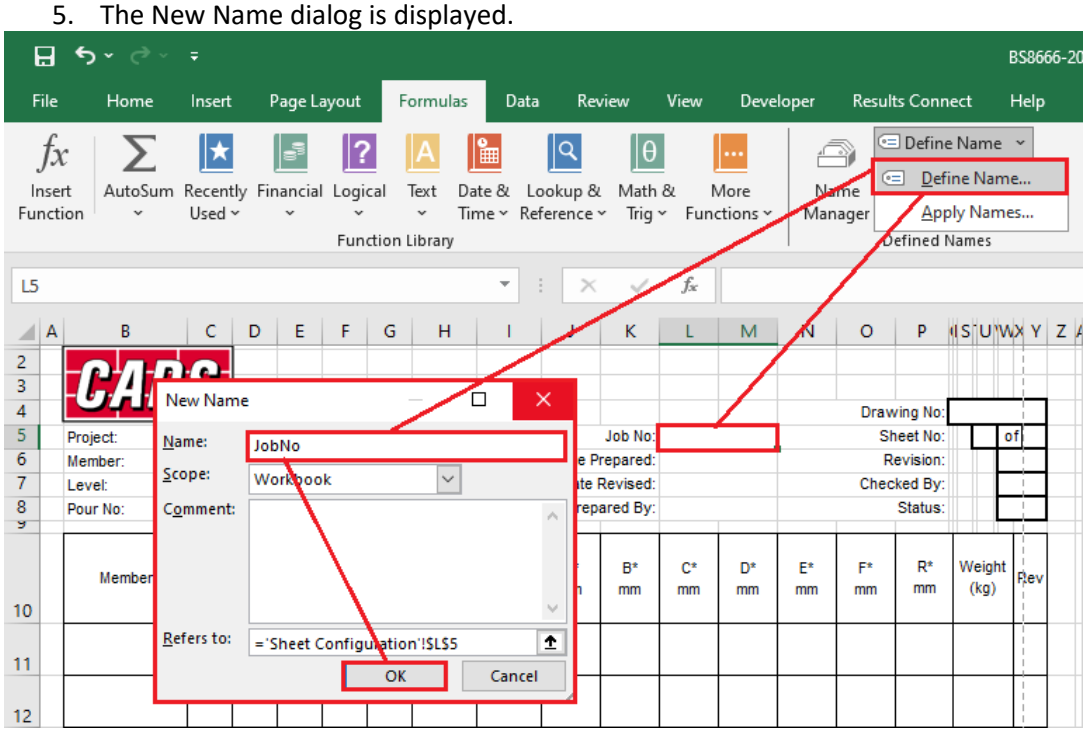
Copyright © Computer and Design Services Limited

16.1.4 Naming the Schedule Report Template Cells

Keywords need assigning to cells in the Schedule Report to receive schedule data exported from CADS RC3D / RebarCAD 3D for Revit®; this next section describes how to define the keywords inside Excel.

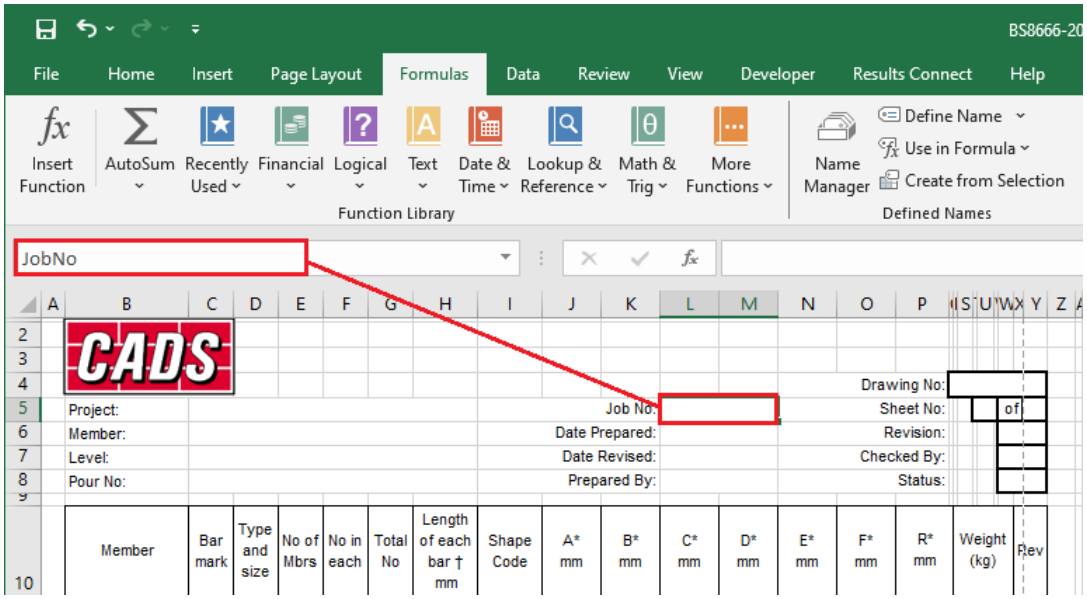
The example below describes how to define a keyword for the Job No data cell.

1. Click into Cell L/M5 (on your template select the cell for the Job No data).
2. Select the Formulas Tab
3. Select Define Name drop down menu.
4. Select the Define Name command.
5. The New Name dialog is displayed.



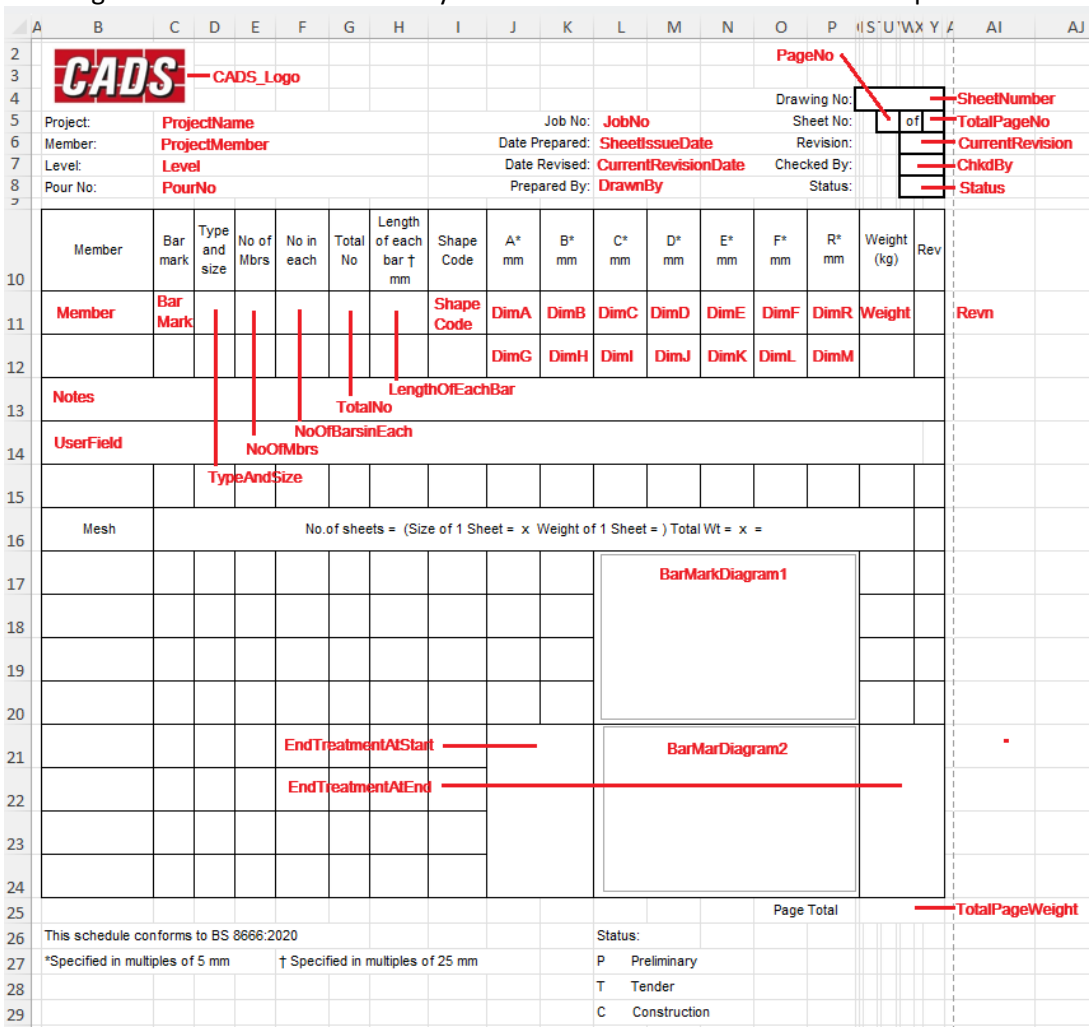
6. Type in “JobNo” into the Name field, this is a defined keyword that the export routine is programmed to recognise.
7. Leave the scope set to Workbook.
8. Refers to: displays the select cell address.
9. Click OK.
10. The JobNo keyword is displayed in the dropdown menu as shown below:

Copyright © Computer and Design Services Limited



11. Full details of the default keywords are described in the Schedule Cell Name Keyword Definitions .
12. Continue defining the keywords for all the data areas in the schedule report.

The diagram below illustrates the keywords defined in the CADS default template.



Copyright © Computer and Design Services Limited

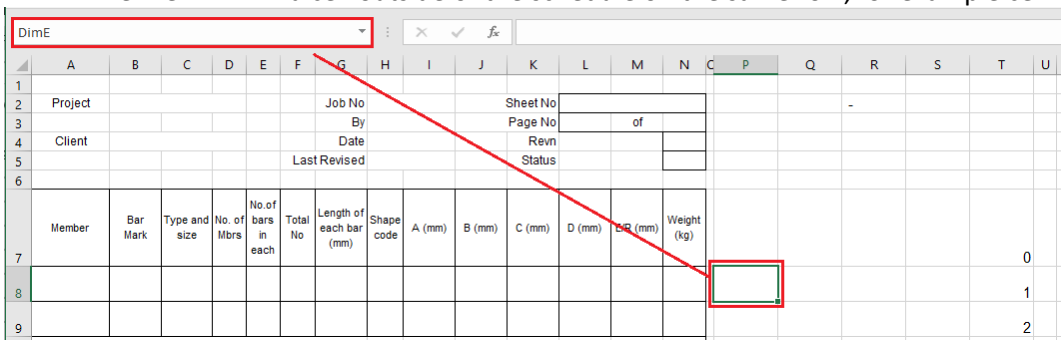
Schedule Logo Images

If a logo is going to be included in the schedule template it needs to have a keyword assigned. However, this keyword does not need to be included in the Report Configuration.
In the example above the Keyword for the logo is "**CADSLOGO**", this has been defined for cell addresses **B1 to C4**.
A copy of the image with the same name as the keyword in JPG file format needs to be saved in the configured logo images location, refer to General Tab - Schedule Configuration .

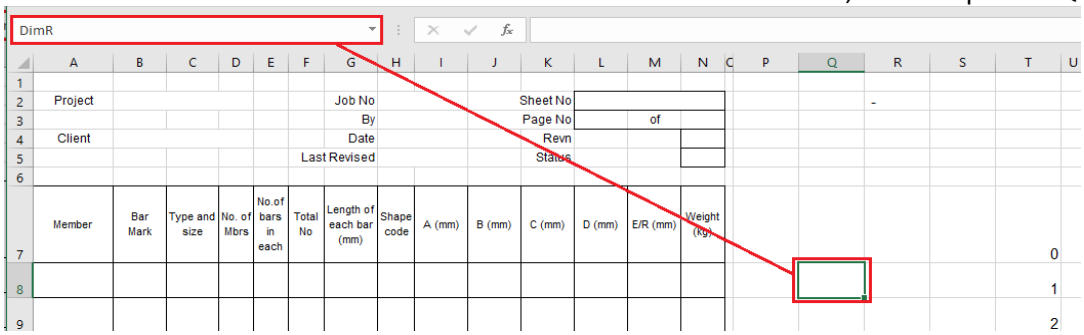
Special Case Dim E/R for BS8666:2005 Schedule Templates

A true/false statement needs to be defined where you want to display either Dim E or Dim R in the Dim E/R cell.

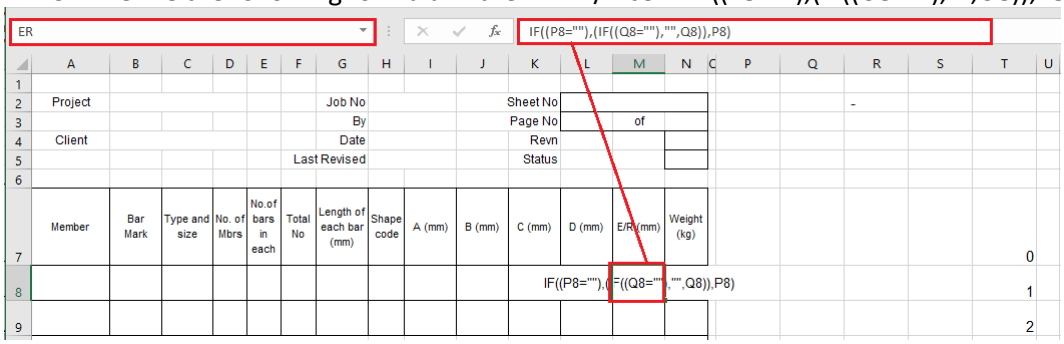
1. Define Dim E in a cell outside of the schedule on the same row, for example cell P8.



2. Define Dim R in a cell outside of the schedule on the same row, for example cell Q8.



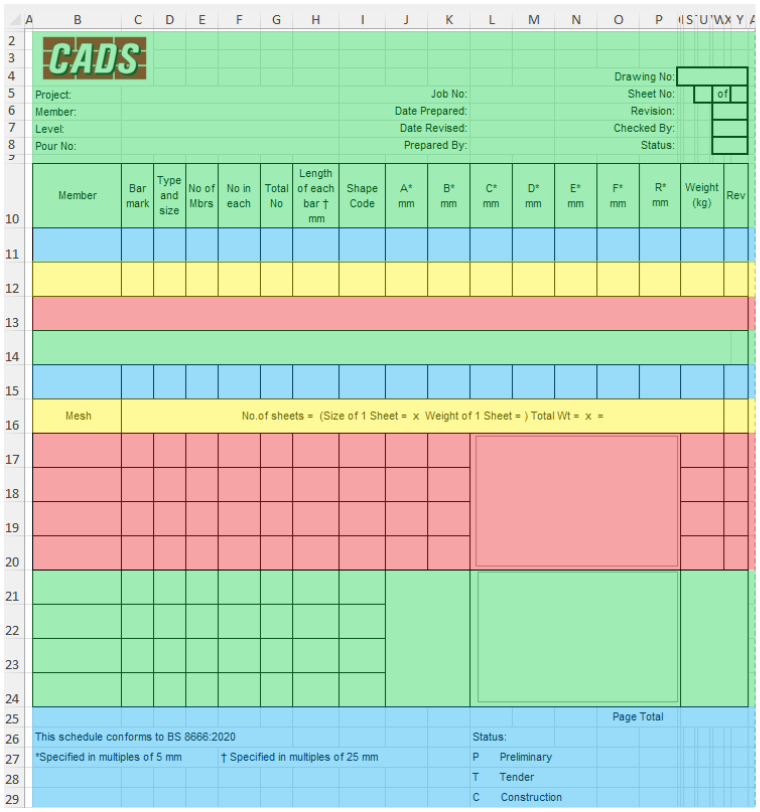
3. Define the following formula in the Dim E/R cell =IF((T8=""),(IF((U8=""),"",U8)),T8)



16.1.5 Defining the Schedule Address Range Names

The final step is to define the address ranges that form the schedule.
The coloured areas in the diagram above indicate the address ranges for each section.
Use the Name Manager on the Formulas Tab to define the Address Range Names and the cell allocation.

Copyright © Computer and Design Services Limited

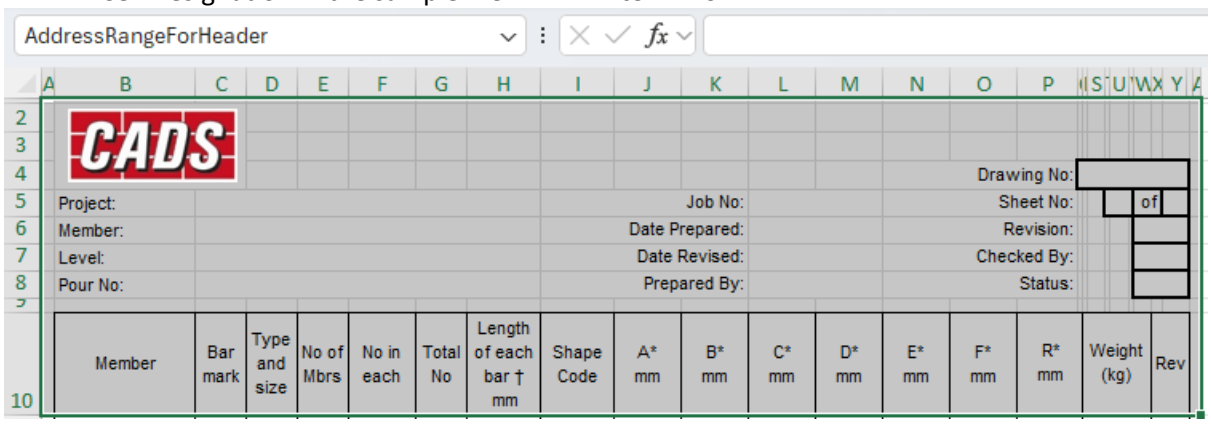


AddressRangeForHeader
AddressRangeForData
AddressRangeForDataWrappedLine
AddressRangeForNotes
AddressRangeForTextLine_TextLine
AddressRangeForBlankRow
AddressRangeForAccessoryDataLine
AddressRangePictureCellsForData
AddressRangeForPictureCellsWithCouplerForData
AddressRangeForFooter

Header Section

Defines the area on the template for the header data:

- Keyword Name **AddressRangeForHeader**
- Cell Designation in the sample file **A1 to AH10**

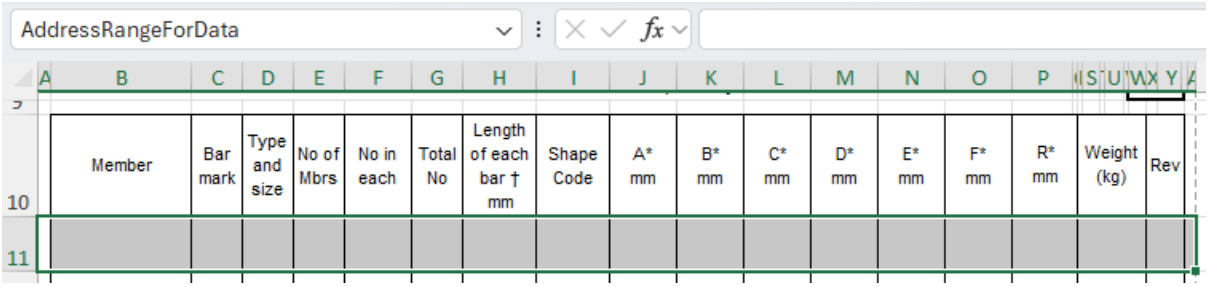


Bar Data Line

Defines the area on the template for the bar data, this area will repeat according to the number of lines specified in the output dialog box:

- Keyword Name **AddressRangeForData**
- Cell Designation in the sample file **A11 to AH11**

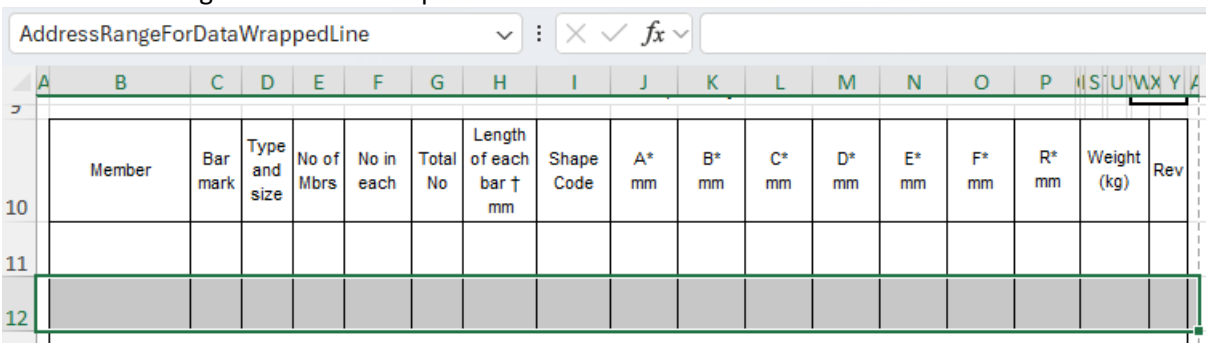
Copyright © Computer and Design Services Limited



Wrapped Bar Data Line

Defines the area on the template where additional bar dimensions F to I are displayed:

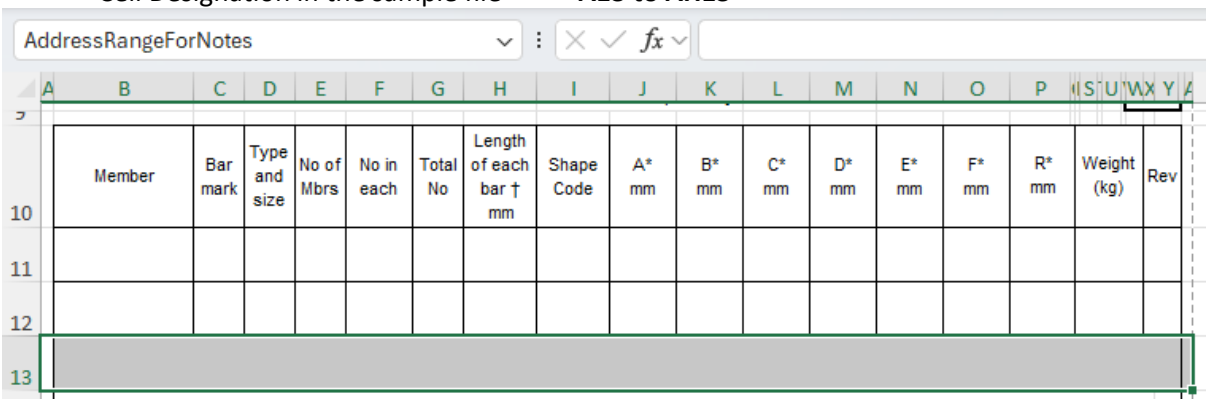
- Keyword **AddressRangeForDataWrappedLine**
- Cell Designation in the sample file **A12 to AH12**



Notes Line

Defines the area on the template that notes can be inserted manually onto the schedule:

- Keyword **AddressRangeForNotes**
- Cell Designation in the sample file **A13 to AH13**

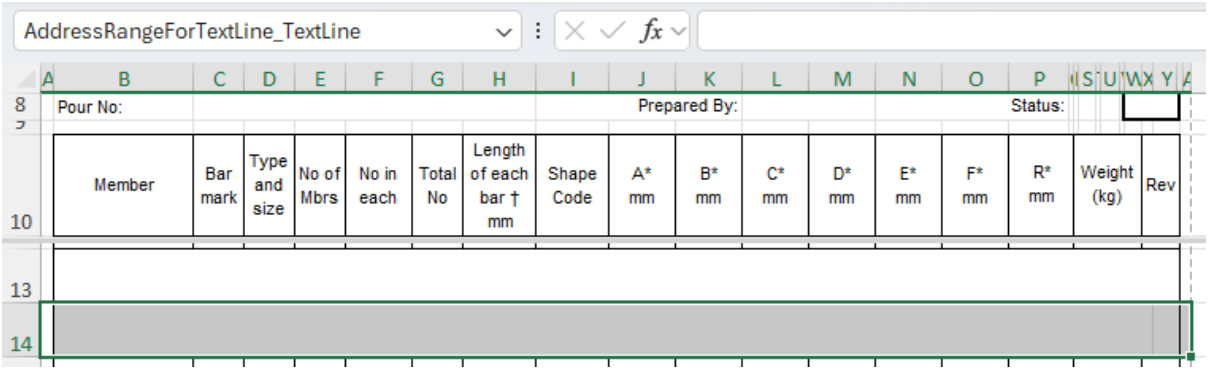


Text Line

Defines the area on the template where the User Defined Text line is inserted:

- Keyword **AddressRangeForTextLine_TextLine**
- Cell Designation in the sample file **A14 to AH14**

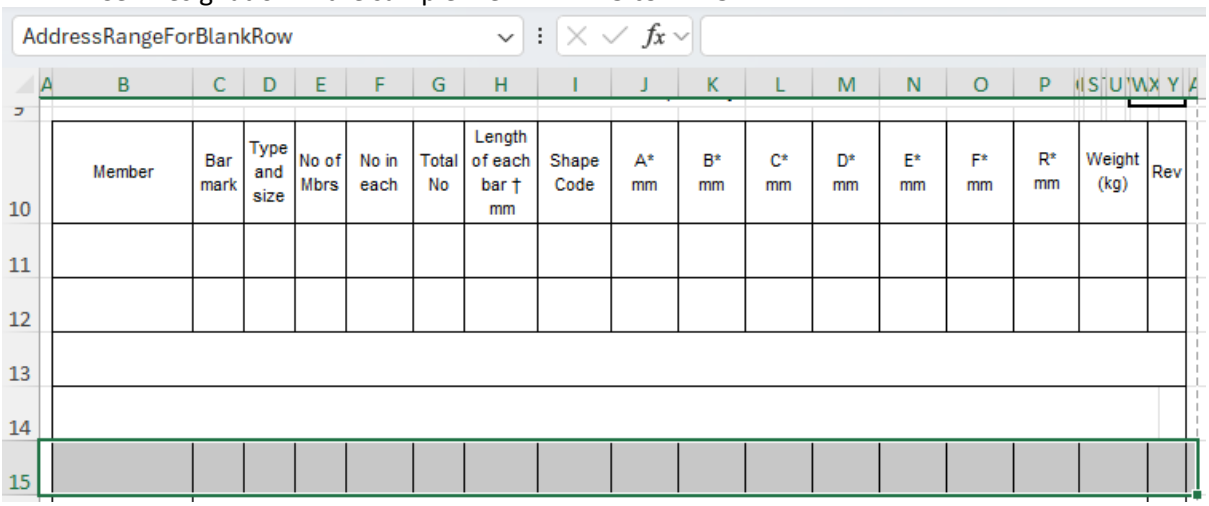
Copyright © Computer and Design Services Limited



Blank Line

Defines the area on the template where the blank line is inserted between members:

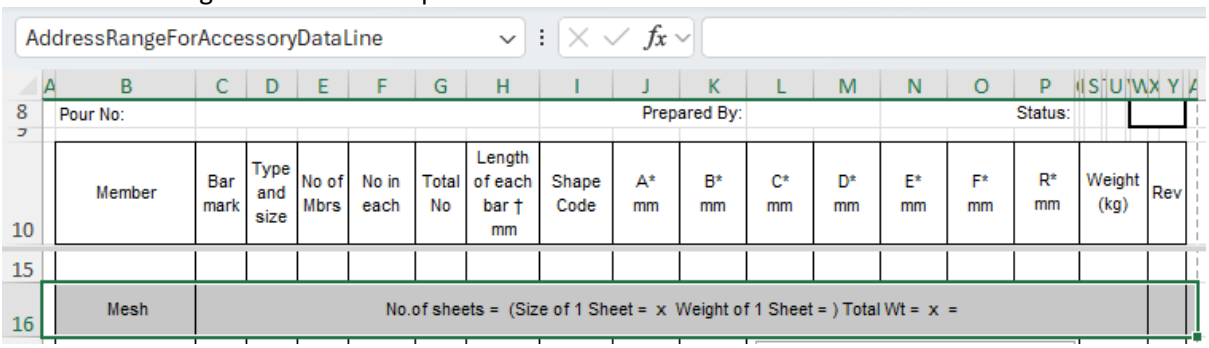
- Keyword **AddressRangeForBlankRow**
- Cell Designation in the sample file **A15 to AH15**



Accessory Data Line

Defines the area on the template where an accessory such as reinforcement mesh is added to the schedule:

- Keyword **AddressRangeForAccessoryDataLine**
- Cell Designation in the sample file **A16 to AH16**

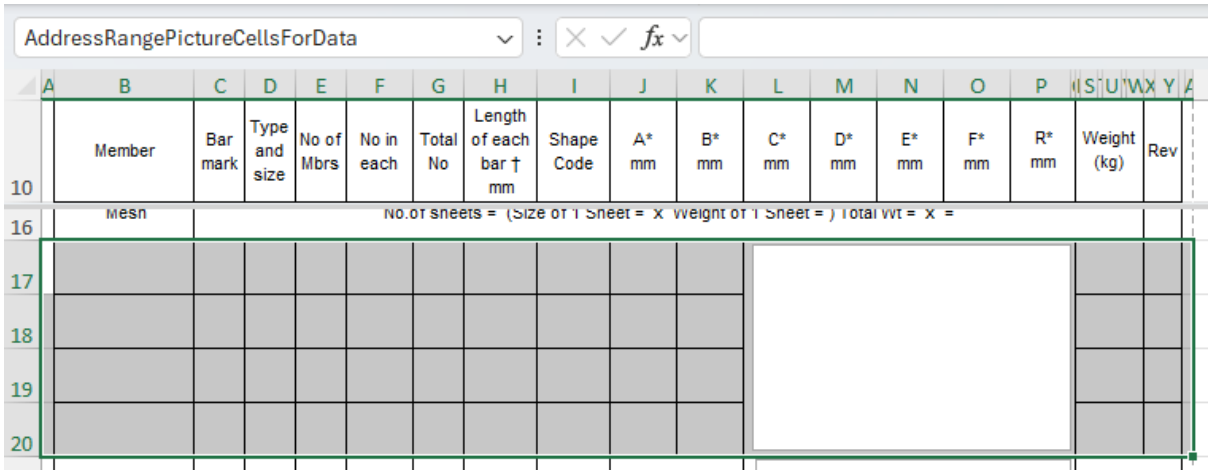


Shape Code Diagram Line

Defines the area on the template where shape code 99 diagrams are inserted on the schedule.

- Keyword **AddressRangeForPictureCellsForData**
- Cell Designation in the sample file **A17 to AH20**

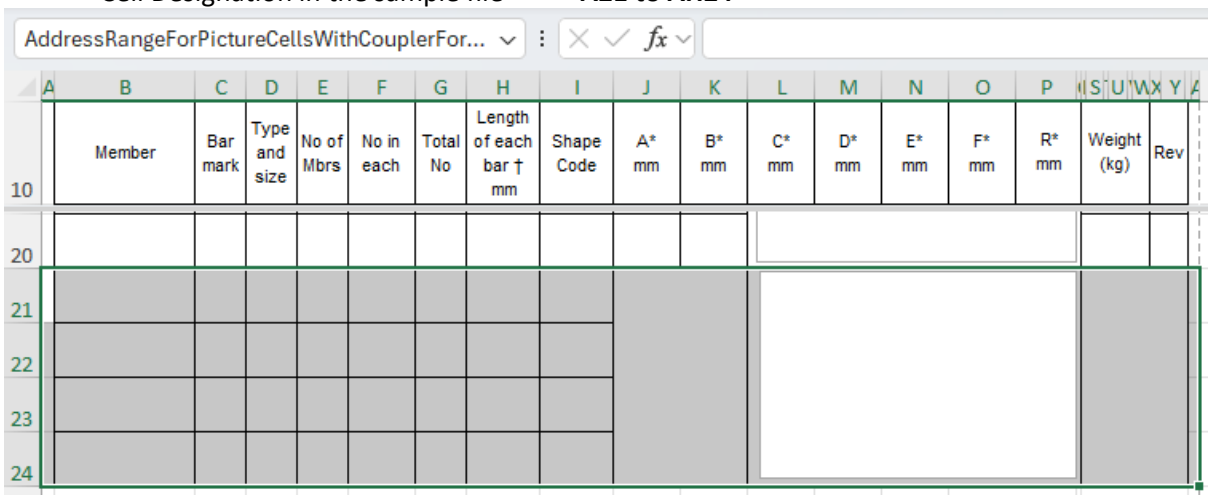
Copyright © Computer and Design Services Limited



Shape Code Diagram with Couplers Line

Defines the area on the template where shape code diagrams with couplers are inserted on the schedule.

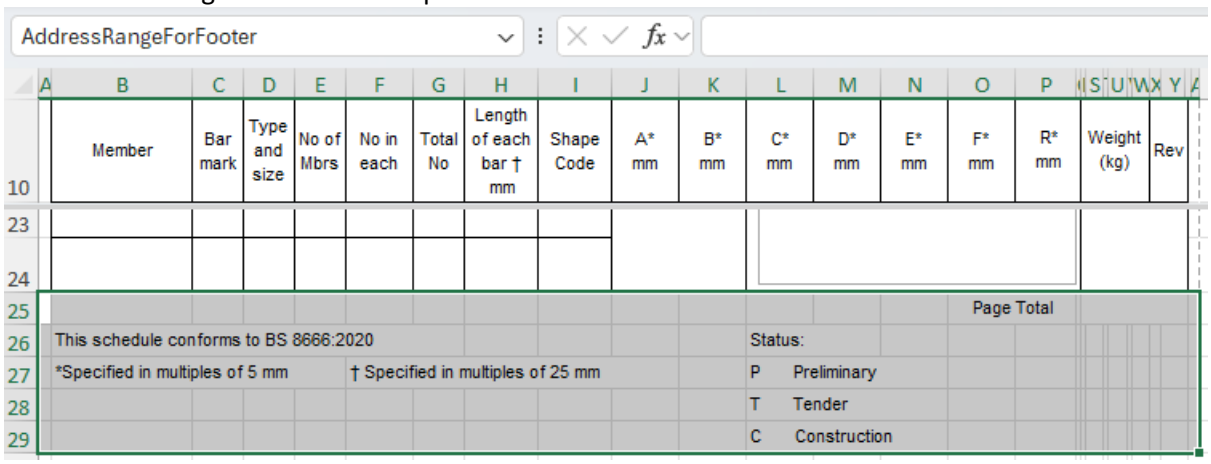
- Keyword **AddressRangeForPictureCellsWithCouplerForData**
- Cell Designation in the sample file **A21 to AH24**



Footer Section

Defines the footer area of the template:

- Keyword **AddressRangeForFooter**
- Cell Designation in the sample file **A25 to AH29**

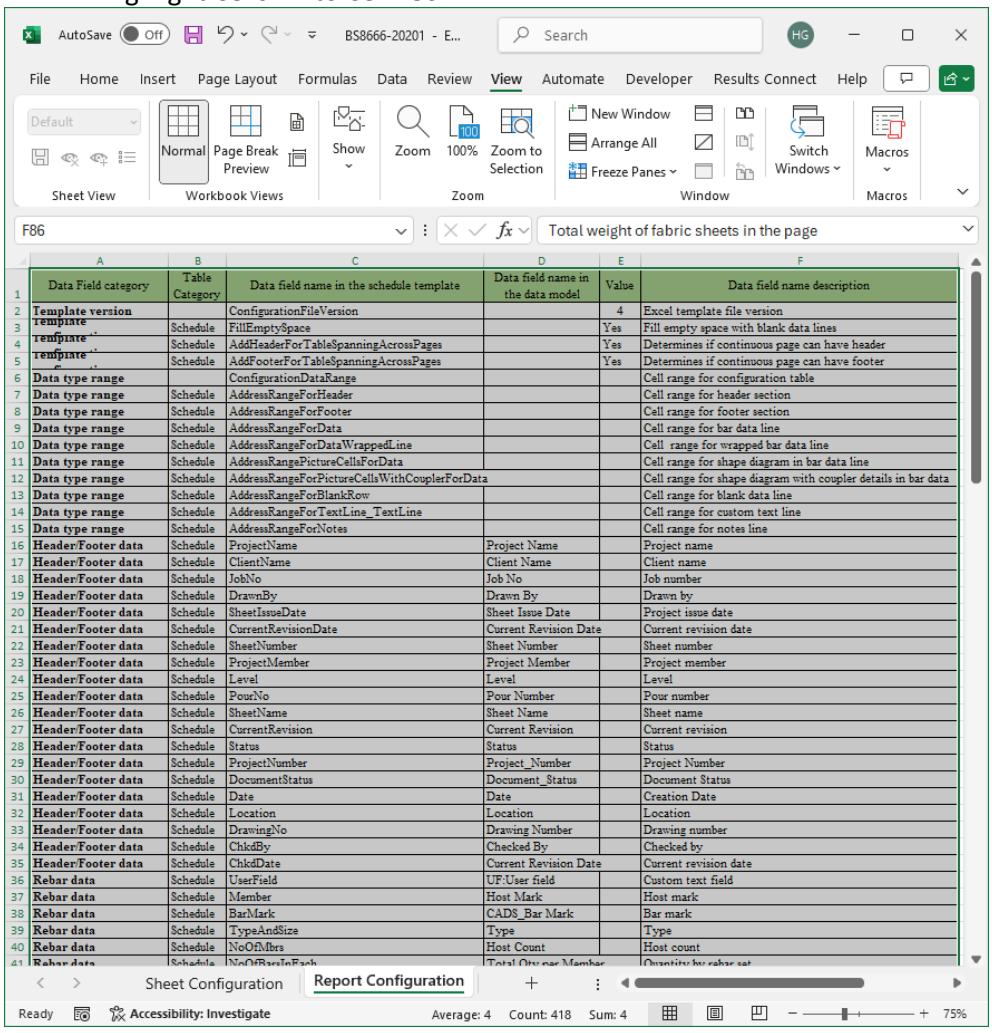


Copyright © Computer and Design Services Limited

16.2 Schedule Report Configuration Tab

The simplest way to reproduce the Report Configuration is to copy and paste from the CADS Default Schedule Template:

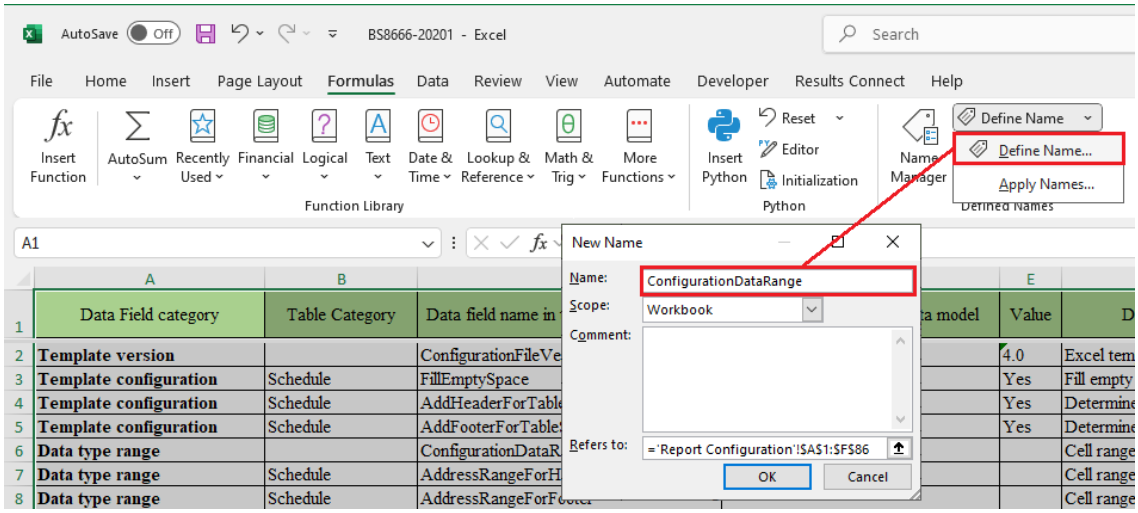
1. Click on the **Report Configuration Tab** in your Schedule Template.
2. Open the default CADS Schedule Template for instance “BS8666-2020.xltx”.
3. Open the Report Configuration Tab.
4. Highlight Cells A1 to Cell F86.



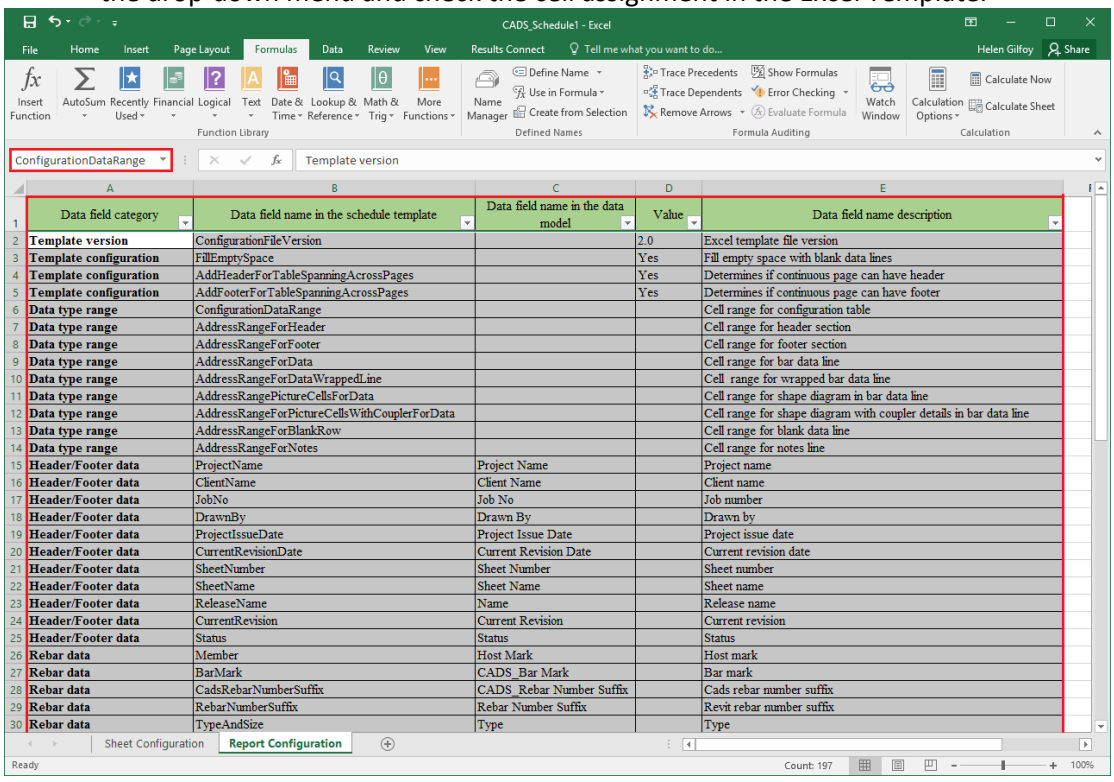
	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
2	Template version		ConfigurationFileVersion		4	Excel template file version
3	Template	Schedule	FillEmptySpace		Yes	Fill empty space with blank data lines
4	Template	Schedule	AddHeaderForTableSpanningAcrossPages		Yes	Determines if continuous page can have header
5	Template	Schedule	AddFooterForTableSpanningAcrossPages		Yes	Determines if continuous page can have footer
6	Data type range		ConfigurationDataRange			Cell range for configuration table
7	Data type range	Schedule	AddressRangeForHeader			Cell range for header section
8	Data type range	Schedule	AddressRangeForFooter			Cell range for footer section
9	Data type range	Schedule	AddressRangeForData			Cell range for bar data line
10	Data type range	Schedule	AddressRangeForDataWrappedLine			Cell range for wrapped bar data line
11	Data type range	Schedule	AddressRangePictureCellsForData			Cell range for shape diagram in bar data line
12	Data type range	Schedule	AddressRangeForPictureCellsWithCouplerForData			Cell range for shape diagram with coupler details in bar data
13	Data type range	Schedule	AddressRangeForBlankRow			Cell range for blank data line
14	Data type range	Schedule	AddressRangeForTextLine_TextLine			Cell range for custom text line
15	Data type range	Schedule	AddressRangeForNotes			Cell range for notes line
16	Header/Footer data	Schedule	ProjectName	Project Name		Project name
17	Header/Footer data	Schedule	ClientName	Client Name		Client name
18	Header/Footer data	Schedule	JobNo	Job No		Job number
19	Header/Footer data	Schedule	DrawnBy	Drawn By		Drawn by
20	Header/Footer data	Schedule	SheetIssueDate	Sheet Issue Date		Project issue date
21	Header/Footer data	Schedule	CurrentRevisionDate	Current Revision Date		Current revision date
22	Header/Footer data	Schedule	SheetNumber	Sheet Number		Sheet number
23	Header/Footer data	Schedule	ProjectMember	Project Member		Project member
24	Header/Footer data	Schedule	Level	Level		Level
25	Header/Footer data	Schedule	PourNo	Pour Number		Pour number
26	Header/Footer data	Schedule	SheetName	Sheet Name		Sheet name
27	Header/Footer data	Schedule	CurrentRevision	Current Revision		Current revision
28	Header/Footer data	Schedule	Status	Status		Status
29	Header/Footer data	Schedule	ProjectNumber	Project_Number		Project Number
30	Header/Footer data	Schedule	DocumentStatus	Document_Status		Document Status
31	Header/Footer data	Schedule	Date	Date		Creation Date
32	Header/Footer data	Schedule	Location	Location		Location
33	Header/Footer data	Schedule	DrawingNo	Drawing Number		Drawing number
34	Header/Footer data	Schedule	ChkdBy	Checked By		Checked by
35	Header/Footer data	Schedule	ChkdDate	Current Revision Date		Current revision date
36	Rebar data	Schedule	UserField	UF:User field		Custom text field
37	Rebar data	Schedule	Member	Host Mark		Host mark
38	Rebar data	Schedule	BarMark	CADS_Bar Mark		Bar mark
39	Rebar data	Schedule	TypeAndSize	Type		Type
40	Rebar data	Schedule	NoOfMbrs	Host Count		Host count
41	Rebar data	Schedule	NoOfBarsInEach	Total Qty: per Member		Quantity by rebar set

5. Select the Copy option from the Home Tab.
6. Return to your Schedule Template.
7. Click into Cell A1, right mouse click and select Paste (Keep Source Column Widths).
8. Next, define the Configuration Data Range.
9. Select the top left cell (A1), hold down Shift and click the bottom left cell (F86).
10. Go to the Formulas Tab, select Define Name.
11. In the Name Field type in “**ConfigurationDataRange**” and click ok.

Copyright © Computer and Design Services Limited



12. Check that each of the keywords have been defined correctly by selecting the keywords in the drop-down menu and check the cell assignment in the Excel Template.



13. Save your file and close Excel.

16.2.1 Schedule Cell Name Definitions

The following section lists the definitions of all the keywords currently used in the default schedule templates. Additional definitions can be added to match the custom parameters used in a project.

Copyright © Computer and Design Services Limited

Header / Footer Data Fields (Header/Footer data)

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
17	**Header/Footer data**	Schedule	ClientName	Client Name		Client name
18	**Header/Footer data**	Schedule	JobNo	Job No		Job number
19	**Header/Footer data**	Schedule	DrawnBy	Drawn By		Drawn by
20	**Header/Footer data**	Schedule	SheetIssueDate	Sheet Issue Date		Project issue date
21	**Header/Footer data**	Schedule	CurrentRevisionDate	Current Revision Date		Current revision date
22	**Header/Footer data**	Schedule	SheetNumber	Sheet Number		Sheet number
23	**Header/Footer data**	Schedule	ProjectMember	Project Member		Project member
24	**Header/Footer data**	Schedule	Level	Level		Level
25	**Header/Footer data**	Schedule	PourNo	Pour Number		Pour number
26	**Header/Footer data**	Schedule	SheetName	Sheet Name		Sheet name
27	**Header/Footer data**	Schedule	CurrentRevision	Current Revision		Current revision
28	**Header/Footer data**	Schedule	Status	Status		Status
29	**Header/Footer data**	Schedule	ProjectNumber	Project_Number		Project Number
30	**Header/Footer data**	Schedule	DocumentStatus	Document_Status		Document Status
31	**Header/Footer data**	Schedule	Date	Date		Creation Date
32	**Header/Footer data**	Schedule	Location	Location		Location
33	**Header/Footer data**	Schedule	DrawingNo	Drawing Number		Drawing number
34	**Header/Footer data**	Schedule	ChkdBy	Checked By		Checked by
35	**Header/Footer data**	Schedule	ChkdDate	Current Revision Date		Current revision date

Copyright © Computer and Design Services Limited

Schedule Rebar Data Fields (Rebar data)

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
36	**Rebar data**	Schedule	UserField	UF:User field		Custom text field
37	**Rebar data**	Schedule	Member	Host Mark		Host mark
38	**Rebar data**	Schedule	BarMark	CADS_Bar Mark		Bar mark
39	**Rebar data**	Schedule	TypeAndSize	Type		Type
40	**Rebar data**	Schedule	NoOfMbrs	Host Count		Host count
41	**Rebar data**	Schedule	NoOfBarsInEach	Total Qty per Member		Quantity by rebar set
42	**Rebar data**	Schedule	TotalNo	Quantity		Quantity
43	**Rebar data**	Schedule	LengthOfEachBar	Bar Length		Bar Length
44	**Rebar data**	Schedule	ShapeCode	Shape		Shape
45	**Rebar data**	Schedule	DimA	A		Dimension A
46	**Rebar data**	Schedule	DimB	B		Dimension B
47	**Rebar data**	Schedule	DimC	C		Dimension C
48	**Rebar data**	Schedule	DimD	D		Dimension D
49	**Rebar data**	Schedule	DimE	E		Dimension E
50	**Rebar data**	Schedule	DimR	R		Dimension R
51	**Rebar data**	Schedule	DimF	F		Dimension F
52	**Rebar data**	Schedule	DimG	G		Dimension G
53	**Rebar data**	Schedule	DimH	H		Dimension H
54	**Rebar data**	Schedule	DimI	I		Dimension I
55	**Rebar data**	Schedule	DimJ	J		Dimension J
56	**Rebar data**	Schedule	DimK	K		Dimension K
57	**Rebar data**	Schedule	DimL	L		Dimension L
58	**Rebar data**	Schedule	DimM	M		Dimension M
59	**Rebar data**	Schedule	Weight	CADS_Total Rebar Weight		Reinforcement weight
60	**Rebar data**	Schedule	TotalPageWeight	CADS_Total Page Weight		Total page weight
61	**Rebar data**	Schedule	Revn	CADS_Revision Mark		Rebar revision
62	**Rebar data**	Schedule	MeshRevn	CADS_Revision Mark		Mesh revision
63	**Rebar data**	Schedule	Notes	Notes		Notes
64	**Rebar data**	Schedule	EndTreatmentAtStart	Coupler Label 1st End		End Treatment At Start
65	**Rebar data**	Schedule	EndTreatmentAtEnd	Coupler Label 2nd End		End Treatment At End
66	**Rebar data**	Schedule	BarMarkDiagram1	BarMarkDiagram	Yes	Rebar shape diagram
67	**Rebar data**	Schedule	BarMarkDiagram2	BarMarkDiagram	Yes	Rebar shape diagram with
68	**Rebar data**	Schedule	MeshType	Type		Mesh type
69	**Rebar data**	Schedule	MeshNoOfSheets	CADS_No of Fabric Sheets		No of fabric sheets
70	**Rebar data**	Schedule	CADSMeshWeight	CADS_Weight of Fabric Sheets		Weight of fabric sheets
71	**Rebar data**	Schedule	CADSWeightOfAMesh	Cut Sheet Mass		Fabric sheet mass
72	**Rebar data**	Schedule	CutOverallLength	Cut Overall Length		Fabric sheet cut length
73	**Rebar data**	Schedule	CutOverallWidth	Cut Overall Width		Fabric sheet width

Schedule Address Range Definitions (Data Range Type)

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
6	**Data type range**		ConfigurationDataRange			Cell range for
7	**Data type range**	Schedule	AddressRangeForHeader			Cell range for header
8	**Data type range**	Schedule	AddressRangeForFooter			Cell range for footer
9	**Data type range**	Schedule	AddressRangeForData			Cell range for bar data line
10	**Data type range**	Schedule	AddressRangeForDataWrappedLine			Cell range for wrapped
11	**Data type range**	Schedule	AddressRangePictureCellsForData			Cell range for shape
12	**Data type range**	Schedule	AddressRangeForPictureCellsWithCouplerForData			Cell range for shape
13	**Data type range**	Schedule	AddressRangeForBlankRow			Cell range for blank data
14	**Data type range**	Schedule	AddressRangeForTextLine_TextLine			Cell range for custom text
15	**Data type range**	Schedule	AddressRangeForNotes			Cell range for notes line

Copyright © Computer and Design Services Limited

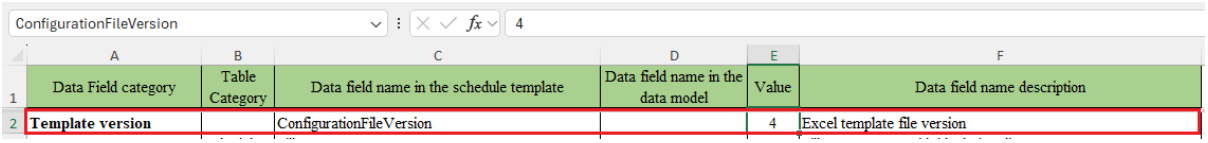
Schedule Additional Settings

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
2	**Template version**		ConfigurationFileVersion		4	Excel template file version
3	**Template configuration**	Schedule	FillEmptySpace		Yes	Fill empty space with
4	**Template configuration**	Schedule	AddHeaderForTableSpanningAcrossPages		Yes	Determines if continuous
5	**Template configuration**	Schedule	AddFooterForTableSpanningAcrossPages		Yes	Determines if continuous

16.2.2 Mandatory Schedule Template Fields

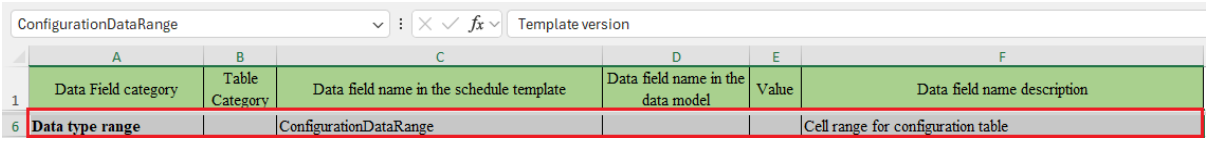
The following fields must be defined otherwise CADS RC3D for Revit® will not be able to create the Excel Schedule.

ConfigurationFileVersion



	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
2	**Template version**		ConfigurationFileVersion		4	Excel template file version

ConfigurationDataRange



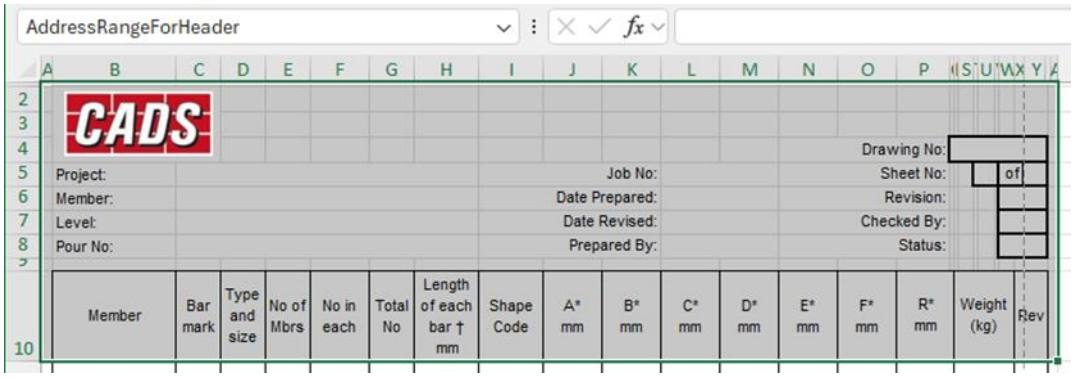
	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
6	**Data type range**		ConfigurationDataRange			Cell range for configuration table

Copyright © Computer and Design Services Limited

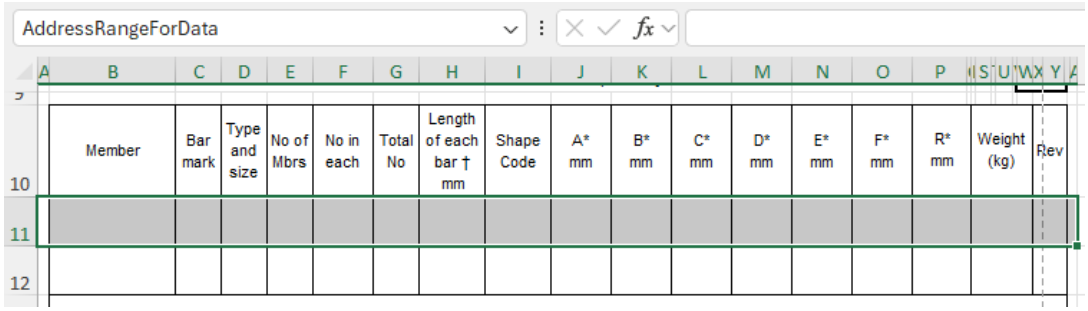


	A	B	C	D	E	F	G	H
1	Data Field category	Data field name in the schedule template	Data field name in	Value	Data field name description			
2	Template version	ConfigurationFileVersion		3.0	Excel template file version			
3	Template	FillEmptySpace		Yes	Fill empty space with blank data lines			
4	Template	AddHeaderForTableSpanningAcrossPages		Yes	Determines if continuous page can have header			
5	Template	AddFooterForTableSpanningAcrossPages		Yes	Determines if continuous page can have footer			
6	Data type range	ConfigurationDataRange			Cell range for configuration table			
7	Data type range	AddressRangeForHeader			Cell range for header section			
8	Data type range	AddressRangeForFooter			Cell range for footer section			
9	Data type range	AddressRangeForData			Cell range for bar data line			
10	Data type range	AddressRangeForDataWrappedLine			Cell range for wrapped bar data line			
11	Data type range	AddressRangePictureCellForData			Cell range for shape diagram in bar data line			
12	Data type range	AddressRangeForPictureCellWithCouplerForData			Cell range for shape diagram with coupler detail in bar			
13	Data type range	AddressRangeForBlankRow			Cell range for blank data line			
14	Data type range	AddressRangeForNotes			Cell range for notes line			
15	Header/Footer	ProjectName	ProjectName		Project name			
16	Header/Footer	ClientName	ClientName		Client name			
17	Header/Footer	JobNo	JobNo		Job number			
18	Header/Footer	DrawnBy	DrawnBy		Drawn by			
19	Header/Footer	SheetIssueDate	SheetIssueDate		Project issue date			
20	Header/Footer	CurrentRevisionDate	CurrentRevisionDate		Current revision date			
21	Header/Footer	SheetNumber	SheetNumber		Sheet number			
22	Header/Footer	ProjectMember	ProjectMember		Project member			
23	Header/Footer	Level	Level		Level			
24	Header/Footer	PourNo	PourNumber		Pour number			
25	Header/Footer	SheetName	SheetName		Sheet name			
26	Header/Footer	CurrentRevision	CurrentRevision		Current revision			
27	Header/Footer	Status	Status		Status			
28	Header/Footer	ProjectNumber	Project_Number		ProjectNumber			
29	Header/Footer	DocumentStatus	Document_Status		Document Status			
30	Header/Footer	Date	Date		Creation Date			
31	Header/Footer	Location	Location					
32	Header/Footer	DrawingNo	DrawingNumber					
33	Header/Footer	Chkd1By	CheckedBy					
34	Header/Footer	Chkd1Date	CurrentRevisionDate					
35	Rebar data	Member	HartMark		Hart mark			
36	Rebar data	BarMark	CADS_BarMark		Bar mark			
37	Rebar data	TypeAndSize	Type		Type			
38	Rebar data	NoOfMbrs	HartCount		Hart count			
39	Rebar data	NoOfBarsInEach	TotalQtyperMember		Quantity by rebar set			
40	Rebar data	TotalNo	Quantity		Quantity			
41	Rebar data	LengthOfEachBar	BarLength		Bar Length			
42	Rebar data	ShapeCode	Shape		Shape			
43	Rebar data	DimA	A		Dimension A			
44	Rebar data	DimB	B		Dimension B			
45	Rebar data	DimC	C		Dimension C			
46	Rebar data	DimD	D		Dimension D			
47	Rebar data	DimE	E		Dimension E			
48	Rebar data	DimR	R		Dimension R			
49	Rebar data	DimF	F		Dimension F			
50	Rebar data	DimG	G		Dimension G			
51	Rebar data	DimH	H		Dimension H			
52	Rebar data	DimI	I		Dimension I			
53	Rebar data	DimJ	J		Dimension J			
54	Rebar data	DimK	K		Dimension K			
55	Rebar data	DimL	L		Dimension L			
56	Rebar data	DimM	M		Dimension M			
57	Rebar data	Weight	CADS_TotalRebarWeight		Reinforcement weight			
58	Rebar data	TotalPageWeight	CADS_TotalPageWeight		Total page weight			
59	Rebar data	Revn	CADS_RevisionMark		Rebar revision			
60	Rebar data	Notes	Notes		Notes			
61	Rebar data	EndTreatmentAtStart	CouplerLabel1stEnd		End Treatment At Start			
62	Rebar data	EndTreatmentAtEnd	CouplerLabel2ndEnd		End Treatment At End			
63	Rebar data	BarMarkDiagram1	BarMarkDiagram	Yes	Rebar shape diagram			
64	Rebar data	BarMarkDiagram2	BarMarkDiagram	Yes	Rebar shape diagram with coupler details			
65								

AddressRangeForHeader

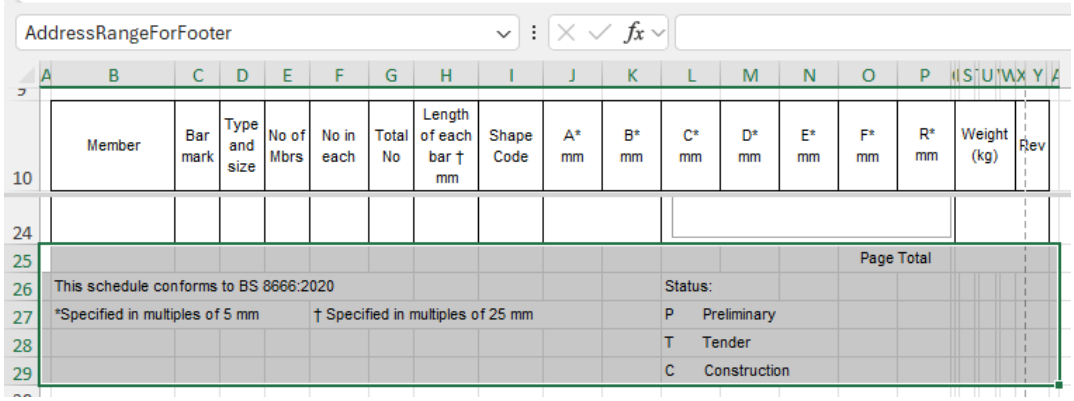


AddressRangeForData



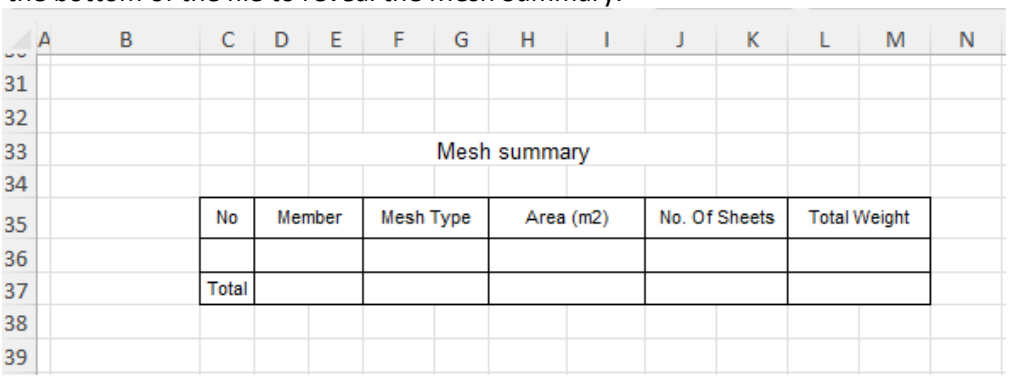
Copyright © Computer and Design Services Limited

AddressRangeForFooter



16.3 Defining the Mesh Summary Template

The Mesh Template can be added to the bottom of your Schedule Template or you can create a new Excel template for the Mesh Summary.
Use the CADS Default Schedule template or the Mesh Summary to review the set-up of the schedule template.
The default location for the Weight Reports is “C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\ExcelTemplates\UK”.
The file shown below is the “BS8666-2020.xltx”, or you can open “Mesh Summary.xltx”.
Scroll to the bottom of the file to reveal the Mesh Summary.

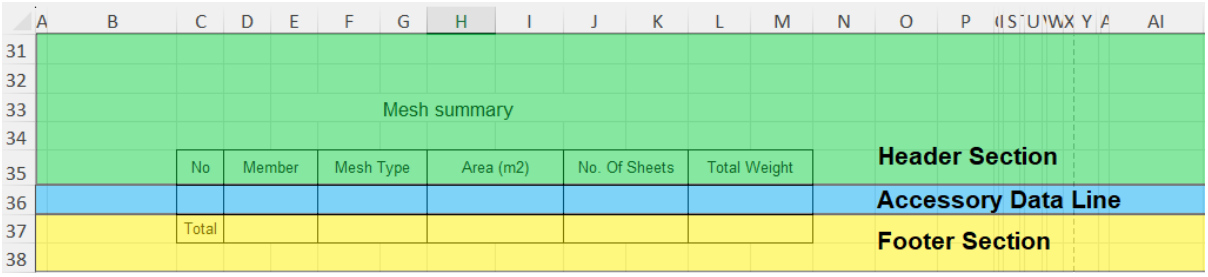


Open your custom schedule template or create a new Excel Template as described in the

16.3.1 Creating the Mesh Summary Template Graphics

On the Report Template Tab, create the graphical layout of the Mesh Summary template based on your standard office layout. An example of the default CADS Mesh Template is shown below:

Copyright © Computer and Design Services Limited

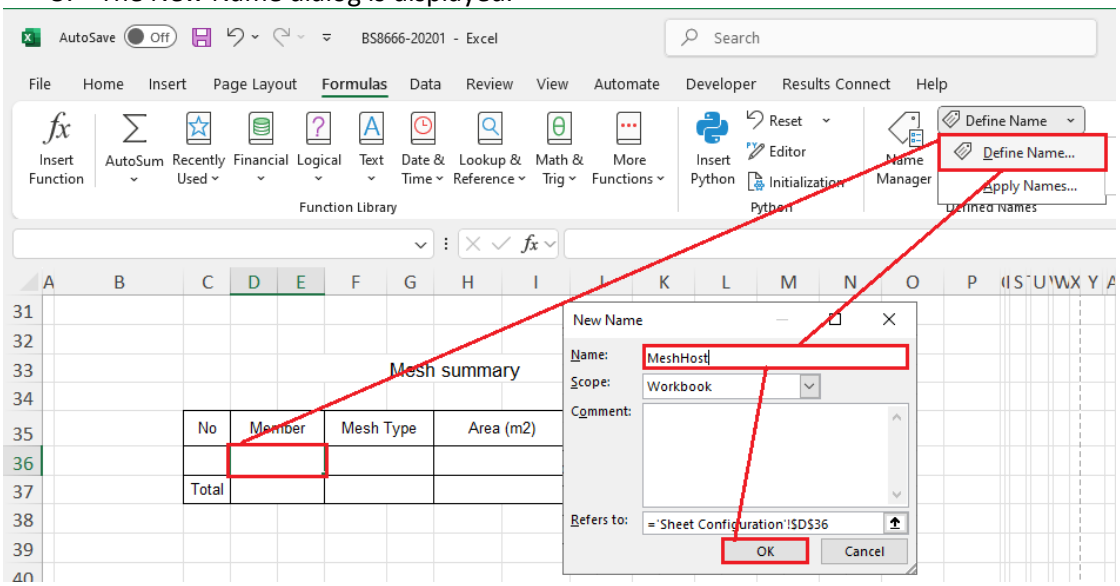


The Template should be designed to include the areas shown above. Logos and Project fields as per the Schedule template can be included. Please note that the Data Line is defined individually, and it will be reproduced to include each mesh type in the drawing sheet when the summary is created. Your schedule template should include all the defined areas shown. A description of defining the keywords and data areas is described in the following web pages.

16.3.2 Naming the Mesh Summary Template Cells

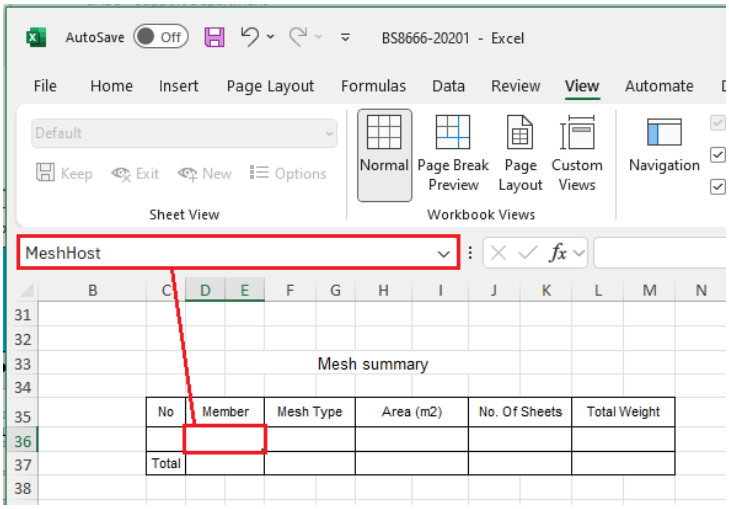
Keywords need assigning to cells in the Mesh Summary Template to receive mesh data exported from CADS RC3D for Revit®; this next section describes how to define the keywords inside Excel. The example below describes how to define a keyword for the Job No data cell.

1. Click into Cell D/E35 (on your template select the cell for the Member data).
2. Select the Formulas Tab
3. Select Define Name drop down menu.
4. Select the Define Name command.
5. The New Name dialog is displayed.



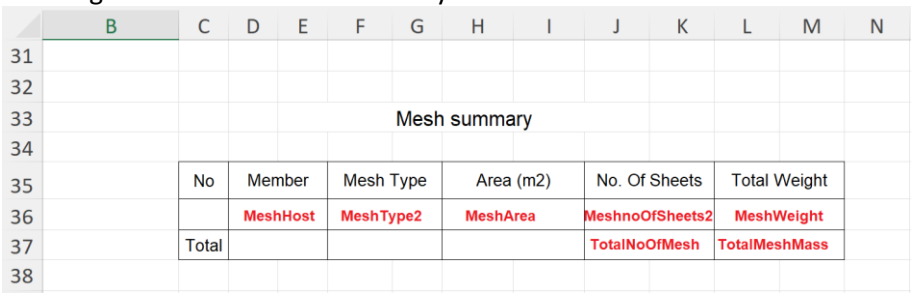
6. Type in “MeshHost” into the Name field, this is a defined keyword that the export routine is programmed to recognise.
7. Leave the scope set to Workbook.
8. Refers to: displays the select cell address.
9. Click OK.
10. The MeshHost keyword is displayed in the dropdown menu as shown below:

Copyright © Computer and Design Services Limited



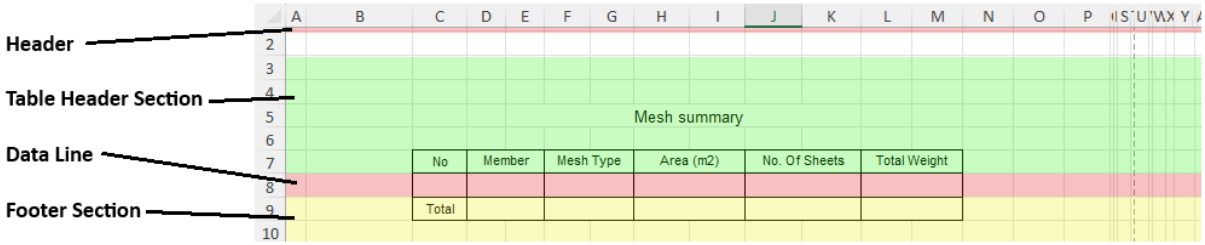
11. Full details of the default keywords are described in the Mesh Summary Cell Name Definitions.
12. Continue defining the keywords for all the data areas in the schedule report.

The diagram below illustrates the keywords defined in the CADS default template.



16.3.3 Defining the Mesh Summary Template Address Ranges

The final step is to define the address ranges that form the Mesh Summary Template.
The coloured areas in the diagram above indicate the address ranges for each section.
Use the Name Manager on the Formulas Tab to define the Address Range Names and the cell allocation.



Header Section

Defines the area on the template for the Header:

- Keyword Name
- Cell Designation in the sample file **A1 to AH1**

Copyright © Computer and Design Services Limited

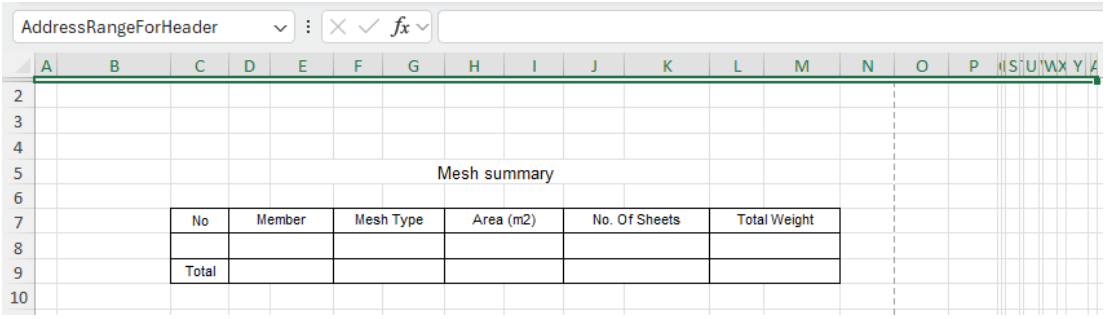
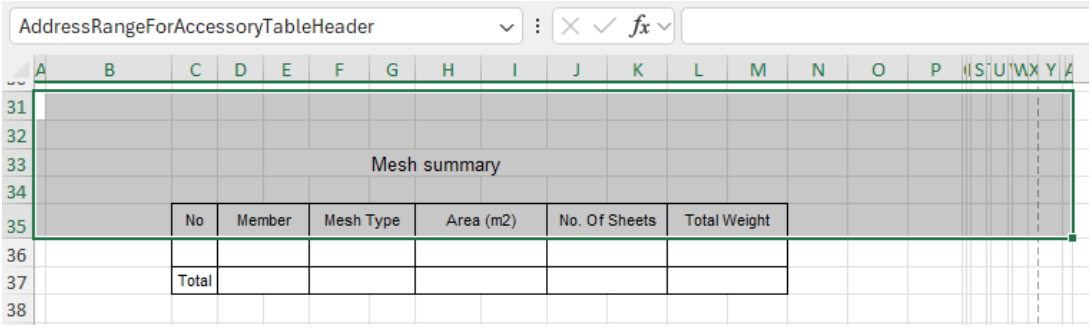


Table Header Section

Defines the area on the template for the header data:

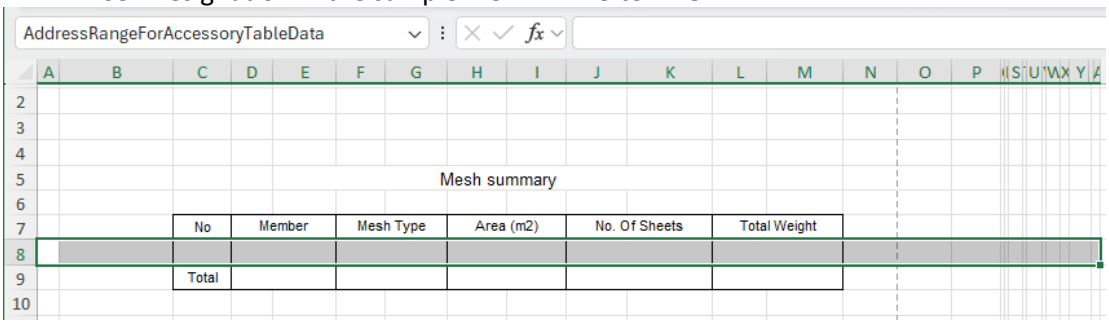
- Keyword Name **AddressRangeForAccessoryTableHeader**
- Cell Designation in the sample file **A3 to AH7**



Accessory Data Line

Defines the area on the template for the bar data, this area will repeat according to the number of lines specified in the output dialog box:

- Keyword Name **AddressRangeForAccessoryTableData**
- Cell Designation in the sample file **A8 to AH8**

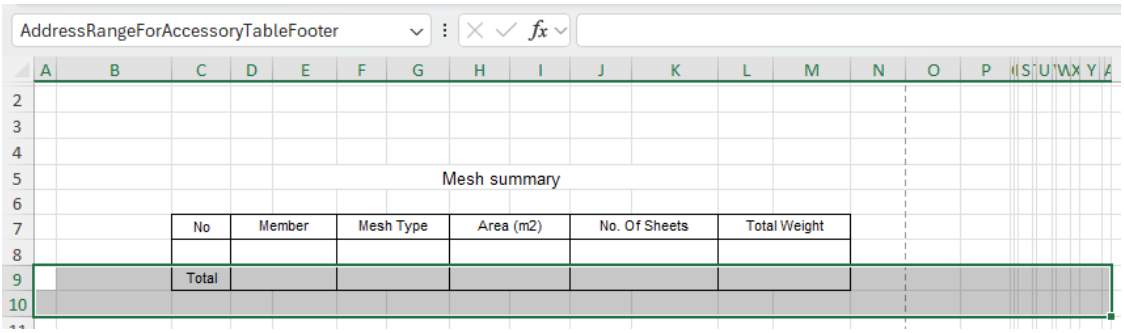


Footer Section

Defines the footer area of the template:

- Keyword **AddressRangeForAccessoryTableFooter**
- Cell Designation in the sample file **A9 to AH10**

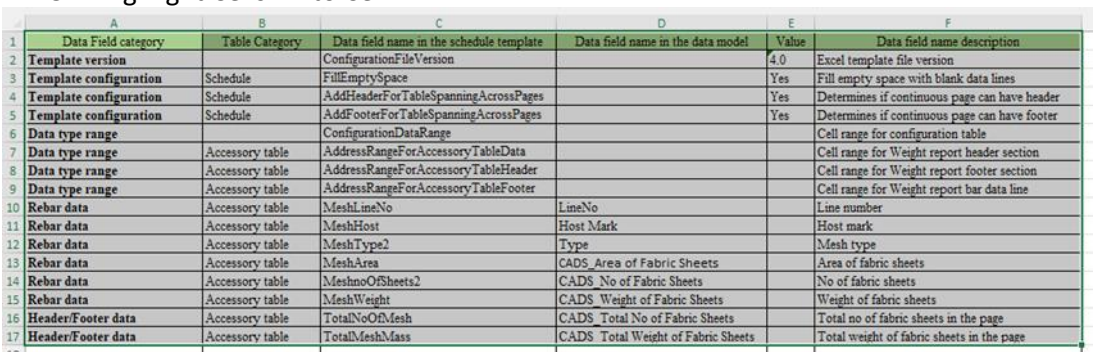
Copyright © Computer and Design Services Limited



16.3.4 Mesh Summary Report Configuration Tab

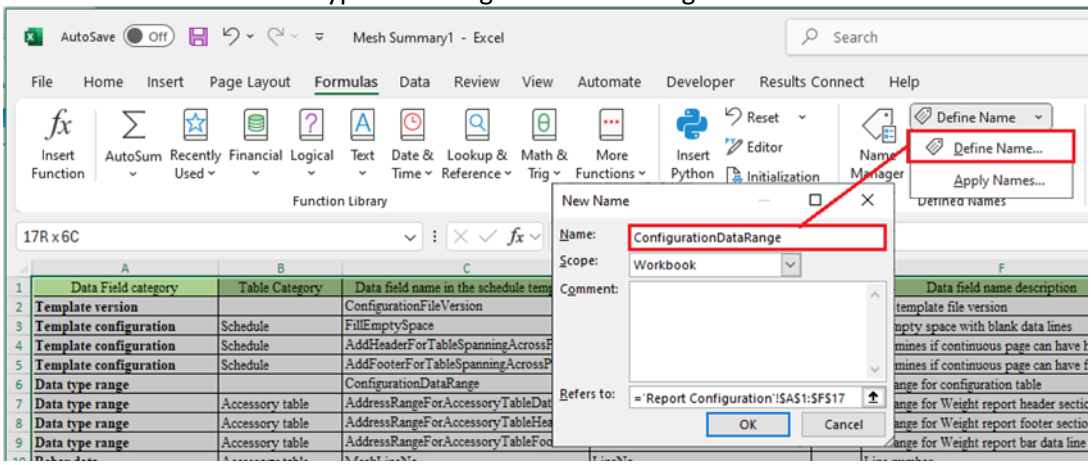
The simplest way to reproduce the Report Configuration is to copy and paste from the CADS Default Mesh Summary Template:

1. Click on the Report Configuration Tab in your Mesh Summary Template
2. If adding the Mesh Summary to your Schedule Template this data has already been setup.
3. Open the default CADS Mesh Summary Template, for instance “Mesh Summary.xltx”.
4. Open the Report Configuration Tab.
5. Highlight Cells A1 to Cell F17.



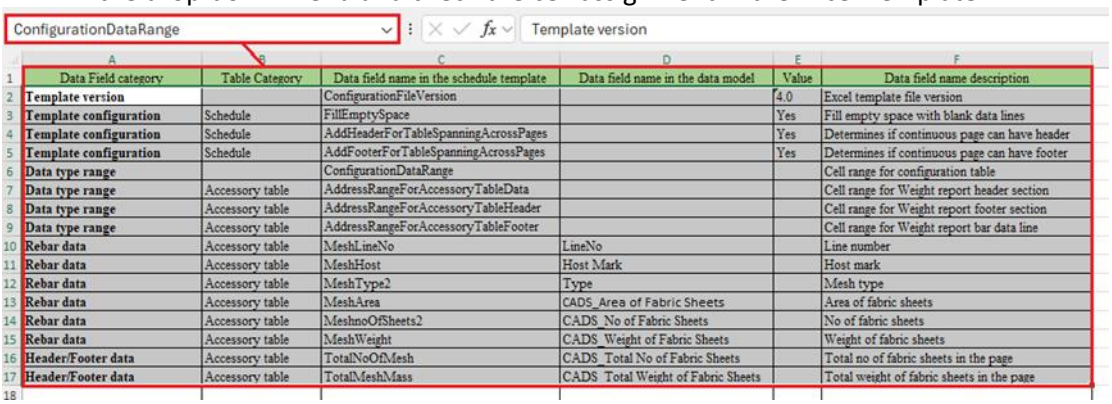
Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
Template version		ConfigurationFileVersion		4.0	Excel template file version
Template configuration	Schedule	FillEmptySpace		Yes	Fill empty space with blank data lines
Template configuration	Schedule	AddHeaderForTableSpanningAcrossPages		Yes	Determines if continuous page can have header
Template configuration	Schedule	AddFooterForTableSpanningAcrossPages		Yes	Determines if continuous page can have footer
Data type range		ConfigurationDataRange			Cell range for configuration table
Data type range	Accessory table	AddressRangeForAccessoryTableData			Cell range for Weight report header section
Data type range	Accessory table	AddressRangeForAccessoryTableHeader			Cell range for Weight report footer section
Data type range	Accessory table	AddressRangeForAccessoryTableFooter			Cell range for Weight report bar data line
Rebar data	Accessory table	MeshLineNo	LineNo		Line number
Rebar data	Accessory table	MeshHost	Host Mark		Host mark
Rebar data	Accessory table	MeshType2	Type		Mesh type
Rebar data	Accessory table	MeshArea	CADS_Area of Fabric Sheets		Area of fabric sheets
Rebar data	Accessory table	MeshnoOfSheets2	CADS_No of Fabric Sheets		No of fabric sheets
Rebar data	Accessory table	MeshWeight	CADS_Weight of Fabric Sheets		Weight of fabric sheets
Header/Footer data	Accessory table	TotalNoOfMesh	CADS_Total No of Fabric Sheets		Total no of fabric sheets in the page
Header/Footer data	Accessory table	TotalMeshMass	CADS_Total Weight of Fabric Sheets		Total weight of fabric sheets in the page

6. Select the Copy option from the Home Tab.
7. Return to your Schedule Template.
8. Click into Cell A1, right mouse click and select Paste (Keep Source Column Widths).
9. Next, define the Configuration Data Range.
10. Select the top left cell (A1), hold down Shift and click the bottom left cell (F86).
11. Go to the Formulas Tab, select Define Name.
12. In the Name Field type in “ConfigurationDataRange” and click ok.



Copyright © Computer and Design Services Limited

13. Check that each of the keywords have been defined correctly by selecting the keywords in the drop-down menu and check the cell assignment in the Excel Template.



	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
2	**Template version**		ConfigurationFileVersion		4.0	Excel template file version
3	**Template configuration**	Schedule	FillEmptySpace		Yes	Fill empty space with blank data lines
4	**Template configuration**	Schedule	AddHeaderForTableSpanningAcrossPages		Yes	Determines if continuous page can have header
5	**Template configuration**	Schedule	AddFooterForTableSpanningAcrossPages		Yes	Determines if continuous page can have footer
6	**Data type range**		ConfigurationDataRange			Cell range for configuration table
7	**Data type range**	Accessory table	AddressRangeForAccessoryTableData			Cell range for Weight report header section
8	**Data type range**	Accessory table	AddressRangeForAccessoryTableHeader			Cell range for Weight report footer section
9	**Data type range**	Accessory table	AddressRangeForAccessoryTableFooter			Cell range for Weight report bar data line
10	**Rebar data**	Accessory table	MeshLineNo	LineNo		Line number
11	**Rebar data**	Accessory table	MeshHost	Host Mark		Host mark
12	**Rebar data**	Accessory table	MeshType2	Type		Mesh type
13	**Rebar data**	Accessory table	MeshArea	CADS_Area of Fabric Sheets		Area of fabric sheets
14	**Rebar data**	Accessory table	MeshnoOfSheets2	CADS_No of Fabric Sheets		No of fabric sheets
15	**Rebar data**	Accessory table	MeshWeight	CADS_Weight of Fabric Sheets		Weight of fabric sheets
16	**Header/Footer data**	Accessory table	TotalNoOfMesh	CADS_Total No of Fabric Sheets		Total no of fabric sheets in the page
17	**Header/Footer data**	Accessory table	TotalMeshMass	CADS_Total Weight of Fabric Sheets		Total weight of fabric sheets in the page
18						

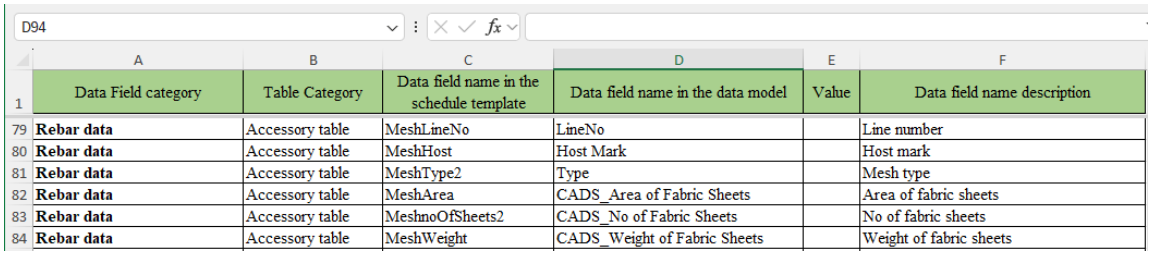
16.3.5 Mesh Summary Cell Name Definitions

The following section lists the definitions of all the keywords currently used in the default Mesh Summary Template. Additional definitions can be added to match the custom parameters used in a project.

Header and Footer Data Fields

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
85	**Header/Footer data**	Accessory table	TotalNoOfMesh	CADS_Total No of Fabric Sheets		Total no of fabric sheets in the page
86	**Header/Footer data**	Accessory table	TotalMeshMass	CADS_Total Weight of Fabric Sheets		Total weight of fabric sheets in the page

Mesh Summary Data Fields



	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
79	**Rebar data**	Accessory table	MeshLineNo	LineNo		Line number
80	**Rebar data**	Accessory table	MeshHost	Host Mark		Host mark
81	**Rebar data**	Accessory table	MeshType2	Type		Mesh type
82	**Rebar data**	Accessory table	MeshArea	CADS_Area of Fabric Sheets		Area of fabric sheets
83	**Rebar data**	Accessory table	MeshnoOfSheets2	CADS_No of Fabric Sheets		No of fabric sheets
84	**Rebar data**	Accessory table	MeshWeight	CADS_Weight of Fabric Sheets		Weight of fabric sheets

Mesh Summary Address Range Definitions

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
76	**Data type range**	Accessory table	AddressRangeForAccessoryTableData			Cell range for Weight report header section
77	**Data type range**	Accessory table	AddressRangeForAccessoryTableHeader			Cell range for Weight report footer section
78	**Data type range**	Accessory table	AddressRangeForAccessoryTableFooter			Cell range for Weight report bar data line

Mesh Summary Additional Settings

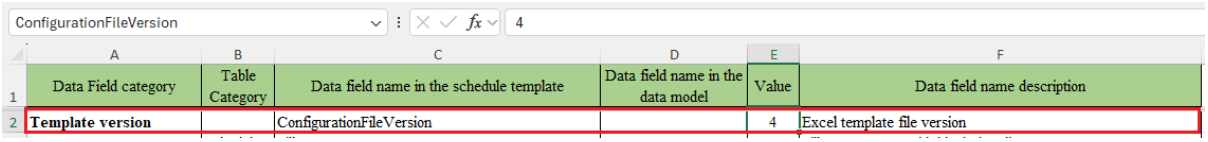
	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
2	**Template version**		ConfigurationFileVersion		4.0	Excel template file version
3	**Template configuration**	Schedule	FillEmptySpace		Yes	Fill empty space with blank data lines
4	**Template configuration**	Schedule	AddHeaderForTableSpanningAcrossPages		Yes	Determines if continuous page can have header
5	**Template configuration**	Schedule	AddFooterForTableSpanningAcrossPages		Yes	Determines if continuous page can have footer

Copyright © Computer and Design Services Limited

16.3.6 Mandatory Mesh Summary Template Fields

The following fields must be defined otherwise CADS RC3D for Revit® will not be able to create the Excel Mesh Summary.

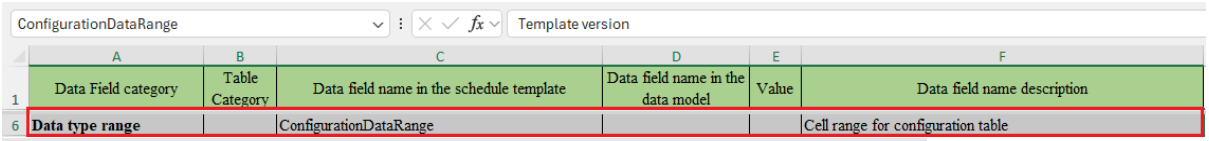
ConfigurationFileVersion



ConfigurationFileVersion | 4

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
2	**Template version**		ConfigurationFileVersion		4	Excel template file version

ConfigurationDataRange



ConfigurationDataRange | Template version

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
6	**Data type range**		ConfigurationDataRange			Cell range for configuration table

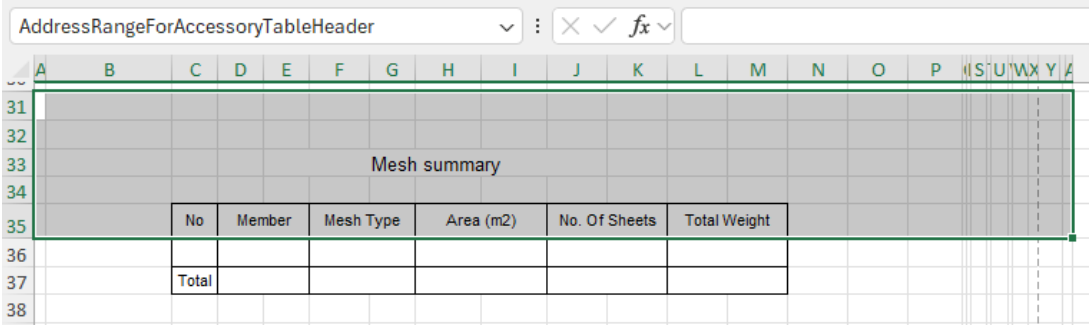


ConfigurationDataRange | Template version

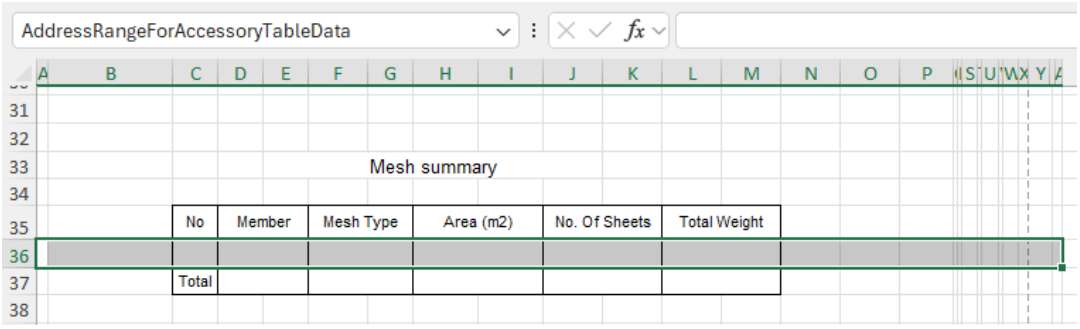
	A	B	C	D	E
1	Data Field category	Data field name in the schedule template	Data field name in	Value	Data field name description
2	Template version	ConfigurationFileVersion		3.0	Excel template file version
3	Template	FillEmptySpace		Yes	Fill empty space with blank data line
4	Template	AddHeaderForTableSpanningAcrossPages		Yes	Determines if continuous page can have header
5	Template	AddFooterForTableSpanningAcrossPages		Yes	Determines if continuous page can have footer
6	Data type range	ConfigurationDataRange			Cell range for configuration table
7	Data type range	AddressRangeForHeader			Cell range for header section
8	Data type range	AddressRangeForFooter			Cell range for footer section
9	Data type range	AddressRangeForData			Cell range for bar data line
10	Data type range	AddressRangeForDataWrappedLine			Cell range for wrapped bar data line
11	Data type range	AddressRangePictureCellForData			Cell range for shape diagram in bar data line
12	Data type range	AddressRangeForPictureCellWithCouplerForData			Cell range for shape diagram with coupler details in bar
13	Data type range	AddressRangeForBlankRow			Cell range for blank data line
14	Data type range	AddressRangeForNotes			Cell range for notes line
15	HeaderFooter	ProjectName	Project Name		Project name
16	HeaderFooter	ClientName	Client Name		Client name
17	HeaderFooter	JobNo	Job No		Job number
18	HeaderFooter	DrawnBy	Drawn By		Drawn by
19	HeaderFooter	SheetIssueDate	Sheet Issue Date		Project issue date
20	HeaderFooter	CurrentRevisionDate	Current Revision Date		Current revision date
21	HeaderFooter	SheetNumber	Sheet Number		Sheet number
22	HeaderFooter	ProjectMember	Project Member		Project member
23	HeaderFooter	Level	Level		Level
24	HeaderFooter	PourNo	Pour Number		Pour number
25	HeaderFooter	SheetName	Sheet Name		Sheet name
26	HeaderFooter	CurrentRevision	Current Revision		Current revision
27	HeaderFooter	Status	Status		Status
28	HeaderFooter	ProjectNumber	Project_Number		Project Number
29	HeaderFooter	DocumentStatus	Document_Status		Document Status
30	HeaderFooter	Date	Date		Creation Date
31	HeaderFooter	Location	Location		
32	HeaderFooter	DrawingNo	Drawing Number		
33	HeaderFooter	ChkdBy	Checked By		
34	HeaderFooter	ChkdDate	Current Revision Date		
35	Rebar data	Member	Mark Mark		Mark mark
36	Rebar data	BarMark	CADS_Bar Mark		Bar mark
37	Rebar data	TypeAndSize	Type		Type
38	Rebar data	NoOfMbrs	Mark Count		Mark count
39	Rebar data	NoOfBarsInEach	Total Qty per Member		Quantity by rebar set
40	Rebar data	TotalNo	Quantity		Quantity
41	Rebar data	LengthOfEachBar	Bar Length		Bar Length
42	Rebar data	ShapeCode	Shape		Shape
43	Rebar data	DimA	A		Dimension A
44	Rebar data	DimB	B		Dimension B
45	Rebar data	DimC	C		Dimension C
46	Rebar data	DimD	D		Dimension D
47	Rebar data	DimE	E		Dimension E
48	Rebar data	DimR	R		Dimension R
49	Rebar data	DimF	F		Dimension F
50	Rebar data	DimG	G		Dimension G
51	Rebar data	DimH	H		Dimension H
52	Rebar data	DimI	I		Dimension I
53	Rebar data	DimJ	J		Dimension J
54	Rebar data	DimK	K		Dimension K
55	Rebar data	DimL	L		Dimension L
56	Rebar data	DimM	M		Dimension M
57	Rebar data	Weight	CADS_Total Rebar Weight		Reinforcement weight
58	Rebar data	TotalPageWeight	CADS_Total Page Weight		Total page weight
59	Rebar data	Revn	CADS_Revision Mark		Rebar revision
60	Rebar data	Notes	Notes		Notes
61	Rebar data	EndTreatmentAtStart	Coupler Label 1st End		End Treatment At Start
62	Rebar data	EndTreatmentAtEnd	Coupler Label 2nd End		End Treatment At End
63	Rebar data	BarMarkDiagram1	BarMarkDiagram	Yes	Rebar shape diagram
64	Rebar data	BarMarkDiagram2	BarMarkDiagram	Yes	Rebar shape diagram with coupler details
65					

Copyright © Computer and Design Services Limited

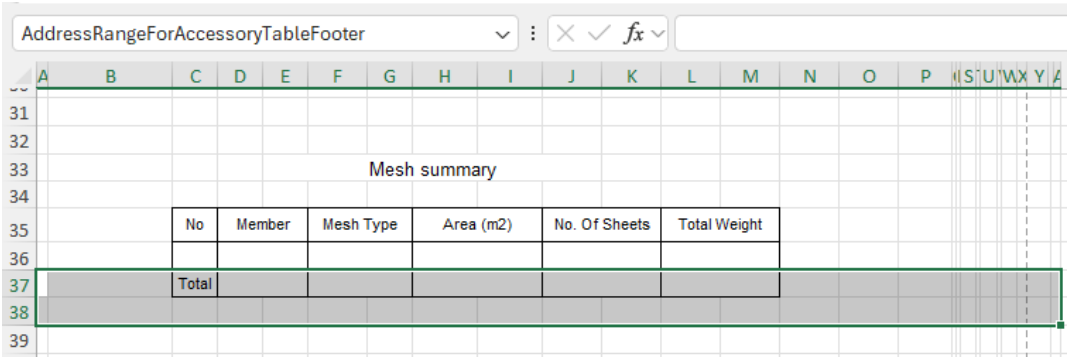
AddressRangeForAccessoryTableHeader



AddressRangeForAccessoryTableData

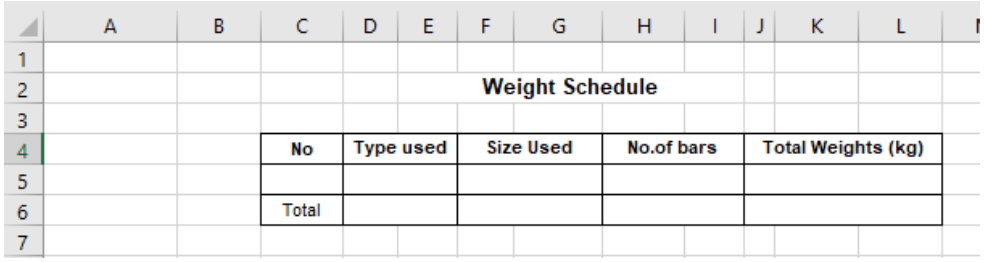


AddressRangeForAccessoryTableFooter



16.3.7 Defining the Weight Summary Template

Use the CADS Default Weight Summary template to review the set-up of the template.
The default location for the Weight Reports is “C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\ExcelTemplates\UK”.
The file shown below is the “Weight Summary.xltx”.

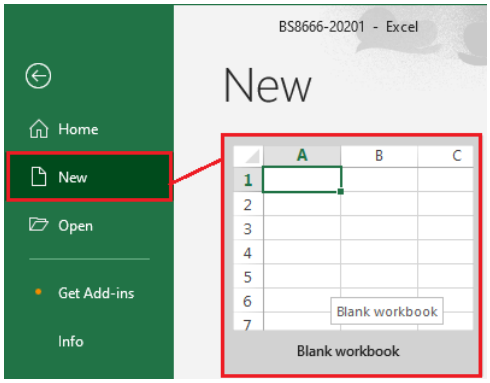


Copyright © Computer and Design Services Limited

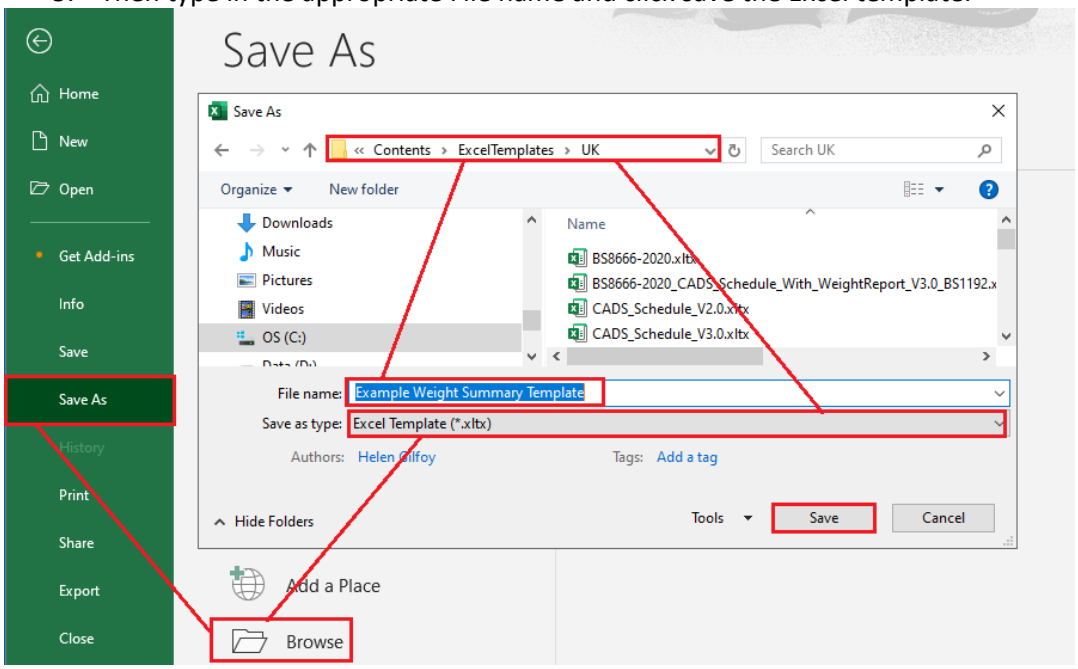
16.3.8 Create a New Excel Weight Summary Template

Create a new Excel Weight Report Template by carrying out the following steps;

1. Launch the 'Excel' Application;
2. Open a new workbook, select the File pull down menu – New - Blank Workbook' to create a new Excel Workbook.



3. Immediately save the Workbook, select the File pull down menu - Save As, click Browse, set the 'Save as type' as 'Excel Template (.xltx)'.
4. Navigate to the "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\ExcelTemplates\UK" folder.
5. Then type in the appropriate File name and click save the Excel template.

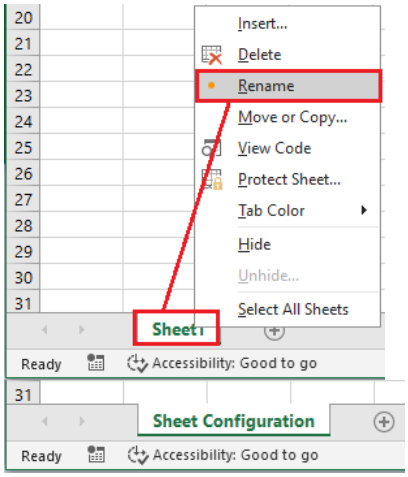


6. The Excel report template comprises of the following two worksheets:

Sheet Configuration Template.

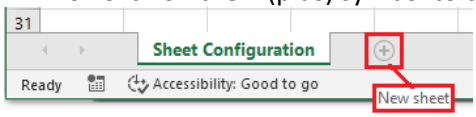
7. Create a new worksheet for the schedule layout view, by renaming the default worksheet 'Sheet1' as Schedule Report.
8. Please ensure that the tab is named Sheet Configuration, the Export of data from Revit to Excel will not work otherwise.

Copyright © Computer and Design Services Limited

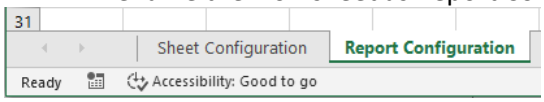


Report Configuration.

9. Create a new worksheet with the name 'Report Configuration' for the report configuration.
10. Click on the + (plus) symbol to create a New Sheet.



11. Rename the worksheet as Report Configuration.



12. Please ensure that the tab is named Report Configuration, the export will not work otherwise.
13. Save the Template.

Creating the Weight Summary Graphics Template

On the Report Template Tab, create the graphical layout of the Weight Summary template based on your standard office layout. An example of the default CADS template is shown below;

	Weight Schedule					Header Section
	No	Type used	Size Used	No.of bars	Total Weights (kg)	
						Weight Data Line
	Total					Footer Section

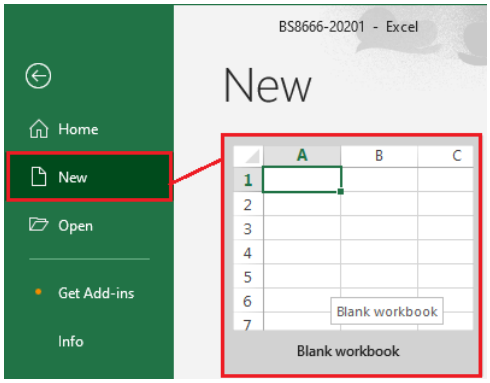
The Template should be designed to include the areas shown above. Your Weight Summary template should include all the defined areas shown. A description of defining the keywords and data areas is described in the following web pages.

16.3.9 Create a New Excel Weight Summary Template

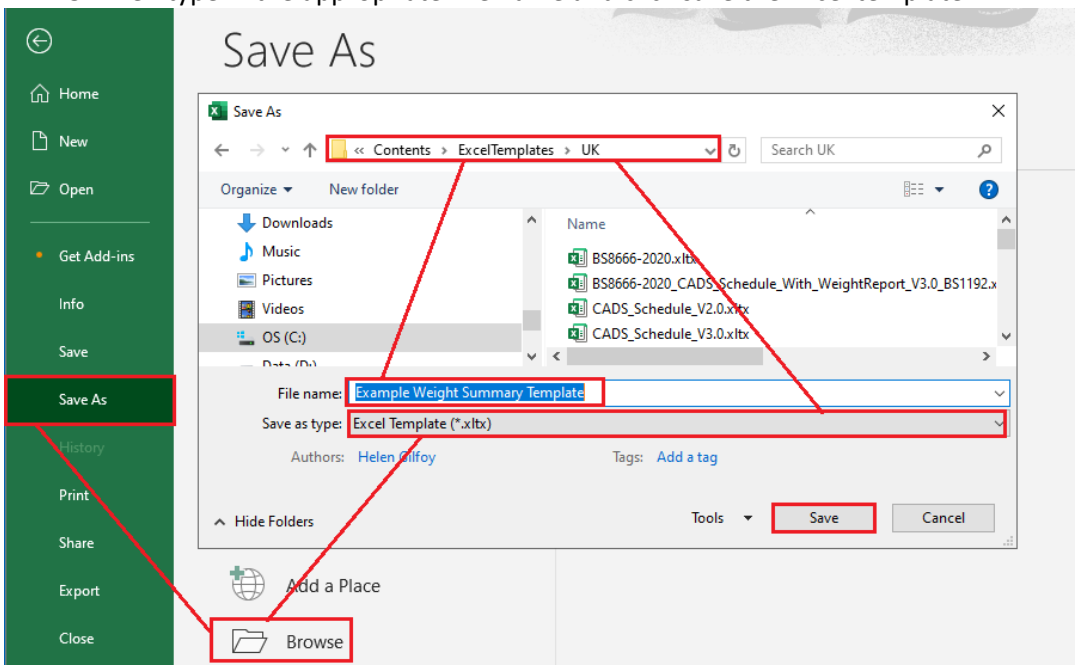
Create a new Excel Weight Report Template by carrying out the following steps;

14. Launch the 'Excel' Application;
15. Open a new workbook, select the File pull down menu – New - Blank Workbook' to create a new Excel Workbook.

Copyright © Computer and Design Services Limited



16. Immediately save the Workbook, select the File pull down menu - Save As, click Browse, set the 'Save as type' as 'Excel Template (.xltx)'.
17. Navigate to the "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\ExcelTemplates\UK" folder.
18. Then type in the appropriate File name and click save the Excel template.

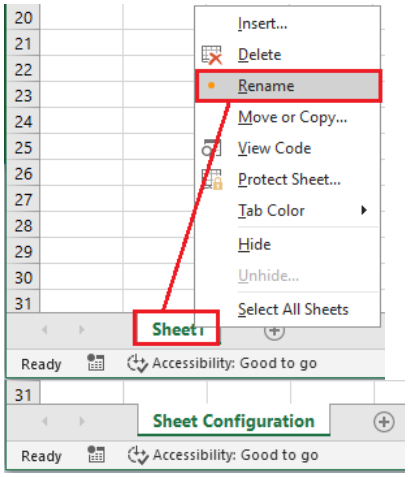


19. The Excel report template comprises of the following two worksheets:

Sheet Configuration Template.

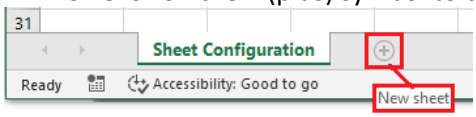
20. Create a new worksheet for the schedule layout view, by renaming the default worksheet 'Sheet1' as Schedule Report.
21. Please ensure that the tab is named Sheet Configuration, the Export of data from Revit to Excel will not work otherwise.

Copyright © Computer and Design Services Limited

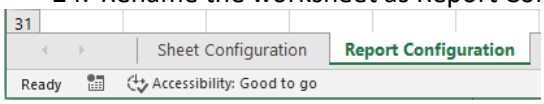


Report Configuration.

22. Create a new worksheet with the name 'Report Configuration' for the report configuration.
23. Click on the + (plus) symbol to create a New Sheet.



24. Rename the worksheet as Report Configuration.



25. Please ensure that the tab is named Report Configuration, the export will not work otherwise.
26. Save the Template.

16.4 Creating the Weight Summary Graphics Template

On the Report Template Tab, create the graphical layout of the Weight Summary template based on your standard office layout. An example of the default CADS template is shown below;

	Weight Schedule					Header Section
	No	Type used	Size Used	No.of bars	Total Weights (kg)	
						Weight Data Line
	Total					Footer Section

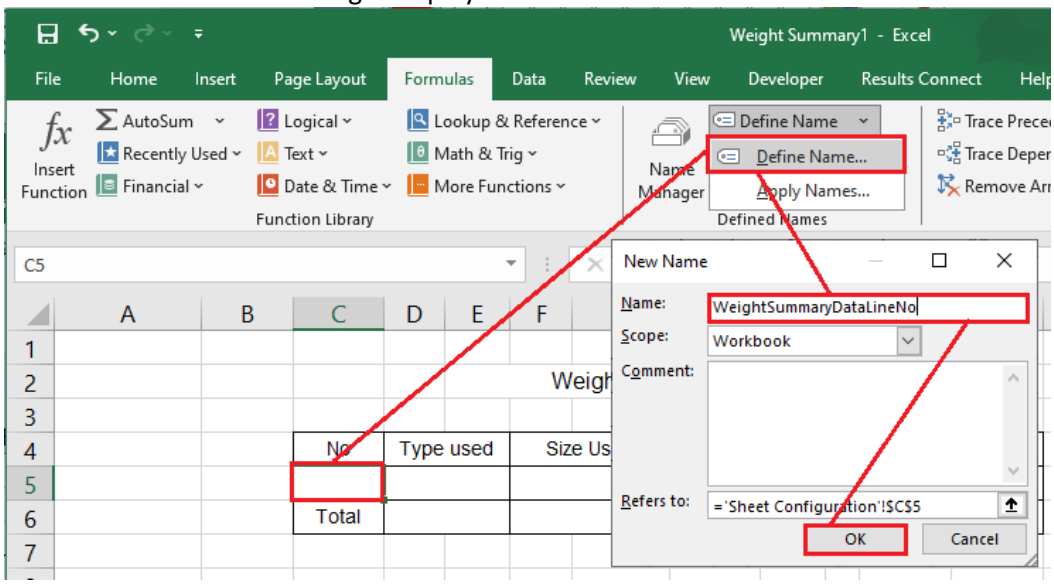
The Template should be designed to include the areas shown above. Your Weight Summary template should include all the defined areas shown. A description of defining the keywords and data areas is described in the following web pages.

16.4.1 Naming the Weight Summary Cells

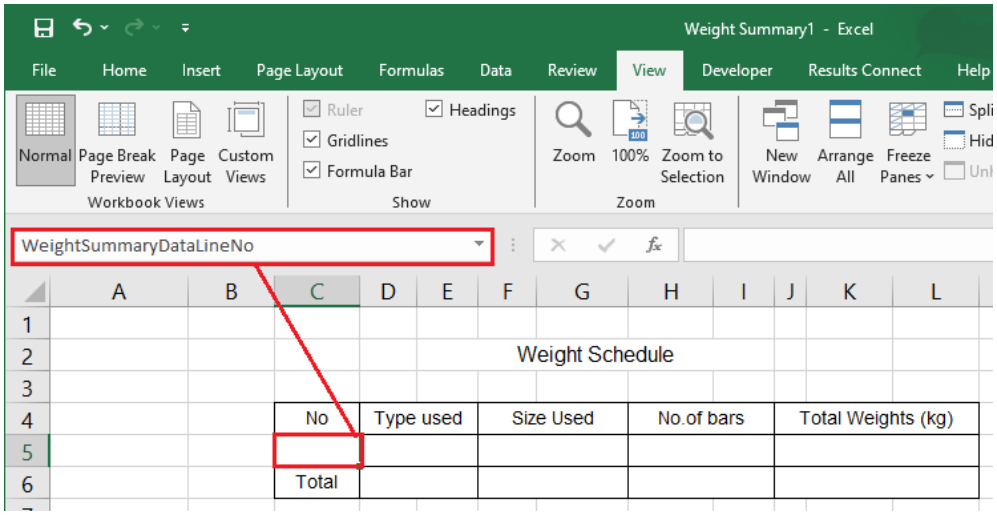
Keywords need assigning to cells in the Schedule Report to receive schedule data exported from CADS RC3D for Revit®; this next section describes how to define the keywords inside Excel.
The example below describes how to define a keyword for the Job No data cell.

Copyright © Computer and Design Services Limited

1. Click into Cell C5 (on your template select the cell for the Job No data).
2. Select the Formulas Tab
3. Select Define Name drop down menu.
4. Select the Define Name command.
5. The New Name dialog is displayed.



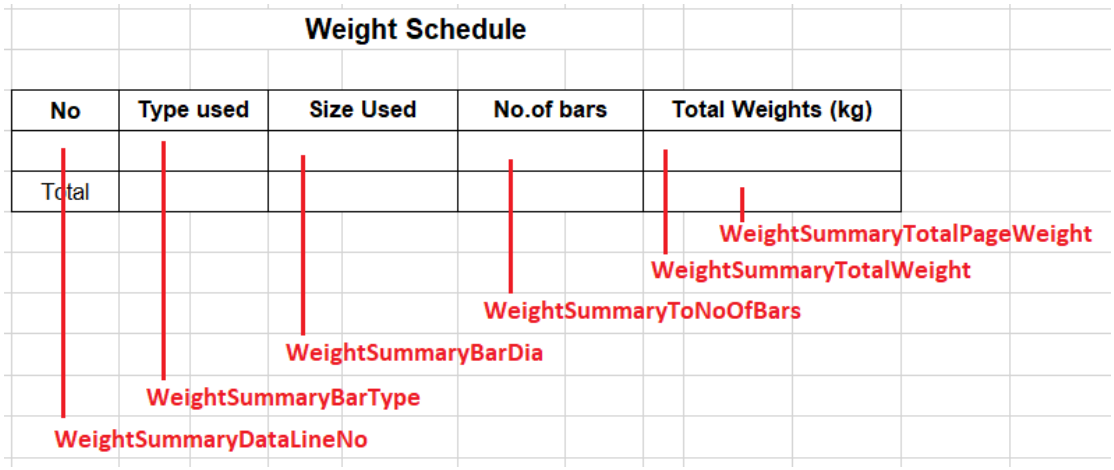
6. Type in “WeightSummaryDataLineNo” into the Name field, this is a defined keyword that the export routine is programmed to recognise.
7. Leave the scope set to Workbook.
8. Refers to: displays the selected cell address.
9. Click OK.
10. The “WeightSummaryDataLineNo” keyword is displayed in the dropdown menu as shown below:



11. Full details of the default keywords are described in the Weight Summary Cell Name Keyword Definitions.
12. Continue defining the keywords for all the data areas in the schedule report.

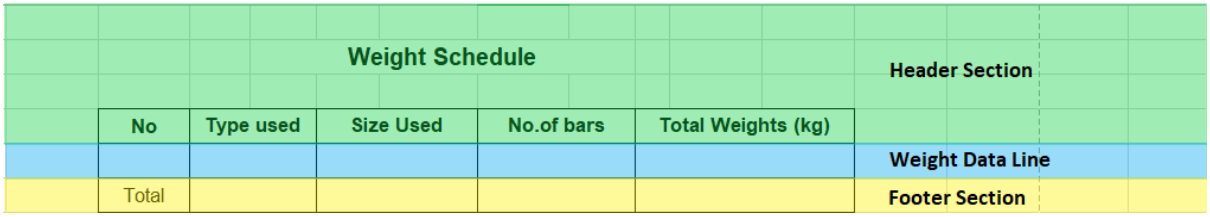
The diagram below illustrates the keywords defined in the CADS Weight Summary default template.

Copyright © Computer and Design Services Limited



16.4.2 Defining the Weight Summary Address Range Names

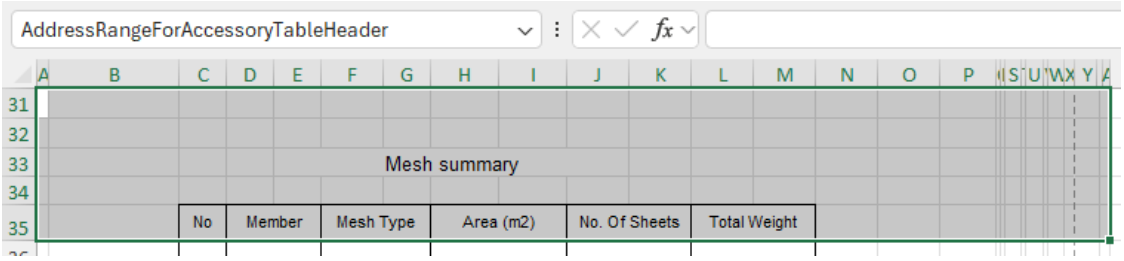
The final step is to define the address ranges that form the Weight Summary Template.
The coloured areas in the diagram above indicate the address ranges for each section.
Use the Name Manager on the Formulas Tab to define the Address Range Names and the cell allocation.



Header Section

Defines the area on the template for the header data:

- Keyword Name **AddressRangeForWeightSummaryHeader**
- Cell Designation in the sample file **A1 to O4**

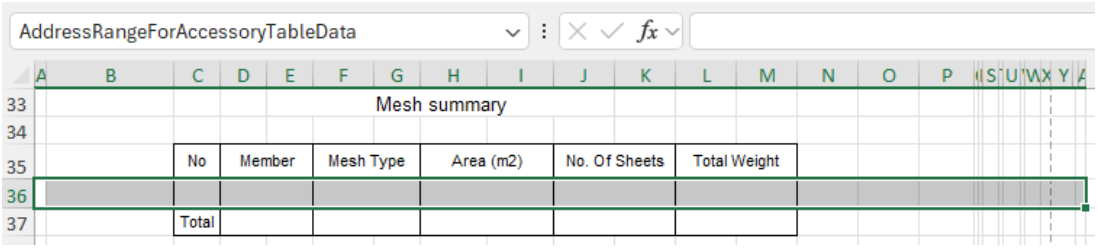


Weight Summary Data Line

Defines the area of the template that the weight summary data is displayed:

- Keyword Name **AddressRangeForWeightSummaryData**
- Cell Designation in sample file **A5 to O5**

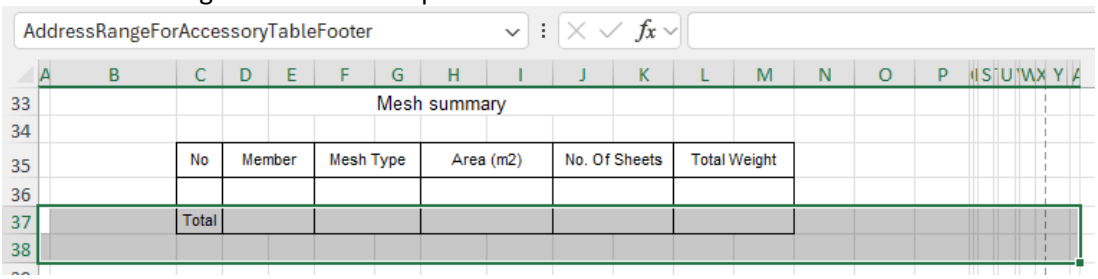
Copyright © Computer and Design Services Limited



Footer Section

Defines the footer area of the template, this area can include a weight summary table:

- Keyword **AddressRangeForWeightSummaryFooter**
- Cell Designation in the sample file **A6 to O6**



Weight Summary Additional Settings

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
7	**Template configuration**	Weight summary	AddHeaderForTableSpanningAcrossPages		No	Determines if continuous page
8	**Template configuration**	Weight summary	AddFooterForTableSpanningAcrossPages		No	Determines if continuous page

16.4.3 Weight Summary Report Configuration

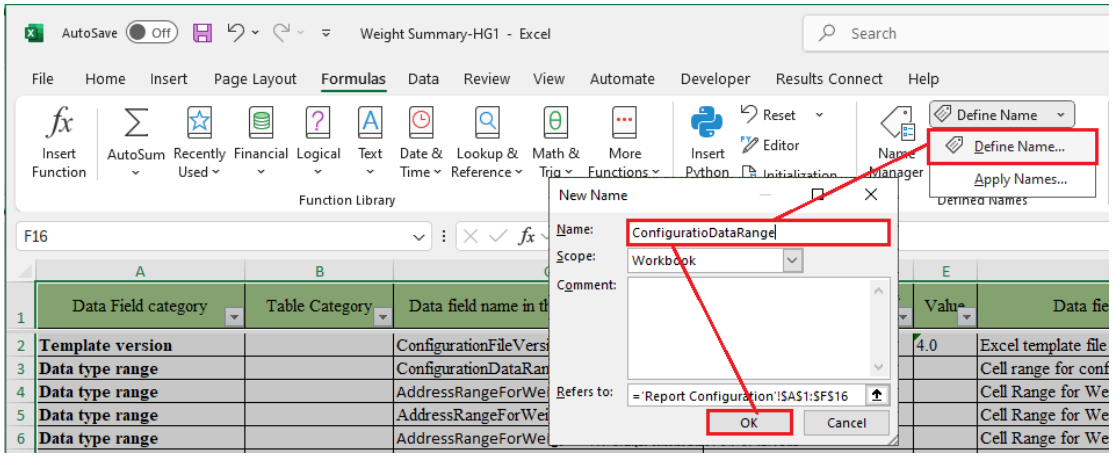
The simplest way to reproduce the Report Configuration is to copy and paste from the CADS Default Weight Summary Template:

1. Click on the Report Configuration Tab in your Schedule Template.
2. Open the default CADS Schedule Template for instance “Weight Summary.xltx”.
3. Highlight Cell A1 to Cell F12.

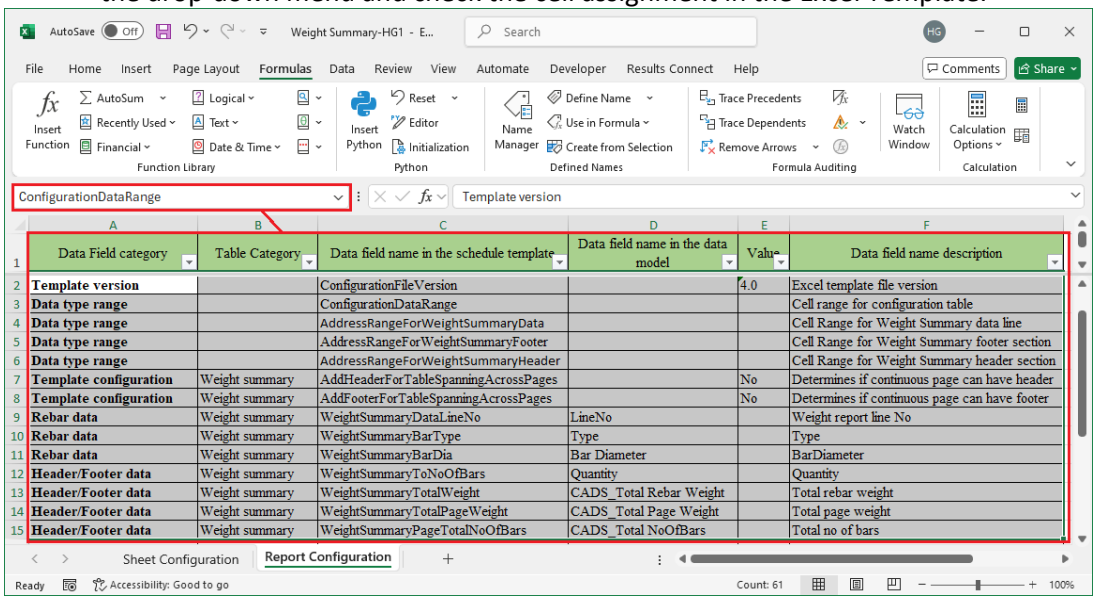
	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
2	**Template version**		ConfigurationFileVersion		4.0	Excel template file version
3	**Data type range**		ConfigurationDataRange			Cell range for configuration table
4	**Template configuration**	Weight	AddHeaderForTableSpanningAcrossPages		No	Determines if continuous page can have header
5	**Template configuration**	Weight	AddFooterForTableSpanningAcrossPages		No	Determines if continuous page can have footer
6	**Rebar data**	Weight	WeightSummaryDataLineNo	LineNo		Weight report line No
7	**Rebar data**	Weight	WeightSummaryBarType	Type		Type
8	**Rebar data**	Weight	WeightSummaryBarDia	Bar Diameter		BarDiameter
9	**Header/Footer data**	Weight	WeightSummaryToNoOfBars	Quantity		Quantity
10	**Header/Footer data**	Weight	WeightSummaryTotalWeight	CADS_Total Rebar Weight		Total rebar weight
11	**Header/Footer data**	Weight	WeightSummaryTotalPageWeight	CADS_Total Page Weight		Total page weight
12	**Header/Footer data**	Weight	WeightSummaryPageTotalNoOfBars	CADS_Total NoOfBars		Total no of bars
13						

4. Select the Copy option from the Home Tab.
5. Return to your Weight Summary Report Template.
6. Click into Cell A1, right mouse click and select Paste (Keep Source Column Widths).
7. Next, define the Configuration Data Range.
8. Select the top left cell (A1), hold down Shift and click the bottom left cell (F12).
9. Go to the Formulas Tab, select Define Name.
10. In the Name Field type in “ConfigurationDataRange” and click ok.

Copyright © Computer and Design Services Limited



11. Check that each of the keywords have been defined correctly by selecting the keywords in the drop-down menu and check the cell assignment in the Excel Template.



12. Save your file and close Excel.

16.4.4 Weight Summary Cell Name Definitions

The following section lists the definitions of all the keywords currently used in the default weight summary templates. Additional definitions can be added to match the custom parameters used in a project.

Weight Summary Header and Footer Data Fields

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
9	**Header/Footer data**	Weight summary	WeightSummaryToNoOfBars	Quantity		Quantity
10	**Header/Footer data**	Weight summary	WeightSummaryTotalWeight	CADS_Total Rebar Weight		Total rebar weight
11	**Header/Footer data**	Weight summary	WeightSummaryTotalPageWeight	CADS_Total Page Weight		Total page weight
12	**Header/Footer data**	Weight summary	WeightSummaryPageTotalNoOfBars	CADS_Total NoOfBars		Total no of bars

Copyright © Computer and Design Services Limited

Weight Summary Data Fields

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
6	**Rebar data**	Weight summary	WeightSummaryDataLineNo	LineNo		Weight report line No
7	**Rebar data**	Weight summary	WeightSummaryBarType	Type		Type
8	**Rebar data**	Weight summary	WeightSummaryBarDia	Bar Diameter		BarDiameter

Weight Summary Address Range Definitions

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
3	**Data type range**		ConfigurationDataRange			Cell range for configuration table
4	**Data type range**		AddressRangeForWeightSummaryData			Cell Range for Weight Summary data line
5	**Data type range**		AddressRangeForWeightSummaryFooter			Cell Range for Weight Summary footer section
6	**Data type range**		AddressRangeForWeightSummaryHeader			Cell Range for Weight Summary header section

Weight Summary Additional Settings

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
7	**Template configuration**	Weight summary	AddHeaderForTableSpanningAcrossPages		No	Determines if continuous page
8	**Template configuration**	Weight summary	AddFooterForTableSpanningAcrossPages		No	Determines if continuous page

16.4.5 Mandatory Weight Summary Template Fields

The following fields must be defined otherwise CADS RC3D for Revit® will not be able to create the Excel Weight Summary Template.

ConfigurationFileVersion

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
2	**Template version**		ConfigurationFileVersion		4.0	Excel template file version

ConfigurationDataRange

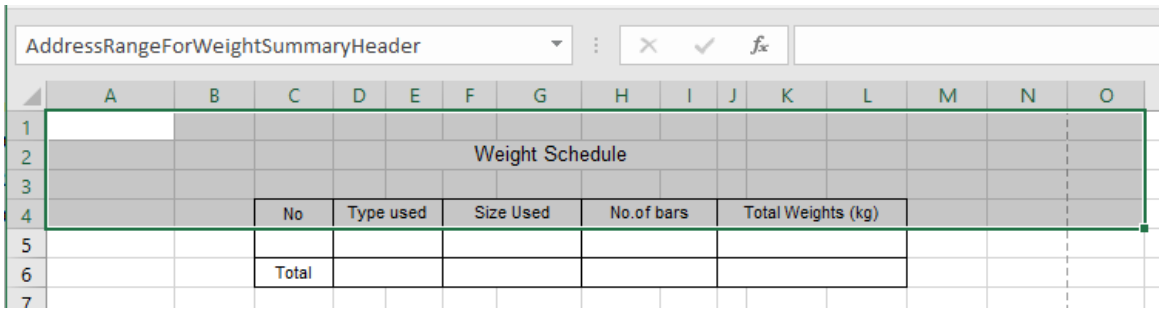
	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
3	**Data type range**		ConfigurationDataRange			Cell range for configuration table

ConfigurationDataRange | Template version

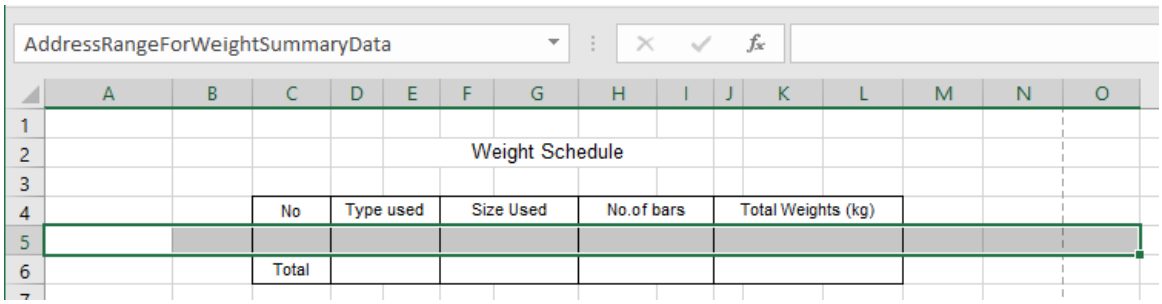
	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
2	**Template version**		ConfigurationFileVersion		4.0	Excel template file version
3	**Data type range**		ConfigurationDataRange			Cell range for configuration table
4	**Template configuration**	Weight summary	AddHeaderForTableSpanningAcrossPages		No	Determines if continuous page can have header
5	**Template configuration**	Weight summary	AddFooterForTableSpanningAcrossPages		No	Determines if continuous page can have footer
6	**Rebar data**	Weight summary	WeightSummaryDataLineNo	LineNo		Weight report line No
7	**Rebar data**	Weight summary	WeightSummaryBarType	Type		Type
8	**Rebar data**	Weight summary	WeightSummaryBarDia	Bar Diameter		BarDiameter
9	**Header/Footer data**	Weight summary	WeightSummaryToNoOfBars	Quantity		Quantity
10	**Header/Footer data**	Weight summary	WeightSummaryTotalWeight	CADS_Total Rebar Weight		Total rebar weight
11	**Header/Footer data**	Weight summary	WeightSummaryTotalPageWeight	CADS_Total Page Weight		Total page weight
12	**Header/Footer data**	Weight summary	WeightSummaryPageTotalNoOfBars	CADS_Total NoOfBars		Total no of bars

Copyright © Computer and Design Services Limited

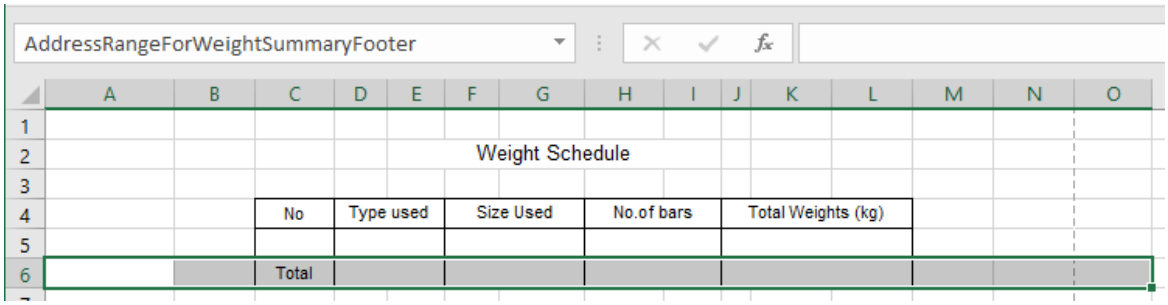
AddressRangeForWeightSummaryHeader



AddressRangeForWeightSummaryData

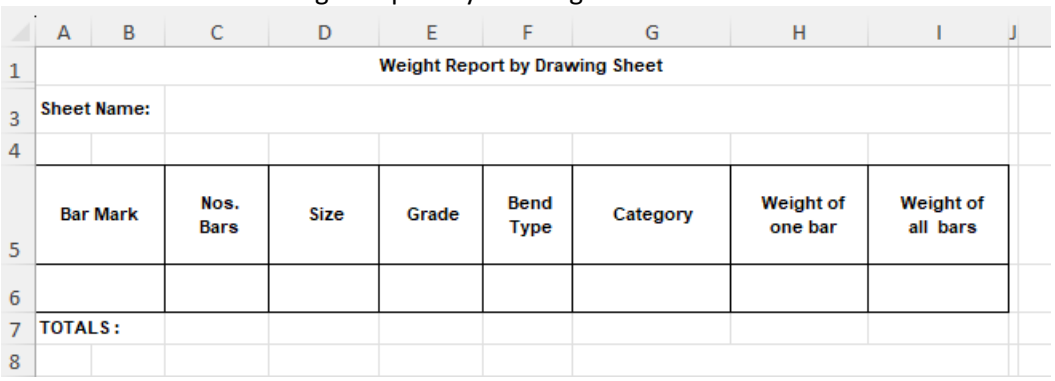


AddressRangeForWeightSummaryFooter



16.5 Defining the Weight Report Template

Use the CADS Default Weight Report template to review the way it is set-up.
The default location for the Weight Reports is “C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\ExcelTemplates\UK”.
The file shown below is the “Weight Report by Drawing Sheet with Bar Marks.xltx”.

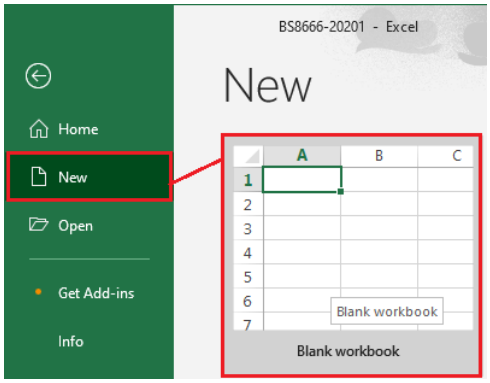


Copyright © Computer and Design Services Limited

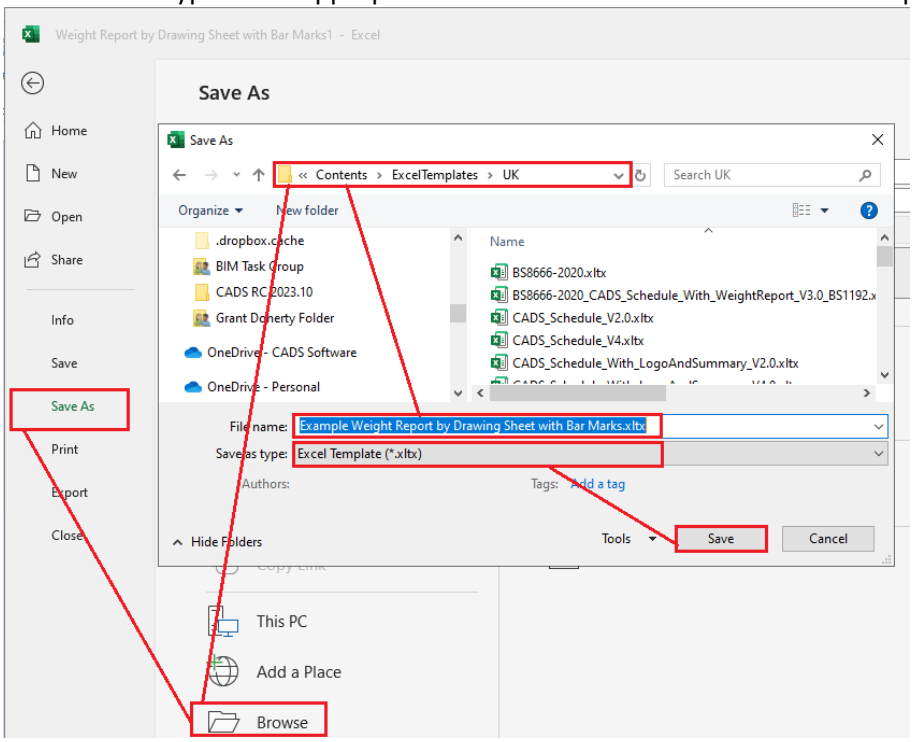
16.5.1 Create a New Excel Weight Report Template

Create a new Excel Weight Report Template by carrying out the following steps;

1. Launch the 'Excel' Application;
2. Open a new workbook, select the File pull down menu – New - Blank Workbook' to create a new Excel Workbook.



3. Immediately save the Workbook, select the File pull down menu - Save As, click Browse, set the 'Save as type' as 'Excel Template (.xltx)'.
4. Navigate to the "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\ExcelTemplates\UK" folder.
5. Then type in the appropriate File name and click save the Excel template.

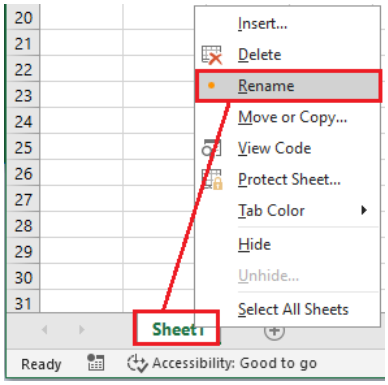


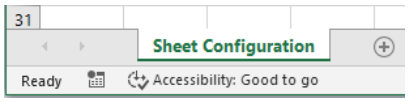
6. The Excel report templates comprise of the following two worksheets:

Sheet Configuration Template.

7. Create a new worksheet for the schedule layout view, by renaming the default worksheet 'Sheet1' as Schedule Report.
8. Please ensure that the tab is named Sheet Configuration, the Export of data from Revit to Excel will not work otherwise.

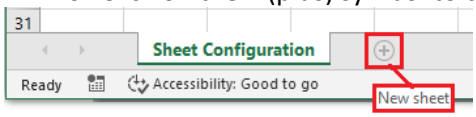
Copyright © Computer and Design Services Limited



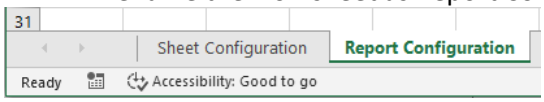


Report Configuration.

9. Create a new worksheet with the name 'Report Configuration' for the report configuration.
10. Click on the + (plus) symbol to create a New Sheet.



11. Rename the worksheet as Report Configuration.



12. Please ensure that the tab is named Report Configuration, the export will not work otherwise.
13. Save the Template.

16.5.2 Create the Graphical Layout of the Weight Summary Template

On the Report Template Tab, create the graphical layout of the Weight Summary template based on your standard office layout. An example of the default CADS template is shown below

Weight Report by Drawing Sheet								
Sheet Name:								
								Header Section
Bar Mark	Nos. Bars	Size	Grade	Bend Type	Category	Weight of one bar	Weight of all bars	
								Weight Data Line
TOTALS :								Footer Section

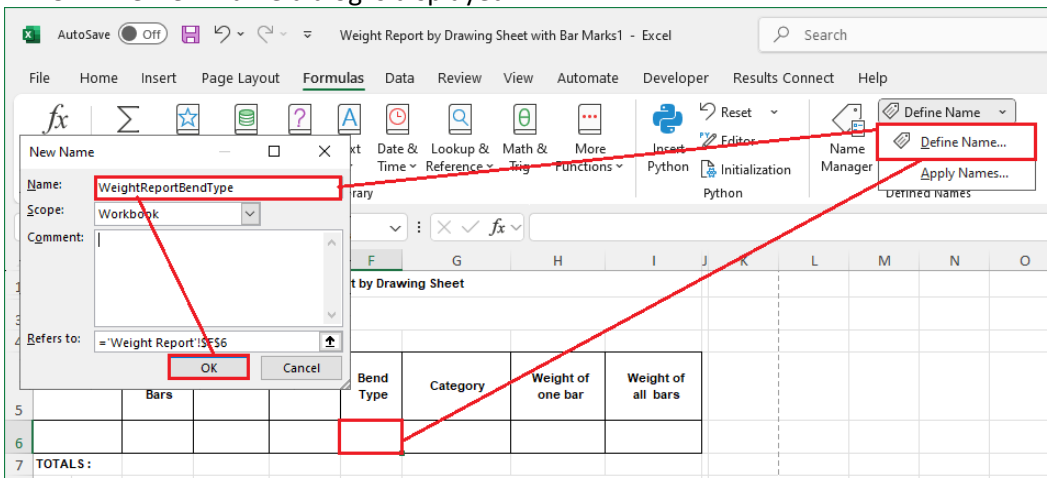
The Template should be designed to include the areas shown above. Your Weight Summary template should include all the defined areas shown. A description of defining the keywords and data areas is described in the following web pages.

Copyright © Computer and Design Services Limited

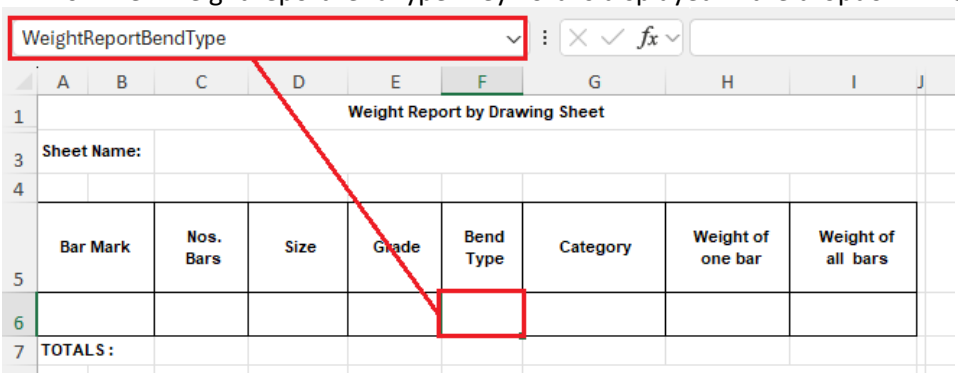
16.5.3 Naming the Weight Report Cells

Keywords need assigning to cells in the Schedule Report to receive schedule data exported from CADS RC3D for Revit®; this next section describes how to define the keywords inside Excel.
The example below describes how to define a keyword for the Bend Type data cell.

1. Click into Cell F6 (on your template select the cell for the Bend Type data).
2. Select the Formulas Tab
3. Select Define Name drop down menu.
4. Select the Define Name command.
5. The New Name dialog is displayed.



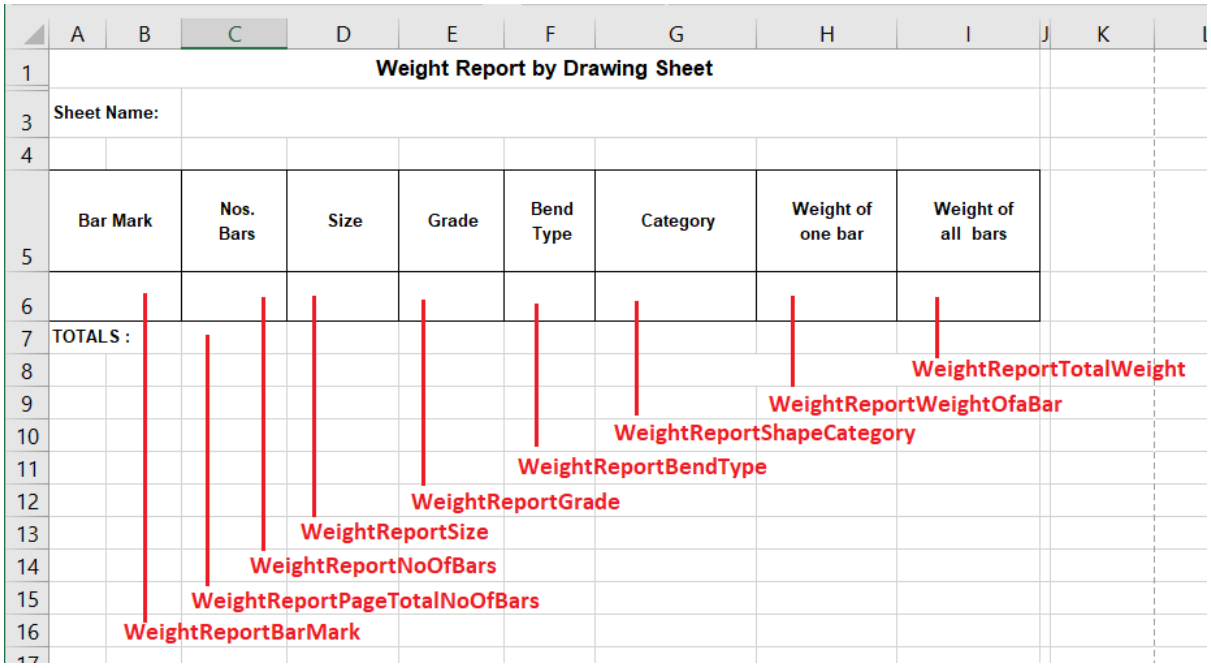
6. Type in “WeightReportBendType” into the Name field, this is a defined keyword that the export routine is programmed to recognise.
7. Leave the scope set to Workbook.
8. Refers to: displays the selected cell address.
9. Click OK.
10. The “WeightReportBendType” keyword is displayed in the dropdown menu as shown below:

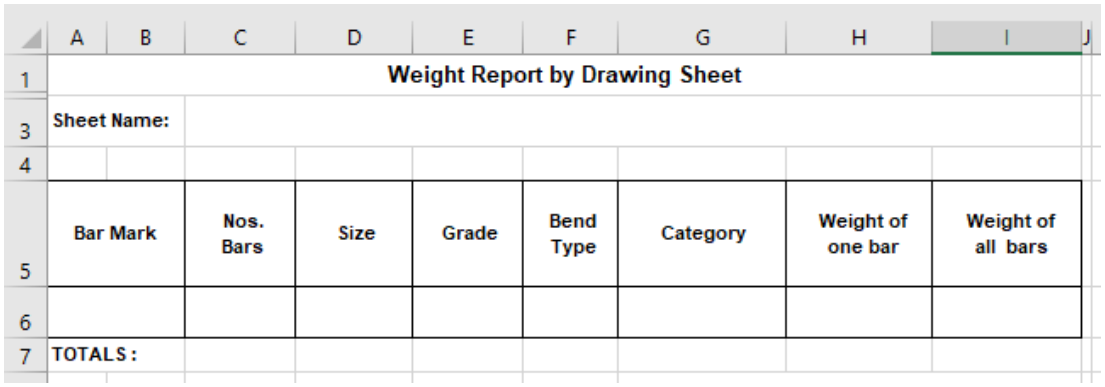


11. Full details of the default keywords are described in the Weight Summary Cell Name Keyword Definitions.
12. Continue defining the keywords for all the data areas in the schedule report.

The diagram below illustrates the keywords defined in the CADS Weight Summary default template.

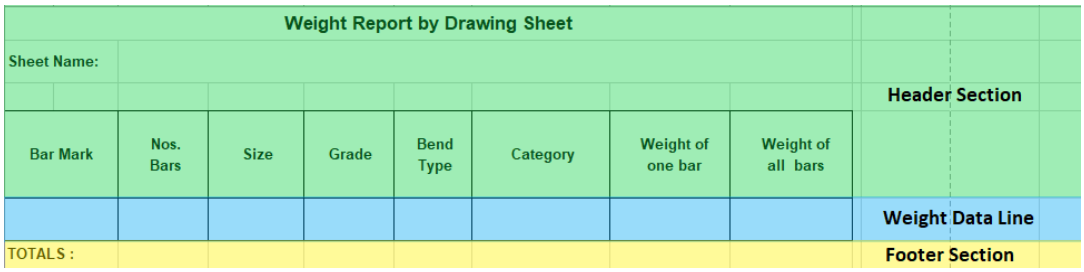
Copyright © Computer and Design Services Limited





16.5.4 Defining Weight Report Address Range Definitions

The final step is to define the address ranges that form the Weight Report Template.
The coloured areas in the diagram above indicate the address ranges for each section.
Use the Name Manager on the Formulas Tab to define the Address Range Names and the cell allocation.

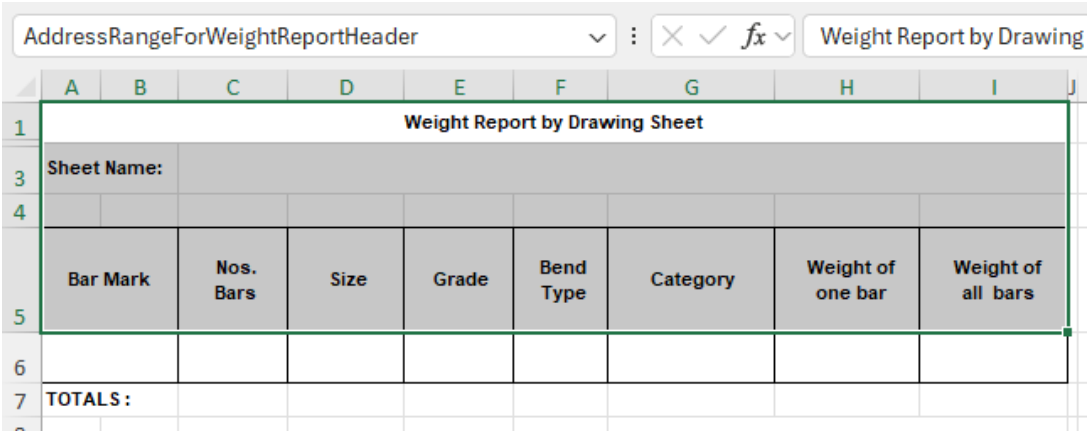


Header Section

Defines the area on the template for the header data:

- Keyword Name **AddressRangeForWeightReportHeader**
- Cell Designation in the sample file **A1 to I5**

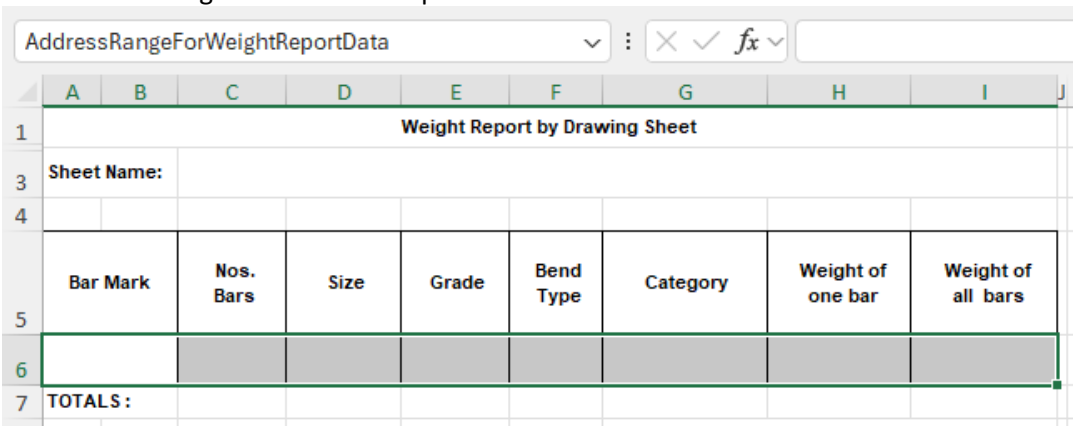
Copyright © Computer and Design Services Limited



Weight Report Data Line

Defines the area on the template for the weight report data:

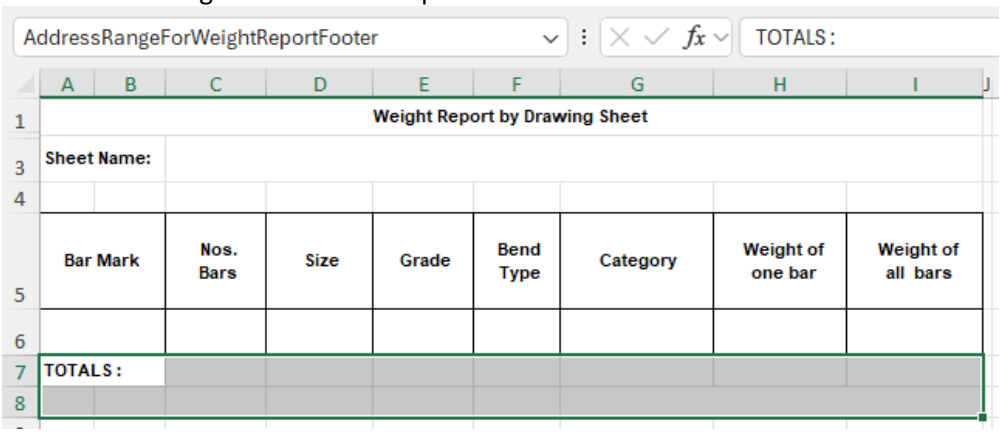
- Keyword Name **AddressRangeForWeightReportData**
- Cell Designation in the sample file **A6 to I6**



Footer Section

Defines the area on the template for the footer data:

- Keyword Name **AddressRangeForWeightReportFooter**
- Cell Designation in the sample file **A7 to I8**



Copyright © Computer and Design Services Limited

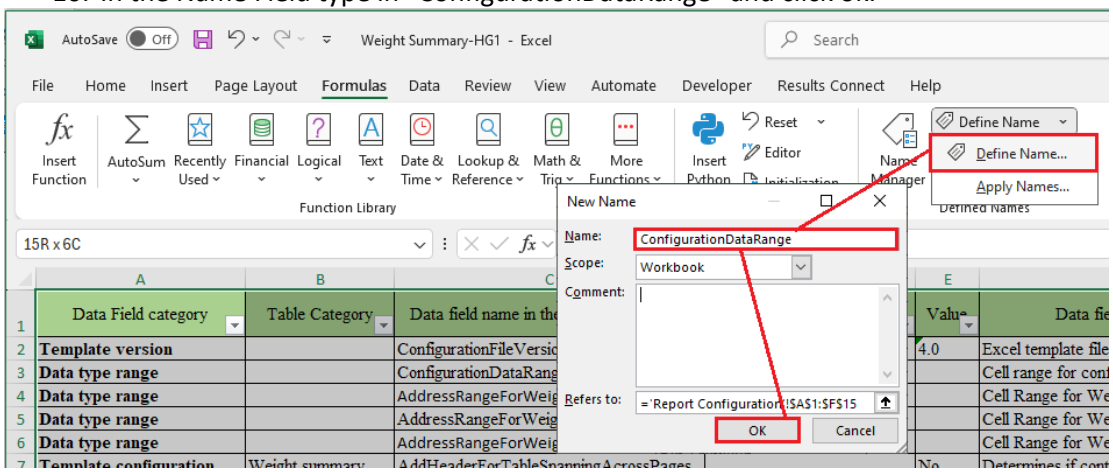
16.5.5 Weight Report Configuration

The simplest way to reproduce the Report Configuration is to copy and paste from the CADS Default Weight Report Template:

1. Click on the Report Configuration Tab in your Schedule Template.
2. Open the default CADS Schedule Template for instance “Weight Report by Drawing Sheet with Bar Marks.xltx”, found in the “C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\ExcelTemplates\UK” folder.
3. Highlight Cell A1 to Cell F15.

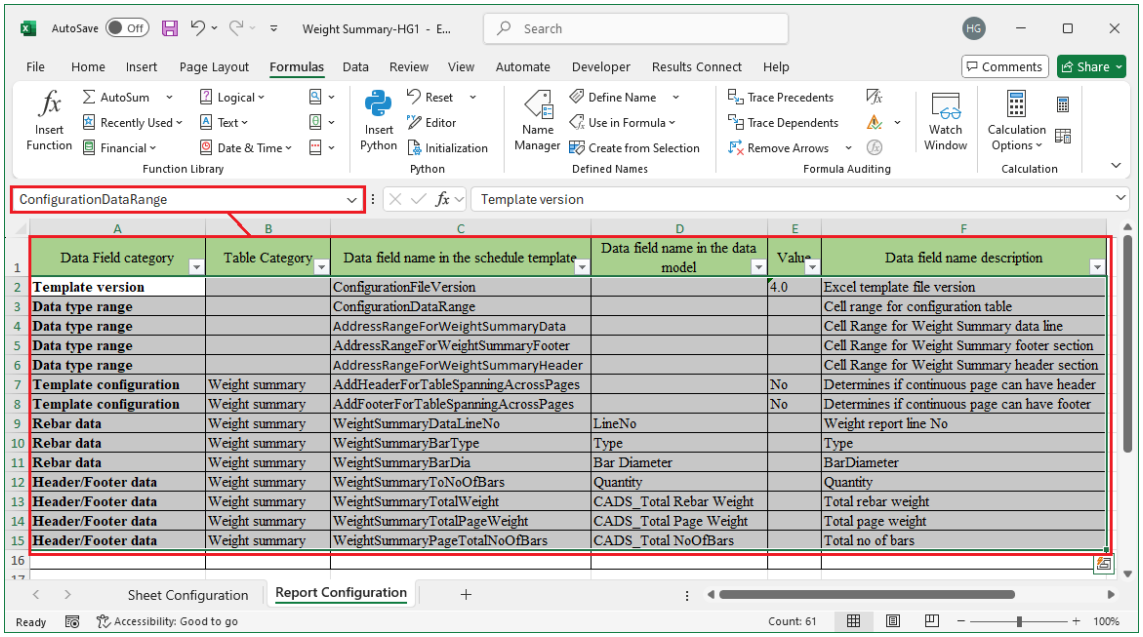
Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
Template version		ConfigurationFileVersion		4.0	Excel template file version
Data type range		ConfigurationDataRange			Cell range for configuration table
Data type range		AddressRangeForWeightSummaryData			Cell Range for Weight Summary data line
Data type range		AddressRangeForWeightSummaryFooter			Cell Range for Weight Summary footer section
Data type range		AddressRangeForWeightSummaryHeader			Cell Range for Weight Summary header section
Template configuration	Weight summary	AddHeaderForTableSpanningAcrossPages		No	Determines if continuous page can have header
Template configuration	Weight summary	AddFooterForTableSpanningAcrossPages		No	Determines if continuous page can have footer
Rebar data	Weight summary	WeightSummaryDataLineNo	LineNo		Weight report line No
Rebar data	Weight summary	WeightSummaryBarType	Type		Type
Rebar data	Weight summary	WeightSummaryBarDia	Bar Diameter		BarDiameter
Header/Footer data	Weight summary	WeightSummaryToNoOfBars	Quantity		Quantity
Header/Footer data	Weight summary	WeightSummaryTotalWeight	CADS_Total Rebar Weight		Total rebar weight
Header/Footer data	Weight summary	WeightSummaryTotalPageWeight	CADS_Total Page Weight		Total page weight
Header/Footer data	Weight summary	WeightSummaryPageTotalNoOfBars	CADS_Total NoOfBars		Total no of bars

4. Select the Copy option from the Home Tab.
5. Return to your Weight Report Template.
6. Click into Cell A1, right mouse click and select Paste (Keep Source Column Widths).
7. Next, define the Configuration Data Range.
8. Select the top left cell (A1), hold down Shift and click the bottom left cell (F15).
9. Go to the Formulas Tab, select Define Name.
10. In the Name Field type in “ConfigurationDataRange” and click ok.



11. Check that each of the keywords have been defined correctly by selecting the keywords in the drop-down menu and check the cell assignment in the Excel Template.

Copyright © Computer and Design Services Limited



	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
2	**Template version**		ConfigurationFileVersion		4.0	Excel template file version
3	**Data type range**		ConfigurationDataRange			Cell range for configuration table
4	**Data type range**		AddressRangeForWeightSummaryData			Cell Range for Weight Summary data line
5	**Data type range**		AddressRangeForWeightSummaryFooter			Cell Range for Weight Summary footer section
6	**Data type range**		AddressRangeForWeightSummaryHeader			Cell Range for Weight Summary header section
7	**Template configuration**	Weight summary	AddHeaderForTableSpanningAcrossPages		No	Determines if continuous page can have header
8	**Template configuration**	Weight summary	AddFooterForTableSpanningAcrossPages		No	Determines if continuous page can have footer
9	**Rebar data**	Weight summary	WeightSummaryDataLineNo	LineNo		Weight report line No
10	**Rebar data**	Weight summary	WeightSummaryBarType	Type		Type
11	**Rebar data**	Weight summary	WeightSummaryBarDia	Bar Diameter		BarDiameter
12	**Header/Footer data**	Weight summary	WeightSummaryToNoOfBars	Quantity		Quantity
13	**Header/Footer data**	Weight summary	WeightSummaryTotalWeight	CADS_Total Rebar Weight		Total rebar weight
14	**Header/Footer data**	Weight summary	WeightSummaryTotalPageWeight	CADS_Total Page Weight		Total page weight
15	**Header/Footer data**	Weight summary	WeightSummaryPageTotalNoOfBars	CADS_Total NoOfBars		Total no of bars
16						

16.5.6 Weight Report Cell Name Definitions

The following section lists the definitions of all the keywords currently used in the default schedule templates. Additional definitions can be added to match the custom parameters used in a project.

Weight Report Header / Footer Data Fields (Header/Footer data)

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
12	**Header/Footer data**	Weight summary	WeightSummaryToNoOfBars	Quantity		Quantity
13	**Header/Footer data**	Weight summary	WeightSummaryTotalWeight	CADS_Total Rebar Weight		Total rebar weight
14	**Header/Footer data**	Weight summary	WeightSummaryTotalPageWeight	CADS_Total Page Weight		Total page weight
15	**Header/Footer data**	Weight summary	WeightSummaryPageTotalNoOfBars	CADS_Total NoOfBars		Total no of bars

Weight Report Data Fields

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
9	**Rebar data**	Weight summary	WeightSummaryDataLineNo	LineNo		Weight report line No
10	**Rebar data**	Weight summary	WeightSummaryBarType	Type		Type
11	**Rebar data**	Weight summary	WeightSummaryBarDia	Bar Diameter		BarDiameter

Weight Report Address Range Definitions

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
3	**Data type range**		ConfigurationDataRange			Cell range for configuration
4	**Data type range**		AddressRangeForWeightSummaryData			Cell Range for Weight
5	**Data type range**		AddressRangeForWeightSummaryFooter			Cell Range for Weight
6	**Data type range**		AddressRangeForWeightSummaryHeader			Cell Range for Weight

Copyright © Computer and Design Services Limited

Weight Report Additional Settings

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in tl	Value	Data field name description
3	**Template configuration**	Weight report	AddHeaderForTableSpanningAcrossPages		Yes	Determines if continuous page can have header
4	**Template configuration**	Weight report	AddFooterForTableSpanningAcrossPages		Yes	Determines if continuous page can have footer

16.5.7 Mandatory Weight Report Template Fields

The following fields must be defined otherwise CADS RC3D for Revit® will not be able to create the Excel Weight Report Template.

ConfigurationFileVersion

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
2	**Template version**		ConfigurationFileVersion		4.0	Excel template file version

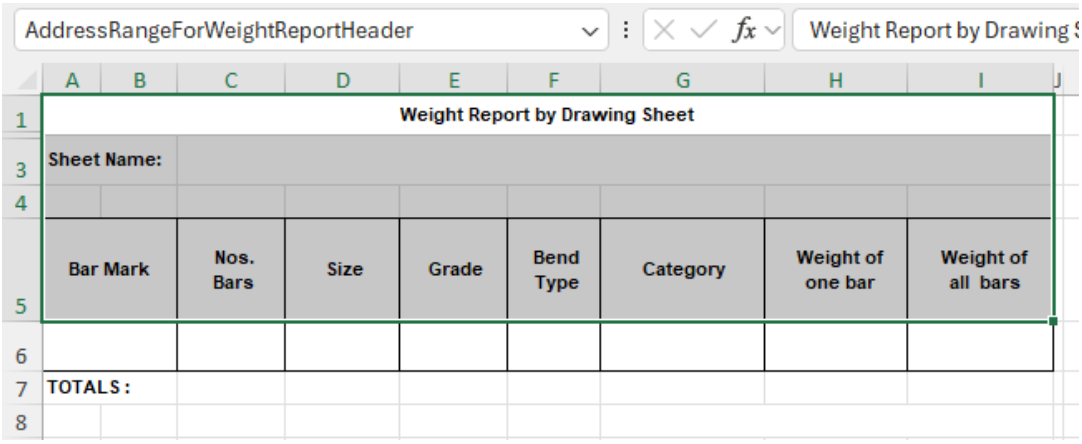
ConfigurationDataRange

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
2	**Template version**		ConfigurationFileVersion		4.0	Excel template file version
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
3	**Data type range**		ConfigurationDataRange			Cell range for configuration table

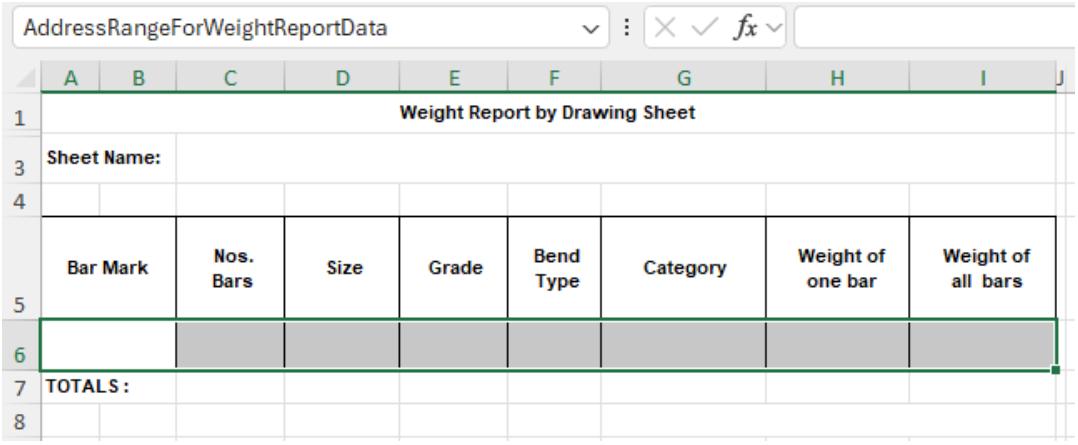
	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in tl	Value	Data field name description
3	**Template configuration**	Weight report	AddHeaderForTableSpanningAcrossPages		Yes	Determines if continuous page can have header
4	**Template configuration**	Weight report	AddFooterForTableSpanningAcrossPages		Yes	Determines if continuous page can have footer
5	**Data type range**		ConfigurationDataRange			Cell range for configuration table
6	**Data type range**	Weight report	AddressRangeForWeightReportData			Cell range for Weight report header section
7	**Data type range**	Weight report	AddressRangeForWeightReportHeader			Cell range for Weight report footer section
8	**Data type range**	Weight report	AddressRangeForWeightReportFooter			Cell range for Weight report bar data line
9	**Rebar data**	Weight report	WeightReportBasedOn	CADS_BasedOn		Filter name
10	**Rebar data**	Weight report	WeightReportLineNo	LineNo		Line number
11	**Rebar data**	Weight report	WeightReportNoOfBars	Quantity		Total quantity
12	**Rebar data**	Weight report	WeightReportSize	Type		Bar diameter
13	**Rebar data**	Weight report	WeightReportBarMark	CADS_Bar Mark		Bar mark
14	**Rebar data**	Weight report	WeightReportGrade	Type		Type and size
15	**Rebar data**	Weight report	WeightReportBendType	Shape		Bend type
16	**Rebar data**	Weight report	WeightReportDrawing	CADS_Drawing Sheet N		Drawing sheet name
17	**Rebar data**	Weight report	WeightReportRelease	CADS_Release Name		Release name
18	**Rebar data**	Weight report	WeightReportShapeCategory	CADS_Bend Category		Shape category
19	**Rebar data**	Weight report	WeightReportWeightOfaBar	CADS_Weight of a Bar		Single rebar weight
20	**Rebar data**	Weight report	WeightReportTotalWeight	CADS_Total Rebar Weig		Total weight of rebar
21	**Header/Footer data**	Weight report	WeightReportSheetName	Sheet Name		Sheet name
22	**Header/Footer data**	Weight report	WeightReportPageTotalWeight	CADS_Total Page Weigh		Total page weight of the rebar
23	**Header/Footer data**	Weight report	WeightReportPageTotalNoOfBars	CADS_Total NoOfBars		Total no of bars

Copyright © Computer and Design Services Limited

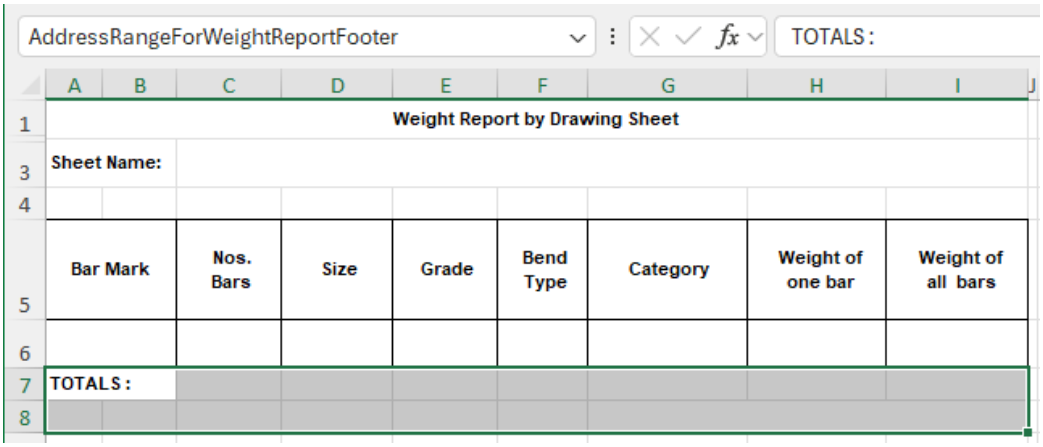
AddressRangeForWeightReportHeader



AddressRangeForWeightReportData



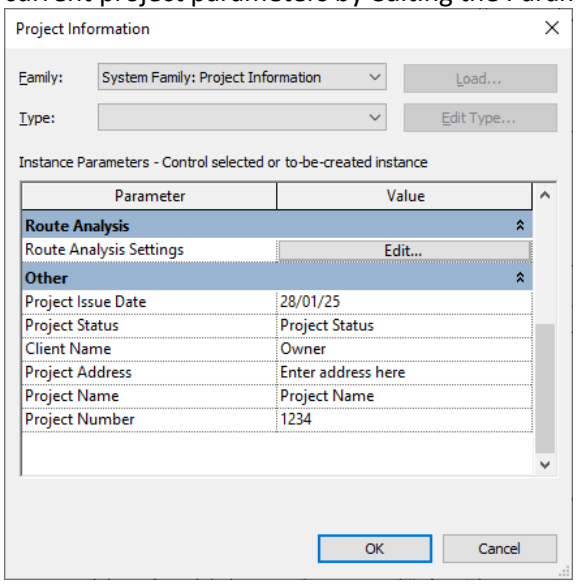
AddressRangeForWeightSummaryFooter

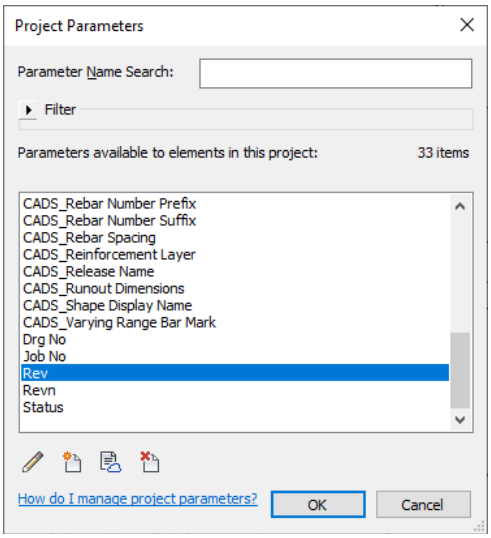


Copyright © Computer and Design Services Limited

16.6 Adding Custom Revit® Parameters to the Excel Template

Additional data fields can be added to the Excel Report Configuration Tab to import any custom Revit® project information and project parameters. Existing entries can be adapted to match your current project parameters by editing the Parameter names in Column D.





For instance, new Fields can be added into the Header for additional Project Information to be displayed.

1. Open the Excel Schedule template.
2. Select to the Report Configuration Tab.
3. The new data field can be added to either the Header/Footer data or the Rebar data.
4. Insert a new line into the relevant data area of the spreadsheet.

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
17	**Header/Footer data**	Schedule	ClientName	Client Name		Client name
18	**Header/Footer data**	Schedule	JobNo	Job No		Job number
19			Blank Line inserted			
20	**Header/Footer data**	Schedule	DrawnBy	Drawn By		Drawn by
21	**Header/Footer data**	Schedule	SheetIssueDate	Sheet Issue Date		Project issue date
22	**Header/Footer data**	Schedule	CurrentRevisionDate	Current Revision Date		Current revision date
23	**Header/Footer data**	Schedule	SheetNumber	Sheet Number		Sheet number

5. Set the Data field category to appropriate category in Column A, in this instance **Header/Footer data**.
6. In Column B type in the Table Category, in this case **Schedule**.
7. Type in the cell name you want to use in the Excel spreadsheet in Column C, in this case **ProjectAddress**.
8. Type in the Revit® parameter name in Column D, **Project Address**.
9. Type in a description for the data field to help as a reminder in the future in Column F, **Project Site Address**.

Copyright © Computer and Design Services Limited

	A	B	C	D	E	F
1	Data Field category	Table Category	Data field name in the schedule template	Data field name in the data model	Value	Data field name description
17	**Header/Footer data**	Schedule	ClientName	Client Name		Client name
18	**Header/Footer data**	Schedule	JobNo	Job No		Job number
19	**Header/Footer data**	**Schedule**	**ProjectAddress**	**Project Address**		**Project Site Address**
20	**Header/Footer data**	Schedule	DrawnBy	Drawn By		Drawn by
21	**Header/Footer data**	Schedule	SheetIssueDate	Sheet Issue Date		Project issue date
22	**Header/Footer data**	Schedule	CurrentRevisionDate	Current Revision Date		Current revision date

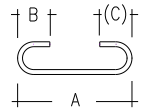
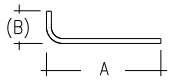
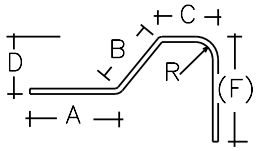
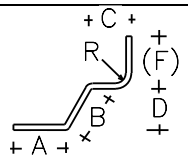
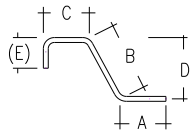
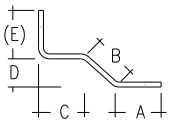
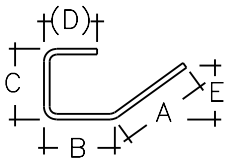
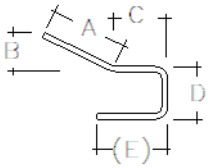
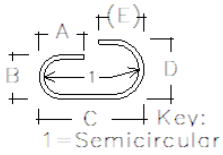
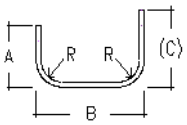
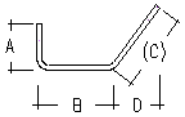
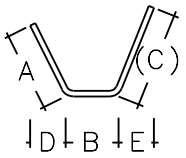
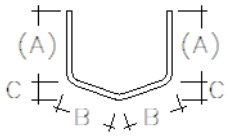
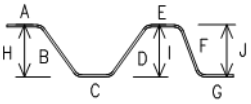
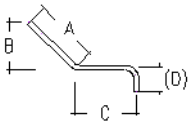
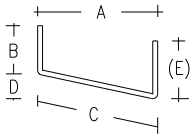
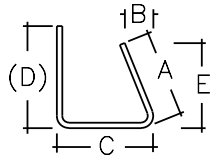
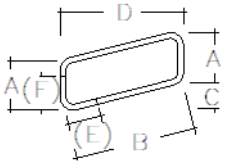
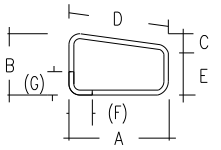
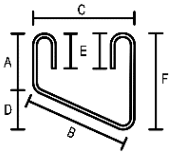
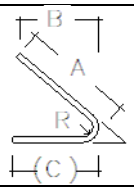
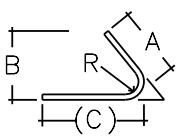
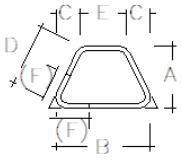
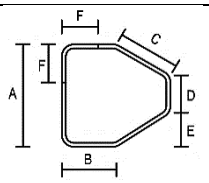
10. Once the field has been added to the Report Configuration you can name the cell in the Sheet Configuration.

Copyright © Computer and Design Services Limited

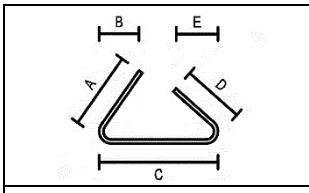
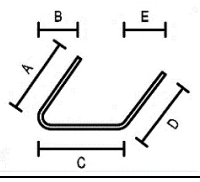
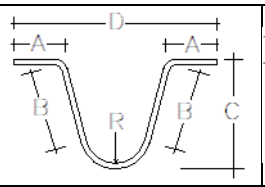
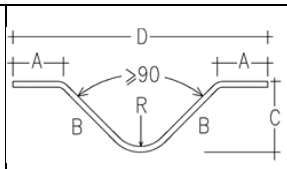
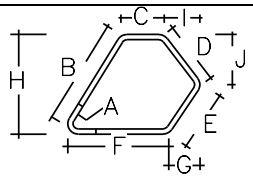
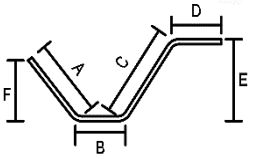
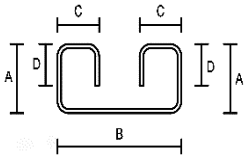
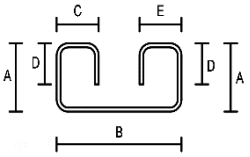
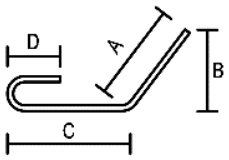
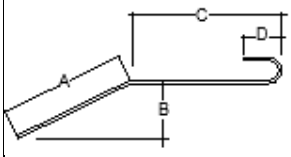
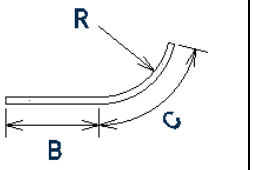
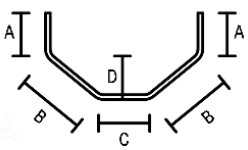
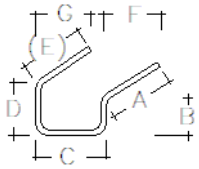
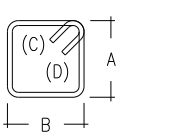
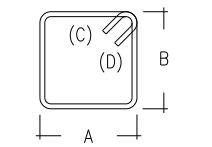
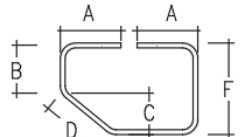
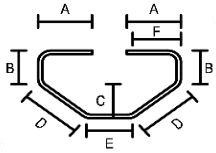
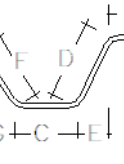
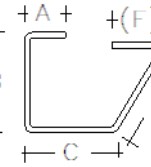
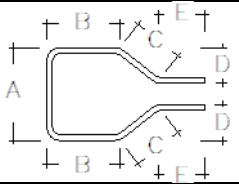
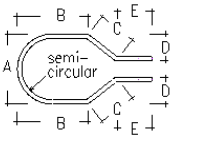
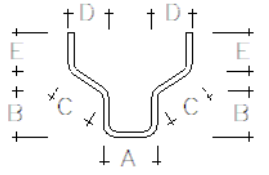
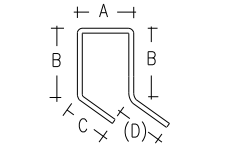
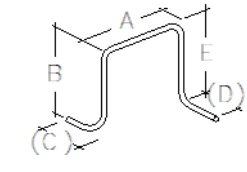
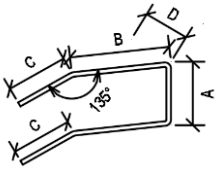
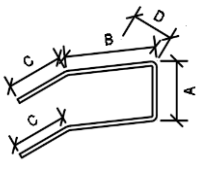
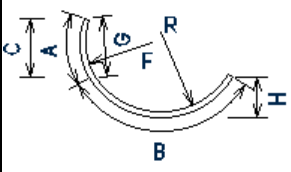
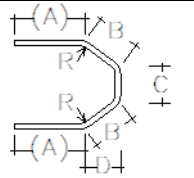
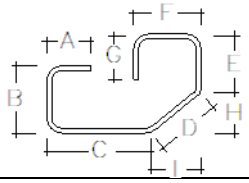
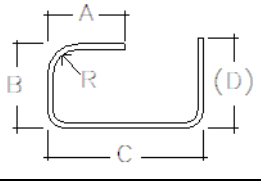
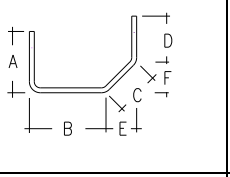
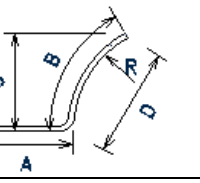
17 Shape Code 99's for BS8666:2005 & BS8666:2020

Shown below are the shape code 99 families currently being shipped with CADS RC3D for Revit® for BS866:2005 & BS8666:2020. The shape codes can be loaded from the Revit® Insert Tab using the Load Family command.

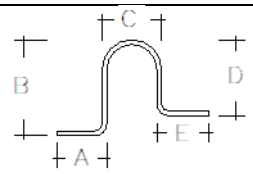
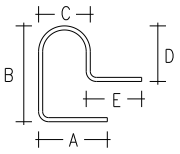
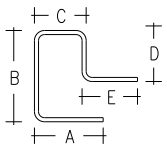
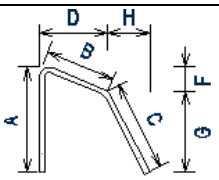
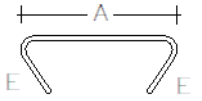
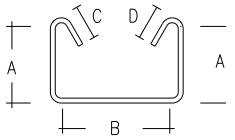
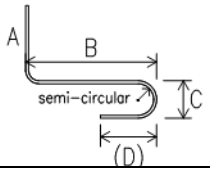
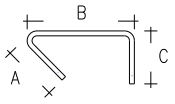
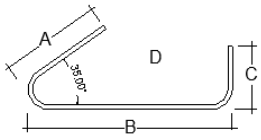
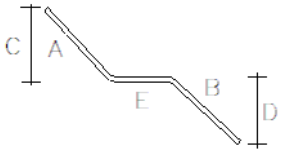
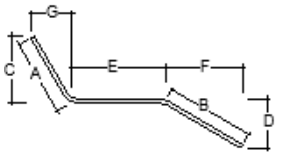
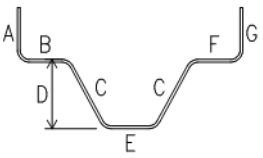
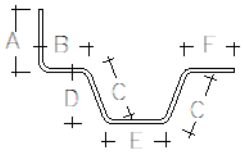
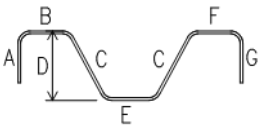
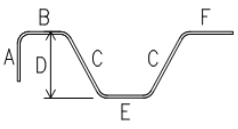
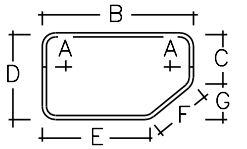
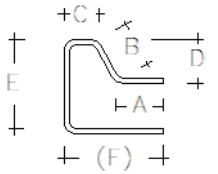
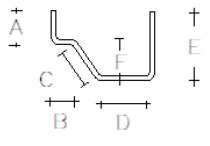
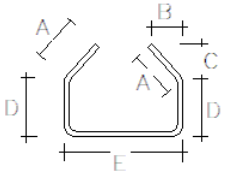
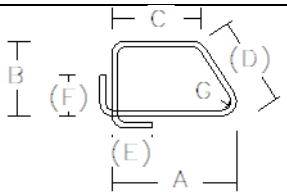
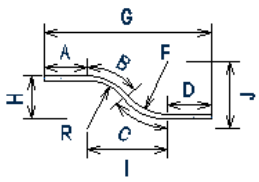
They are located in the "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\Families\UK\Structural Rebar Shapes" folder, select either the BS 8666-2005 or the BS 8666-2020 folder to suit your project.

			
9933	**9934**	**99100**	**99100a**
			
99101	**99101a**	**99102**	**99103**
			
99105	**99106**	**99107**	**99108**
			
99109	**99111**	**99112**	**99116**
			
99117	**99118**	**99119**	**99123a**
			
99124	**99125**	**99126**	**99129**

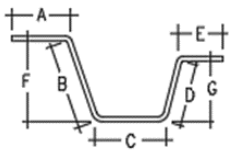
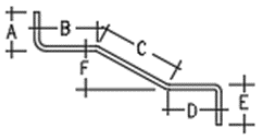
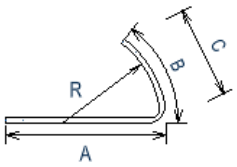
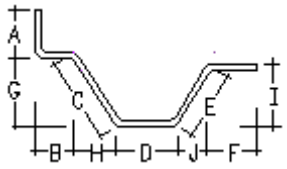
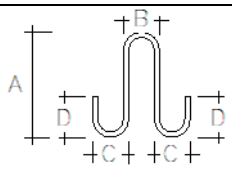
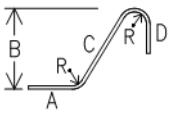
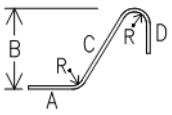
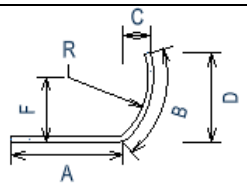
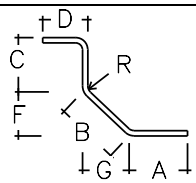
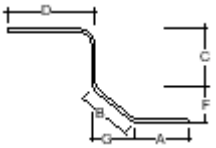
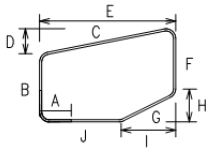
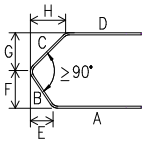
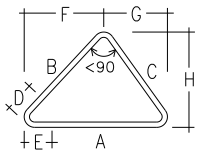
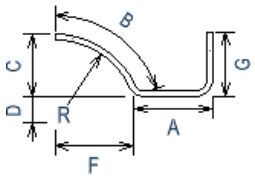
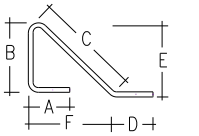
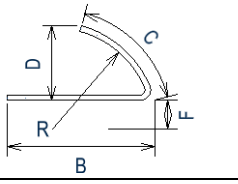
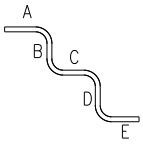
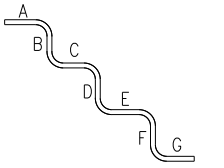
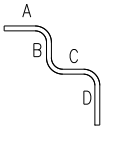
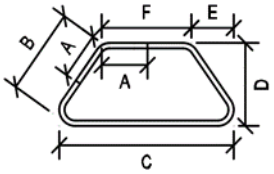
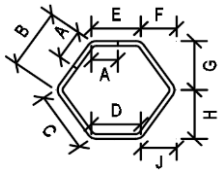
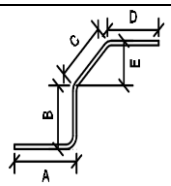
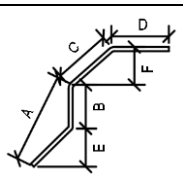
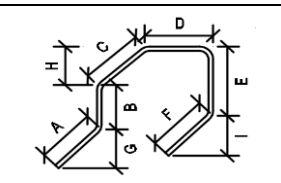
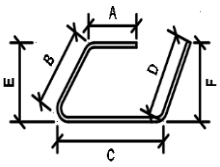
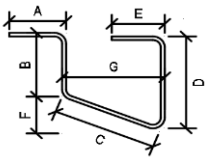
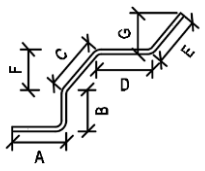
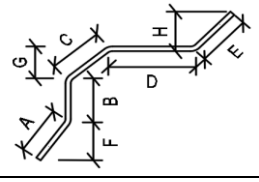
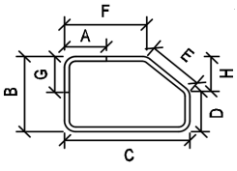
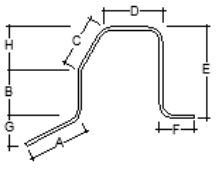
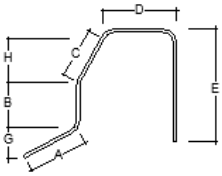
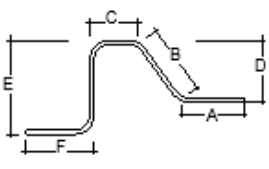
Copyright © Computer and Design Services Limited

			
99131	**99132**	**99137**	**99137x**
			
99138	**99148**	**99150**	**99150X**
			
99151	**99151B**	**99153**	**99163**
			
99164	**99165**	**99165A**	**99168**
			
99170a	**99172D**	**99173**	**99174**
			
99174A	**99175**	**99183A**	**99183B**
			
99183C	**99183D**	**99185**	**99189**
			
99207	**99214**	**99215**	**99217**

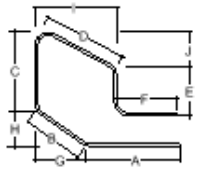
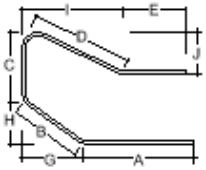
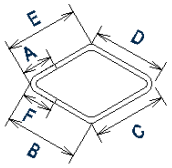
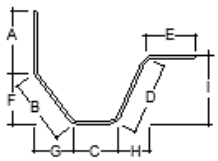
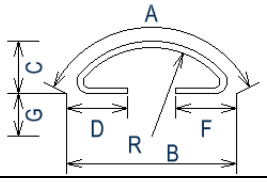
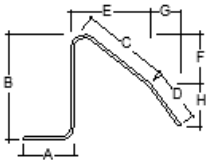
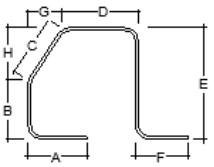
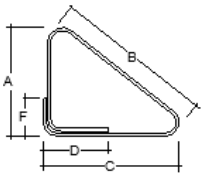
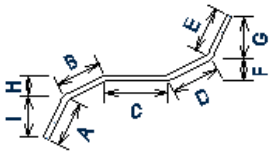
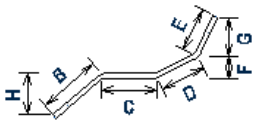
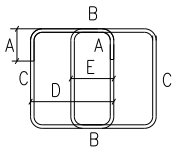
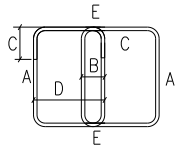
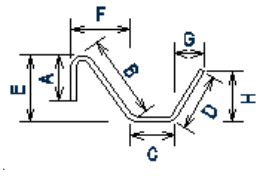
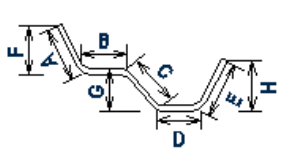
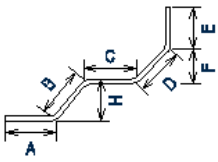
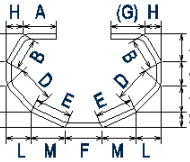
Copyright © Computer and Design Services Limited

			
99219	99220	99221	99242
			
99244	99250	99252	99254
			
99254A	99260	99260X	99265
			
99266	99267	99268	99272
			
99284	99285	99286	99296
			
99298	99299	99300	99307
99309	99312	99323	99327
99328	99330	99340	99385

Copyright © Computer and Design Services Limited

			
99388	99389	99404	99409X
			
99415a	99427	99427A	99435A
			
99449	99449X	99456	99481
			
99543	99545	99572	99577
			
99600	99601	99602	99603
			
99604	99605	99606	99607
			
99609	99610	99611	99612
			
99613	99614	99615	99616

Copyright © Computer and Design Services Limited

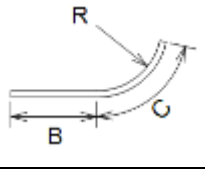
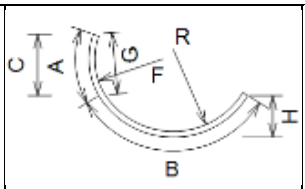
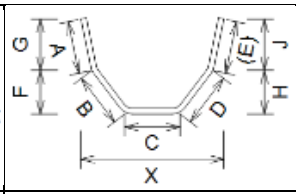
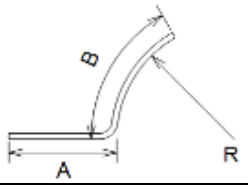
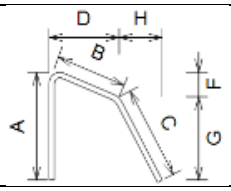
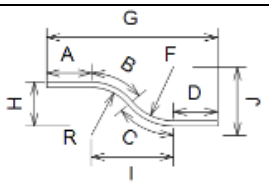
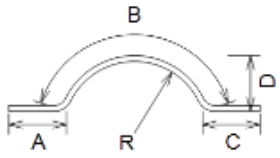
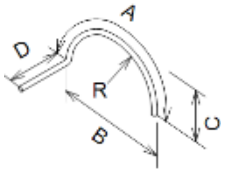
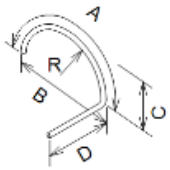
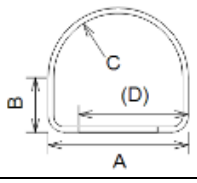
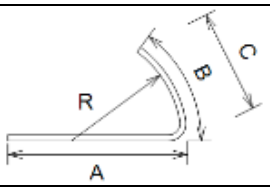
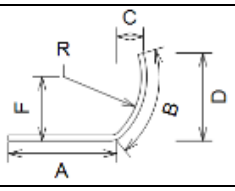
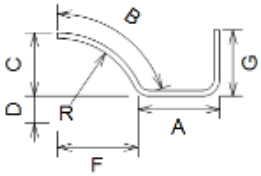
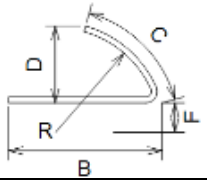
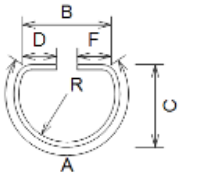
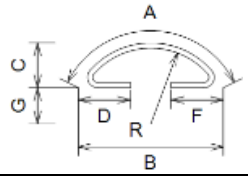
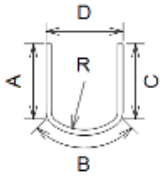
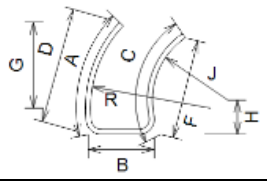
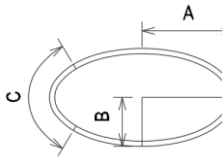
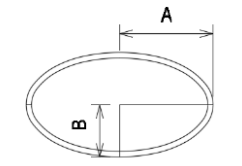
			
99617	**99618**	**99619**	**99620**
			
99620X	**99621**	**99622**	**99623**
			
99624	**99625**	**99900**	**99901**
			
99902	**99903**	**99904**	**99905**

Copyright © Computer and Design Services Limited

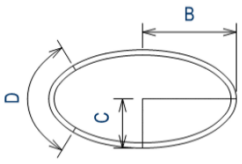
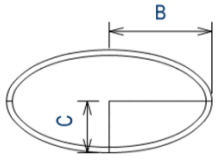
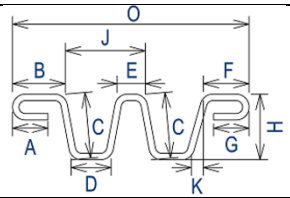
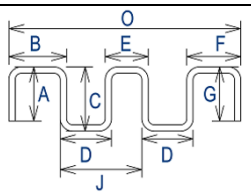
18 Draw Rebar Shape Code 99's for BS8666:2005 & BS8666:2020

The following shape codes are located in the "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\CadsRebarShapes\UK" folder.

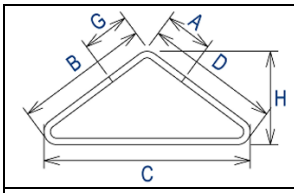
Load the shapes into RC3D for Revit® inside the Project Settings dialog, refer to Chapter CADS Rebar Shapes for details.

			
99153	**99185**	**99211**	**99217**
			
99242	**99298**	**99312**	**99327**
			
99328	**99330**	**99404**	**99435A**
			
99545	**99577**	**99620**	**99620X**
			
99624	**99646**	**99301X**	**99301Xa**

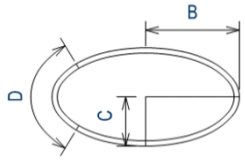
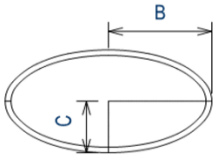
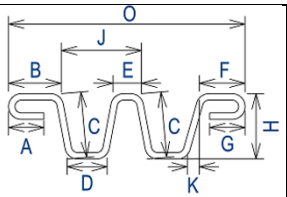
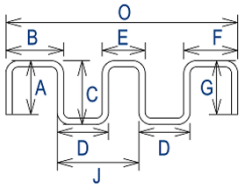
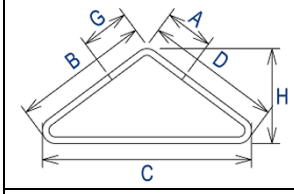
The following shape codes are located in the "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\CadsRebarShapes\US\USA-STD" folder.

			
ELPS	**ELPSa**	**15**	**S14**

Copyright © Computer and Design Services Limited

			
T13			

The following shape codes are in the "C:\ProgramData\Autodesk\ApplicationPlugins\CADS RC3D for Revit 20xx.bundle\Contents\CadsRebarShapes\US\USASTD2018" folder.

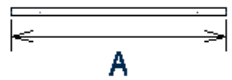
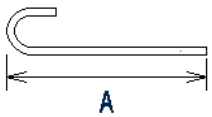
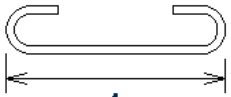
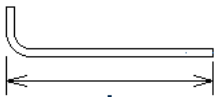
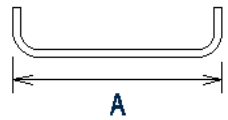
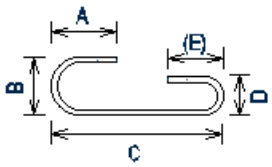
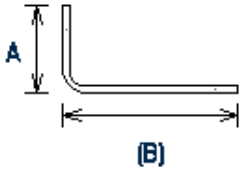
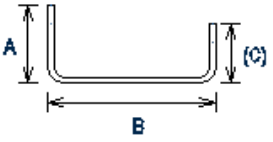
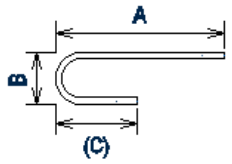
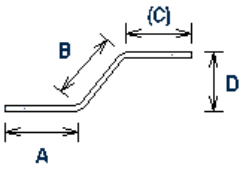
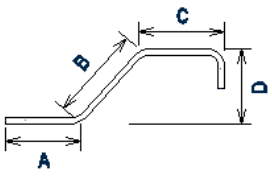
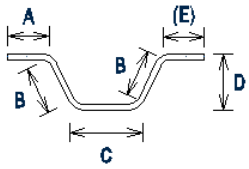
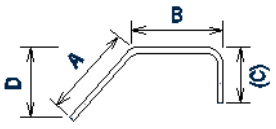
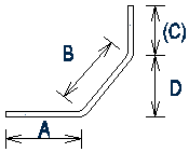
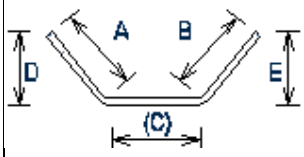
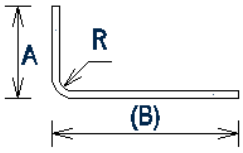
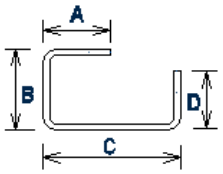
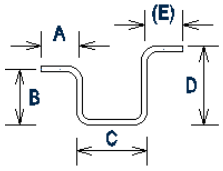
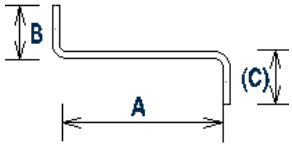
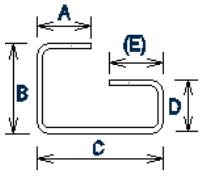
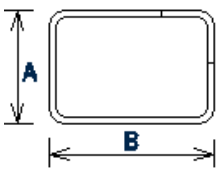
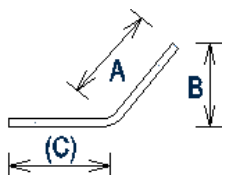
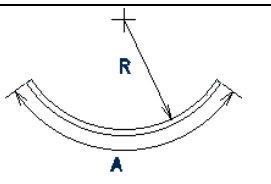
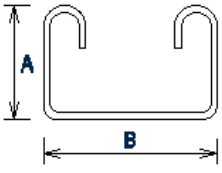
			
ELPS	**ELPSa**	**115**	**214**
			
313			

Copyright © Computer and Design Services Limited

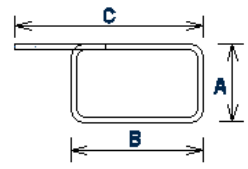
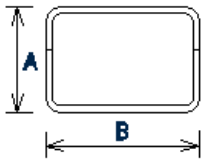
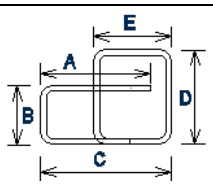
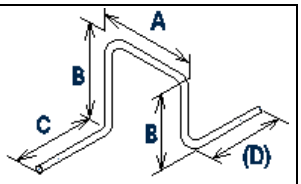
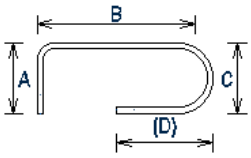
19 CADS Country Specific Shape Code Libraries

The tables below contain the images of the currently supported Country Specific Shape Codes Libraries.

19.1 SANS 282-2004 Shape Codes

			
20	32	33	34
			
35	36	37	38
			
39	41	42	43
			
45	48	49	51
			
52	53	54	55
			
60	62	65	72

Copyright © Computer and Design Services Limited

			
73	**74**	**75**	**83**
			
85			

This concludes the CADS RC3D for Revit® User Manual

Copyright © Computer and Design Services Limited