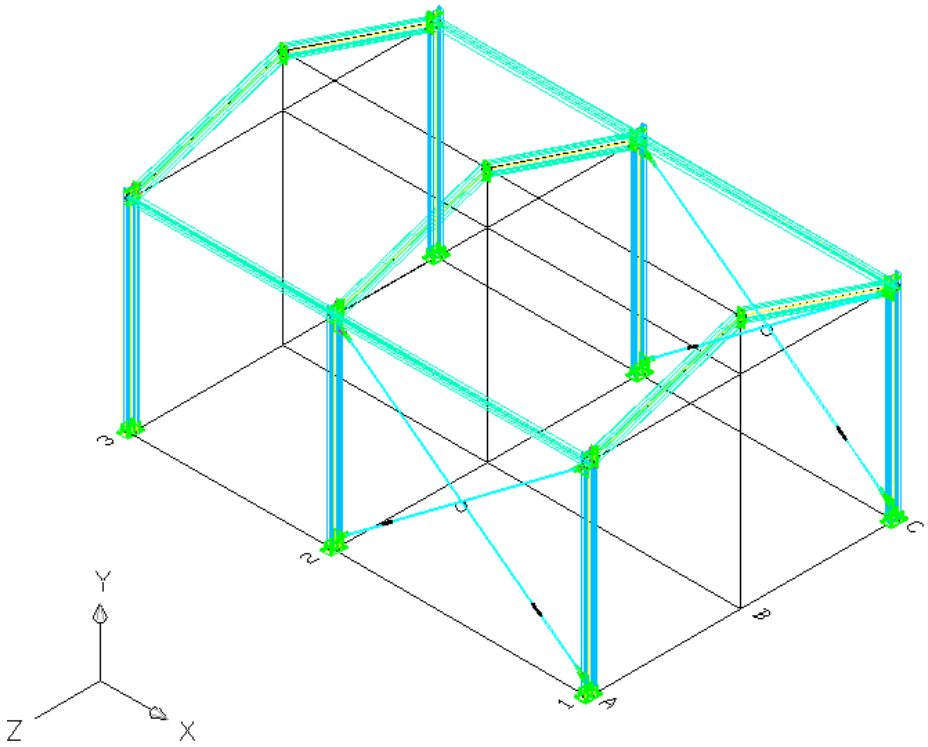
Tutorial for AutoCAD Structural Detailing - Steel 2010

1. EXAMPLE OF APPLICATION OF THE AUTOCAD STRUCTURAL DETAILING - STEEL PROGRAM: STEEL WORKSHOP

Use AutoCAD Structural Detailing - Steel for preparing steel workshop drawings. In this example, you learn the step-by-step method for framework and section modeling, editing the framework, and arranging elements in the final drawing layout. The drawing below shows an axonometric view of the workshop.



To use this documentation, follow these basic usage rules:

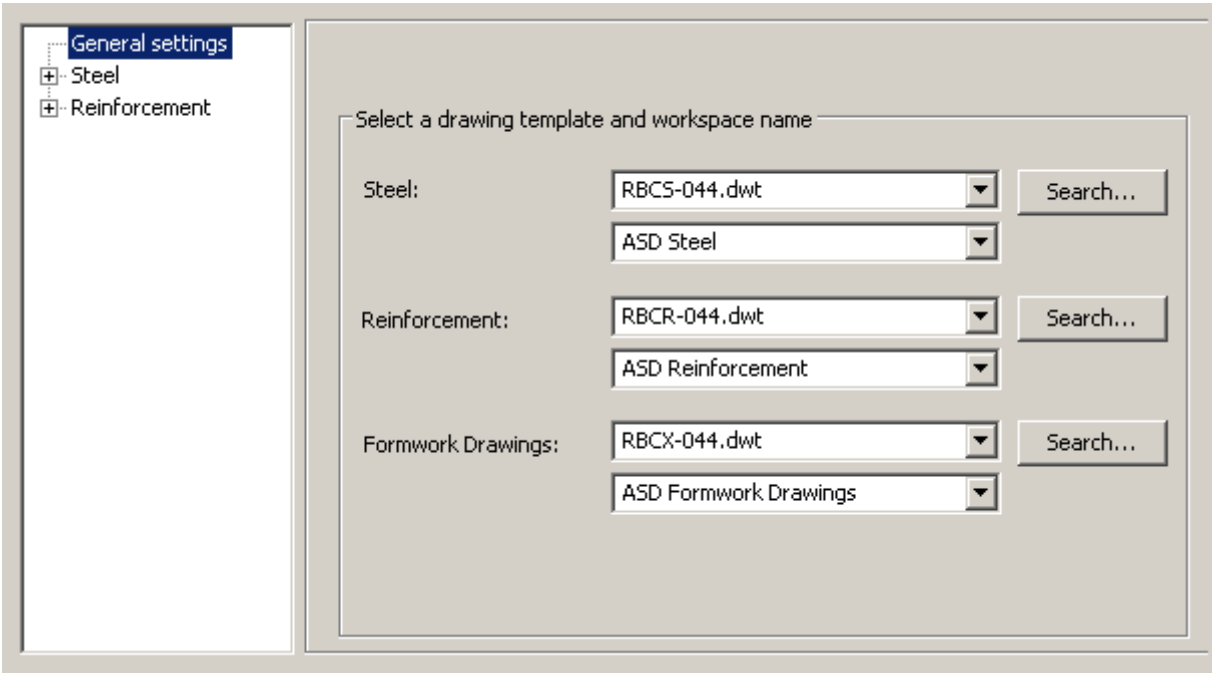
- Any icon symbol - click the icon with the left mouse button.
- {x} - select the 'x' option from the dialog.
- **text** - enter the underlined text on the command line of the program, and then press **Enter.**
- **LMC** and **RMC** - use the mouse buttons (**L**eft **M**ouse **C**lick and **R**ight **M**ouse **C**lick, respectively).

To start AutoCAD Structural Detailing - Steel, click on the desktop (or click Start menu > AutoCAD Structural Detailing), and then select the Steel module. The software will include options (such as an extended menu, additional toolbar, tabs and the Object Inspector dialog) for preparing drawings.

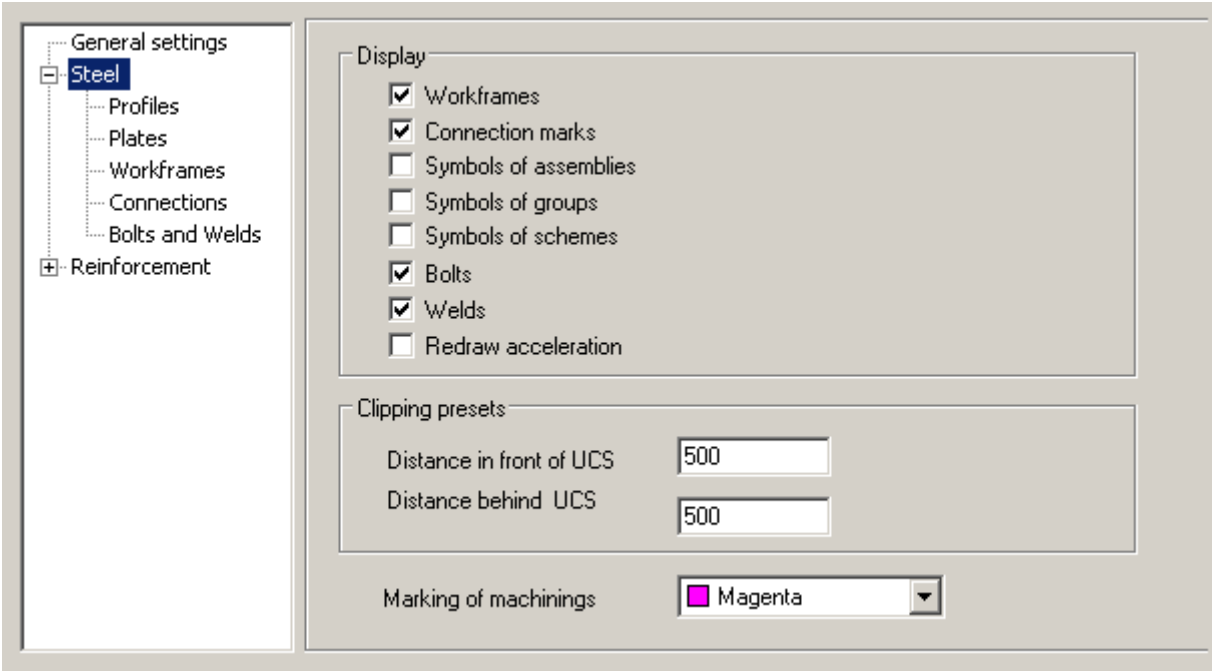
1.1. Configuration

1.1.1. Preferences

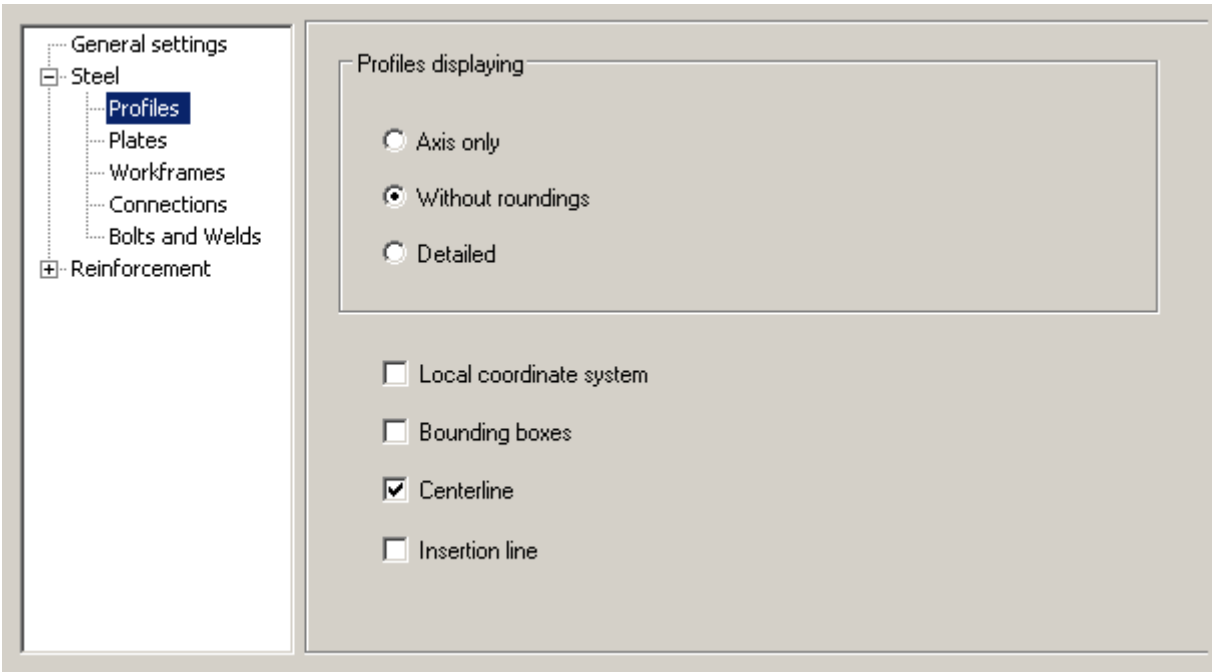
Performed Operation	Description
1. (Preferences)	The Preferences dialog displays, where you can adopt basic parameters applied in AutoCAD Structural Detailing.
2. **LMC** the Structural Detailing tab	Changes the dialog appearance.



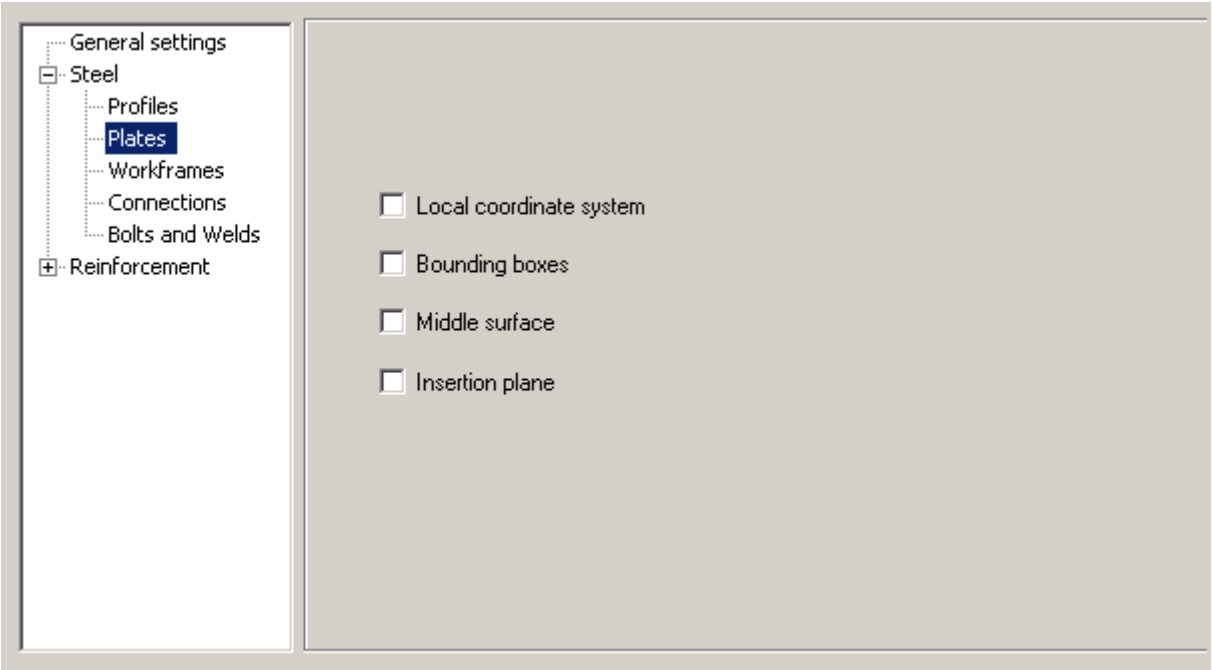
3. **LMC** the Steel settings	Changes the dialog appearance.
4. Under Display, select the options and define the values as shown below	Allows the selected elements to display in the graphical editor.



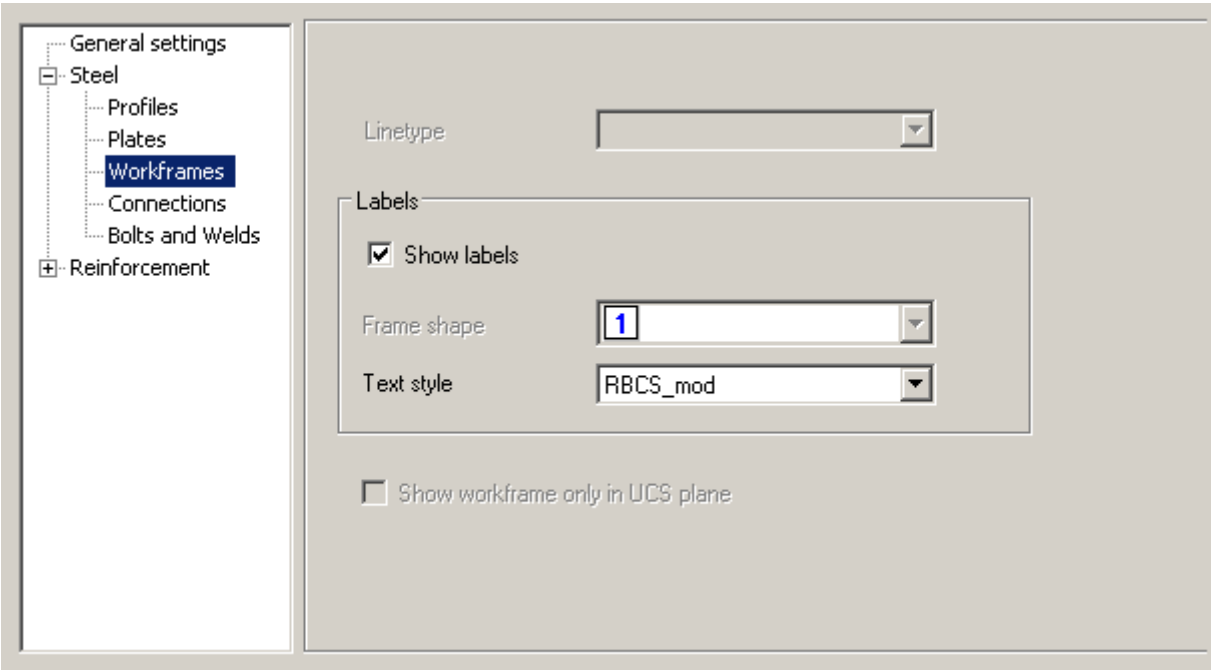
5. **LMC** Profiles in the selection tree	Changes the dialog appearance.
6. Under Profiles, select the options as shown below	Allows the selected elements to display in the graphical editor.



7. **LMC** Plates in the selection tree	Changes the dialog appearance.
8. Under Plates, select the options as shown below	Allows the selected elements to display in the graphical editor.

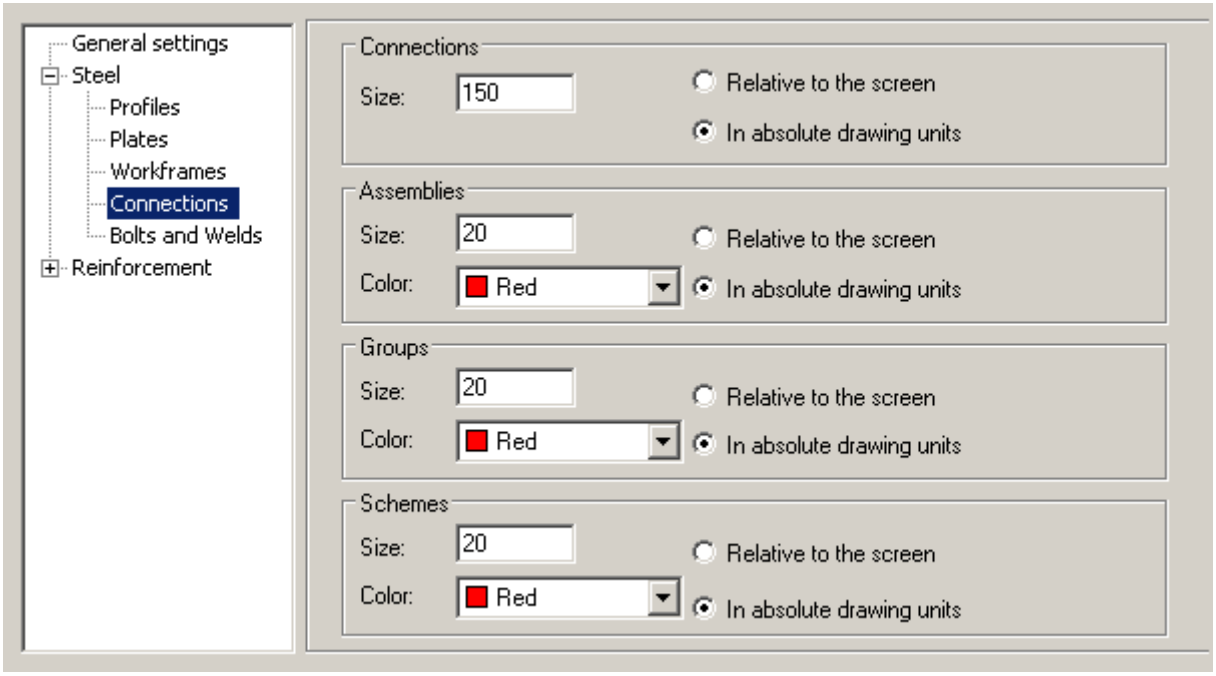


9. **LMC** Workframes in the selection tree	Changes the dialog appearance.
10. Under Workframes, select the options as shown below	Allows the description of workframe lines to display.

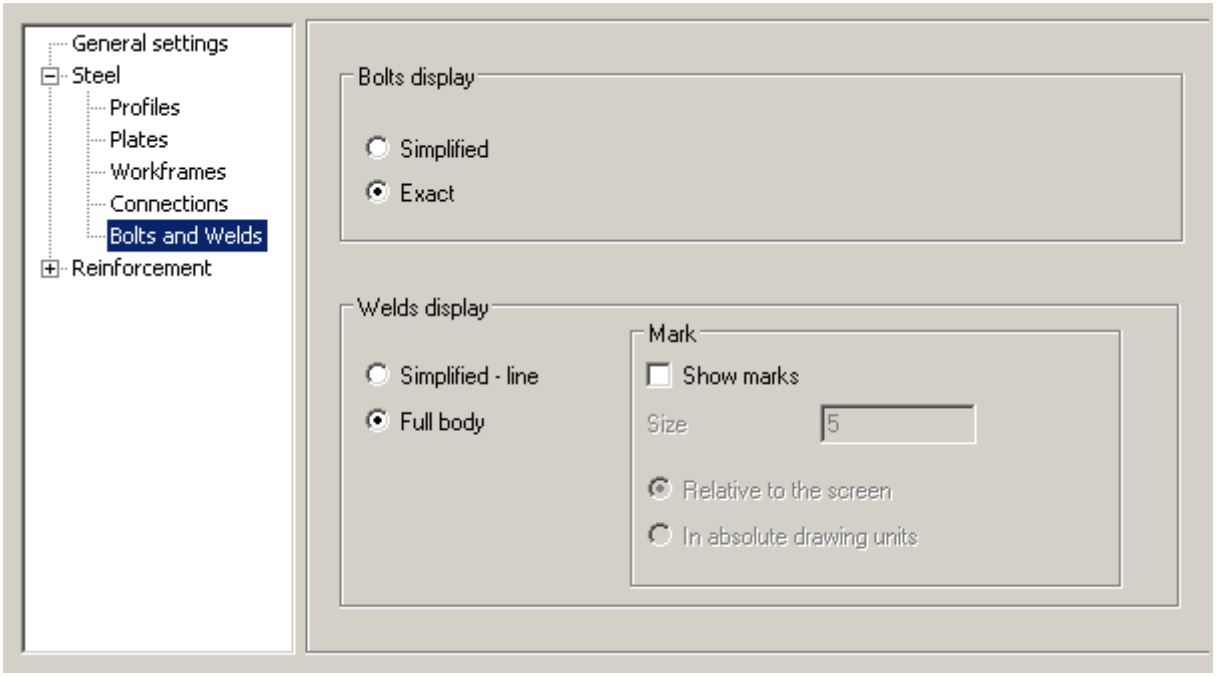


11. **LMC** Connections in the selection tree	Changes the dialog appearance.
12. Select In absolute drawing units	The size of labels for defined connections (spheres) is expressed in units used in AutoCAD®.

13. For Size, enter **150**	Specify the size of a connection symbol.



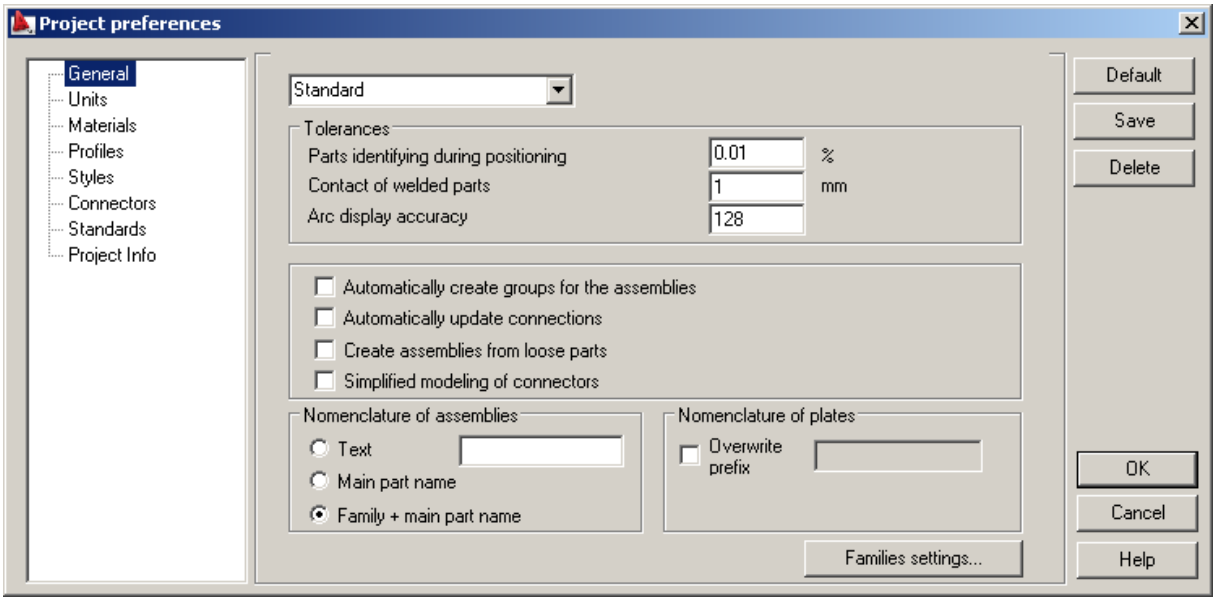
14. **LMC** Bolts and Welds in the selection tree	Changes the dialog appearance.
15. Select the options as shown below	Chooses whether to display bolts and welds as simplified or detailed.



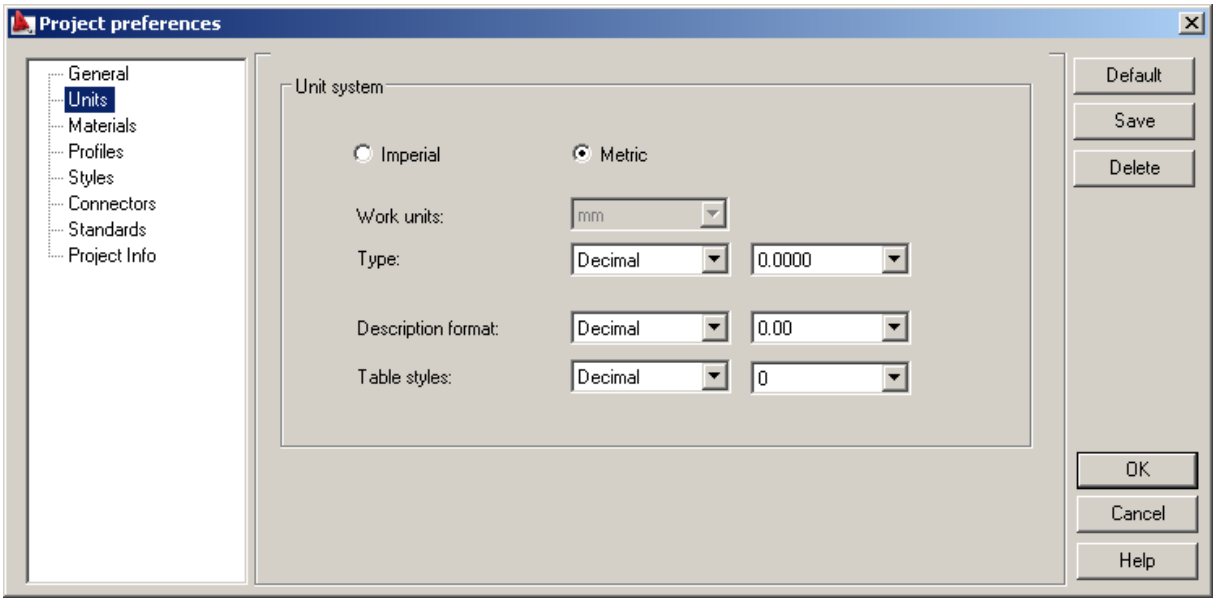
16. **OK**	Closes the Preferences dialog.

1.1.2. Project preferences

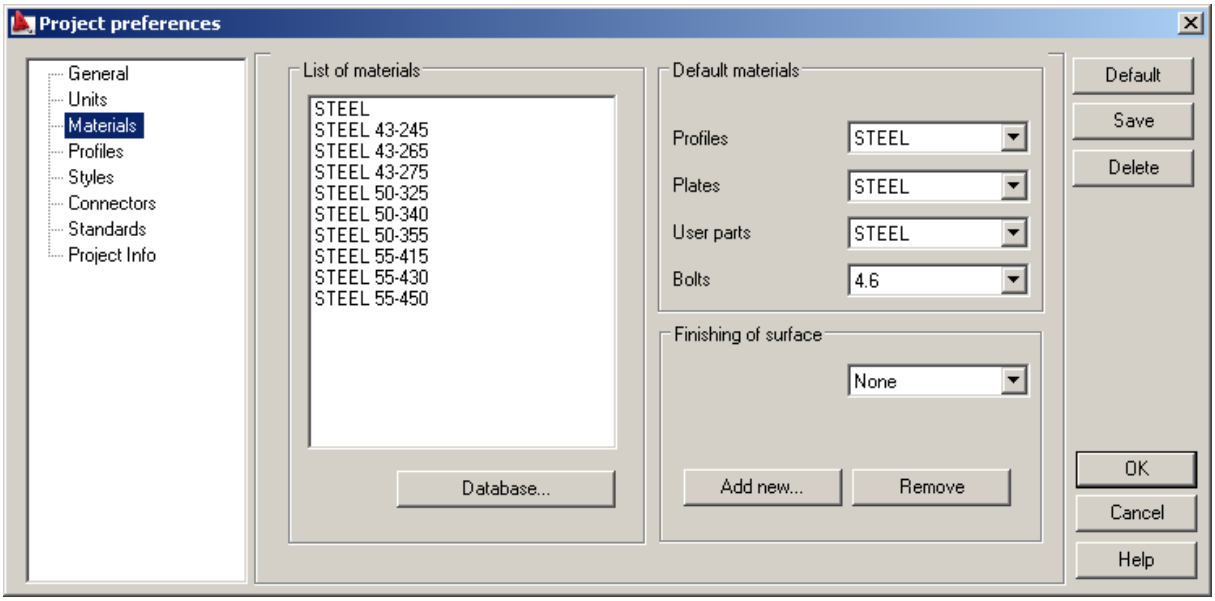
Performed Operation	Description
1. (Project preferences)	The Project Preferences dialog displays, where you can adopt basic parameters applied in AutoCAD Structural Detailing - Steel (the parameters are saved in a DWG file).
2. **LMC** General in the selection tree, and select the options as shown below	



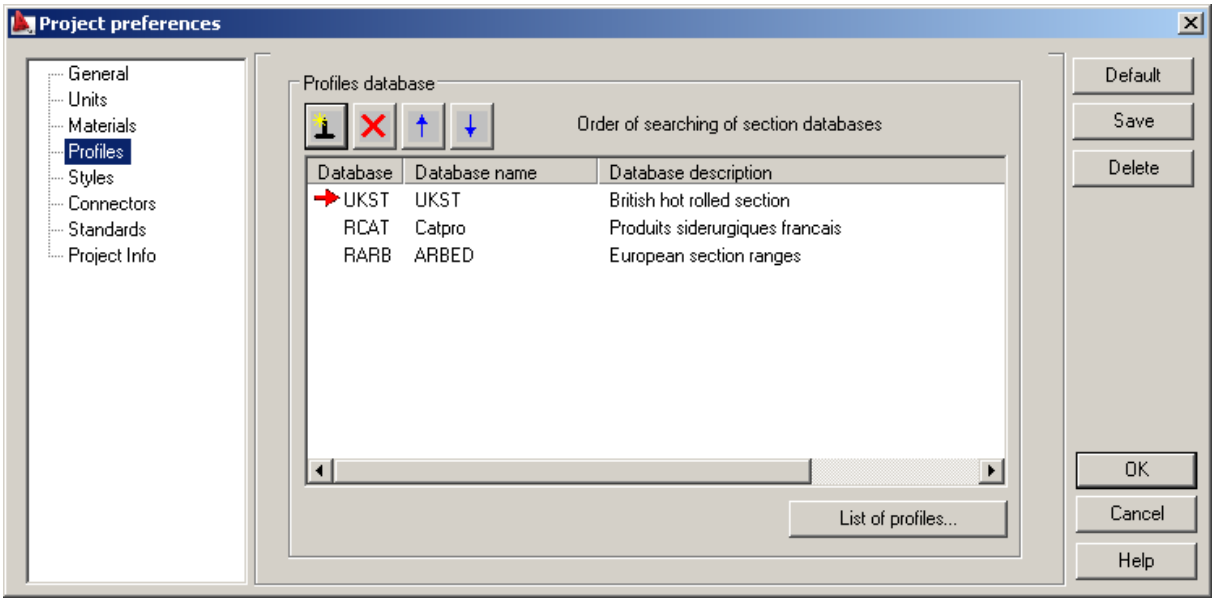
3. **LMC** Units in the selection tree, and select the options as shown below	



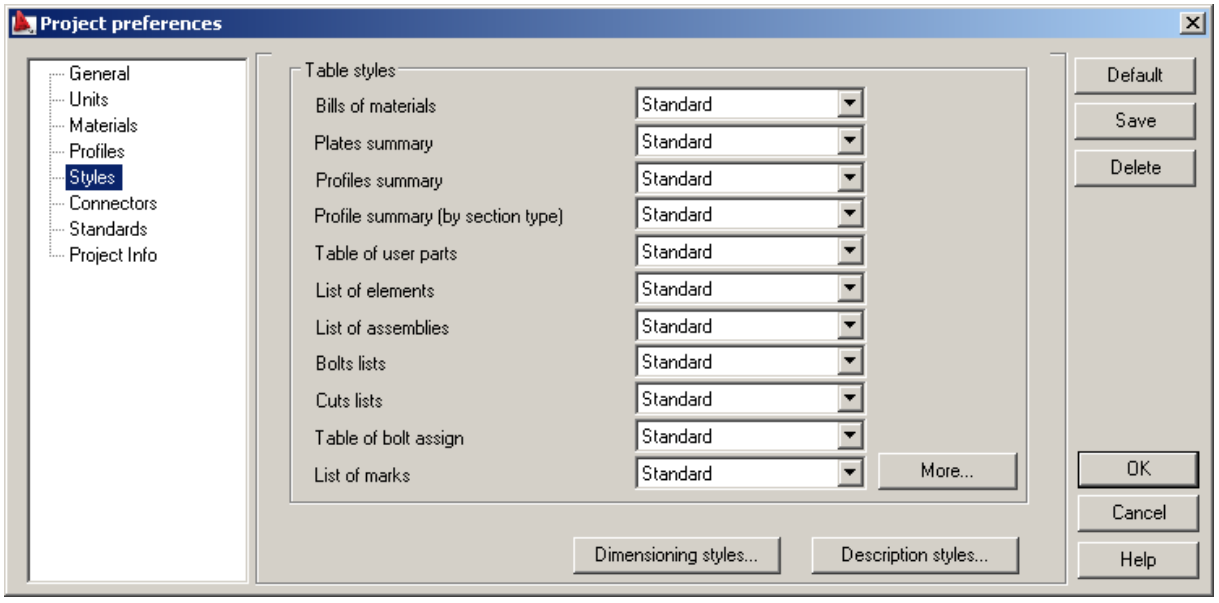
4. **LMC** Materials in the selection tree, and select the options as shown below	



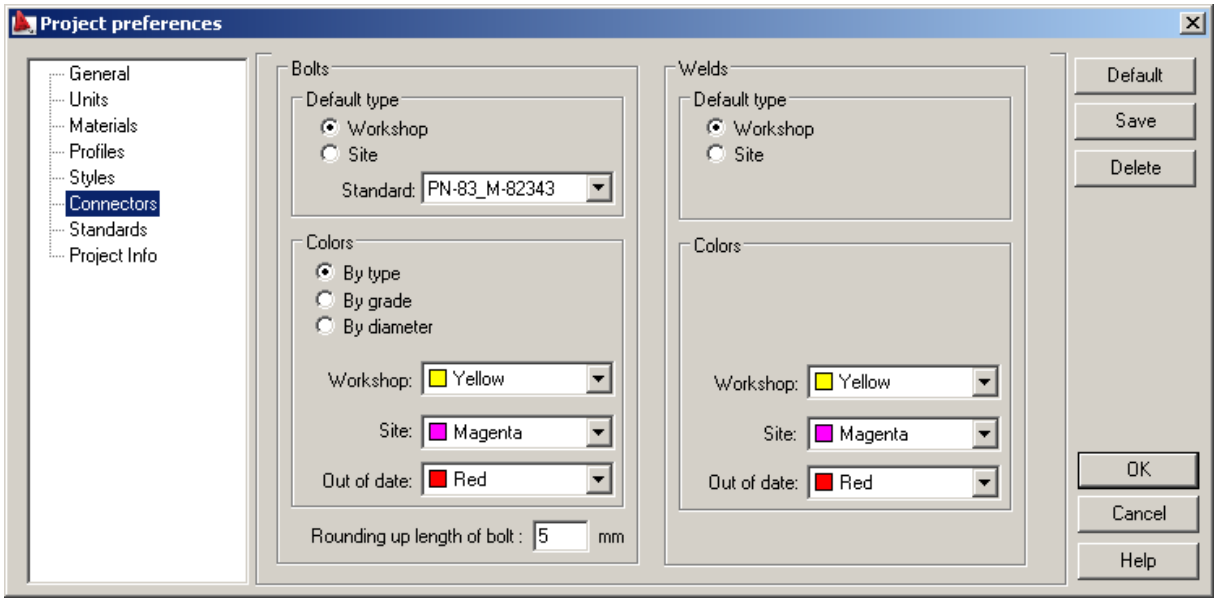
5. **LMC** Profiles in the selection tree, and select the options as shown below	



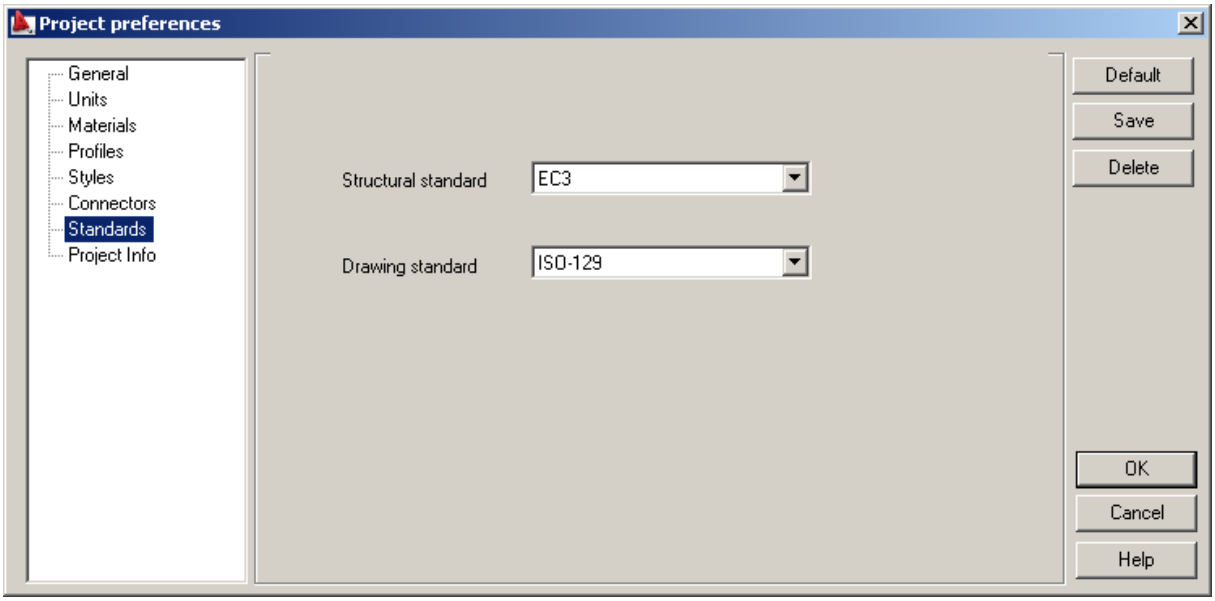
6. **LMC** Styles in the selection tree, and select the options as shown below	



7. **LMC** Connectors in the selection tree, and select the options as shown below	



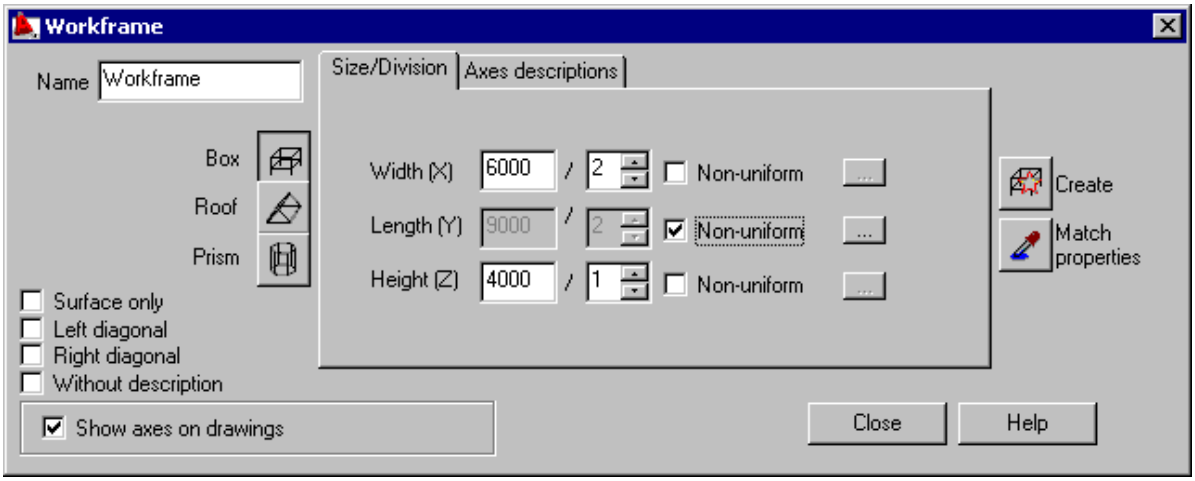
8. **LMC** Standards in the selection tree, and select the options as shown below	



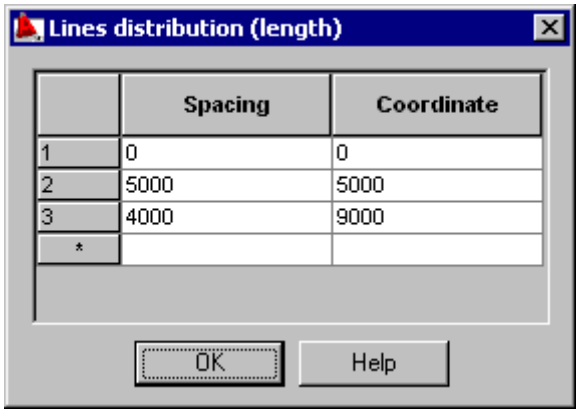
9. **LMC** Project Info, and then enter the project data	
10. **OK**	Closes the Project preferences dialog.

1.2. Framework Definition

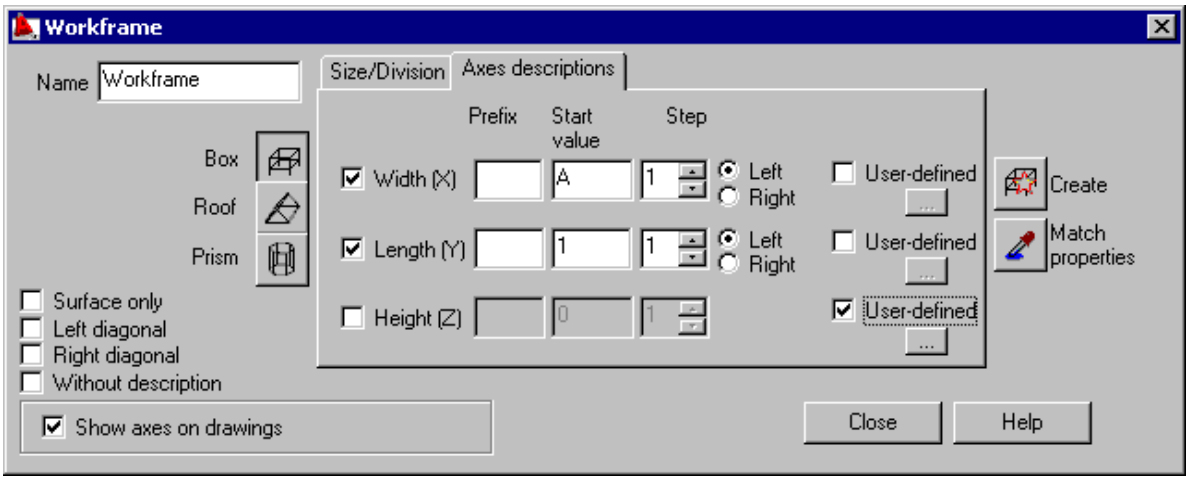
Performed Operation	Description
1. 	Selects axonometric view (SW isometric view).
2.  (Create workframe)	The Workframe dialog displays, where you can define a workframe that simplifies the definition of a 3D structure model.
3.  Box	Selects the box workframe, and changes the appearance of the dialog.
4. For Name, enter **Workframe**	Defines the workframe name.
5. On the Size/Division tab, enter: **6000 / 2** for Width **9000 / 2** for Length **4000 / 1** for Height	Defines workframe parameters.
6. For Length, select Non-uniform	Allows definition of non-uniform distribution of the workframe Length (see the drawing below).



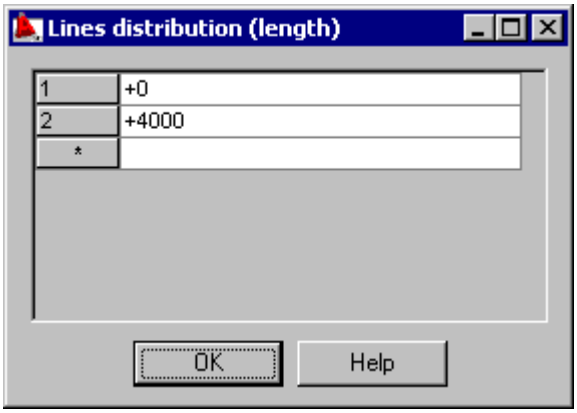
7. ...	The Line distribution (length) dialog displays.
8. In the Spacing column, enter the following values: **0** **5000** **4000**	Defines position of the successive distribution axes. Note: Entering a (spacing) coordinate and moving the cursor to any edit field (or clicking **OK**) results in automatic calculation of the spacing value (coordinate).



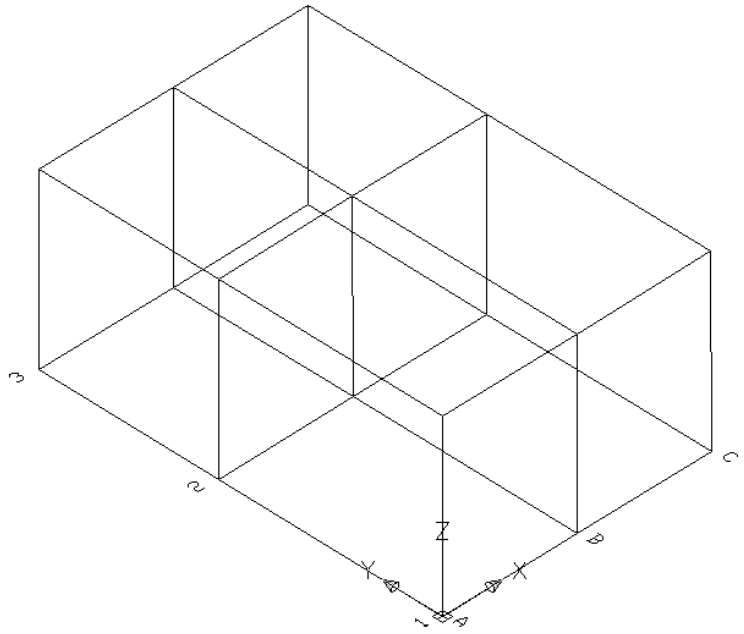
9. **OK**	Defines axis distribution (along the length), and closes the Line distribution (length) dialog.
10. **LMC** the Axes descriptions tab	Changes the dialog appearance.
11. For Length, define the following parameters: Prefix - leave the field empty Start value - 1 Step – 1	Defines length description parameters.
12. For Width, define the following parameters: Prefix - leave the field empty Start value - A Step – 1	Defines width description parameters.
13. For Height, select User-defined	Lets you define a description of the non-uniform distribution of the workframe height.



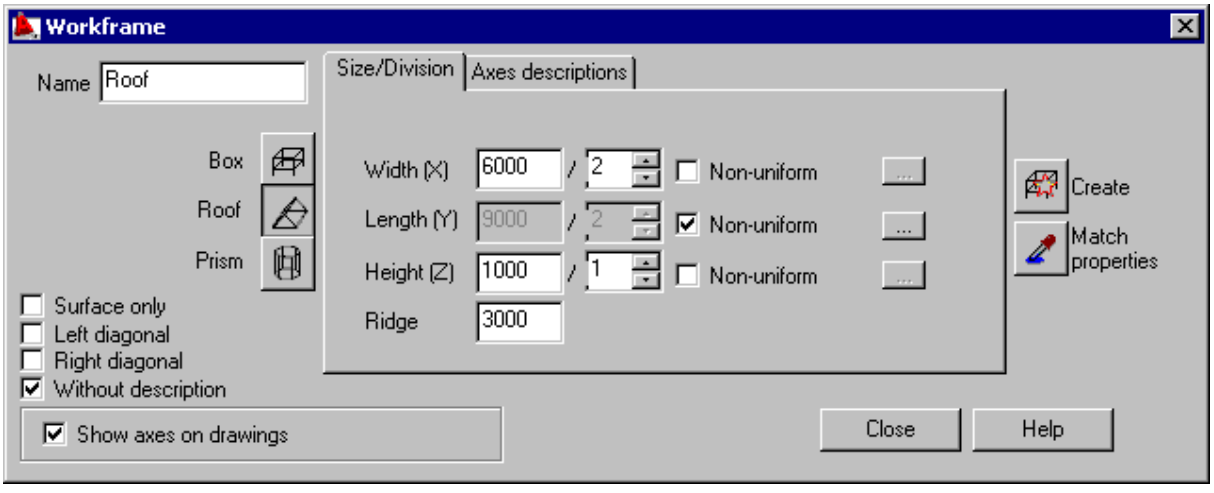
14. [...]	The Lines distribution (length) dialog displays.
15. Enter the following values: + 0 + 4000 **OK**	Defines height description parameters, and closes the dialog.



16. (Create)	Starts defining the insertion point for the workframe, and closes the Workframe dialog.
17. **0,0** in the command line	Defines the insertion point.
18. **F8**	Turns on ortho mode (this key should be pressed only if the orthogonal mode is off), **RMC**.
19. Using the cursor, specify the direction as parallel to X axis of the global coordinate system.	Inserts the workframe (see the drawing below), and opens the Workframe dialog.

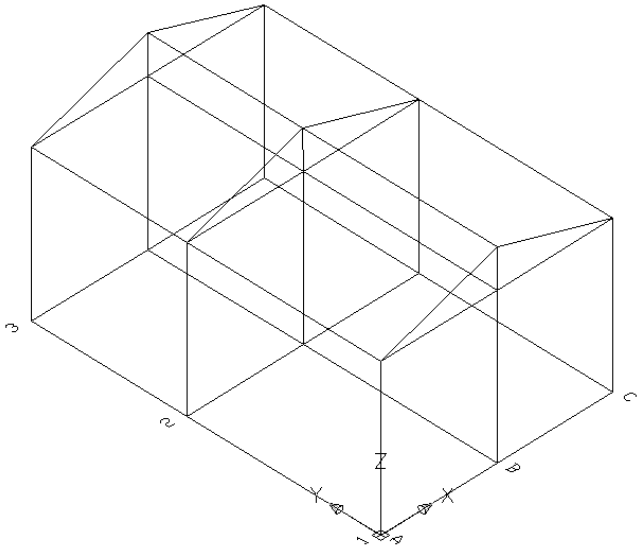


20. 	Selects the workframe type (wedge), changes the dialog appearance.
21. For Name, enter **Roof**	Defines workframe name.
22. On the Size/Division tab, enter: **6000 / 2** for Width **9000 / 2** for Length **1000 / 1** for Height **3000** for Vertex	Defines workframe parameters.
23. Select Without description	Axes of the defined workframe will be drawn without description.



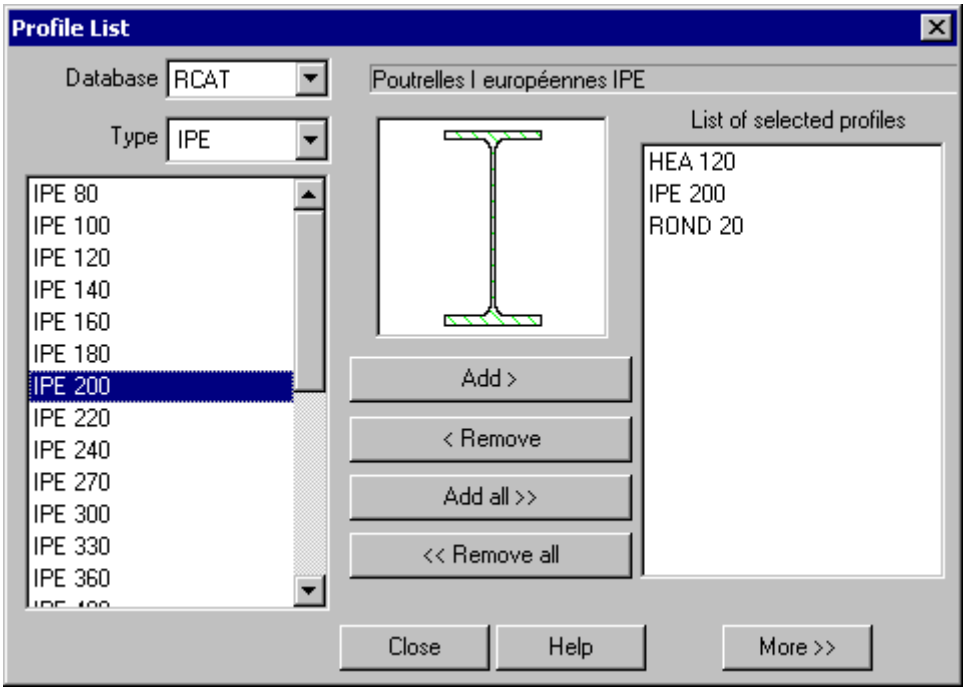
24. 	Starts defining the insertion point for the workframe, and closes the Workframe dialog.

25. **F3**	Turns on OSNAP function, which allows automatic location of snap points (this key should be pressed only if the function is off).
26. Using OSNAP, define the workframe beginning point as the point of intersection of the following axes: A; 1; + 4000	Defines the workframe insertion point.
27. Using the same method, define the point positioned at the intersection of the following axes: C; 1; + 4000	Inserts the workframe (see the drawing below), and opens the Workframe dialog.
28. **Close**	Closes the Workframe dialog.



1.3. Profile Definition

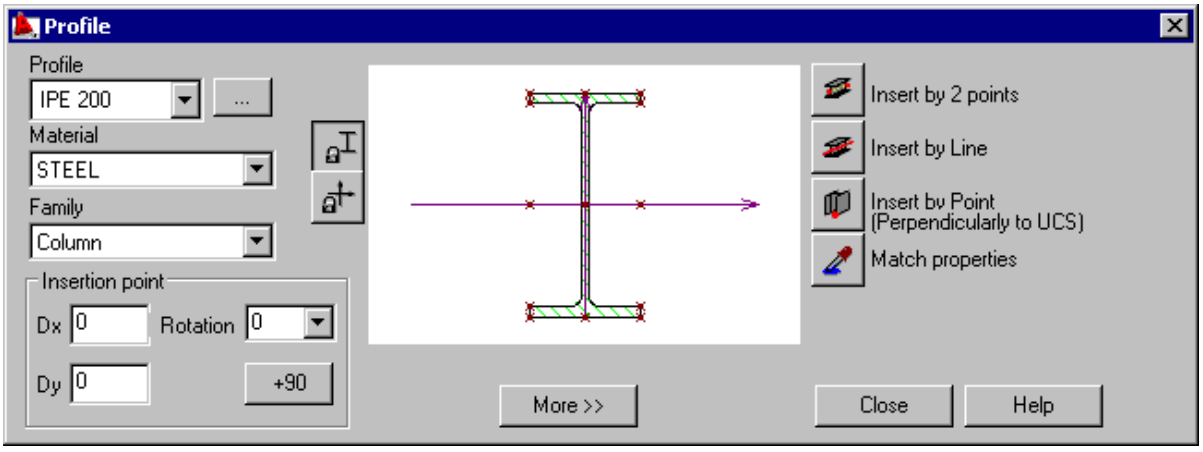
Performed Operation	Description
1.  (Profiles)	The Profile dialog displays.
2. 	The Profile List dialog displays, where you can add profiles from available databases to the list.
3. For Database, select RCAT	Chooses the Produits siderurgiques francais folder.
4. For Type, select IPE	Selects the section type, and changes the appearance of the left panel.
5. From the left panel, choose the section: IPE 200, and click **Add>**	Adds section IPE 200 to the list of selected profiles.
6. Using the same method, add sections ROND 20 and HEA 120	Adds profiles to the list.



7. **Close**	Ends profile definition, and closes the Profile List dialog.

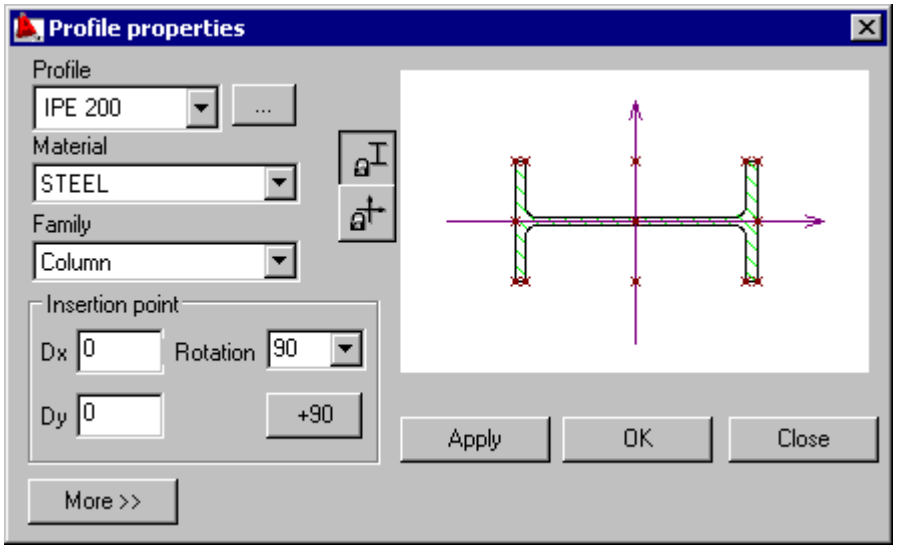
1.3.1. Column Definition

Performed Operation	Description
1. In the Profile dialog, choose: Profile - IPE 200 Material - STEEL Family – Column	Defines section parameters.

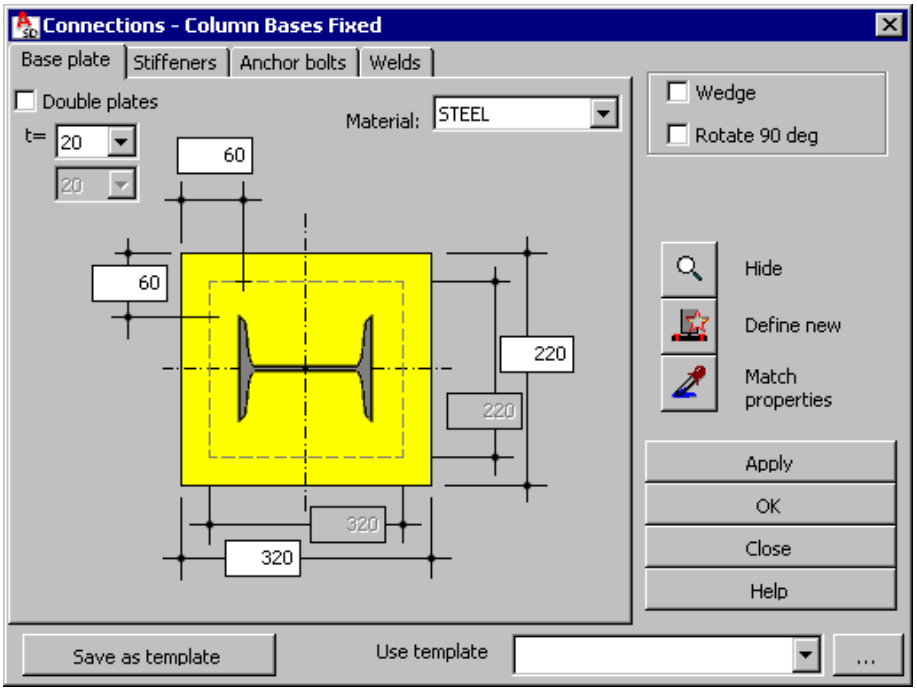


2.  (Insert by Line)	Selects the method of bar definition, and closes the Profile dialog.

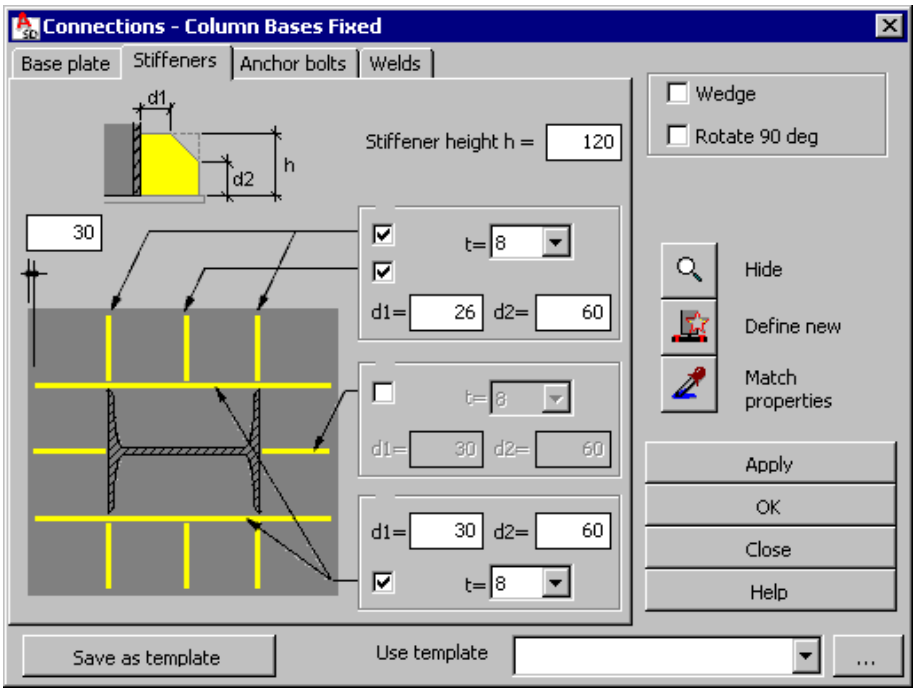
3. **LMC** the vertical line passing through the points in the crossing of the following axes: A; 1;+ 0 A, 1,+4000 ;**RMC** and Close	Defines the line of bar insertion.
4.  (Zoom Window)	Zoom in to the defined column.
5. **LMC** the defined bar	Selects the column.
6. **RMC**, and click Modify	Selecting this from the context menu opens the Profile properties dialog.



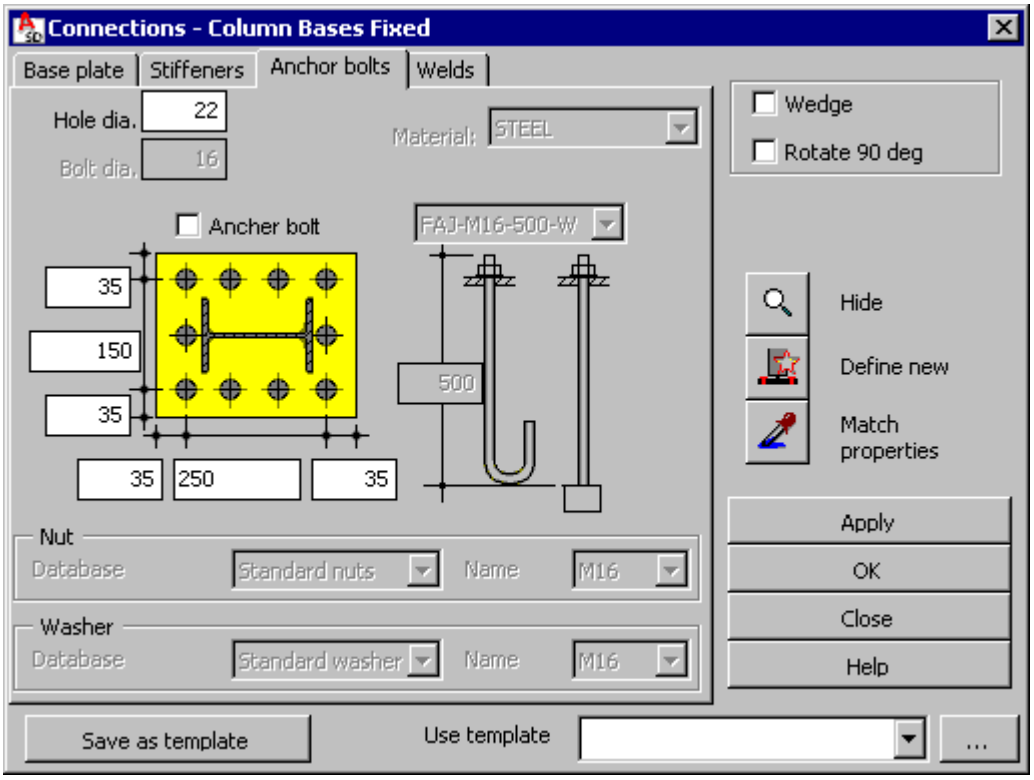
7. For Rotation, select 90	Selects value of the angle by which the selected element will be rotated.
8. **Apply**, **OK**	Rotates the selected bar by the defined angle, and closes the Profile properties dialog.
9. 	Zoom in to the bottom part of the defined column.
10.  (Column base - fixed)	Chooses the option used for definition of a fixed column.
11. **LMC** the defined column	The Connections - Column Bases Fixed dialog displays.



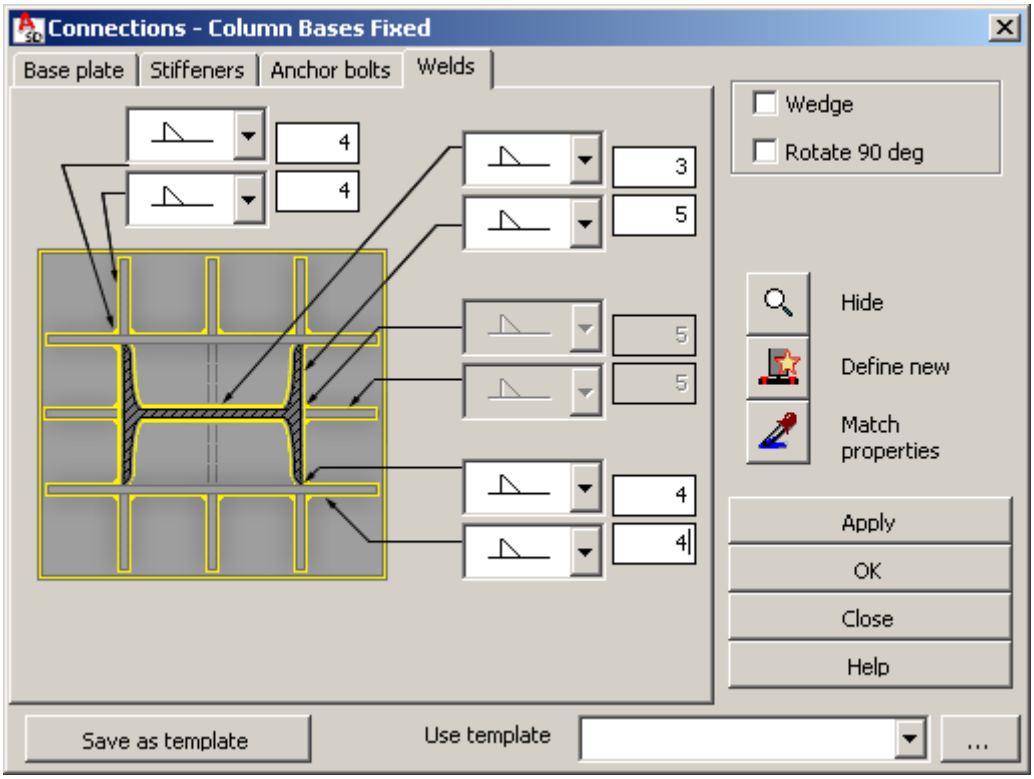
	Move the dialog so that you can see the bottom part of the column as well.
12. On the Base plate tab, enter the values as shown above, and then click **Apply**	Defines dimensions of the column base plate. Note: After you click Apply, the defined base plate will display in the drawing (in the model region).
13. **LMC** the Stiffeners tab	Changes the dialog appearance.



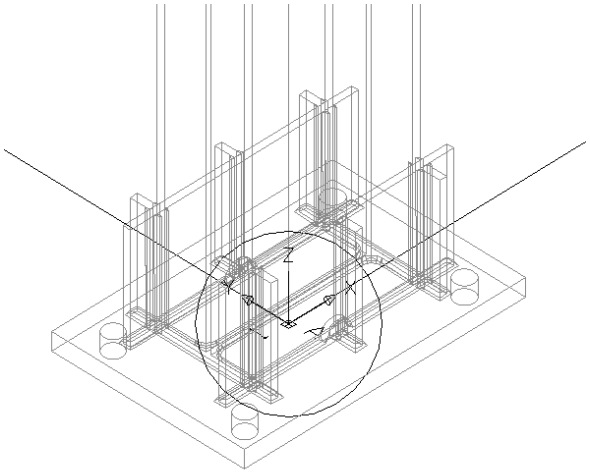
14. On the Stiffeners tab, define the values as shown above, and click **Apply**	Defines geometry of stiffeners.
15. **LMC** the Anchor bolts tab	Changes the dialog appearance.
16. On the Anchor bolts tab, define the values as shown below, and click **Apply**	Defines parameters of anchor bolts.



17. **LMC** the Welds tab	Changes the dialog appearance.
18. On the Welds tab, enter values as shown below	Defines welds that join the column with the spread footing.



19. **Apply**, **OK**	Closes the Connections - Column Bases Fixed dialog. The defined connection and the connection symbol (color circles) display.

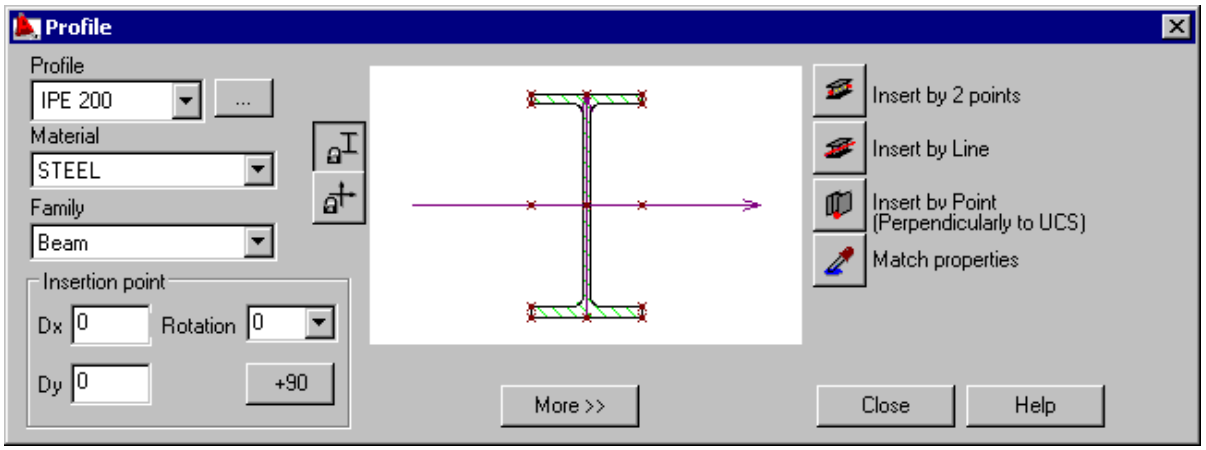


20.  (Zoom Extents)	Zooms so that the whole structure is comprised in the view, and all drawing elements display in the greatest possible scale.
21. **LMC** the earlier-defined column and spread footing	Selects the column with the spread footing.
22. 	Selects the option which enables copying selected elements.

23. **LMC** the point at the intersection of the following axes: **A;** 1; + 0	Indicates the base point.
24. **LMC** the point at the intersection of the following axes: **C;** 1; + 0	Indicates the target point, and copies selected elements.

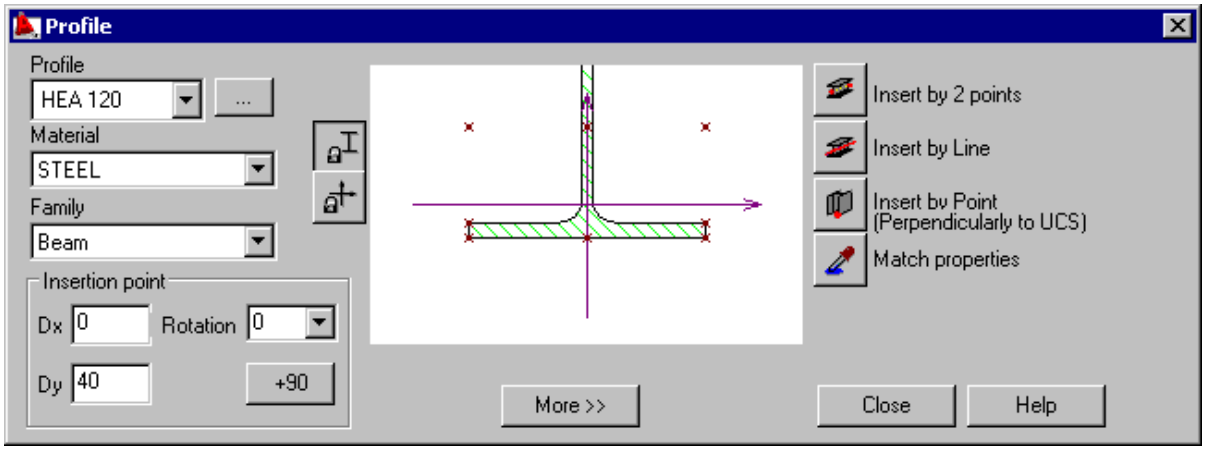
1.3.2. Beam Definition

Performed Operation	Description
1. (Profiles)	The Profile dialog displays.
2. In the Profile dialog, select: Profile - IPE 200 Material - STEEL Family – Beam	Defines section parameters.



3. (Insert by 2 points)	Selects the method of bar definition, and closes the Profile dialog.
4. **LMC** the intersection points of the following axes: A; 1; + 4000 B; 1; + 5000 and: B; 1; + 5000 C; 1; + 4000 **RMC** and Close the dialog box	Defines a beam.
5.	Sets the front view. Note: Check whether the angle of beam insertion is correct and if necessary, correct it in the manner shown above.
6.	Selects an axonometric structure view (SW isometric view).
7.	The Profile dialog displays.

8. In the Profile dialog, select: Profile - HEA 120 Material - STEEL Family – Beam	Defines section parameters (as shown below).



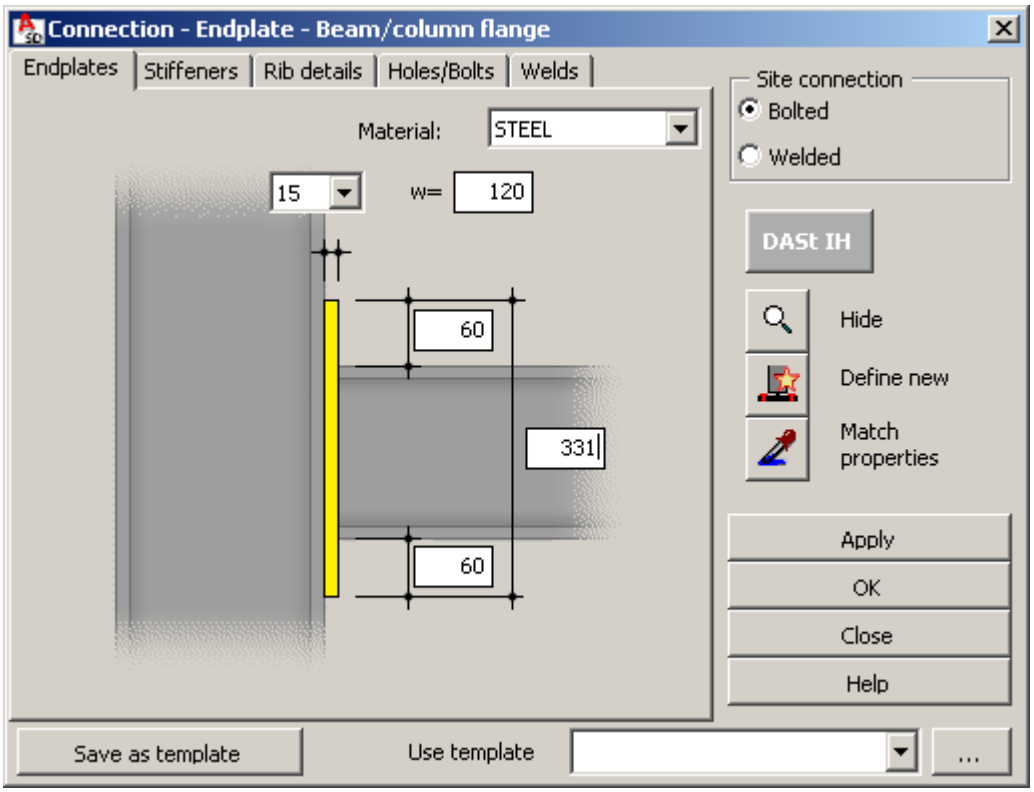
9.  (Insert by 2 points)	Specifies the method of bar definition, and closes the Profile dialog.
10. **LMC** the intersection points of the following axes: A; 1; + 4000 A; 2; + 4000 and: A; 2; + 4000 A; 3; + 4000 **RMC** and Close the dialog box	Defines a beam.
11. Using the same method, define beams in axis C	Defines beams.

1.4. Connections

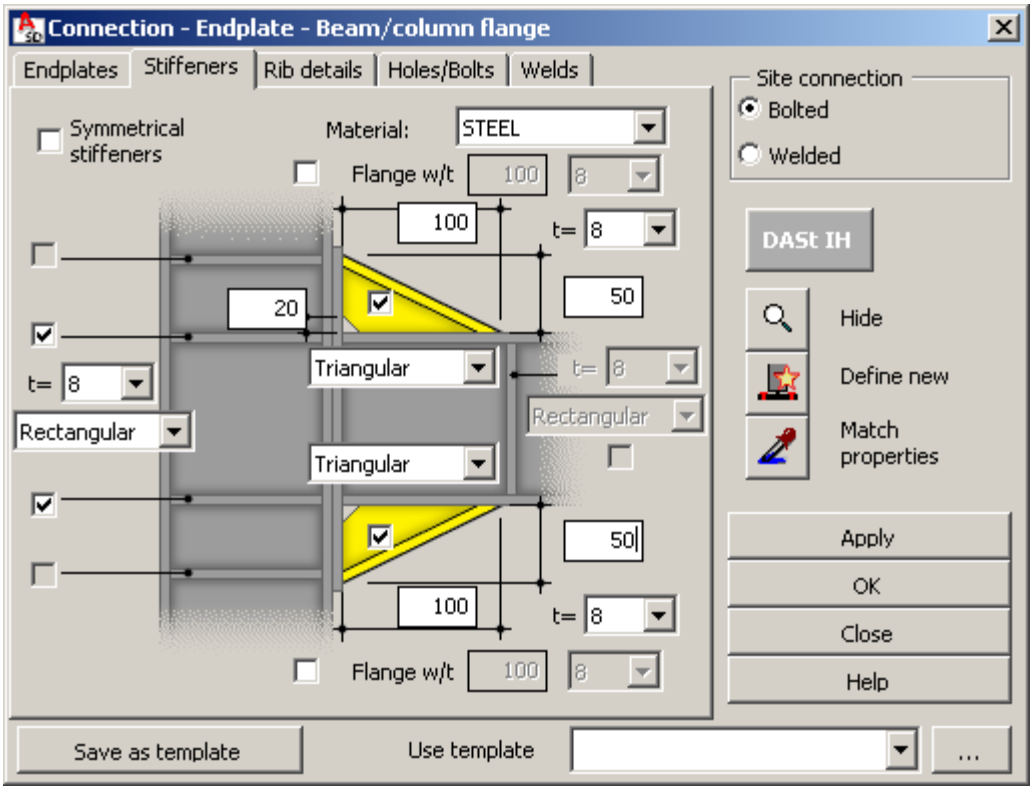
1.4.1. Definition of Column-Beam Connection

Performed Operation	Description
1. 	Sets the front view.
2.  (Endplate: beam to column flange)	Starts definition of a column-to-beam connection. You are prompted, in the command line, to select a column.
3. **LMC** the column on the left in the drawing	Selects the column, and you are then prompted to select a beam.
4. **LMC** the beam adjacent to the selected column	Selects the beam, and opens the Connection - Endplate - Beam/Column Flange dialog.

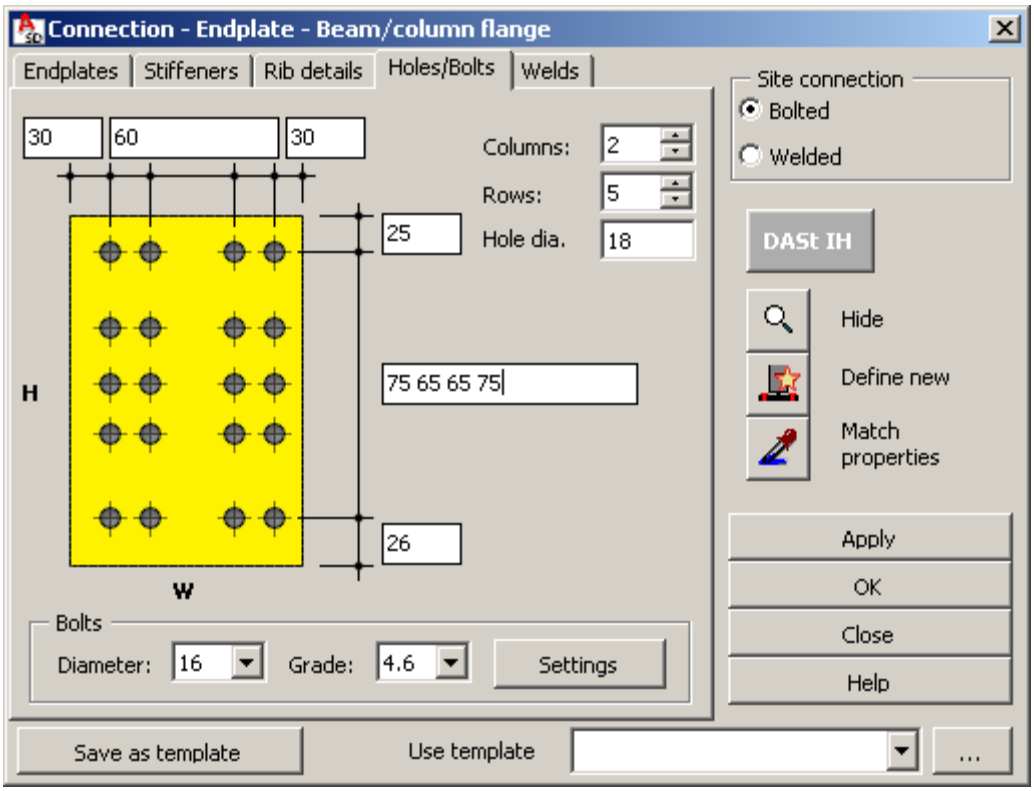
5. On the Endplates tab, define parameters as shown below, and click **Apply**	Selects endplate parameters, and changes the appearance of the connection in the drawing within the model region.



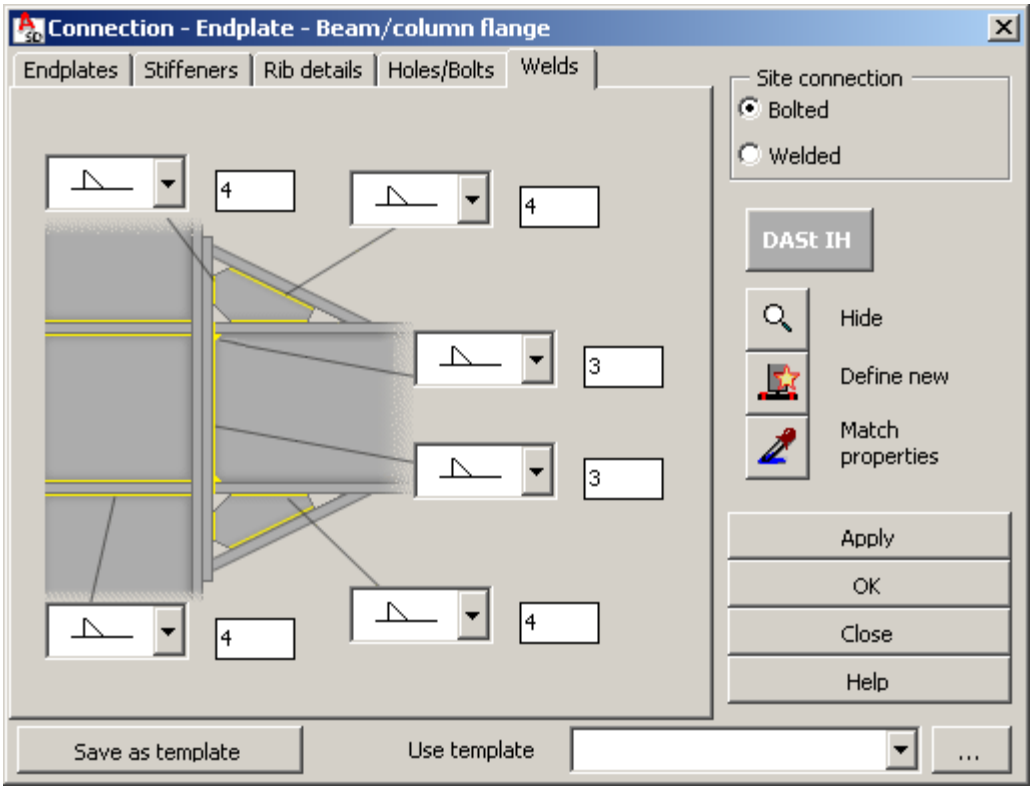
6. **LMC** the Stiffeners tab	Changes the dialog appearance.



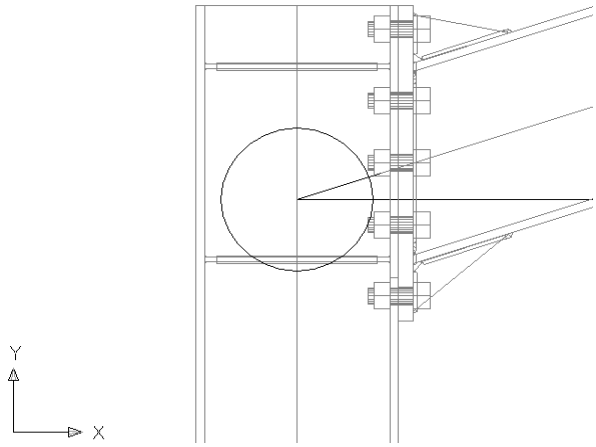
7. Specify parameters as shown above, and click **Apply**	Selects parameters that determine the stiffener geometry, and changes the connection appearance in the drawing.
8. **LMC** the Holes/Bolts tab	Changes the dialog appearance.



9. Specify parameters as shown above, and click **Apply**	Defines bolt parameters.
10. **LMC** the Welds tab	Changes the dialog appearance.
11. Define parameters as shown below, and click **Apply**	Defines parameters of a (fillet) weld joining the beam with the endplate.



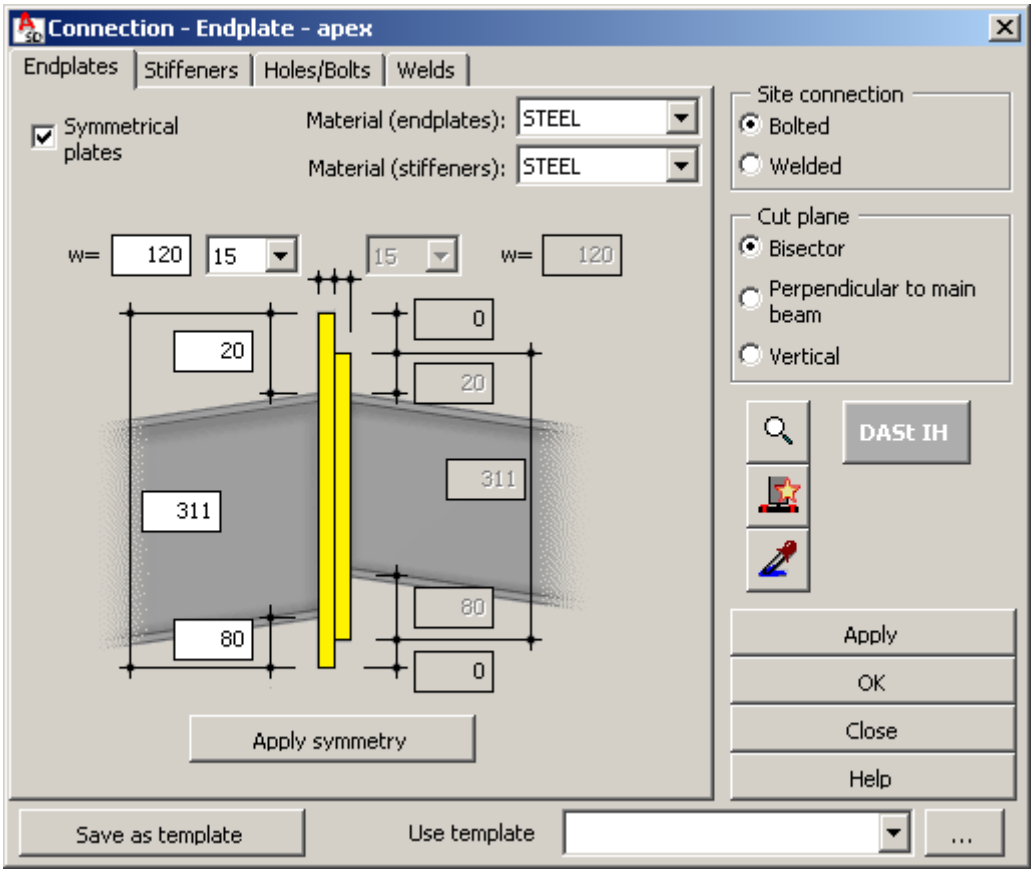
12. **OK**	Defines the connection, and closes the dialog. The defined connection displays in the model region.
13. 	Zoom in to the column on the left and the beam adjacent to it (see the drawing below).



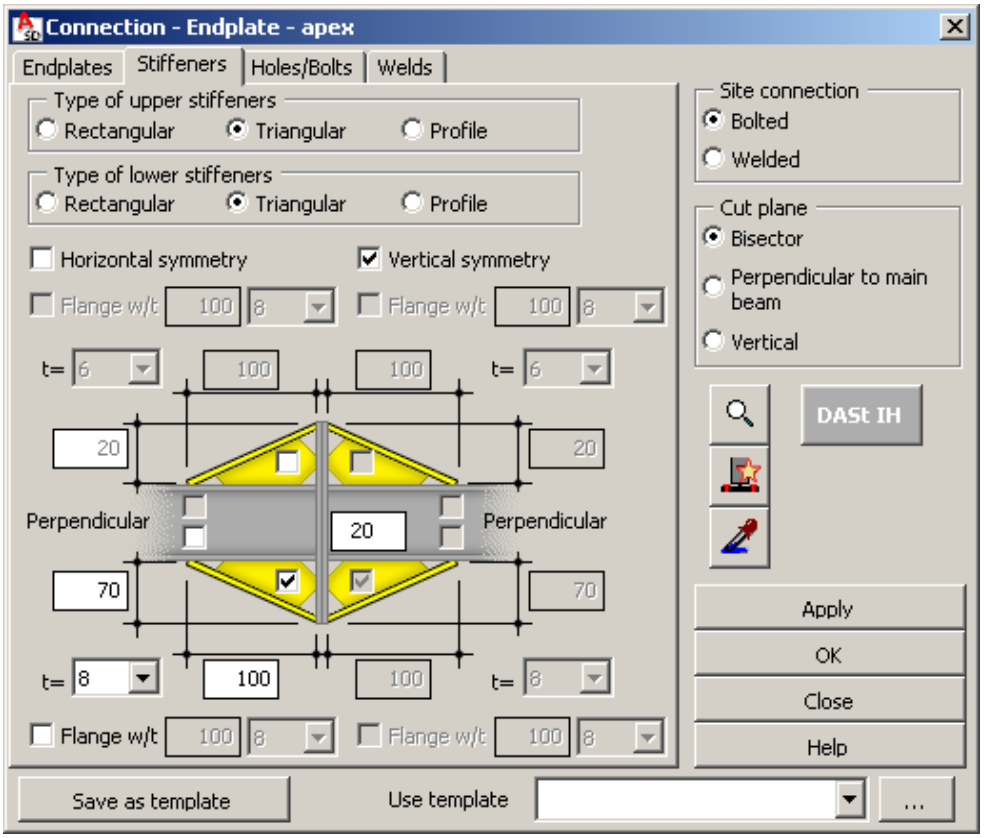
14. Using the same method, define the **Column-to-beam** connection in axis C	

1.4.2. Definition of a Beam Connection

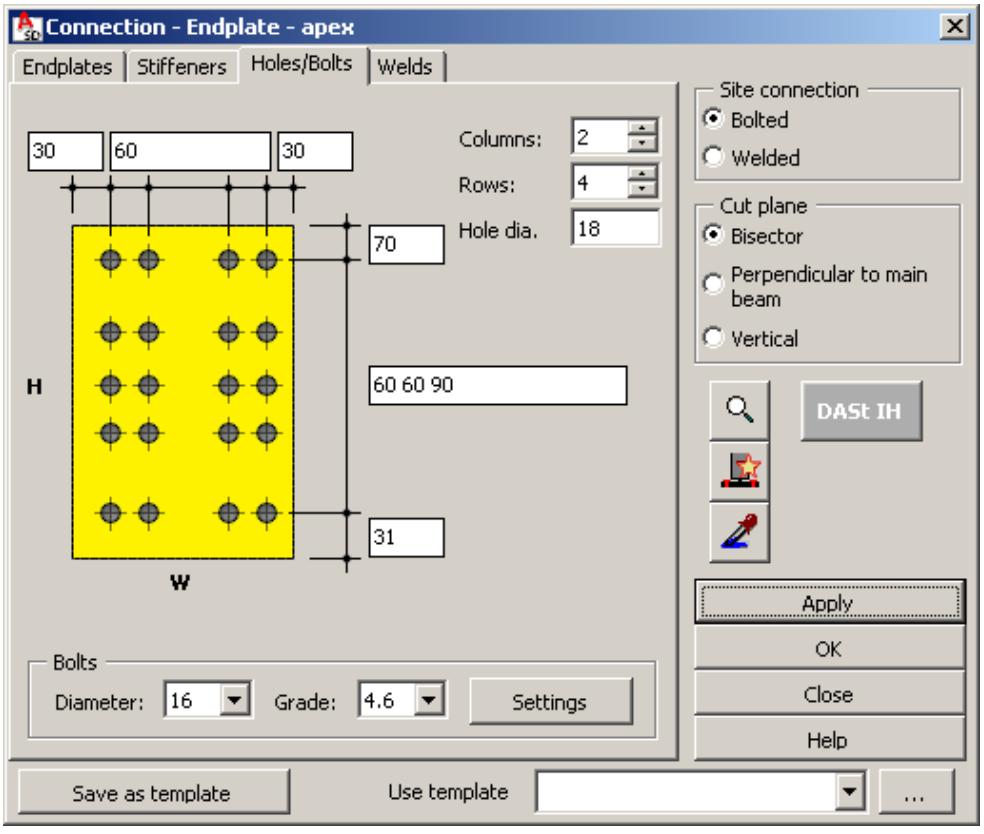
Performed Operation	Description
1.  (Zoom Window)	Zoom in to the middle part of the beam.
2.  (Endplate: apex)	The Beam-to-beam dialog displays, and you are prompted to select the main beam.
3. **LMC** the beam on the left side of frame	Selects the main beam, and you are then prompted to select the secondary beam.
4. **LMC** the beam on the right side of frame	Selects the secondary beam, and opens the Connection - Endplate - Apex dialog.
5. On the Endplates tab, define parameters as shown below	Selects endplate parameters.



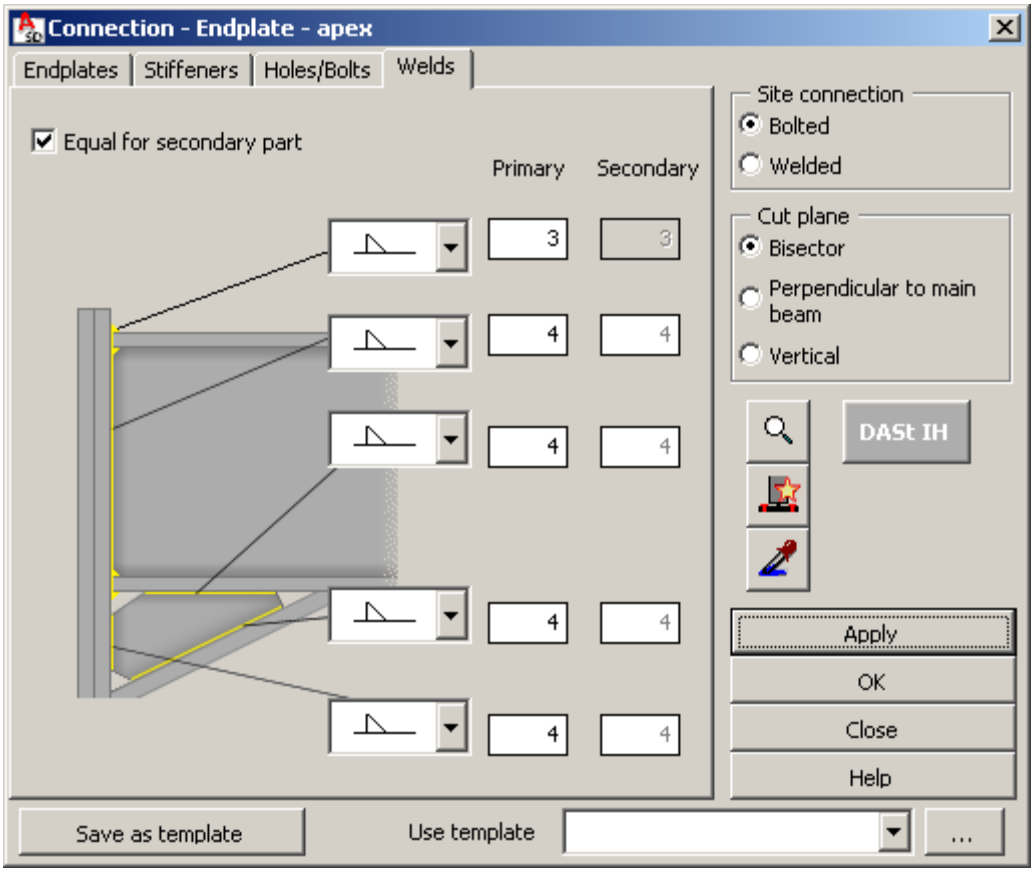
6. **LMC** the Stiffeners tab	Changes the dialog appearance.
7. Select the options as shown below	Selects stiffener parameters.



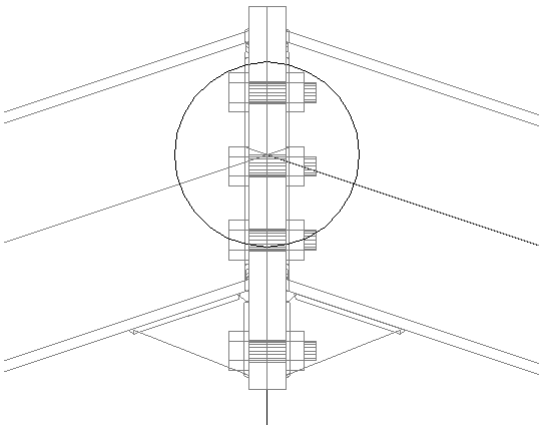
8. **LMC** the Holes/Bolts tab	Changes the dialog appearance.
9. Specify the options as shown below	Selects bolt parameters.



10. **LMC** the Welds tab	Changes the dialog appearance.
11. Specify the options as shown below	Selects weld parameters.

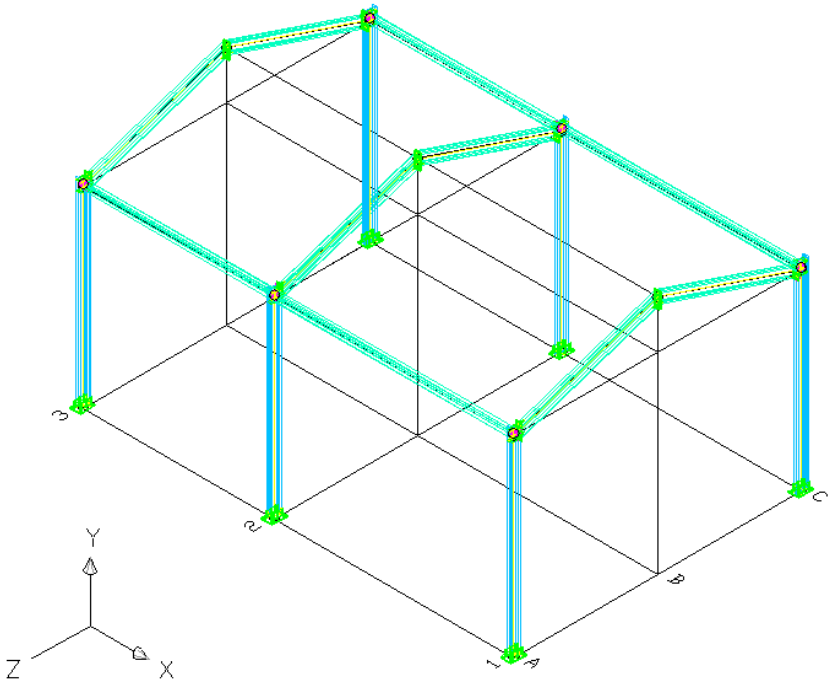


12. **OK**	Closes the dialog. The defined connection displays in the drawing.
13. 	Zoom in to the defined connection (see the drawing below).



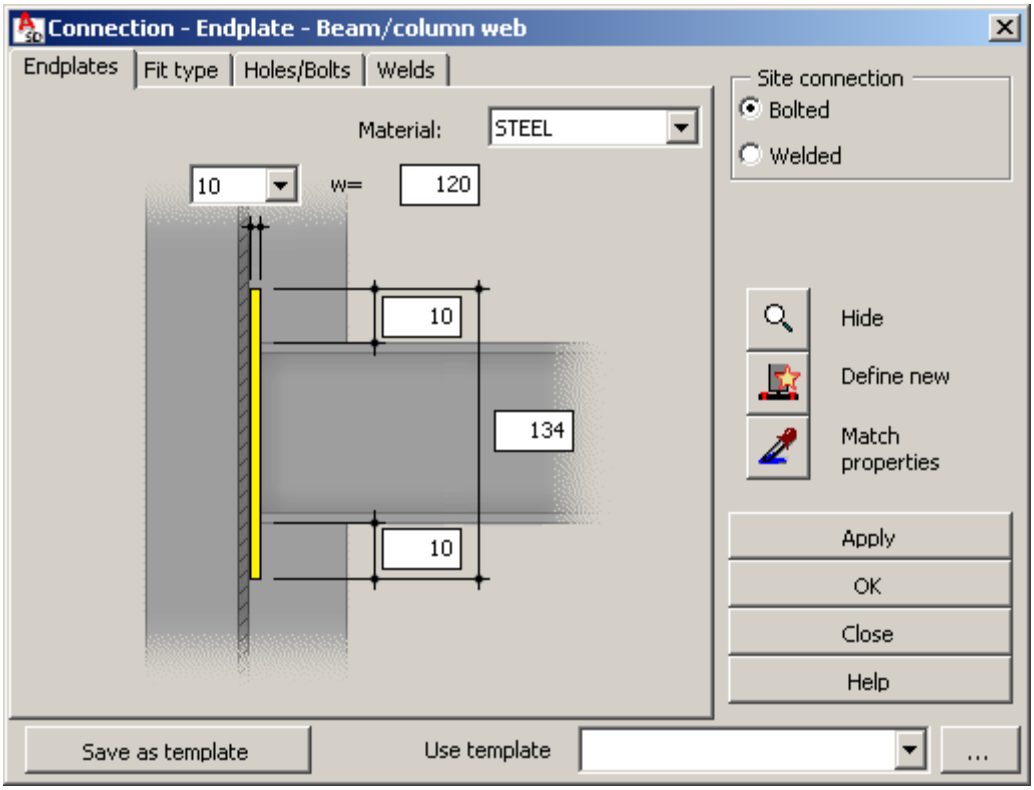
1.5. Copying of a Frame

Performed Operation	Description
1. 	Selects axonometric view (SW isometric view).
2. In the drawing area, select the defined structure frame	Selects all the frame elements.
3.  (Copy)	Selects the option which enables copying selected elements, type M (Multiple)
4. **LMC** the point at the intersection of the following axes: B; 1; + 0	Indicates the base point.
5. **LMC** the point at the intersection of the following axes: B; 2; + 0 B; 3; + 0	Indicates the target points, and copies the selected elements.
6. 	The defined structure is shown below.

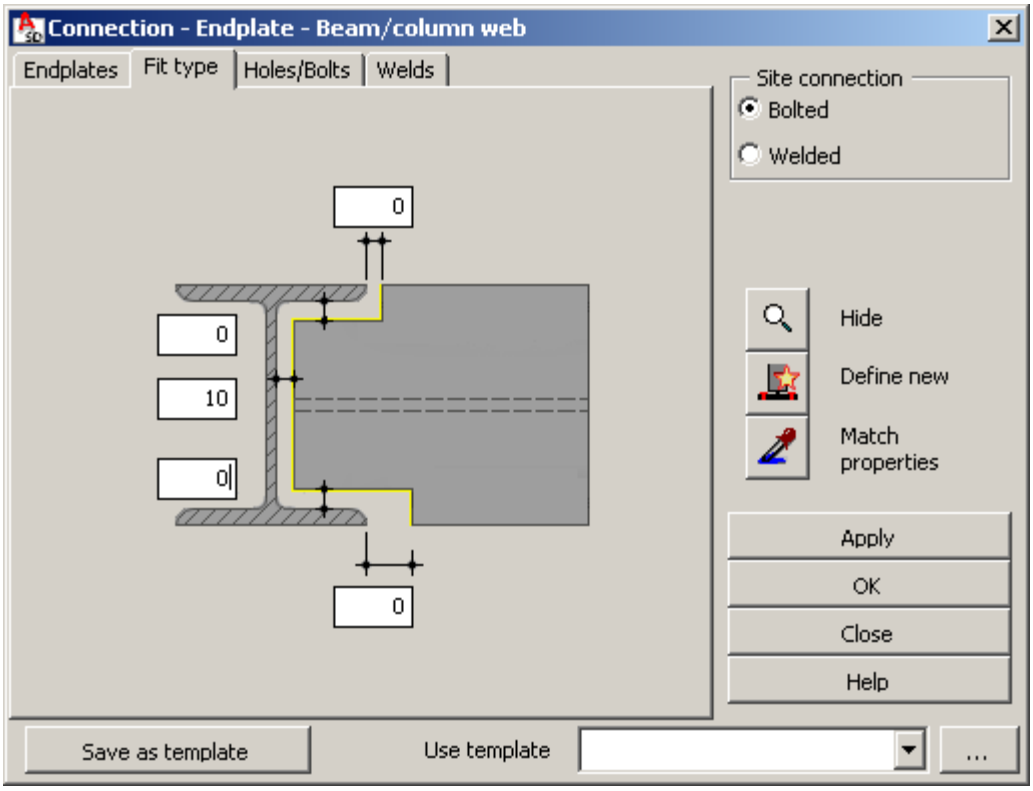


1.6. Definition and Copying of a Connection

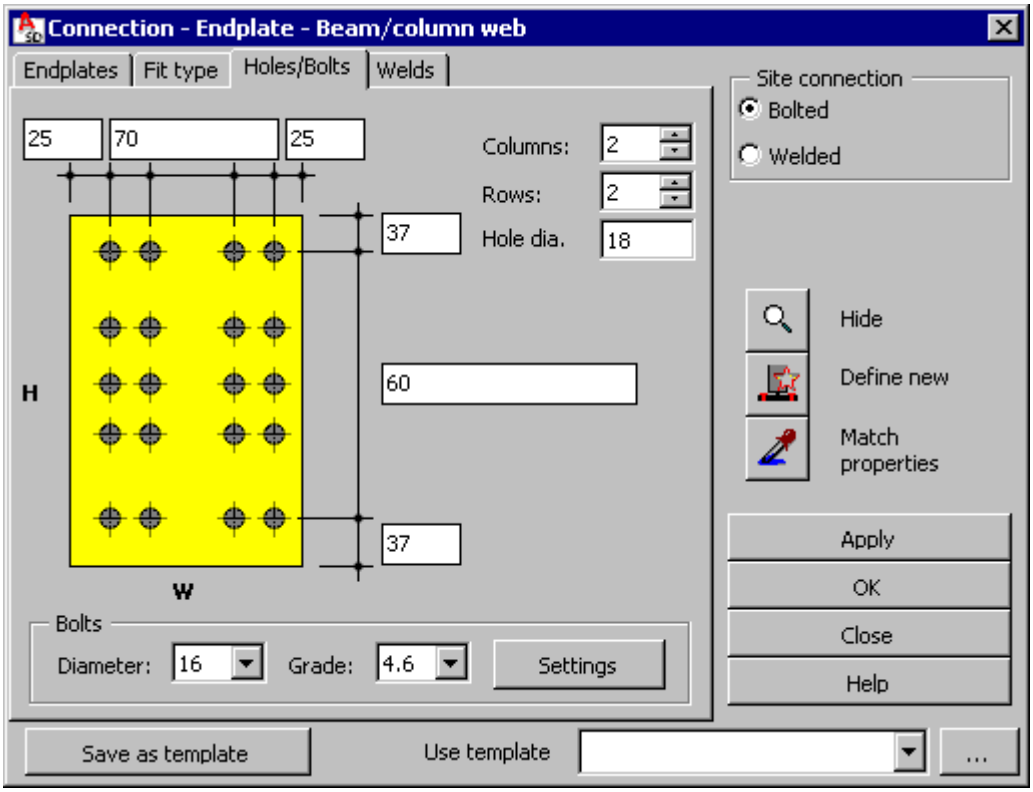
Performed Operation	Description
1.  (Endplate: beam to column web)	Starts defining a Column-to-beam connection. You are prompted to select a column.
2. **LMC** the column located at the intersection points of the following axes: A; 1; + 0	Selects the column, and you are prompted to select a beam.
3. **LMC** the beam adjacent to the selected column	Selects the beam, and opens the Connection - Endplate - Beam / Column Web dialog.
4. On the Endplates tab, specify parameters as shown below, and click **Apply**	Selects endplate parameters, and changes the appearance of the connection in the drawing on the model layout.



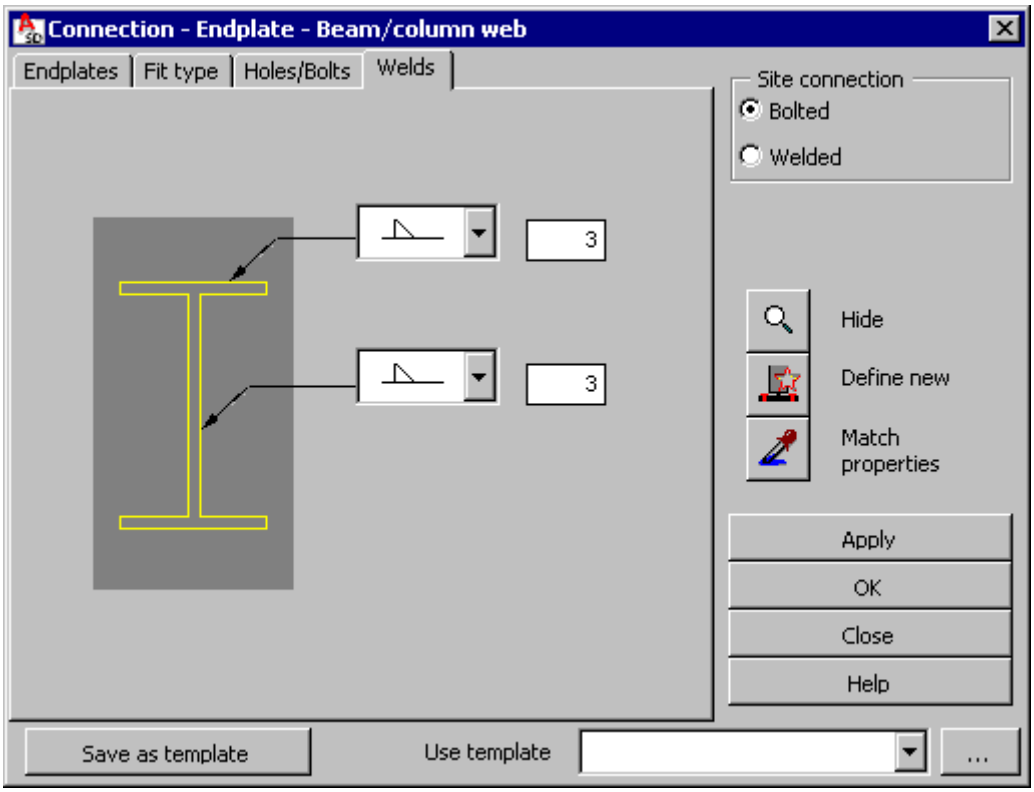
5. **LMC** on the Fit type tab	Changes the dialog appearance.



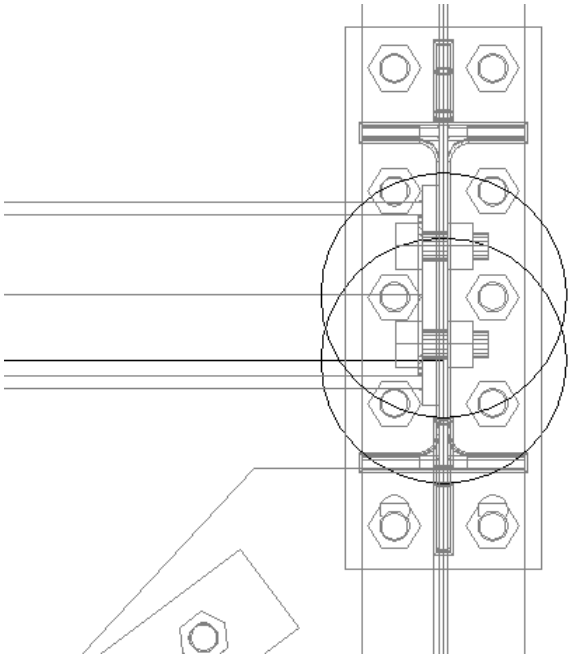
6. Specify parameters as shown above,and click **Apply**	Defines parameters that determine the fitting geometry, and changes the connection appearance in the drawing.
7. **LMC** the Holes/Bolts tab	Changes the dialog appearance.



8. Specify parameters as shown above, and click **Apply**	Defines bolt parameters.
9. **LMC** the Welds tab	Changes the dialog appearance.
10. Define parameters as shown below, and click **Apply**	Defines parameters of a (fillet) weld that joins the beam with the endplate.



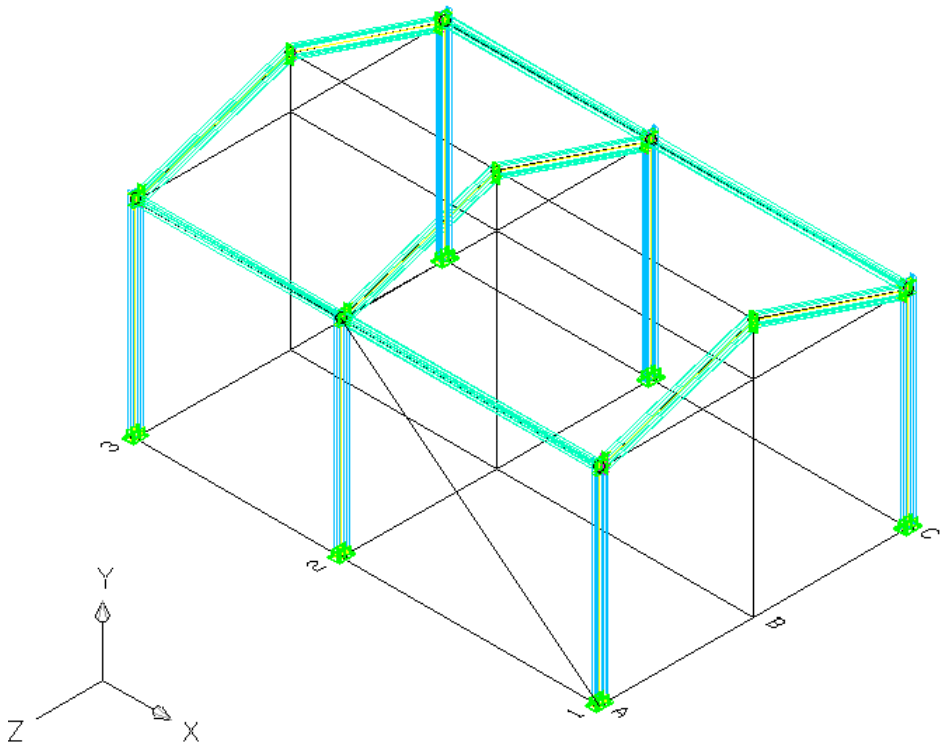
11. **OK**	Defines the connection, and closes the dialog. The defined connection is displayed on the model layout.
12. 	In the left view, zoom in to the column and the beam adjacent to it (see the drawing below).



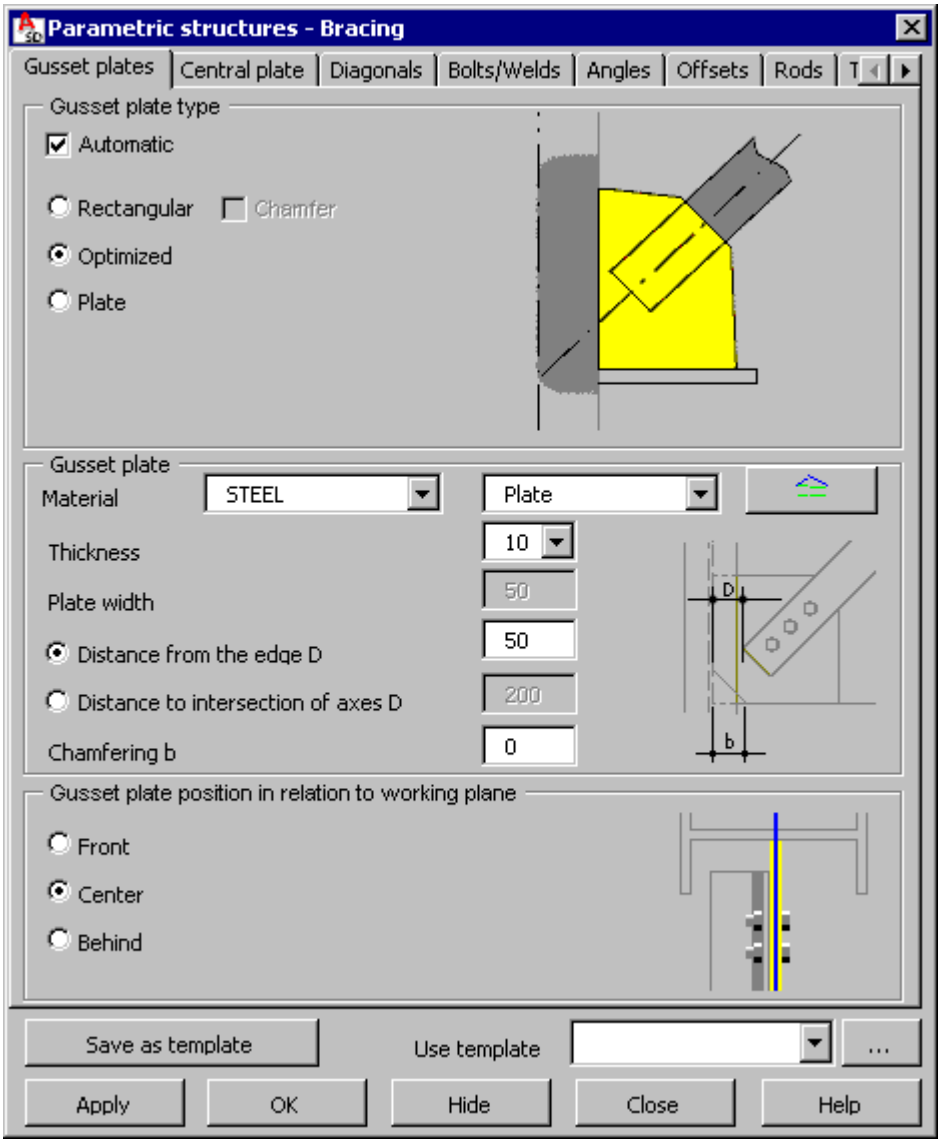
13.  , 	Selects axonometric view (SW isometric view), and zooms so that all drawing elements display in the greatest possible scale.
14.  (Copy connection)	Lets you copy selected connections, and you are prompted to select a connection.
15. **LMC** the previously defined beam-to-column web connection (sphere on point positioned at the intersection of the axis A;1;+4000)	Selects the column - beam connection, and you are prompted to select an object.
16. Cross - window on the whole structure,**Enter**	Indicates the profiles to which the selected connection will be ascribed (if all profiles in the structure model are indicated, the program will find all the profiles that can be ascribed the selected connection), and closes the dialog. The copied connections display in the model region.

1.7. Definition of Bracings

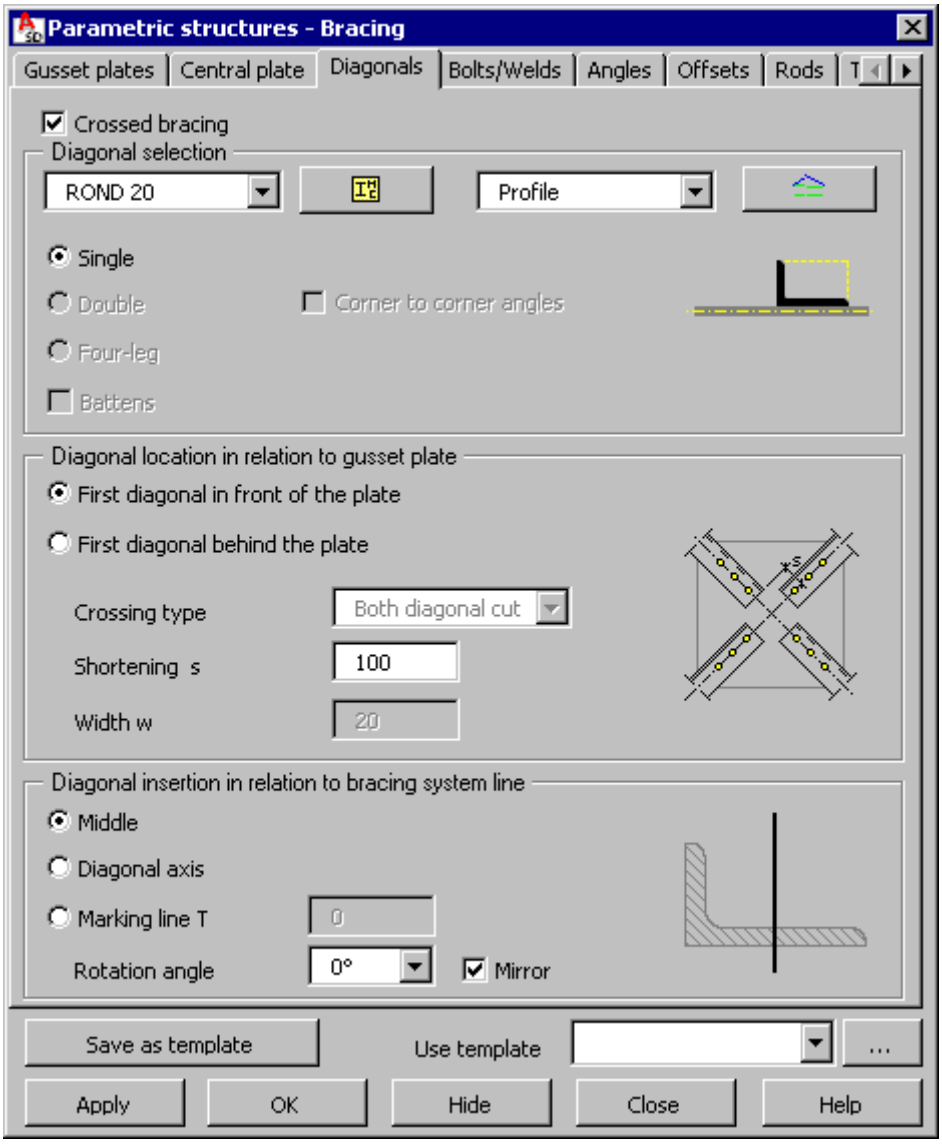
Performed Operation	Description
1. 	Selects axonometric view (SW isometric view).
2. 	Draws bracing auxiliary lines (using Draw menu > Line in AutoCAD®), as shown below.



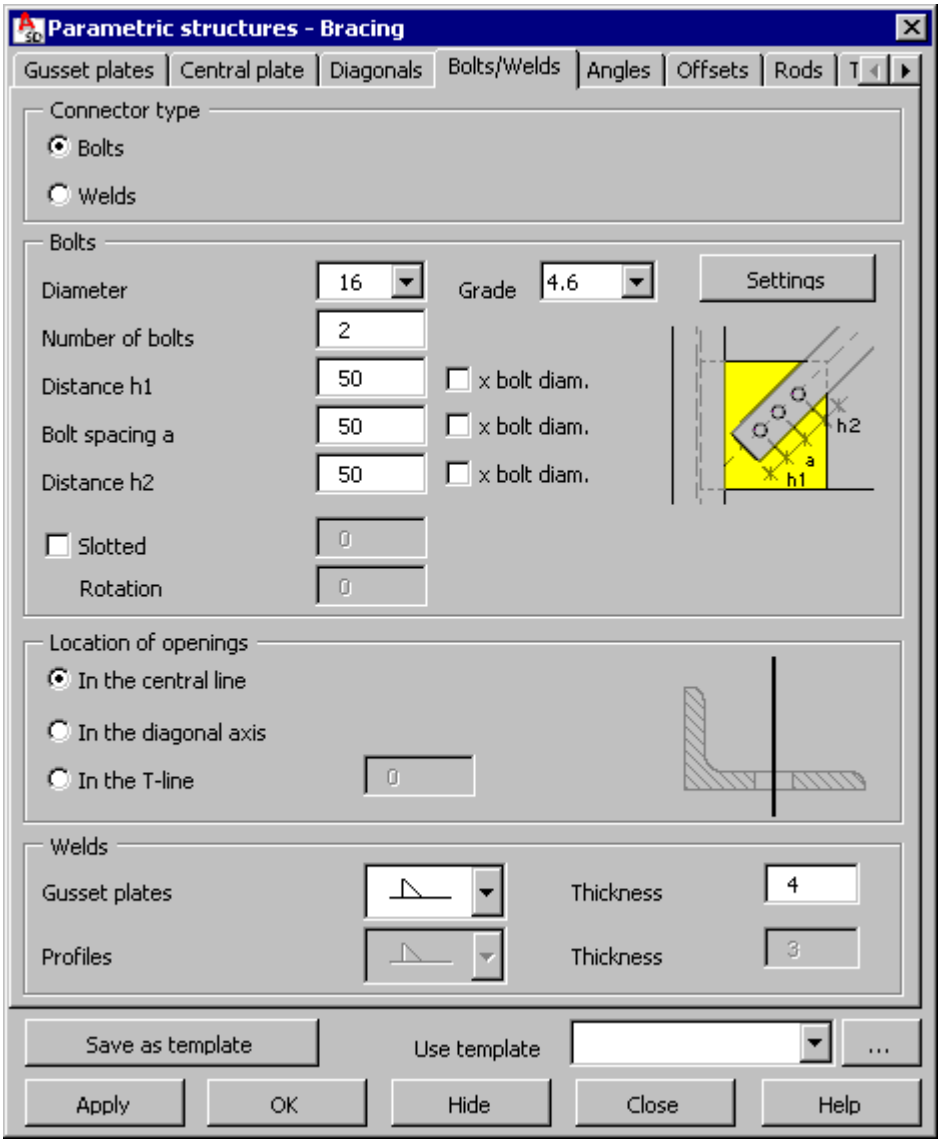
3. 	You are prompted, in the command line, to select the first auxiliary bracing line.
4. **LMC** the auxiliary bracing line	Indicates axis of the first bracing, and you are prompted to select the second auxiliary bracing line.
5. **RMC**	If only 1 auxiliary line of the bracing is determined, the other bracing diagonal will be a symmetrical reflection of the diagonal defined by the first line. You are prompted to select the first column.
6. **LMC** the column positioned at the intersection of the following axes: A; 1; + 0	Indicates the first column connected with the bracing. You are prompted to select the second column.
7. **LMC** the column positioned at the intersection of the following axes: A; 2; + 0	Indicates the second column connected with the bracing, and you are prompted to specify limitations.
8. **LMC** all the top and bottom limits of the bracing (such asbeam and columns base plates)	Defines bracings limitations.
9. **RMC**, **RMC**	The Parametric structures - Bracing dialog displays.
10. **LMC** on the Gusset plates tab	Changes the dialog appearance.
11. Select the option as shown below	Selects plates parameters.



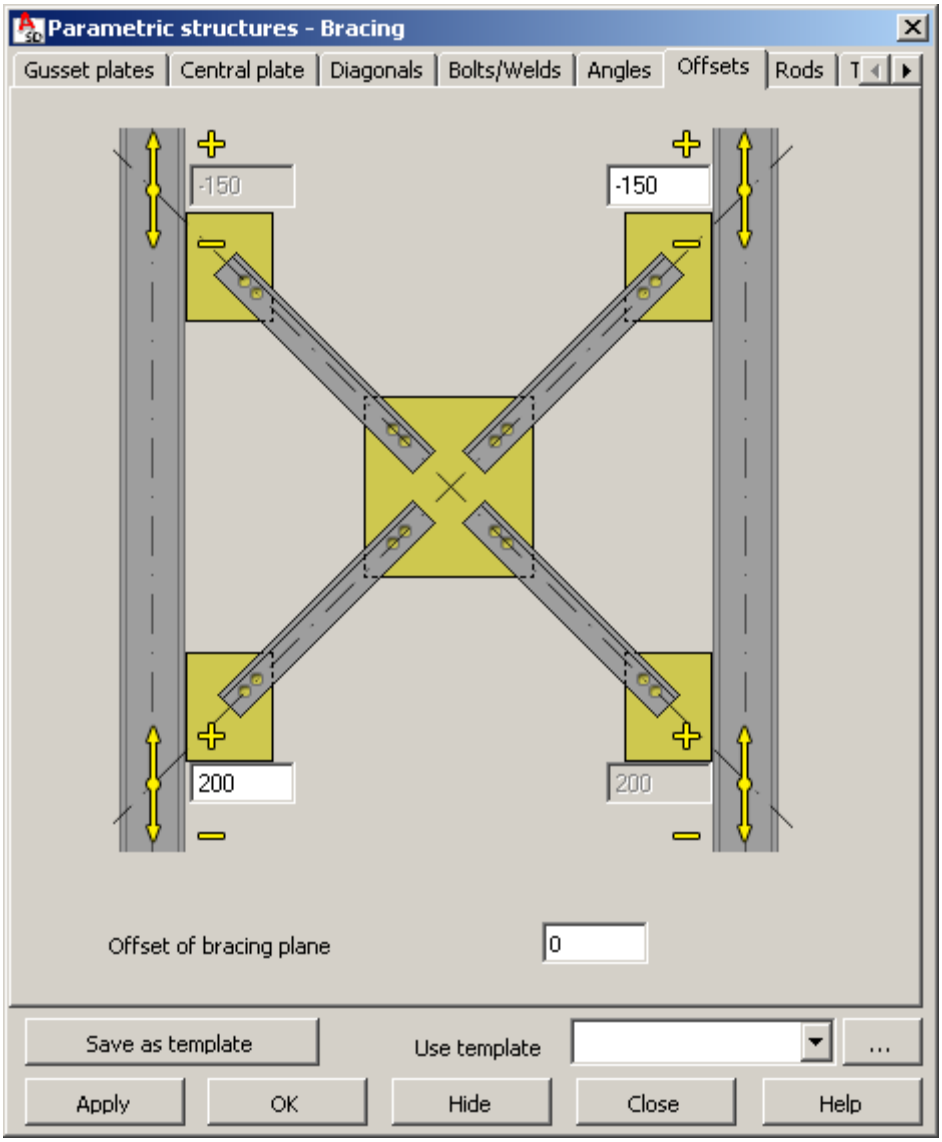
12. **LMC** the Diagonals tab	Changes the dialog appearance.
13. Select the option as shown below	Selects diagonal parameters.



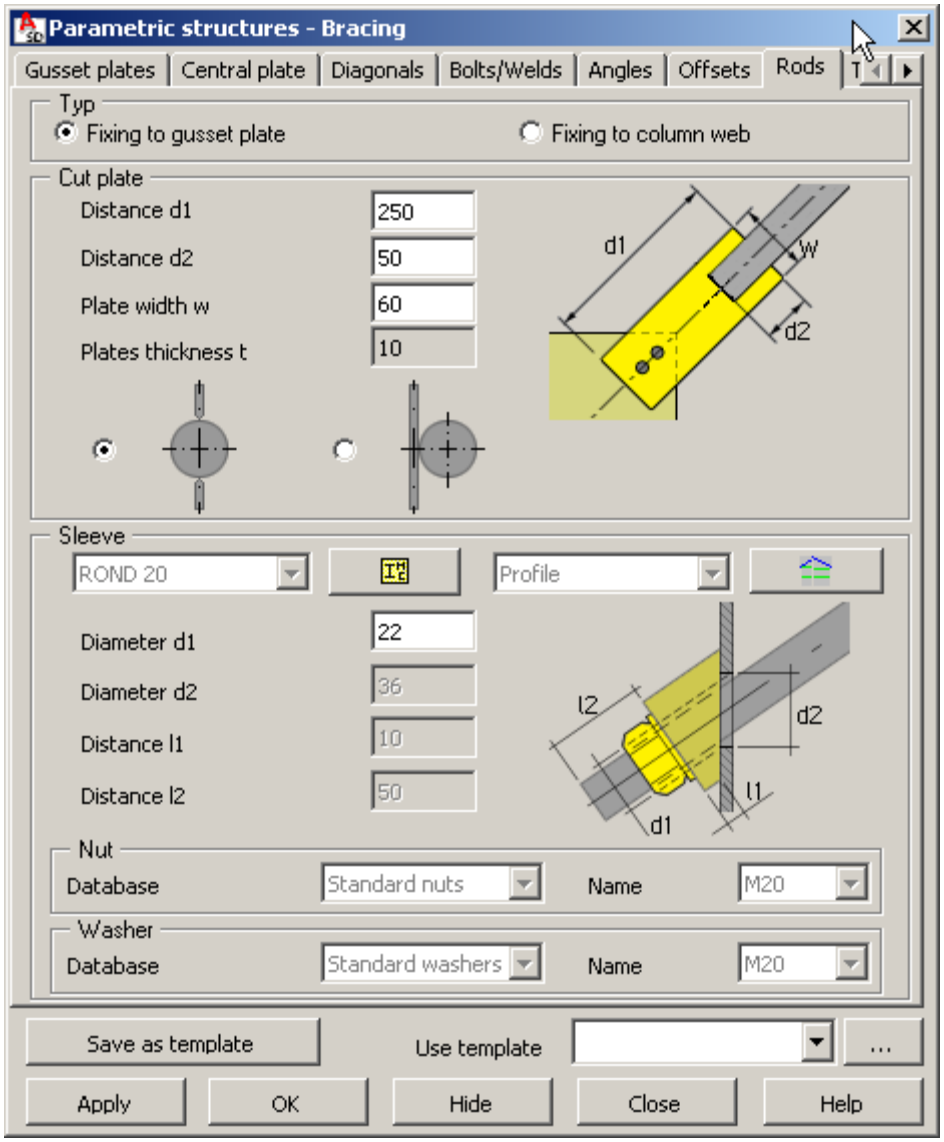
14. **LMC** the Bolts/Welds tab	Changes the dialog appearance.
15. Select the option as shown below	Defines bolt and weld parameters.



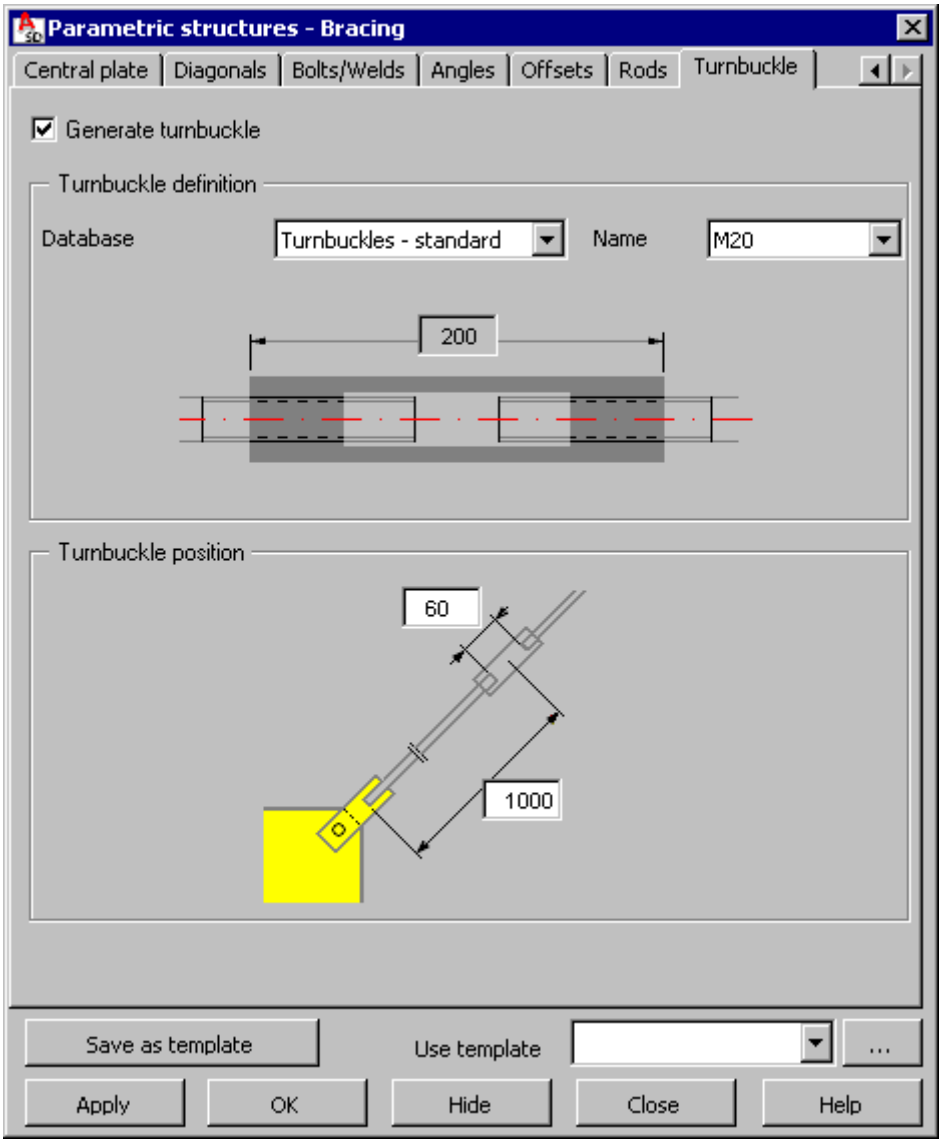
16. **LMC** the Offsets tab	Changes the dialog appearance.
17. Select the option as shown below	Defines rod parameters.



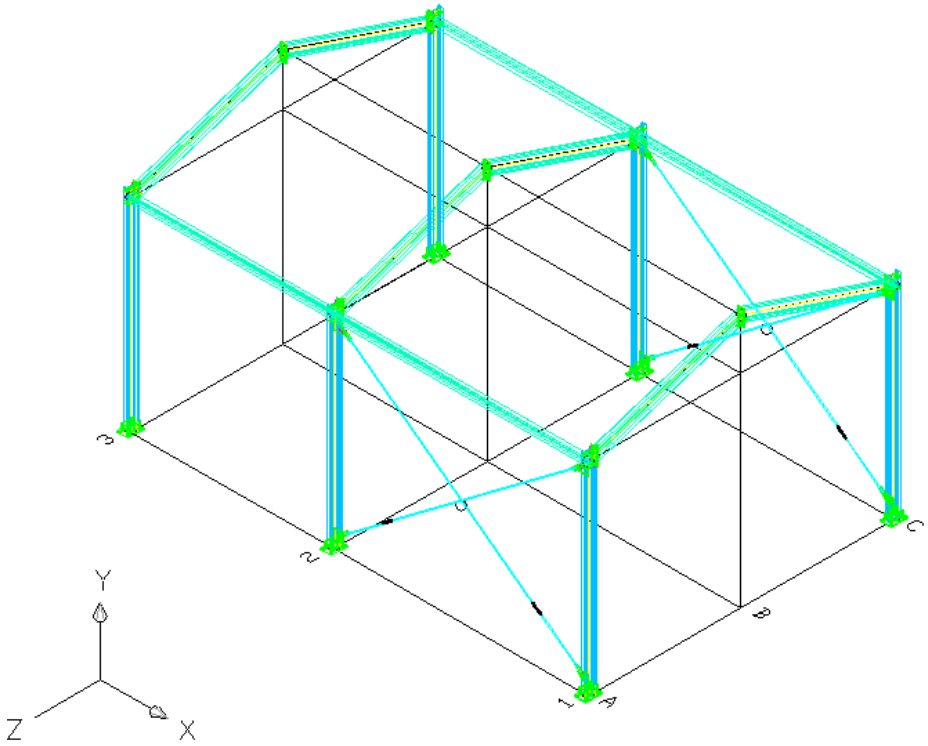
18. **LMC** the Rods tab	Changes the dialog appearance.
19. Select the option as shown below	Defines rod parameters.



20. **LMC** the Turnbuckle tab	Changes the dialog appearance.
21. Select the option as shown below	Defines turnbuckle parameters.



22. **Apply**, **OK**	Closes the dialog. The defined bracings display in the drawing (see the drawing below).
23. Using the same method, define bracings in axis C	The defined bracings display in the drawing (see the drawing below).
24. 	Erase bracing auxiliary lines (using the AutoCAD® Erase tool).



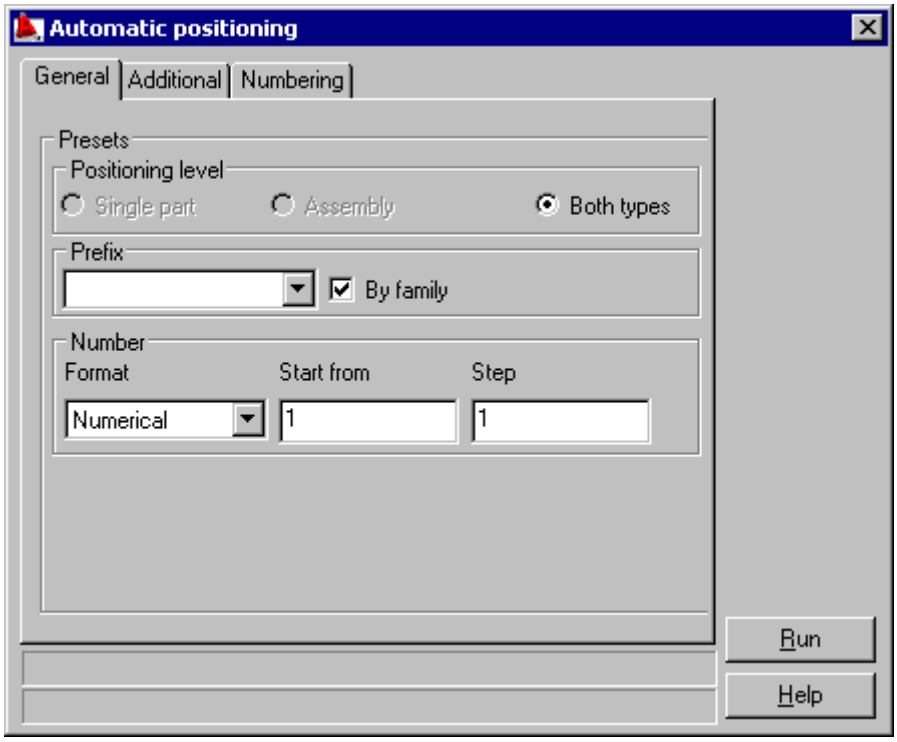
1.8. Definition of Assemblies

Performed Operation	Description
1.  (Assemblies)	Selecting this lets you create assemblies. You are prompted at the command line whether you want to remove already defined assemblies.
2. **Y(es)**	Defines assemblies.

1.9. Positioning of Elements and Groups

Performed Operation	Description
1. 	Selects axonometric view.
2.  (Assemblies) – the icon is located on the Model tab of the Object Inspector dialog	Displays assemblies on the list of model elements in the Object Inspector dialog. Note: The option may be on by default.
3. **RMC** (on the Model tab in the Object Inspector dialog), and click Select all	Selects the entire structure.
4.  (Run automatic positioning)	Selecting this lets you assign positions automatically.
5.	The Automatic positioning dialog displays.

6. **LMC** the General tab	Changes the dialog appearance.
7. For Positioning level, select Both types. For Prefix, select By family.	Selecting these options lets you position single parts and assemblies, as well as adopt (from the family) a character string that determines the prefix ascribed to all the positions.
8. Specify the remaining parameters as shown below	Assumes parameters of automatic positioning.

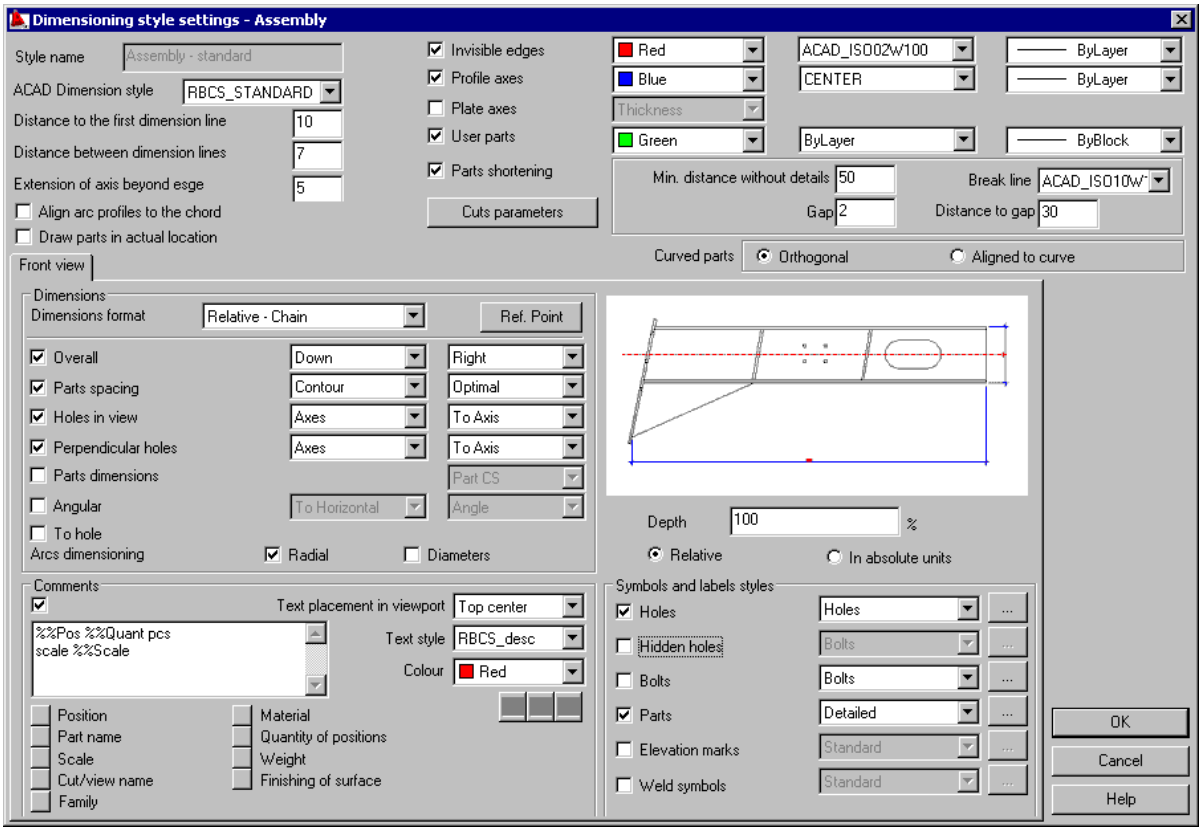


9. **Run**	Starts automatic positioning.

1.10. Printout Preparation

1.10.1. Printouts Step by Step

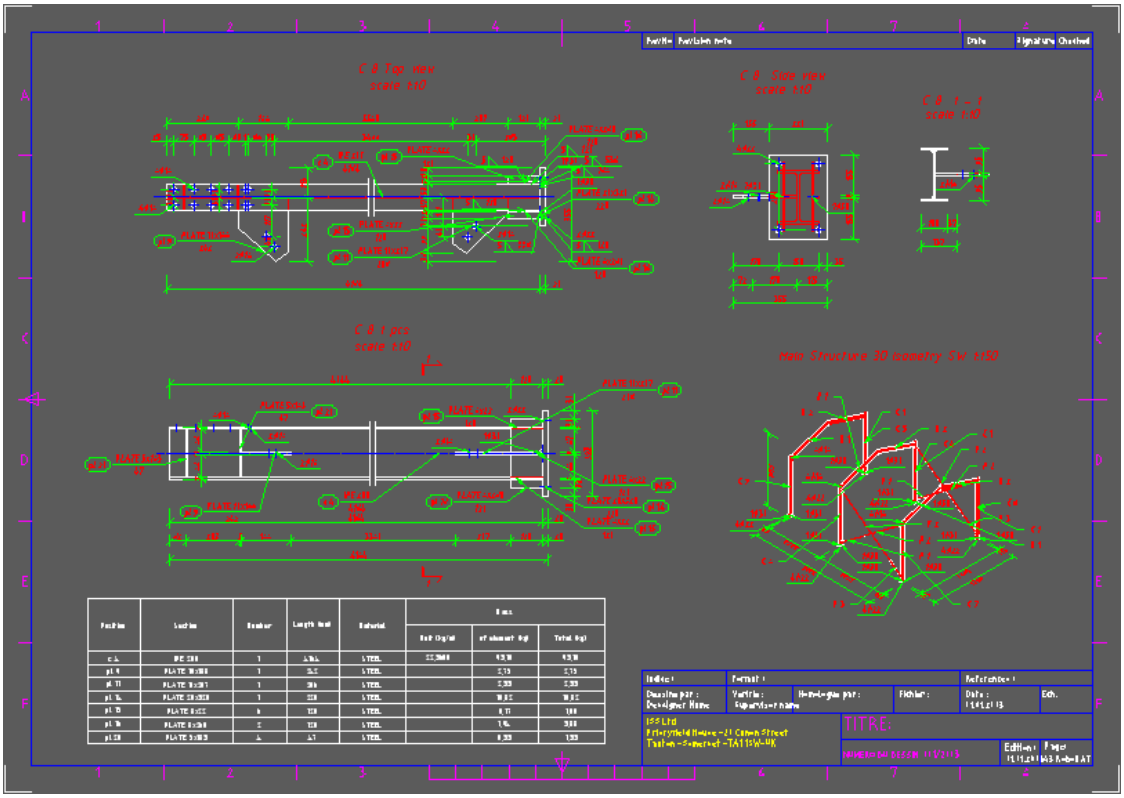
Performed Operation	Description
1. **LMC** the Positions tab in the Object inspector dialog	Changes the dialog appearance; displays the list of available user-defined positions.
2. **LMC** any position (for example, C1 - column positioned at the intersection of the following axes: A; 1; + 0)	Selects a position.
3. **RMC**, and click Attach document	Selecting this from the context menu opens the Select template dialog.
4. Select Assembly 1:10, and click **OK**	Selects the template. The edition layout shows a drawing of the selected assembly in different projections (correspondingly to the selected template). In the object inspector, additional options (tree) display next to the selected position. Note: Active drawing is highlighted in yellow and can be seen on the Positions tab after expanding the available options.
5. **LMC** the Edition layout tab	Moves to the edition layout.
6. **LMC** the top left viewport	Activates the viewport.
7.  (Adjust style)	The Dimensioning style settings - Assembly dialog displays, where you can modify the dimension style.
8. Clear Hidden holes	Changes in dimension style (switch off dimensioning of hidden holes) - compare the drawing below.



9. **OK**	Closes the dialog.
10. **RMC** the Edition layout tab, and click From template	Selecting this from the context menu opens the Select Template From File dialog, where you can select a template.
11. **Open** A3 ASD 033.dwt	Selects the template from the list of available templates. amd closes the Select Template From File dialog.
12. **OK** in the Insert Layout(s) dialog	Closes the dialog. An additional tab (A3 ASD) displays on the bar at the bottom of the screen.
13. **LMC** the A3 ASD tab	Moves to the printout layout.
14. On the Positions tab of the Object Inspector, select: C1 / C1_drawing / Top view	Selects the view.
15. **RMC**, and click Add to current Printout	Selecting this from the context menu causes the view to be displayed within the area of the template.
16. **LMC** the target location for the printout	Places the view within the area of A3 ASD template. Note: Clicking the frame of the added view lets you change its size.
17. Use the same procedure with other positions generated during automatic generation of positions	
18. **LMC** the Edition layout tab	Moves to the edition layout.

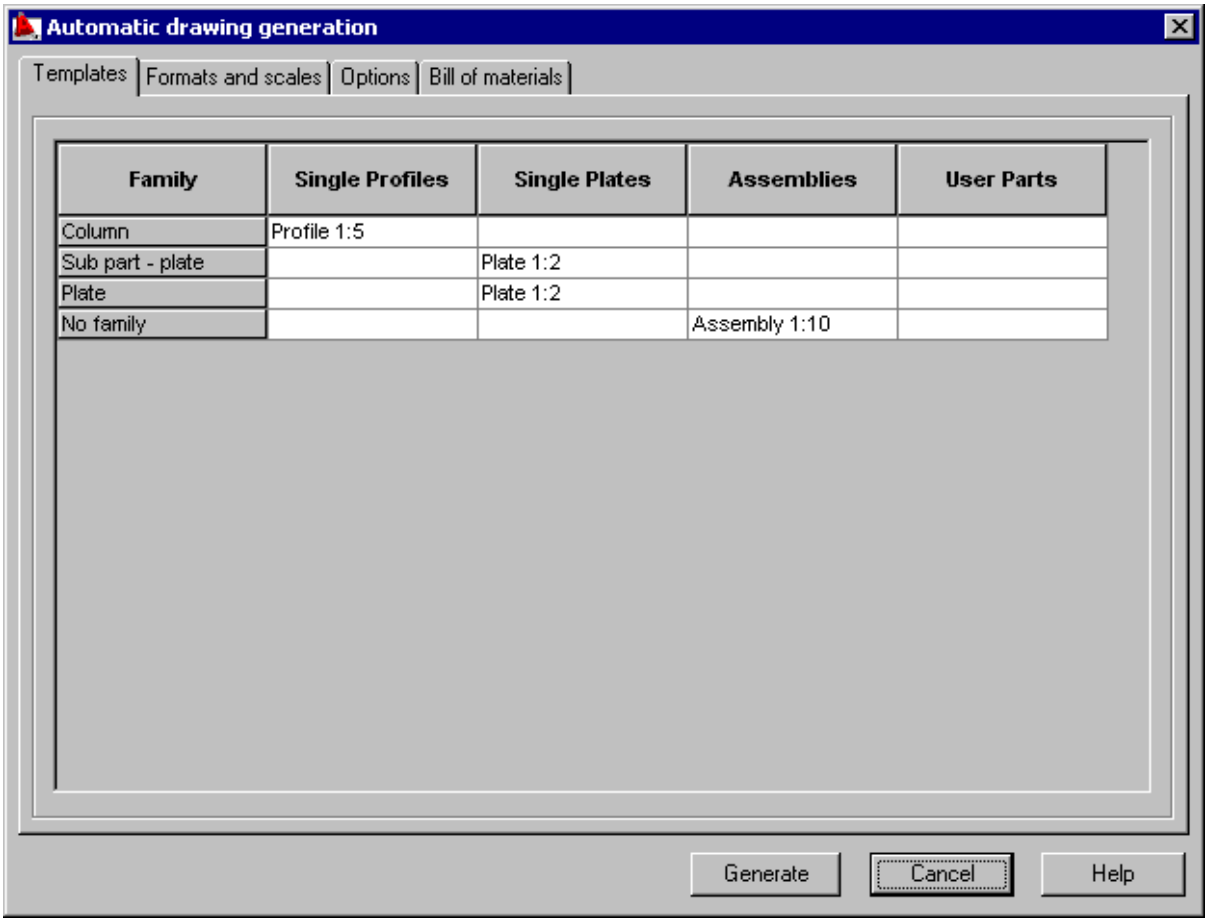
19. **LMC** the top left viewport	Activates viewport.
20.  (Edit view In full screen)	Maximizes viewport to edition.
21.  (Add cut)	Selecting this lets you make a new element cut, and you are prompted to specify the first point of the cut.
22. **LMC** above the column near the gusset plate	Defines the first point of the cut, and you are prompted to specify the next point of the cut.
23. **LMC** below the column	Defines the second point of the cut. You are prompted to specify the next point of the cut.
24. **RMC**	You are prompted to specify a range.
25. **LMC** the right side of the cut	Defines the range of cutting. You are prompted to enter the section name.
26. **1**	Defines the section name.
27.  (Full screen off)	Closes full screen edition window; 4 viewports with new cut on the bottom right side are shown.
28. Places the new view of cut within the area of A3 ASD template in a comparable way as shown previously	
29. **LMC** the Model tab, and then select whole structure	Starts creating isometric view of whole structure.
30. **RMC** the Model tab, and click Group	Defines a group of elements. You are prompted to specify a group type [Assembly/Standard] <Standard>.
31. **Enter**	Selects the standard type of group, and you are prompted to enter the group name.
32. **Main**	Defines name of the group. You are then prompted to pick the main part to align.
33. **Enter**	Defines group coordinate system.
34. **LMC** the Positions tab in the Object inspector	Changes the dialog appearance; displays the list of available user-defined positions.
35. **LMC** position: Main	Selects a position.
36. **RMC**, and click Attach document	Selecting this from the context menu opens the Select template dialog.

37. Select Group-isometry SW 1:50, and click **OK**	Selects the template. The edition layout displays a drawing of the selected assembly in different projections (correspondingly to the selected template). In the object inspector, additional options (tree) display next to the selected position. Note: Active drawing is highlighted in yellow and can be seen on the Positions tab after expanding the available options.
38. In the area of A3 ASD template, click the Positions tab in the Object inspector, and then select Main / Main_Drawing / Isometry SW	Selects the view.
39. **RMC**, and click Add to current Printout	Selecting this from the context menu causes the view to display within the area of the template.
40. **LMC** the target location for the printout	Places the view within the area of A3 ASD template. Note: Clicking on the frame of the added view lets you change its size.
41. **LMC** the Structure 3D Isometry SW viewport	Activates the viewport
42.  (Change view scale)	You are prompted to enter a view scale.
43. Type: **150**	Changes view scale to 1:150
	Places the view within the area of A3 ASD template. Note: Clicking on the frame of the added view lets you change its size.
44.  (List of profiles)	Selecting this option lets you insert (within the printout area) a table with a list of profiles. You are prompted to specify a table range.
45. **Enter**	Accepts table range: All. You are then prompted to define the point of table insertion.
46. **LMC** the target location for the table	Inserts the steel table in the indicated place (see the drawing below)
	Using the same method, you can create drawings of the remaining positions and compose them in the printout.

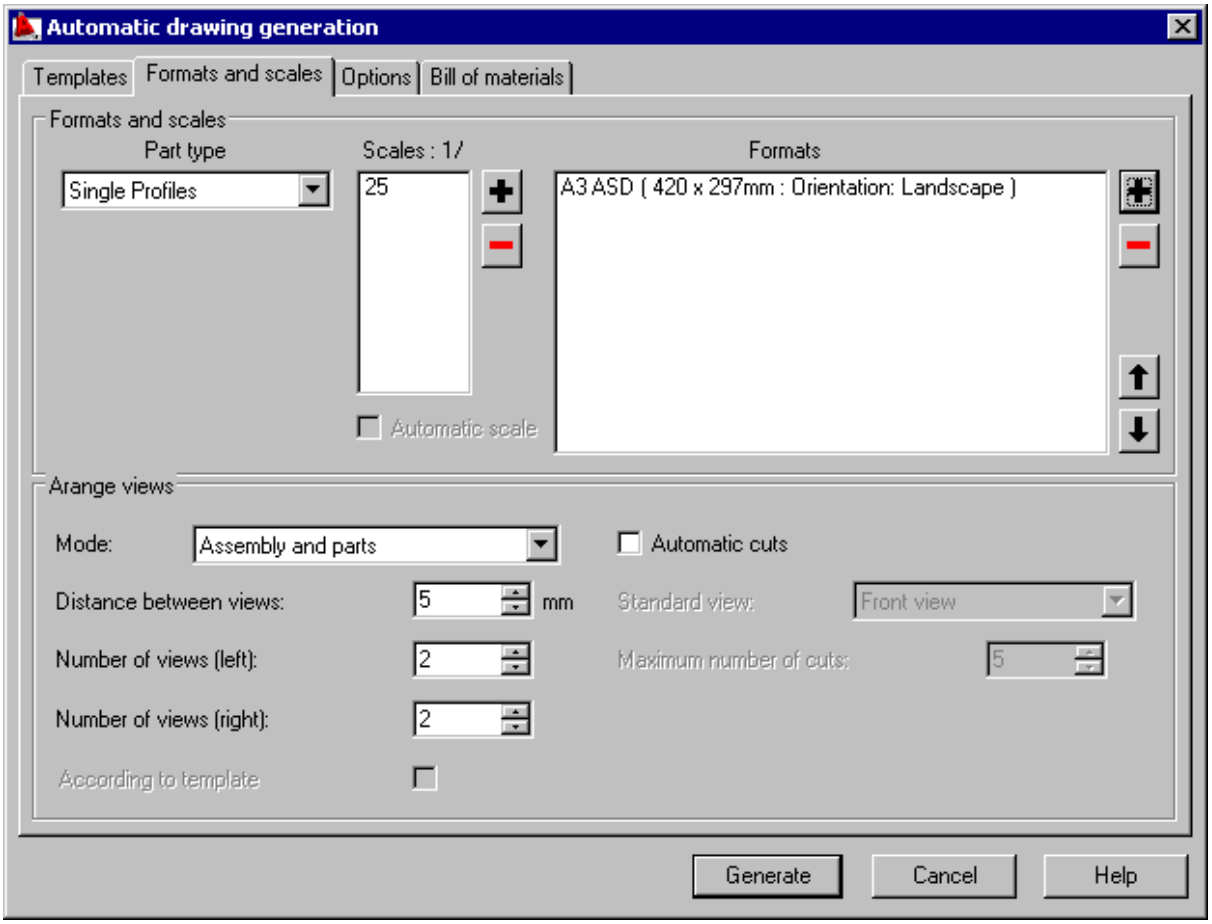


1.10.2. Automatic Printouts

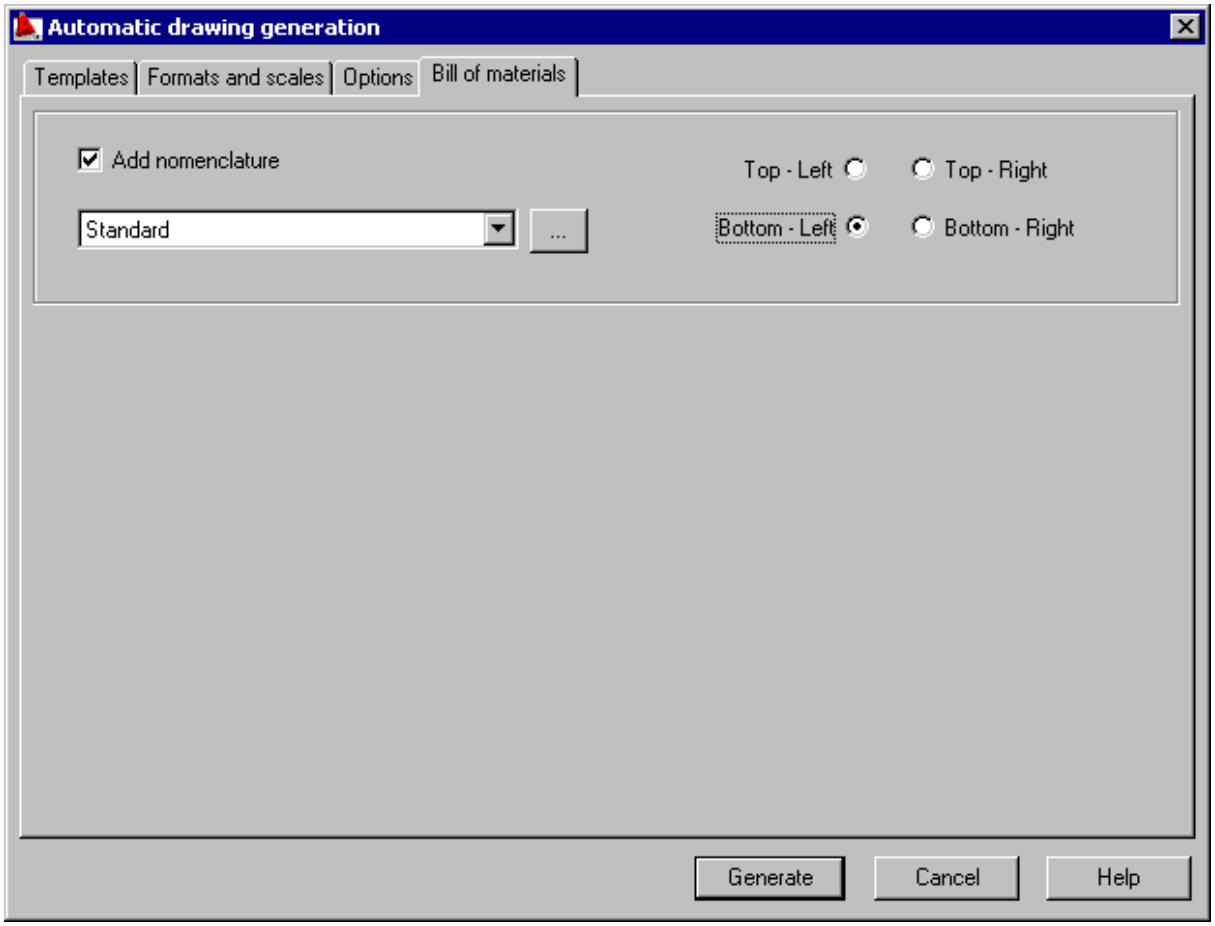
Performed Operation	Description
1. **LMC** the Positions tab in the Object inspector	Changes the dialog appearance; displays the list of available user-defined positions.
2. **LMC** any position (for example, C4 - column positioned at the intersection of the following axes: C; 2; + 0)	Selects a position.
3. **RMC**, and click Automatic drawings	Selecting this from the context menu opens the Automatic drawing generation dialog.
4. **LMC** the Templates tab	Changes the dialog appearance.
5. Select the option as shown below	Selects template parameters.



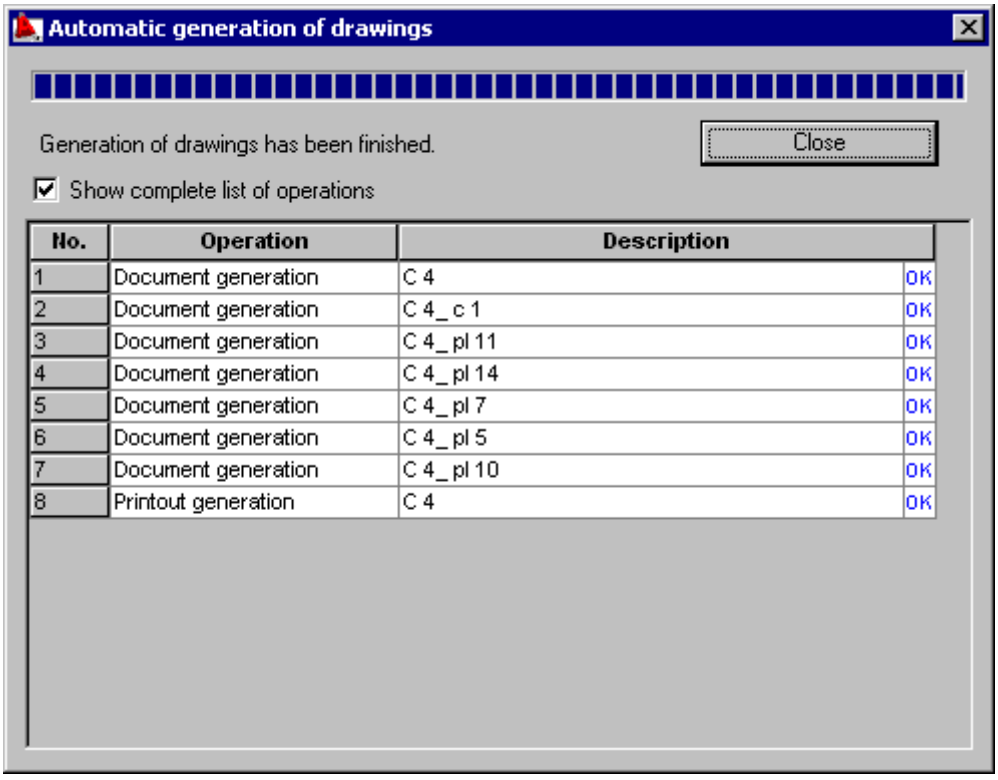
6. **LMC** the Formats and scales tab	Changes the dialog appearance.
7. In Arrange views field, for Mode select Assembly and parts	Defines arrange views type
8. For Part type, select Single profiles, and define scales and formats as shown below	Defines formats and scales for single profiles.



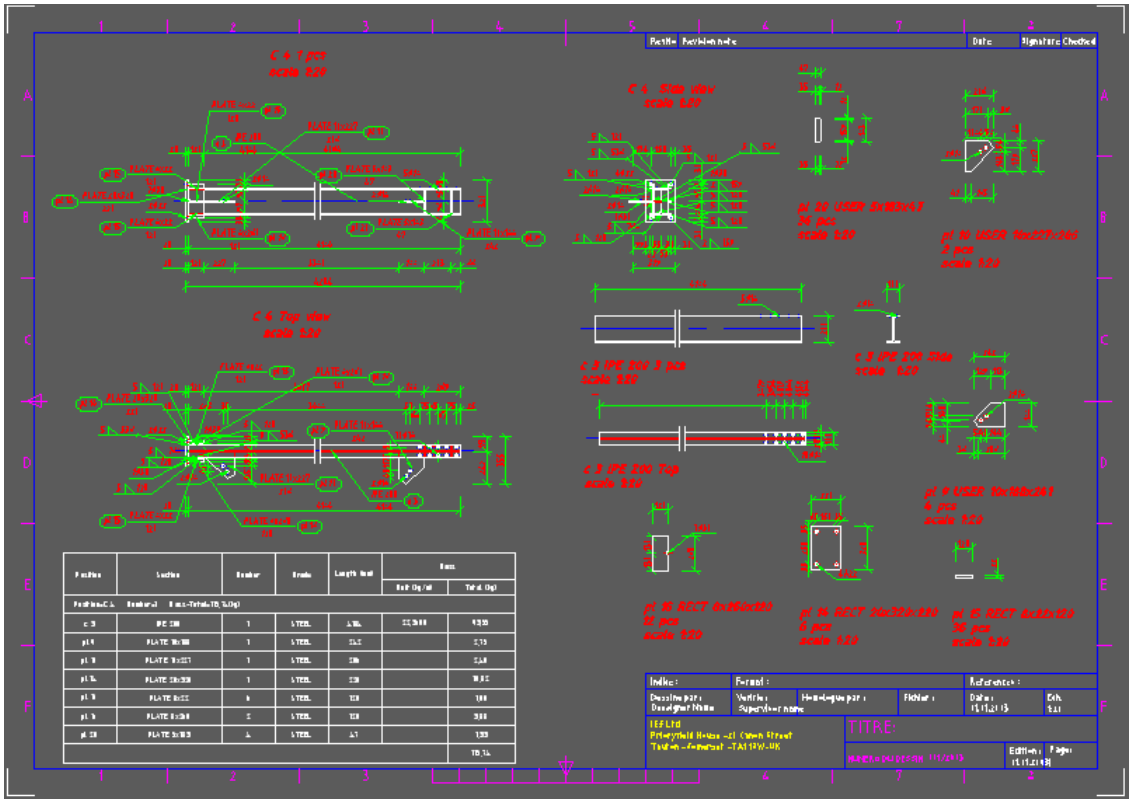
9. Using the same method, define scales and formats for Single plates and Assemblies part types as shown above	Defines formats and scales for single plates and assemblies.
10. **LMC** the Bill of materials tab	Changes the dialog appearance.
11. Select the option as shown below	Selects bill of materials parameters.



12. **Generate**	Starts generating drawing, and changes the dialog appearance.



13. **Close**	Closes the tab, and displays the generated drawing (see the drawing below).
	Note: Double-click any element of the drawing to change its properties (inserts to editor block).



1.11. Edition of Table Printout

Performed Operation	Description
1. Click the Model tab	
2.  (Dynamic UCS)	Lets you dynamically set the coordinate system. You are prompted to select an entity in the command line.
3. **LMC** the column positioned to the left of the first frame	Selects the element to which the UCS will be adjusted. A marker enabling definition of the coordinate system displays, and you are prompted to pick the origin.
4. **LMC** the point at the intersection of the following axes: A; 1; + 0	Defines the point of origin of the dynamic coordinate system, and changes the marker appearance. You are prompted to pick the desired direction.
5. **B(ack)**	Selects UCS direction. You are prompted whether you want to adjust the view to the UCS plane. Note: You can change the UCS direction graphically using the mouse. Mouse movement changes marker appearance and available options defining direction.

6. **N(o)**	Selecting this leaves the view unadjusted.
7.  (Clipping plane on)	Selecting this lets you define a clipping plane.
8. Leave default values, indicating the position of clipping planes	The elements positioned in the defined clipping plane remain visible on the screen. Note: Position and orientation of the clipping plane are determined by the defined UCS.
9. 	Sets the front view.
10.  (Table manager)	The Table printout manager dialog displays, where you can define (modify) the display of the steel table printout.
11. **Selection**	Closes the Table printout manager dialog, and changes the cursor work mode (selection).
12. Select all truss elements, and then press **Enter**	Selects elements for which the table will be prepared, and returns to the Table printout manager dialog.
13.  (Automatic adjust)	Fits the widths of table columns to the names of table columns.
14.  Save table (format .xls or .csv)	The Save as dialog displays, where you can save the table in a spreadsheet format.
15. For File name, enter TABLE 1, and click **Save**	Saves the file, and closes the Save as dialog.
16. **Close**	Closes the Table printout manager dialog.