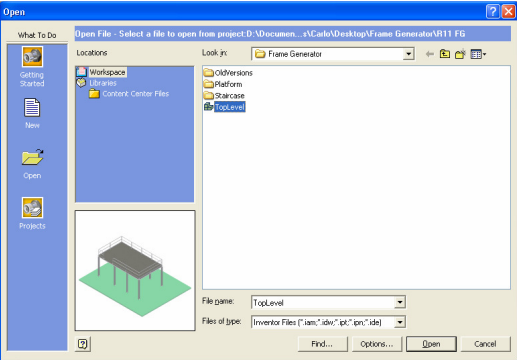
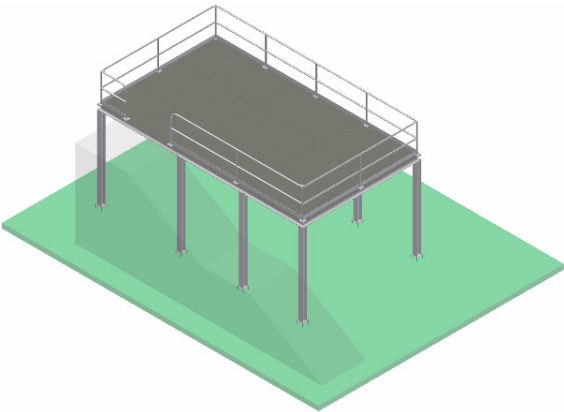
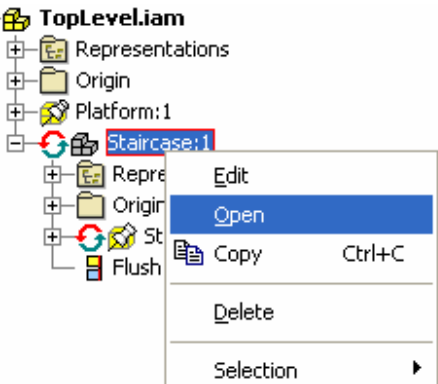

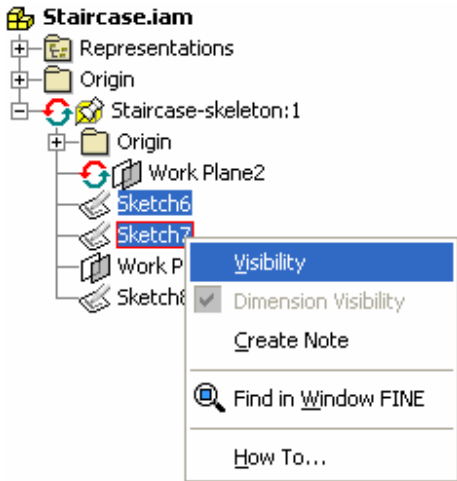
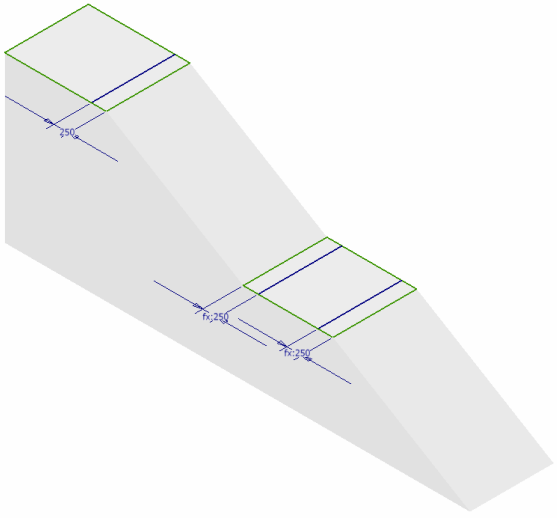
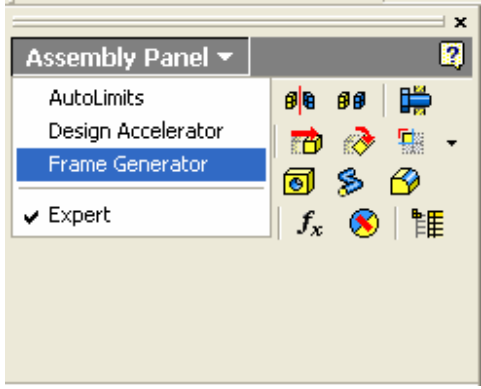
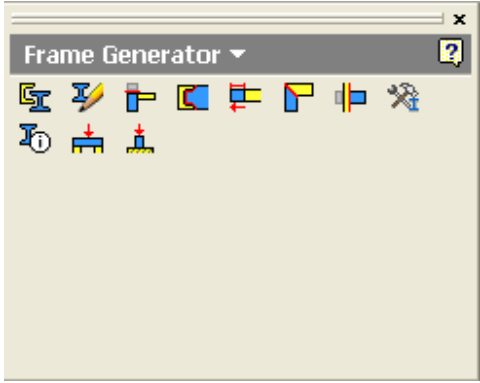

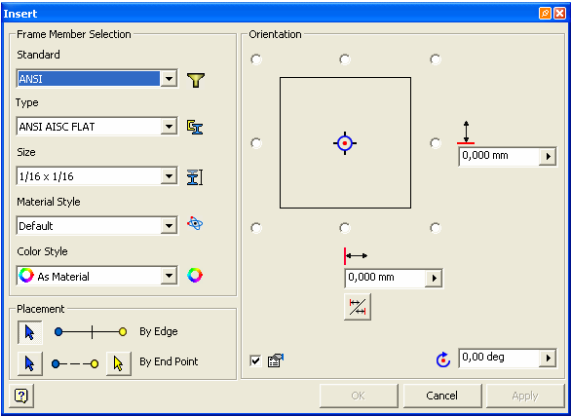
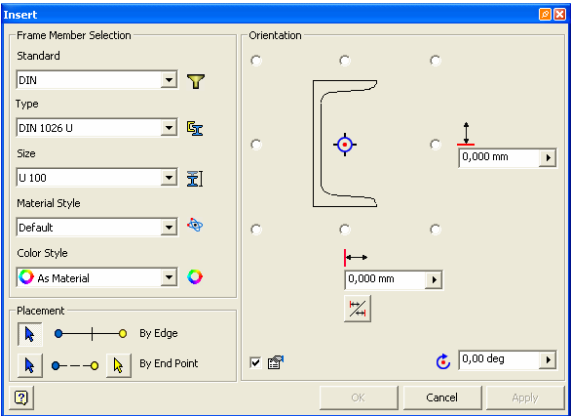
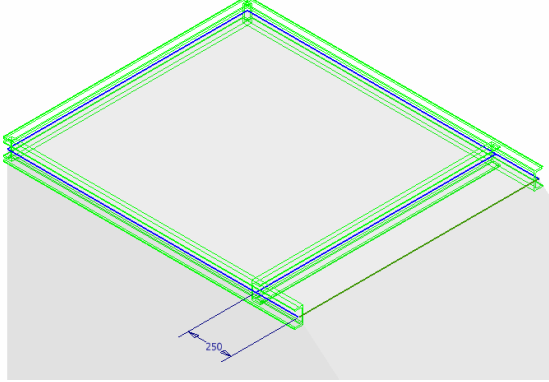


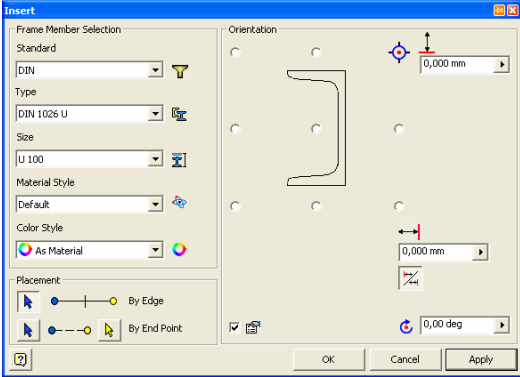
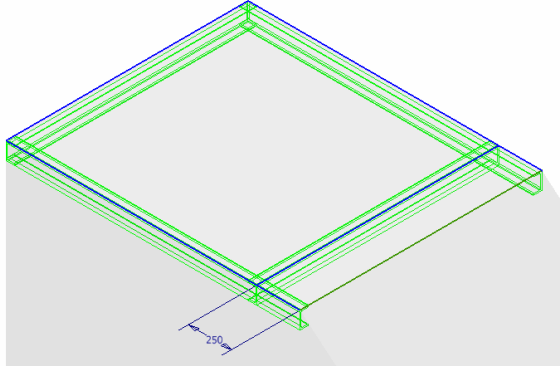
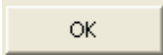
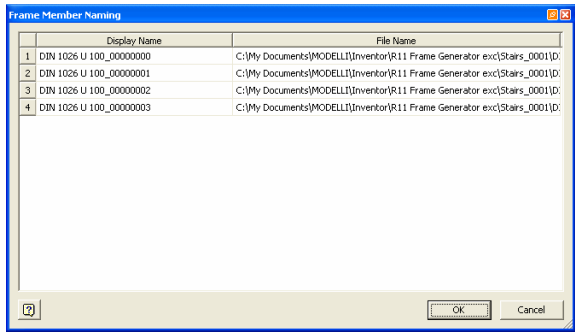
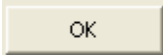
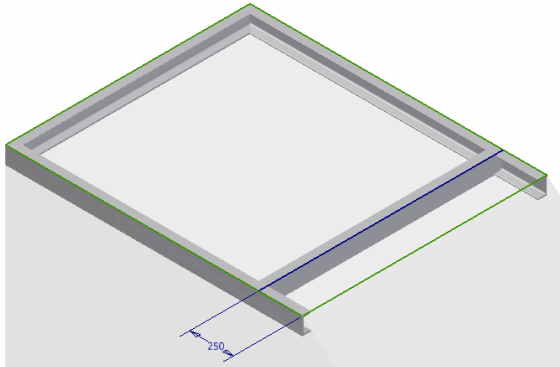
DESIGN A STAIRS PLATFORM

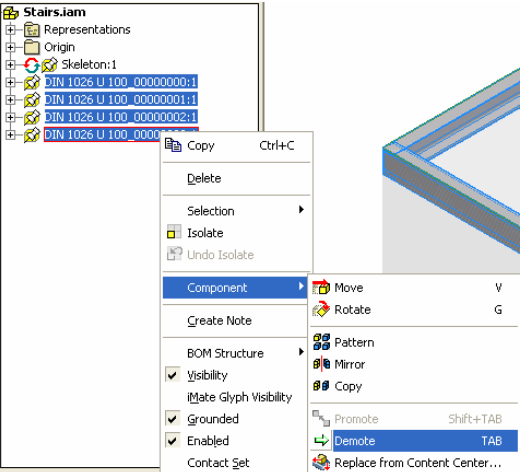
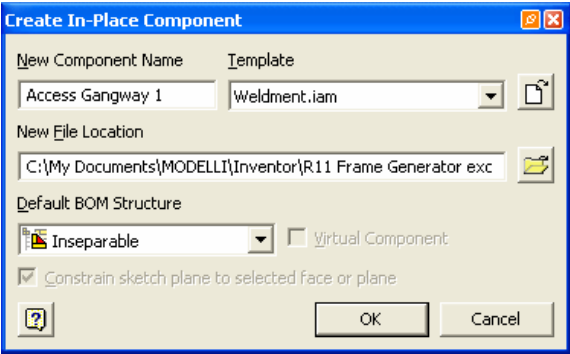
Autodesk Steel Frame Generator

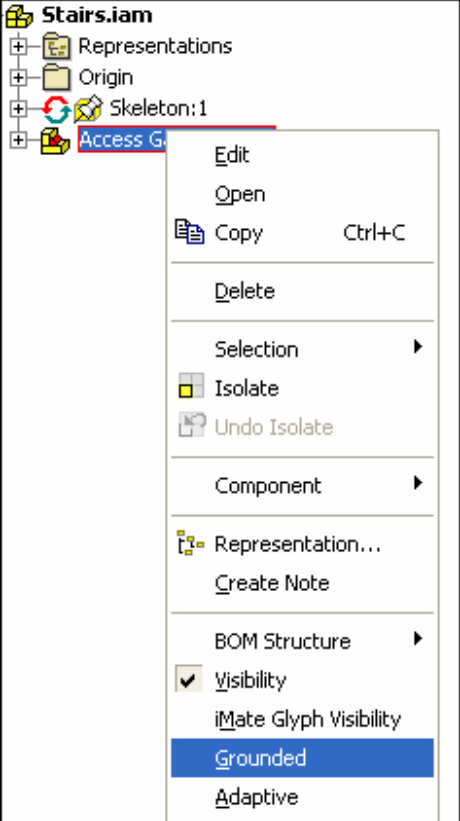


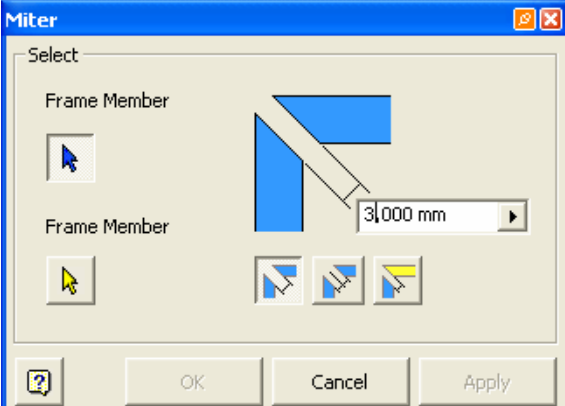
Step	Action	Result
1	<div>Open the TopLevel.iam file</div> <div></div> <div>Click Open</div>	
2	<div>Open the Staircase sub-assembly</div> <div></div>	

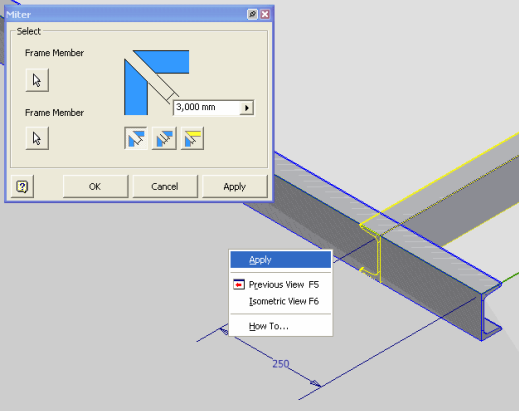
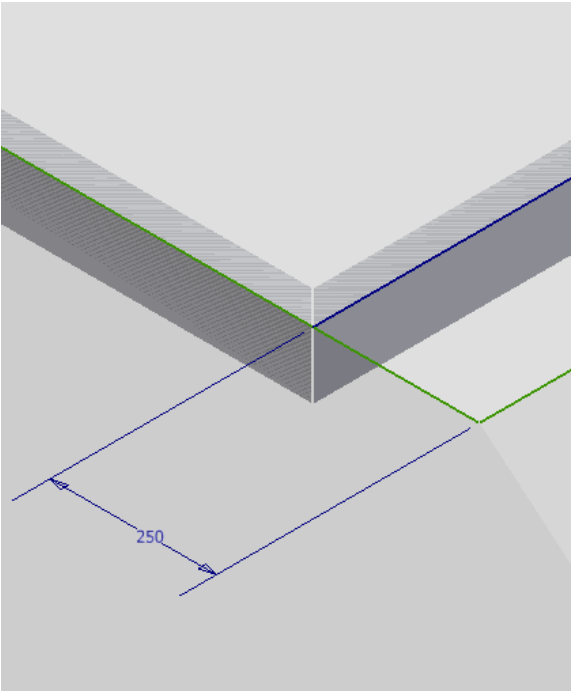
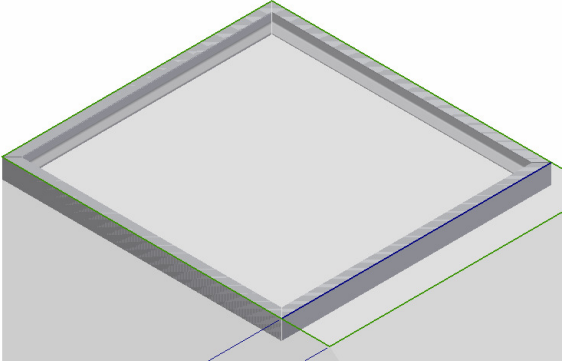

Step	Action	Result
3	<p>Turn on the Sketch6 and Sketch7 visibility</p> 	
4	<p>Launch the Frame Generator application</p> 	


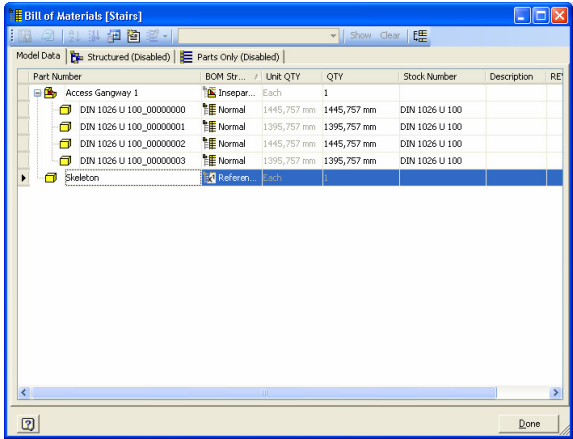
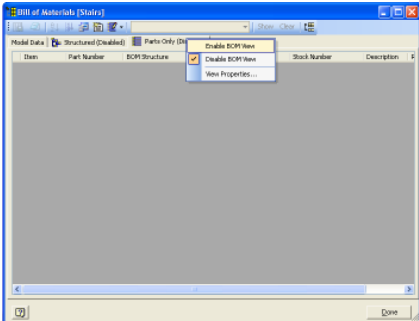

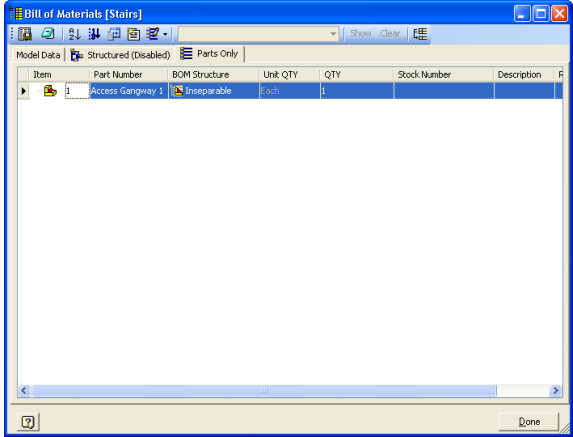
Step	Action	Result
5 	Launch the Insert Frame Member feature	
6	Choose: Standard DIN Type DIN 1026 U Size U 100	
7	Select three edges and the segment from the top sketch. Note: be careful that every member should have the consistent orientation. If not, deselect and reselect in another point on the edge. (remember point 2 – page 2)	


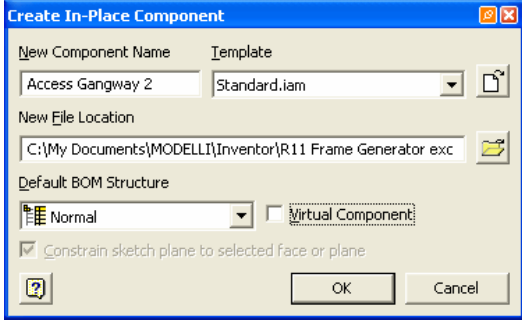
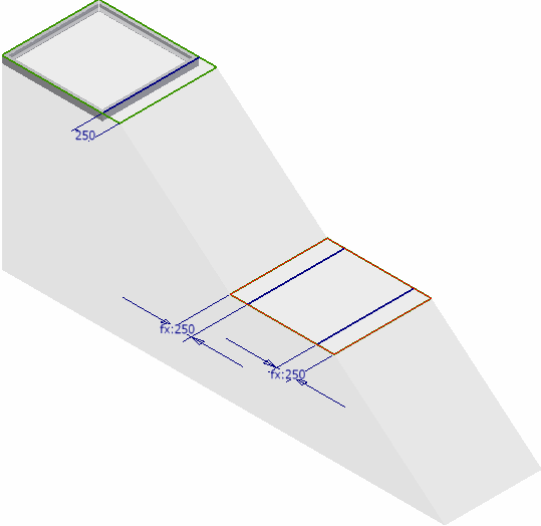

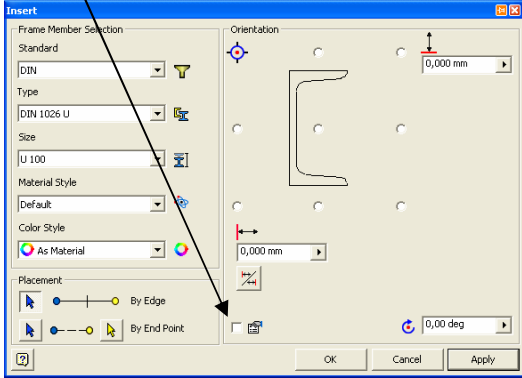
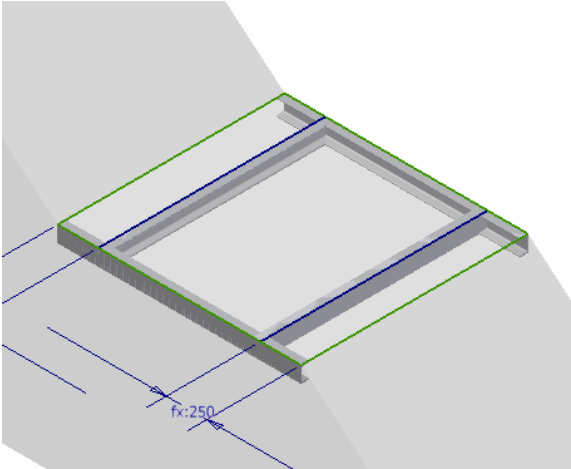
Step	Action	Result															
8	<p>Now use the Insert Frame Member options to orientate all members in this mode</p> 																
9	<p>Click OK button</p>  <p>Note: In this dialog, if you want, you can change the part name in the browser (it's not the part number or filename).</p>	 <table border="1"><thead><tr><th></th><th>Display Name</th><th>File Name</th></tr></thead><tbody><tr><td>1</td><td>DIN 1026 U 100_00000000</td><td>C:\My Documents\MODELL\Inventor\R11 Frame Generator exc\Stairs_0001\U</td></tr><tr><td>2</td><td>DIN 1026 U 100_00000001</td><td>C:\My Documents\MODELL\Inventor\R11 Frame Generator exc\Stairs_0001\U</td></tr><tr><td>3</td><td>DIN 1026 U 100_00000002</td><td>C:\My Documents\MODELL\Inventor\R11 Frame Generator exc\Stairs_0001\U</td></tr><tr><td>4</td><td>DIN 1026 U 100_00000003</td><td>C:\My Documents\MODELL\Inventor\R11 Frame Generator exc\Stairs_0001\U</td></tr></tbody></table>		Display Name	File Name	1	DIN 1026 U 100_00000000	C:\My Documents\MODELL\Inventor\R11 Frame Generator exc\Stairs_0001\U	2	DIN 1026 U 100_00000001	C:\My Documents\MODELL\Inventor\R11 Frame Generator exc\Stairs_0001\U	3	DIN 1026 U 100_00000002	C:\My Documents\MODELL\Inventor\R11 Frame Generator exc\Stairs_0001\U	4	DIN 1026 U 100_00000003	C:\My Documents\MODELL\Inventor\R11 Frame Generator exc\Stairs_0001\U
	Display Name	File Name															
1	DIN 1026 U 100_00000000	C:\My Documents\MODELL\Inventor\R11 Frame Generator exc\Stairs_0001\U															
2	DIN 1026 U 100_00000001	C:\My Documents\MODELL\Inventor\R11 Frame Generator exc\Stairs_0001\U															
3	DIN 1026 U 100_00000002	C:\My Documents\MODELL\Inventor\R11 Frame Generator exc\Stairs_0001\U															
4	DIN 1026 U 100_00000003	C:\My Documents\MODELL\Inventor\R11 Frame Generator exc\Stairs_0001\U															
10	<p>Click OK button</p> 																


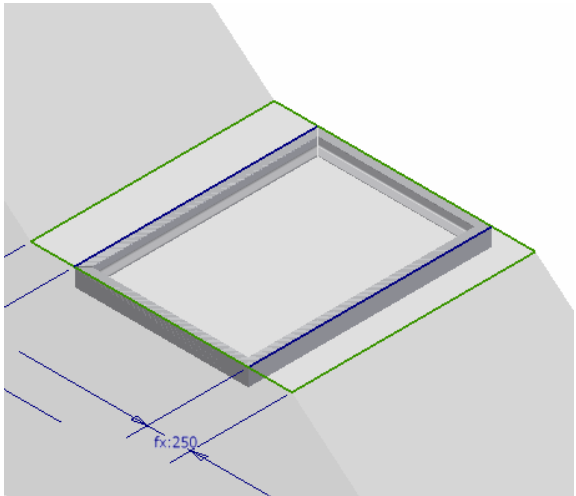

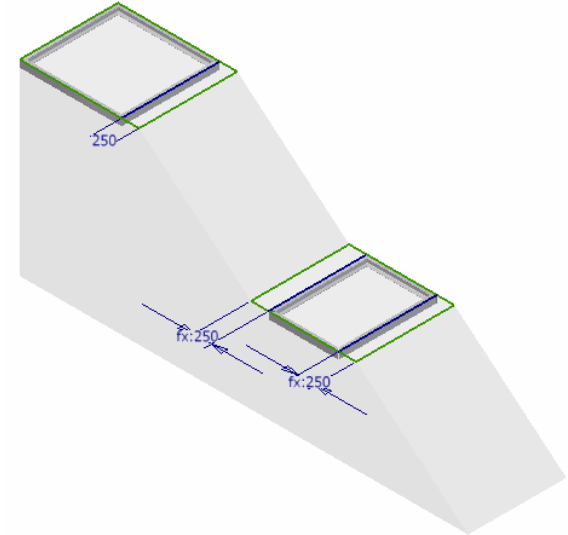
Step	Action	Result
11	<p>We, intentionally, forgot to collect all steel parts in a sub-assembly.</p> <p>So, now, we have to demote them in an welded assembly named Access Gangway 1</p> 	

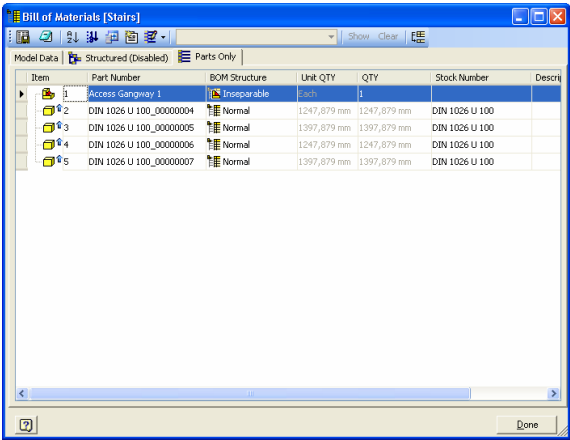
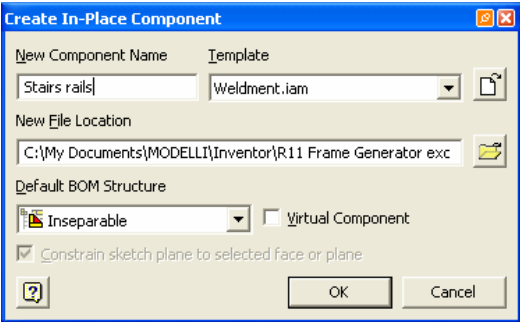
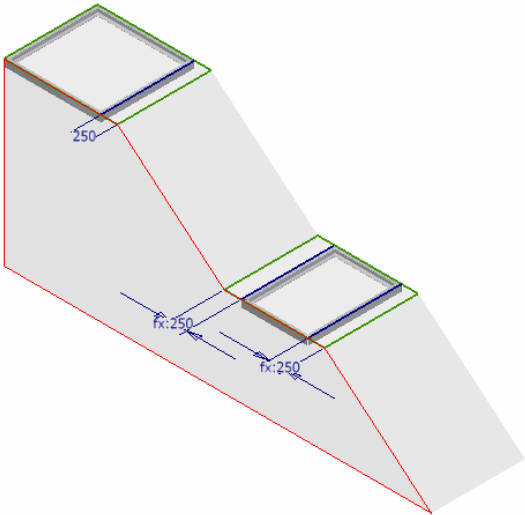
Step	Action	Result
12	<p>Frame generator doesn't generate assembly constraints. For safety, make grounded the Access Gangway 1 sub-assembly</p> 	
13	<p>Double click on Access Gangway 1 assembly for edit it. Re-activate the Frame Generator panel and launch the Miter Corner feature. Set the Miter Corner extension to 3 mm</p> 	


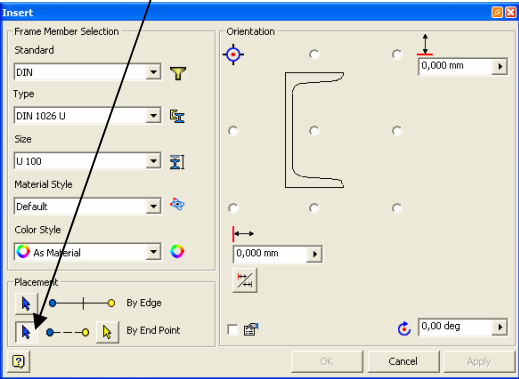
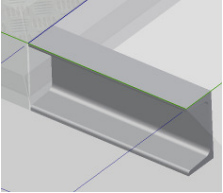
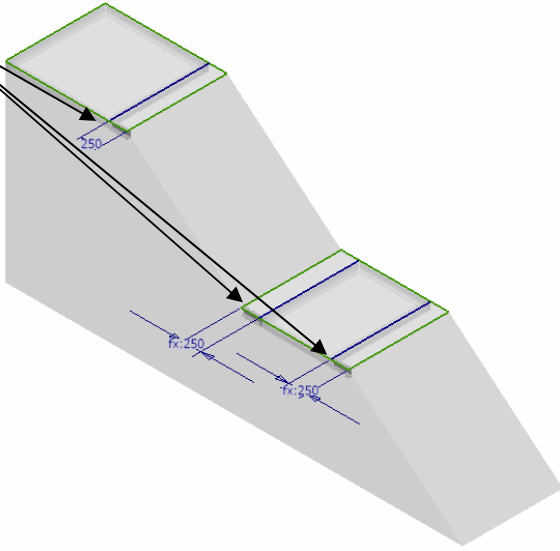
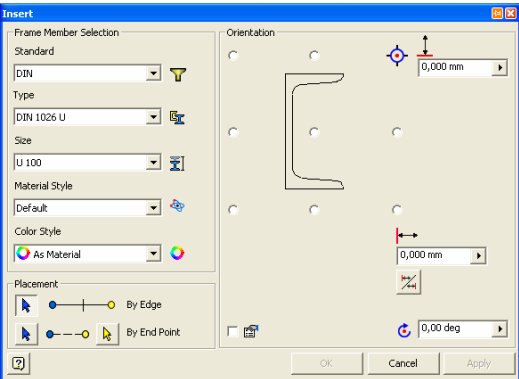
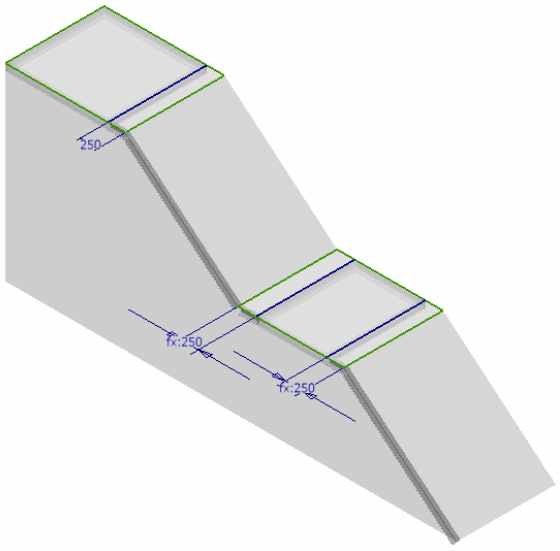
Step	Action	Result
14	<p>Select two members and Apply</p>  <p>Note: you can also use the pop up menu to Apply. In this way you can avoid to move the mouse from graphic to dialog for each operation</p>	
15	Repeat this operation for three times more	
16	<p>Exit from the Access Gangway 1 sub-assembly.</p> <p> Return</p> <p>Save</p>	

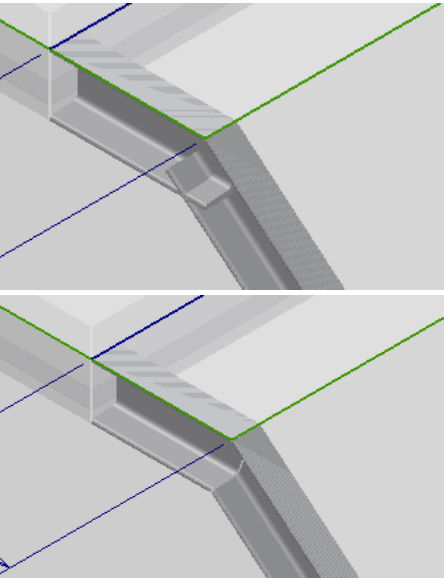
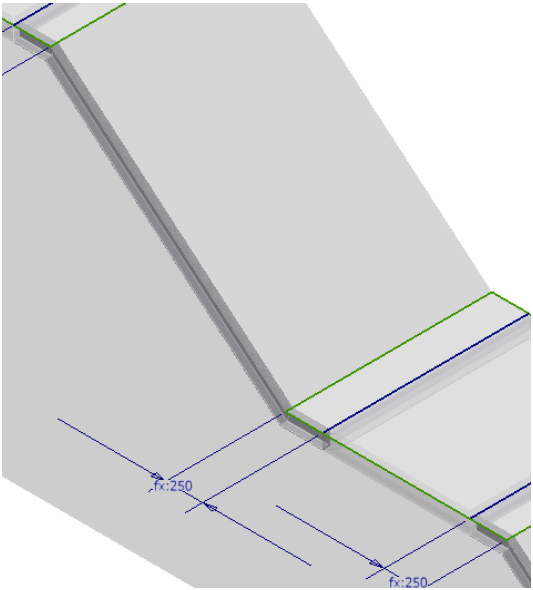
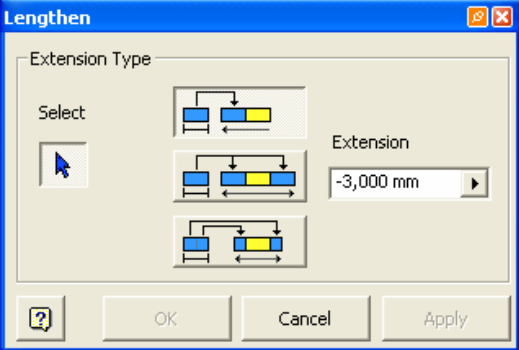
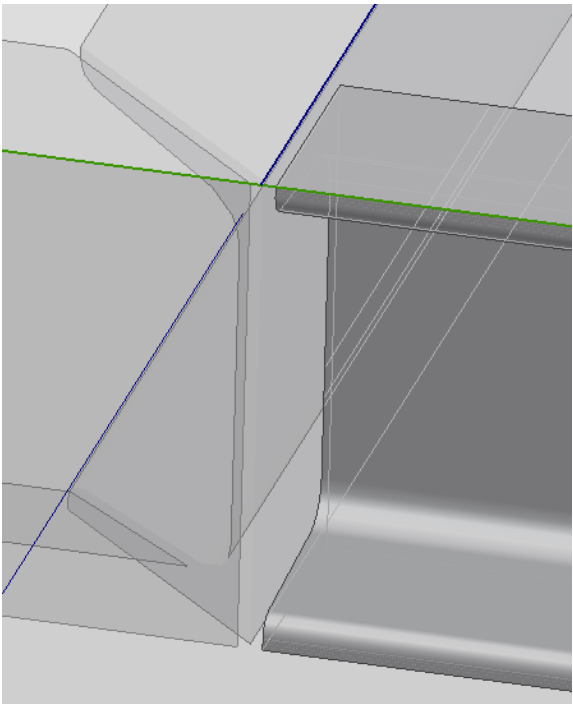
Step	Action	Result
17	Launch the BOM utility. 	
18	Select the Part Only TAB and with Right Mouse Button enable it  Note: only one component is showed because the Skeleton is a reference part and the Frame Generator members are into an inseparable sub-assembly Click Done 	

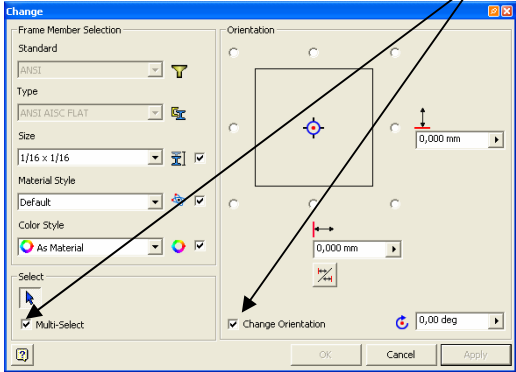
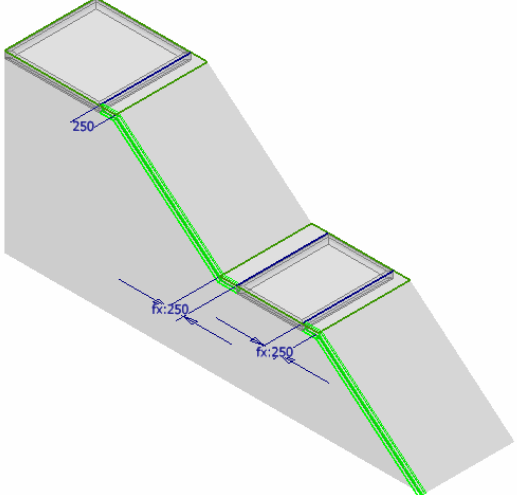
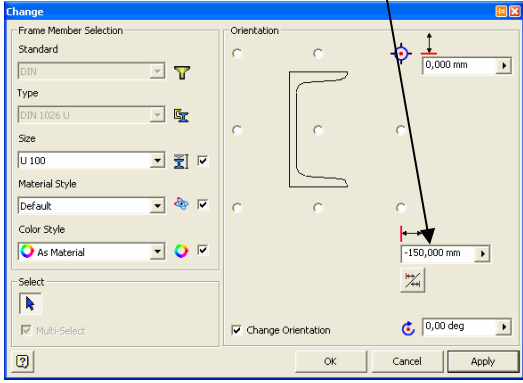
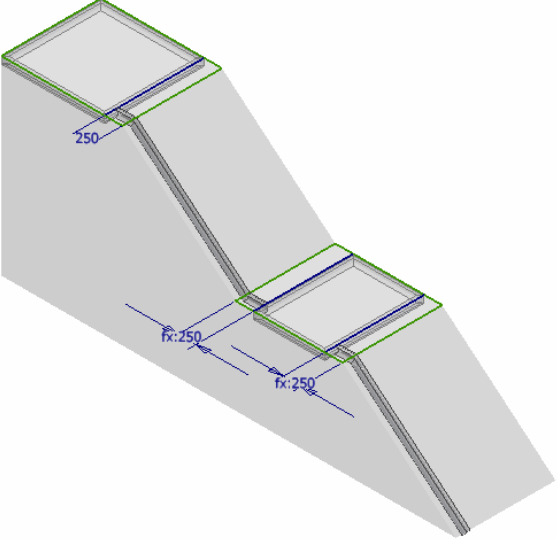
Step	Action	Result
19 	<p>Create a new sub-assembly named Access Gangway 2 and leave it as Standard Assembly (no welded).</p>  <p>Click OK And select the bottom horizontal plane</p>	
20 	<p>Activate the Frame Generator panel and repeat all steps from 2 to 6</p> <p>Deselect the Prompt to filename checkbox to avoid to see the relative dialog, and click OK</p>  <p>Note: all previous setting are still set</p>	

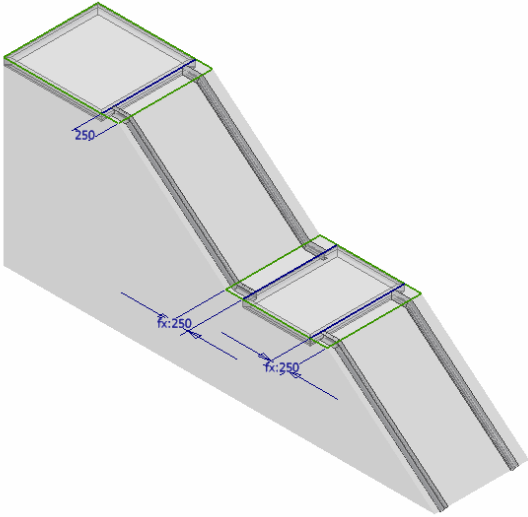

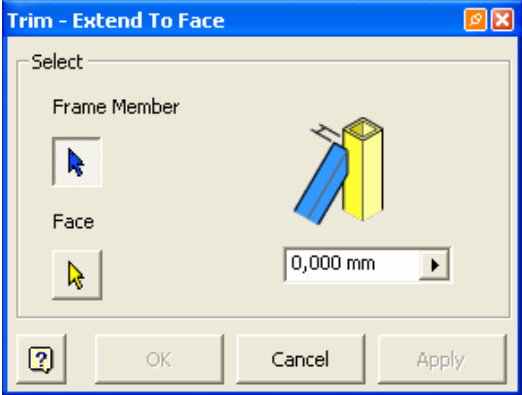
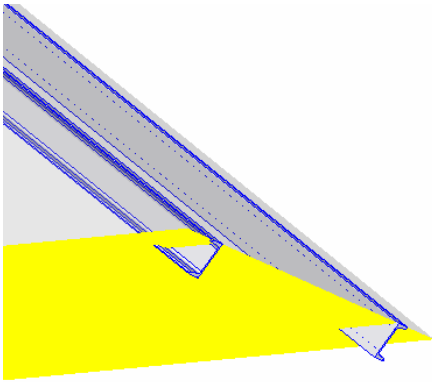

Step	Action	Result
21 	Adjust every end member like in the steps from 10 to 12	
22 	Exit from the Access Gangway 2 sub-assembly. Save	

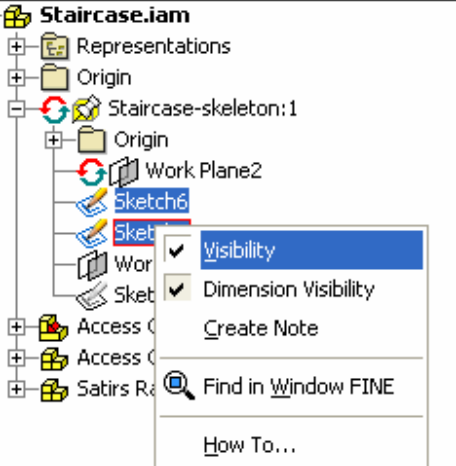
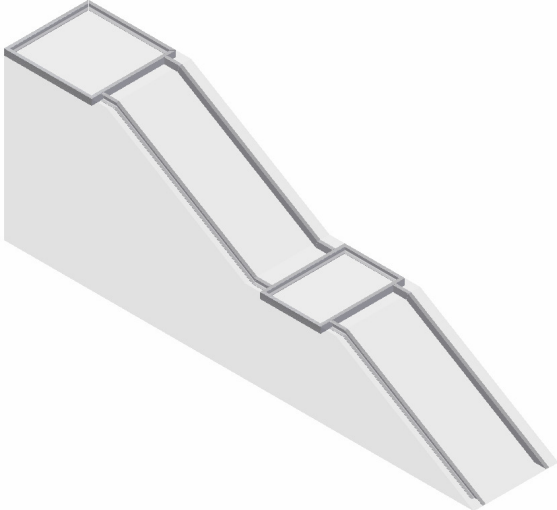
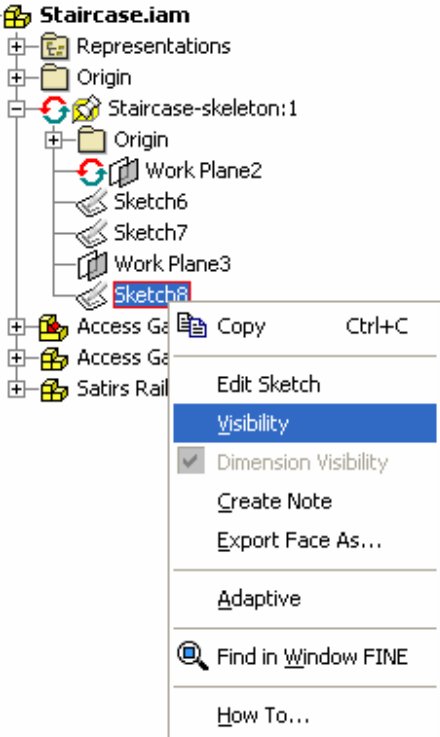
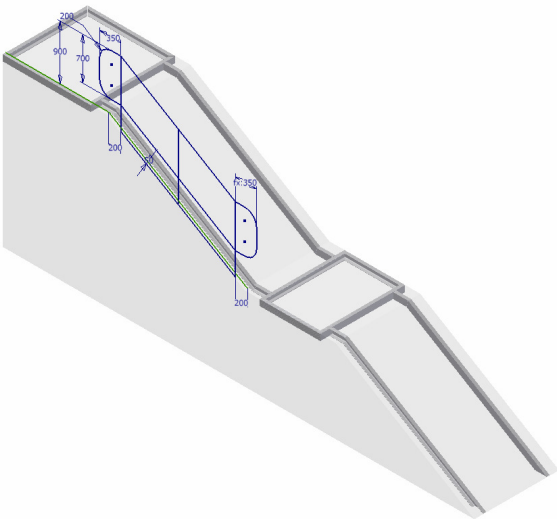
Step	Action	Result
23	<div>Launch the BOM utility.</div> <div>Note: the new components are visible because they aren't in an inseparable assembly</div>	
24	<div>Create another sub-assembly named Stairs rails as Welded assembly and select the frontal face of the Skeleton</div> <div></div>	

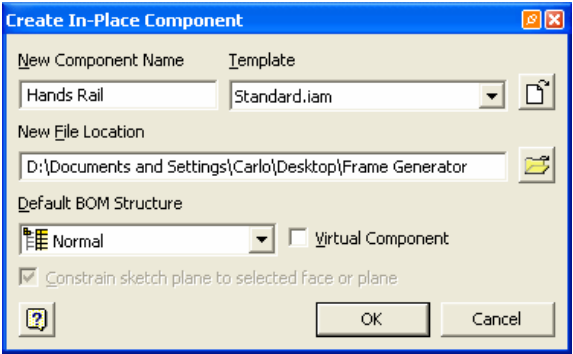

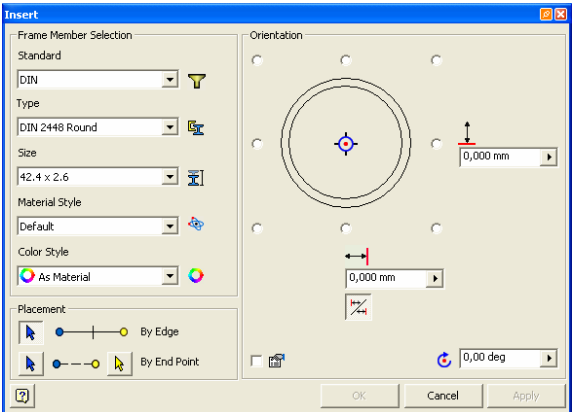
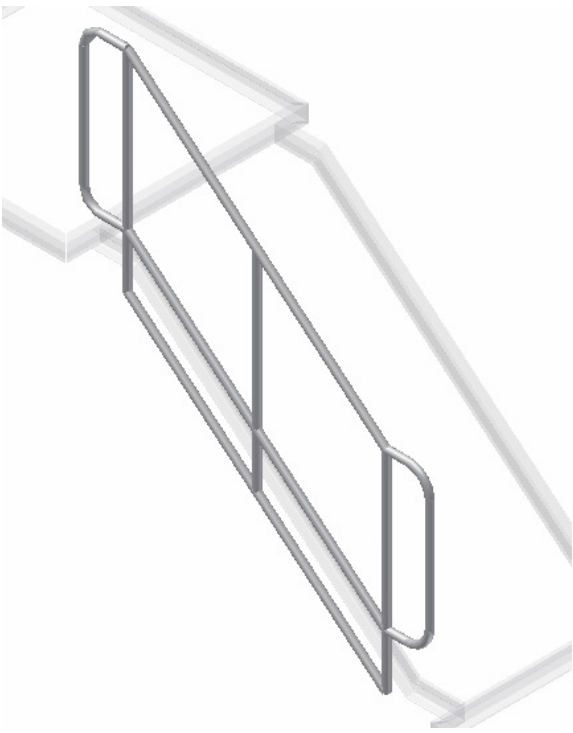
Step	Action	Result
<p>25</p> 	<p>Activate the Frame Generator panel and using By end point create these three components</p>  	
<p>26</p>	<p>Using the By Edge approach, create the other two</p> 	


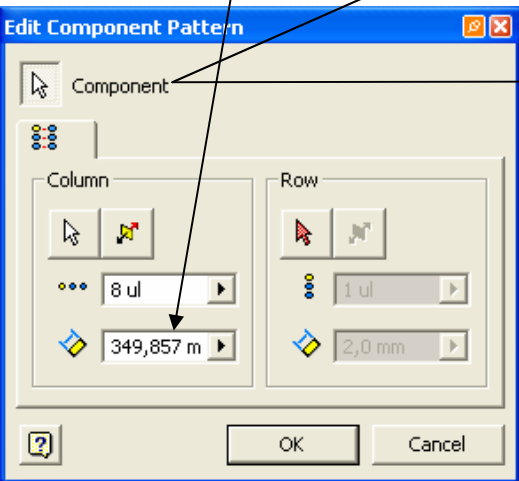
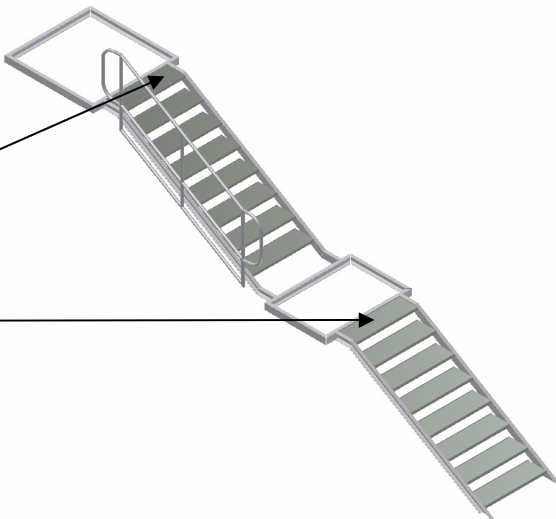
Step	Action	Result
27	<p>With Miter adjust all conjunctions</p> 	
28	<p>Now we want to leave the space for the Beald Weld on the start of the first beam.</p> <p>Activate Lenghten Frame Member feature and set -3 mm fo extention</p> 	

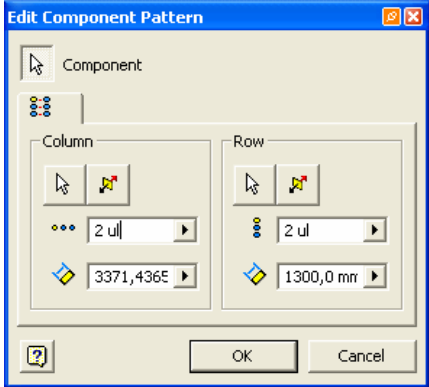
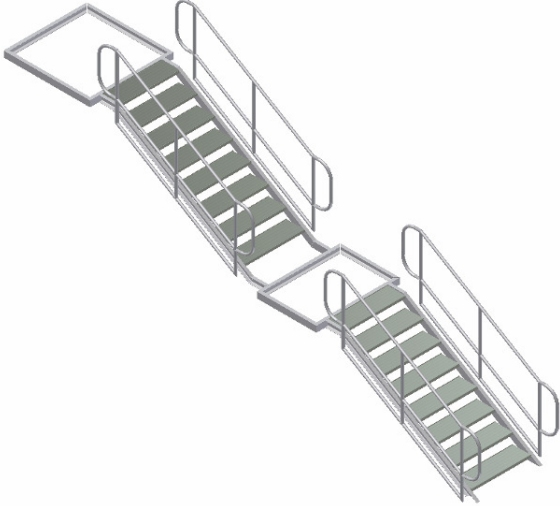
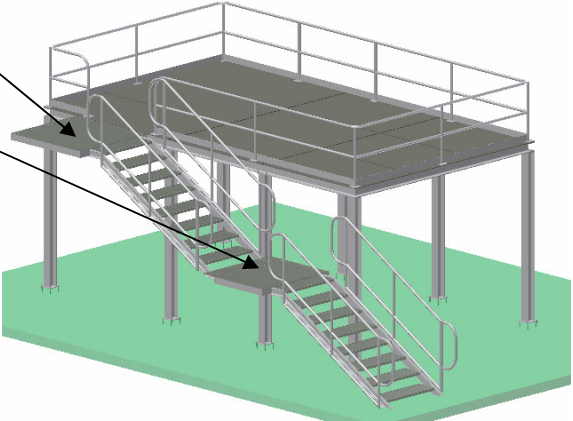
Step	Action	Result
29	<p>Now we need to modify the position of the the last members</p> <p>Launch the Change Frame Member feature and select the Multi-Select and the Change Orientation check-boxes.</p>  <p>Then select all last created components</p>	
30	<p>The dialog reads the selected components attribute</p> <p>So you can see this dialog, where you'll insert the new position with -150 mm</p>  <p>Click OK</p>	

Step	Action	Result
31	Try to insert the other components directly to the right positions. Note: Be careful to the selections	
32	 Adjust the bottom ends fo the two rails using the Trim – Extend To Face feaurure	
33	Select the two rails and the bottom face of the skeleton 	

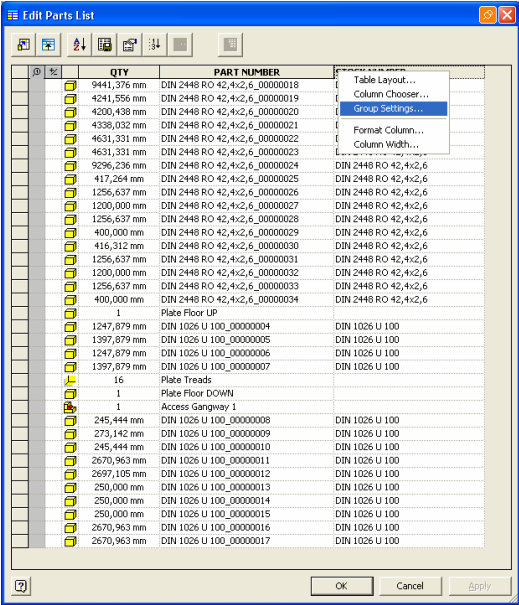
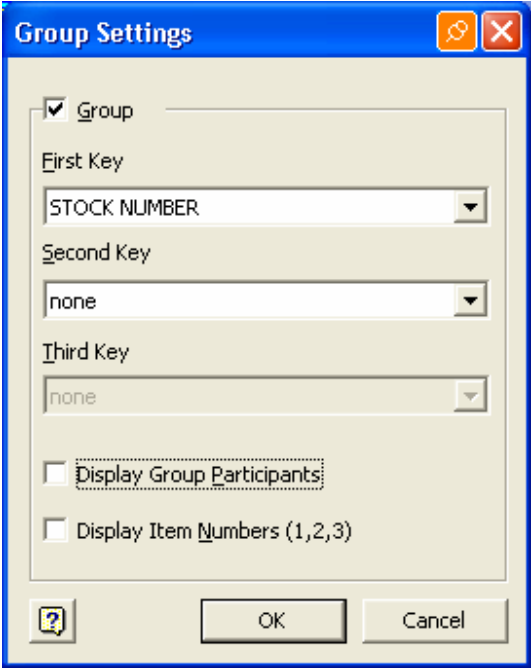
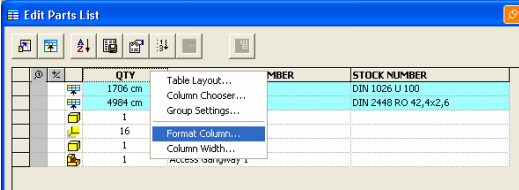
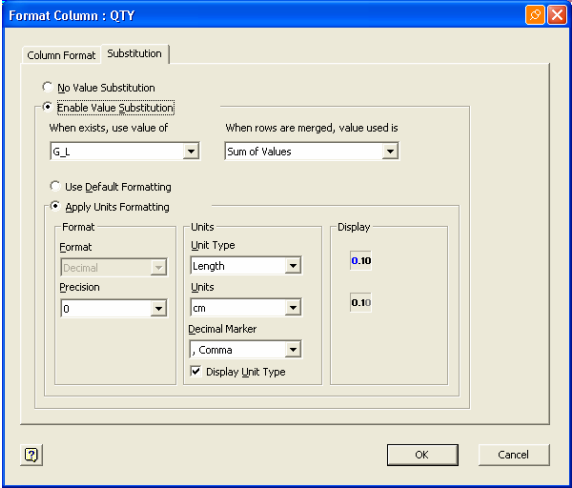
Step	Action	Result
34	Exit from Stairs Rails sub-assembly and Save	
35	<p>Turn off the Sketch6 and Sketch7 visibility</p> 	
36	<p>Turn on the Sketch8 visibility</p> 	

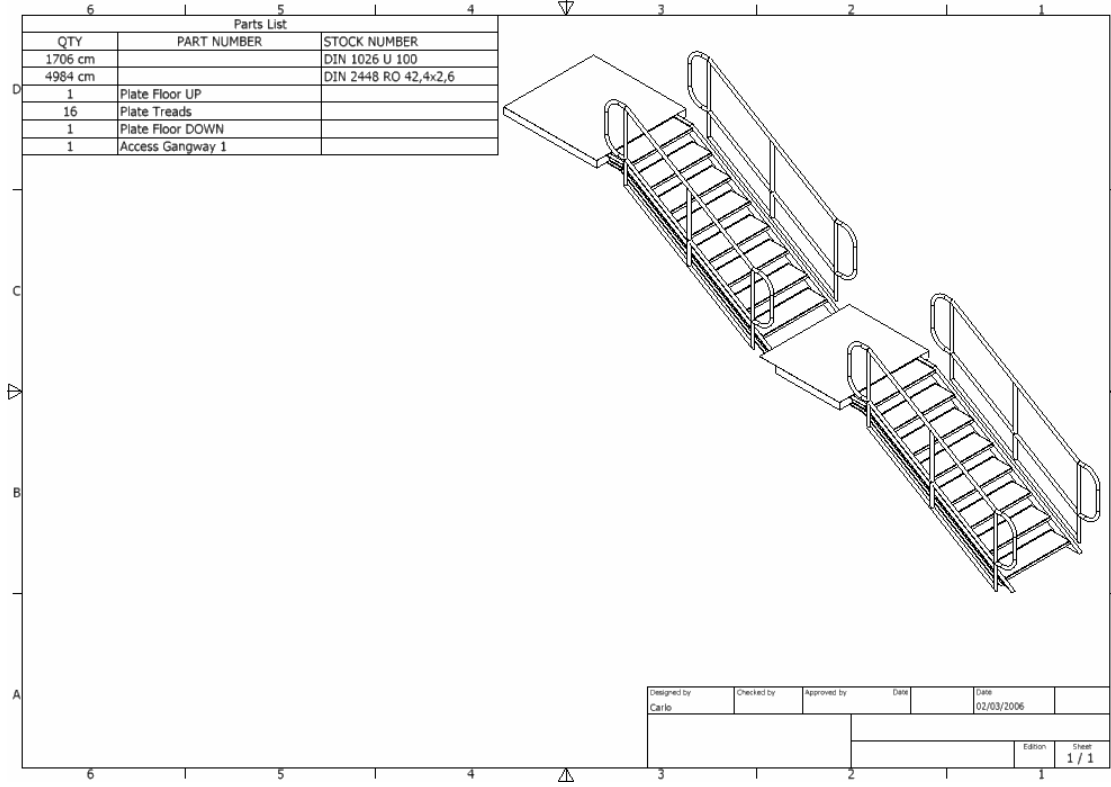
Step	Action	Result
37	Create a new sub-assembly name Hands Rail	
38	 <p>In Steel Frame Generator create a new set of member with Insert command with these parameters</p> <p>Standard DIN Type DIN 2448 Round Size 42,4 x 2,6</p>	
39	<p>Now select all segments to create the handrail structure.</p> <p>Turn off the Skeleton visibility</p>	

Step	Action	Result
40	<p>Now using the Miter and Notch features refine all components</p> <p>Note: for the Miter extension use 0 mm</p>	
41	<p>You could continue to complete the design to obtain a more realistic rails model.</p> <p>In the dataset there is a Plate Treads.ipt Retrieve it two times and place in follow way (Grounded).</p> <p>Than make an array like this to populate the stairs (about 350 mm)</p> 	

Step	Action	Result
42	<p>Then using array multiply and position the handrail assembly</p> 	
43	<p>Retrieve and position Plate Floor UP and Plate Floor DOWN</p> <p>Review the result in the main assembly</p>	

Step	Action	Result																																																																																																												
44	<p>In Drawing Manager generate the “Part Only” 2D BOM</p> <p>Note the Access Gangway 1 is treated as unic component</p>	<table border="1"> <thead> <tr> <th>QTY</th><th>PART NUMBER</th><th>STOCK NUMBER</th></tr> </thead> <tbody> <tr><td>9441,376 mm</td><td>DIN 2448 RO 42,4x2,6_00000018</td><td>DIN 2448 RO 42,4x2,6</td></tr> <tr><td>4241,556 mm</td><td>DIN 2448 RO 42,4x2,6_00000019</td><td>DIN 2448 RO 42,4x2,6</td></tr> <tr><td>4200,438 mm</td><td>DIN 2448 RO 42,4x2,6_00000020</td><td>DIN 2448 RO 42,4x2,6</td></tr> <tr><td>4338,032 mm</td><td>DIN 2448 RO 42,4x2,6_00000021</td><td>DIN 2448 RO 42,4x2,6</td></tr> <tr><td>4631,331 mm</td><td>DIN 2448 RO 42,4x2,6_00000022</td><td>DIN 2448 RO 42,4x2,6</td></tr> <tr><td>4631,331 mm</td><td>DIN 2448 RO 42,4x2,6_00000023</td><td>DIN 2448 RO 42,4x2,6</td></tr> <tr><td>9296,236 mm</td><td>DIN 2448 RO 42,4x2,6_00000024</td><td>DIN 2448 RO 42,4x2,6</td></tr> <tr><td>417,264 mm</td><td>DIN 2448 RO 42,4x2,6_00000025</td><td>DIN 2448 RO 42,4x2,6</td></tr> <tr><td>1256,637 mm</td><td>DIN 2448 RO 42,4x2,6_00000026</td><td>DIN 2448 RO 42,4x2,6</td></tr> <tr><td>1200,000 mm</td><td>DIN 2448 RO 42,4x2,6_00000027</td><td>DIN 2448 RO 42,4x2,6</td></tr> <tr><td>1256,637 mm</td><td>DIN 2448 RO 42,4x2,6_00000028</td><td>DIN 2448 RO 42,4x2,6</td></tr> <tr><td>400,000 mm</td><td>DIN 2448 RO 42,4x2,6_00000029</td><td>DIN 2448 RO 42,4x2,6</td></tr> <tr><td>416,312 mm</td><td>DIN 2448 RO 42,4x2,6_00000030</td><td>DIN 2448 RO 42,4x2,6</td></tr> <tr><td>1256,637 mm</td><td>DIN 2448 RO 42,4x2,6_00000031</td><td>DIN 2448 RO 42,4x2,6</td></tr> <tr><td>1200,000 mm</td><td>DIN 2448 RO 42,4x2,6_00000032</td><td>DIN 2448 RO 42,4x2,6</td></tr> <tr><td>1256,637 mm</td><td>DIN 2448 RO 42,4x2,6_00000033</td><td>DIN 2448 RO 42,4x2,6</td></tr> <tr><td>400,000 mm</td><td>DIN 2448 RO 42,4x2,6_00000034</td><td>DIN 2448 RO 42,4x2,6</td></tr> <tr><td>1</td><td>Plate Floor UP</td><td></td></tr> <tr><td>1247,879 mm</td><td>DIN 1026 U 100_00000004</td><td>DIN 1026 U 100</td></tr> <tr><td>1397,879 mm</td><td>DIN 1026 U 100_00000005</td><td>DIN 1026 U 100</td></tr> <tr><td>1247,879 mm</td><td>DIN 1026 U 100_00000006</td><td>DIN 1026 U 100</td></tr> <tr><td>1397,879 mm</td><td>DIN 1026 U 100_00000007</td><td>DIN 1026 U 100</td></tr> <tr><td>16</td><td>Plate Treads</td><td></td></tr> <tr><td>1</td><td>Plate Floor DOWN</td><td></td></tr> <tr><td>1</td><td>Access Gangway 1</td><td></td></tr> <tr><td>245,444 mm</td><td>DIN 1026 U 100_00000008</td><td>DIN 1026 U 100</td></tr> <tr><td>273,142 mm</td><td>DIN 1026 U 100_00000009</td><td>DIN 1026 U 100</td></tr> <tr><td>245,444 mm</td><td>DIN 1026 U 100_00000010</td><td>DIN 1026 U 100</td></tr> <tr><td>2670,963 mm</td><td>DIN 1026 U 100_00000011</td><td>DIN 1026 U 100</td></tr> <tr><td>2697,105 mm</td><td>DIN 1026 U 100_00000012</td><td>DIN 1026 U 100</td></tr> <tr><td>250,000 mm</td><td>DIN 1026 U 100_00000013</td><td>DIN 1026 U 100</td></tr> <tr><td>250,000 mm</td><td>DIN 1026 U 100_00000014</td><td>DIN 1026 U 100</td></tr> <tr><td>250,000 mm</td><td>DIN 1026 U 100_00000015</td><td>DIN 1026 U 100</td></tr> <tr><td>2670,963 mm</td><td>DIN 1026 U 100_00000016</td><td>DIN 1026 U 100</td></tr> <tr><td>2670,963 mm</td><td>DIN 1026 U 100_00000017</td><td>DIN 1026 U 100</td></tr> </tbody> </table>	QTY	PART NUMBER	STOCK NUMBER	9441,376 mm	DIN 2448 RO 42,4x2,6_00000018	DIN 2448 RO 42,4x2,6	4241,556 mm	DIN 2448 RO 42,4x2,6_00000019	DIN 2448 RO 42,4x2,6	4200,438 mm	DIN 2448 RO 42,4x2,6_00000020	DIN 2448 RO 42,4x2,6	4338,032 mm	DIN 2448 RO 42,4x2,6_00000021	DIN 2448 RO 42,4x2,6	4631,331 mm	DIN 2448 RO 42,4x2,6_00000022	DIN 2448 RO 42,4x2,6	4631,331 mm	DIN 2448 RO 42,4x2,6_00000023	DIN 2448 RO 42,4x2,6	9296,236 mm	DIN 2448 RO 42,4x2,6_00000024	DIN 2448 RO 42,4x2,6	417,264 mm	DIN 2448 RO 42,4x2,6_00000025	DIN 2448 RO 42,4x2,6	1256,637 mm	DIN 2448 RO 42,4x2,6_00000026	DIN 2448 RO 42,4x2,6	1200,000 mm	DIN 2448 RO 42,4x2,6_00000027	DIN 2448 RO 42,4x2,6	1256,637 mm	DIN 2448 RO 42,4x2,6_00000028	DIN 2448 RO 42,4x2,6	400,000 mm	DIN 2448 RO 42,4x2,6_00000029	DIN 2448 RO 42,4x2,6	416,312 mm	DIN 2448 RO 42,4x2,6_00000030	DIN 2448 RO 42,4x2,6	1256,637 mm	DIN 2448 RO 42,4x2,6_00000031	DIN 2448 RO 42,4x2,6	1200,000 mm	DIN 2448 RO 42,4x2,6_00000032	DIN 2448 RO 42,4x2,6	1256,637 mm	DIN 2448 RO 42,4x2,6_00000033	DIN 2448 RO 42,4x2,6	400,000 mm	DIN 2448 RO 42,4x2,6_00000034	DIN 2448 RO 42,4x2,6	1	Plate Floor UP		1247,879 mm	DIN 1026 U 100_00000004	DIN 1026 U 100	1397,879 mm	DIN 1026 U 100_00000005	DIN 1026 U 100	1247,879 mm	DIN 1026 U 100_00000006	DIN 1026 U 100	1397,879 mm	DIN 1026 U 100_00000007	DIN 1026 U 100	16	Plate Treads		1	Plate Floor DOWN		1	Access Gangway 1		245,444 mm	DIN 1026 U 100_00000008	DIN 1026 U 100	273,142 mm	DIN 1026 U 100_00000009	DIN 1026 U 100	245,444 mm	DIN 1026 U 100_00000010	DIN 1026 U 100	2670,963 mm	DIN 1026 U 100_00000011	DIN 1026 U 100	2697,105 mm	DIN 1026 U 100_00000012	DIN 1026 U 100	250,000 mm	DIN 1026 U 100_00000013	DIN 1026 U 100	250,000 mm	DIN 1026 U 100_00000014	DIN 1026 U 100	250,000 mm	DIN 1026 U 100_00000015	DIN 1026 U 100	2670,963 mm	DIN 1026 U 100_00000016	DIN 1026 U 100	2670,963 mm	DIN 1026 U 100_00000017	DIN 1026 U 100
QTY	PART NUMBER	STOCK NUMBER																																																																																																												
9441,376 mm	DIN 2448 RO 42,4x2,6_00000018	DIN 2448 RO 42,4x2,6																																																																																																												
4241,556 mm	DIN 2448 RO 42,4x2,6_00000019	DIN 2448 RO 42,4x2,6																																																																																																												
4200,438 mm	DIN 2448 RO 42,4x2,6_00000020	DIN 2448 RO 42,4x2,6																																																																																																												
4338,032 mm	DIN 2448 RO 42,4x2,6_00000021	DIN 2448 RO 42,4x2,6																																																																																																												
4631,331 mm	DIN 2448 RO 42,4x2,6_00000022	DIN 2448 RO 42,4x2,6																																																																																																												
4631,331 mm	DIN 2448 RO 42,4x2,6_00000023	DIN 2448 RO 42,4x2,6																																																																																																												
9296,236 mm	DIN 2448 RO 42,4x2,6_00000024	DIN 2448 RO 42,4x2,6																																																																																																												
417,264 mm	DIN 2448 RO 42,4x2,6_00000025	DIN 2448 RO 42,4x2,6																																																																																																												
1256,637 mm	DIN 2448 RO 42,4x2,6_00000026	DIN 2448 RO 42,4x2,6																																																																																																												
1200,000 mm	DIN 2448 RO 42,4x2,6_00000027	DIN 2448 RO 42,4x2,6																																																																																																												
1256,637 mm	DIN 2448 RO 42,4x2,6_00000028	DIN 2448 RO 42,4x2,6																																																																																																												
400,000 mm	DIN 2448 RO 42,4x2,6_00000029	DIN 2448 RO 42,4x2,6																																																																																																												
416,312 mm	DIN 2448 RO 42,4x2,6_00000030	DIN 2448 RO 42,4x2,6																																																																																																												
1256,637 mm	DIN 2448 RO 42,4x2,6_00000031	DIN 2448 RO 42,4x2,6																																																																																																												
1200,000 mm	DIN 2448 RO 42,4x2,6_00000032	DIN 2448 RO 42,4x2,6																																																																																																												
1256,637 mm	DIN 2448 RO 42,4x2,6_00000033	DIN 2448 RO 42,4x2,6																																																																																																												
400,000 mm	DIN 2448 RO 42,4x2,6_00000034	DIN 2448 RO 42,4x2,6																																																																																																												
1	Plate Floor UP																																																																																																													
1247,879 mm	DIN 1026 U 100_00000004	DIN 1026 U 100																																																																																																												
1397,879 mm	DIN 1026 U 100_00000005	DIN 1026 U 100																																																																																																												
1247,879 mm	DIN 1026 U 100_00000006	DIN 1026 U 100																																																																																																												
1397,879 mm	DIN 1026 U 100_00000007	DIN 1026 U 100																																																																																																												
16	Plate Treads																																																																																																													
1	Plate Floor DOWN																																																																																																													
1	Access Gangway 1																																																																																																													
245,444 mm	DIN 1026 U 100_00000008	DIN 1026 U 100																																																																																																												
273,142 mm	DIN 1026 U 100_00000009	DIN 1026 U 100																																																																																																												
245,444 mm	DIN 1026 U 100_00000010	DIN 1026 U 100																																																																																																												
2670,963 mm	DIN 1026 U 100_00000011	DIN 1026 U 100																																																																																																												
2697,105 mm	DIN 1026 U 100_00000012	DIN 1026 U 100																																																																																																												
250,000 mm	DIN 1026 U 100_00000013	DIN 1026 U 100																																																																																																												
250,000 mm	DIN 1026 U 100_00000014	DIN 1026 U 100																																																																																																												
250,000 mm	DIN 1026 U 100_00000015	DIN 1026 U 100																																																																																																												
2670,963 mm	DIN 1026 U 100_00000016	DIN 1026 U 100																																																																																																												
2670,963 mm	DIN 1026 U 100_00000017	DIN 1026 U 100																																																																																																												

Step	Action	Result
45	<p>Edit the BOM and activate the Group setting dialog</p> 	<p>Note: uncheck Display Group Participants and Display Item Numbers radio buttons</p> 
46	<p>With Format Column modify the QTY column aspect</p> 	

Step	Action	Result																																																	
47	<table><tr><th colspan="3">Parts List</th></tr><tr><th>QTY</th><th>PART NUMBER</th><th>STOCK NUMBER</th></tr><tr><td>1706 cm</td><td></td><td>DIN 1026 U 100</td></tr><tr><td>4984 cm</td><td></td><td>DIN 2448 RO 42,4x2,6</td></tr><tr><td>1</td><td>Plate Floor UP</td><td></td></tr><tr><td>16</td><td>Plate Treads</td><td></td></tr><tr><td>1</td><td>Plate Floor DOWN</td><td></td></tr><tr><td>1</td><td>Access Gangway 1</td><td></td></tr></table>	Parts List			QTY	PART NUMBER	STOCK NUMBER	1706 cm		DIN 1026 U 100	4984 cm		DIN 2448 RO 42,4x2,6	1	Plate Floor UP		16	Plate Treads		1	Plate Floor DOWN		1	Access Gangway 1		 <table><tr><td>Designed by</td><td>Checked by</td><td>Approved by</td><td>Date</td><td>Date</td></tr><tr><td>Carlo</td><td></td><td></td><td></td><td>02/03/2006</td></tr><tr><td colspan="4"></td><td>Edition</td></tr><tr><td colspan="4"></td><td>Sheet</td></tr><tr><td colspan="4"></td><td>1 / 1</td></tr></table>	Designed by	Checked by	Approved by	Date	Date	Carlo				02/03/2006					Edition					Sheet					1 / 1
Parts List																																																			
QTY	PART NUMBER	STOCK NUMBER																																																	
1706 cm		DIN 1026 U 100																																																	
4984 cm		DIN 2448 RO 42,4x2,6																																																	
1	Plate Floor UP																																																		
16	Plate Treads																																																		
1	Plate Floor DOWN																																																		
1	Access Gangway 1																																																		
Designed by	Checked by	Approved by	Date	Date																																															
Carlo				02/03/2006																																															
				Edition																																															
				Sheet																																															
				1 / 1																																															