

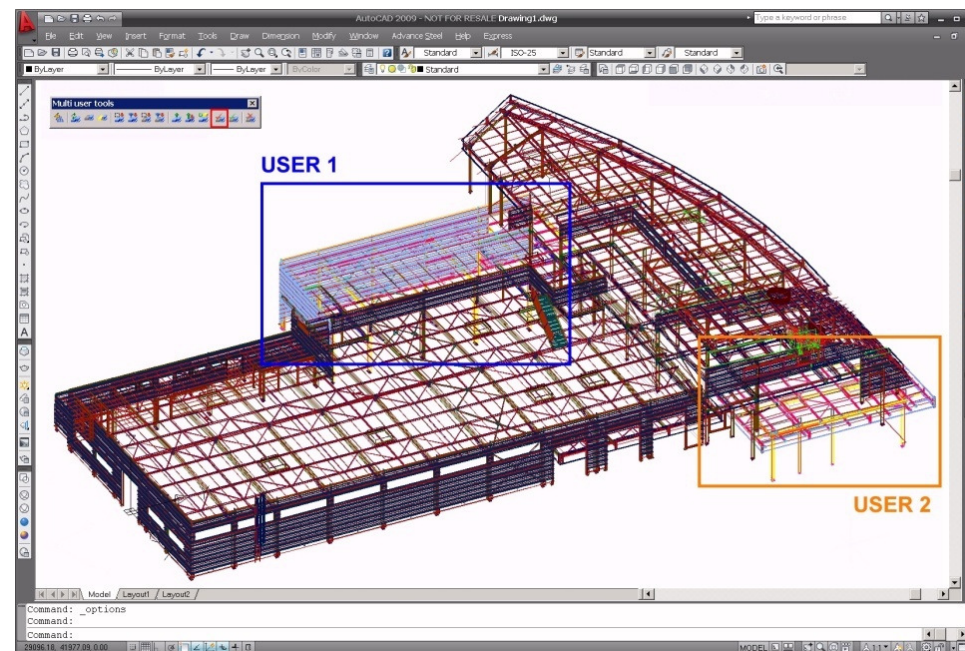


## What is new in Advance Steel 2009

## Multi-user description

New “Model share” technology

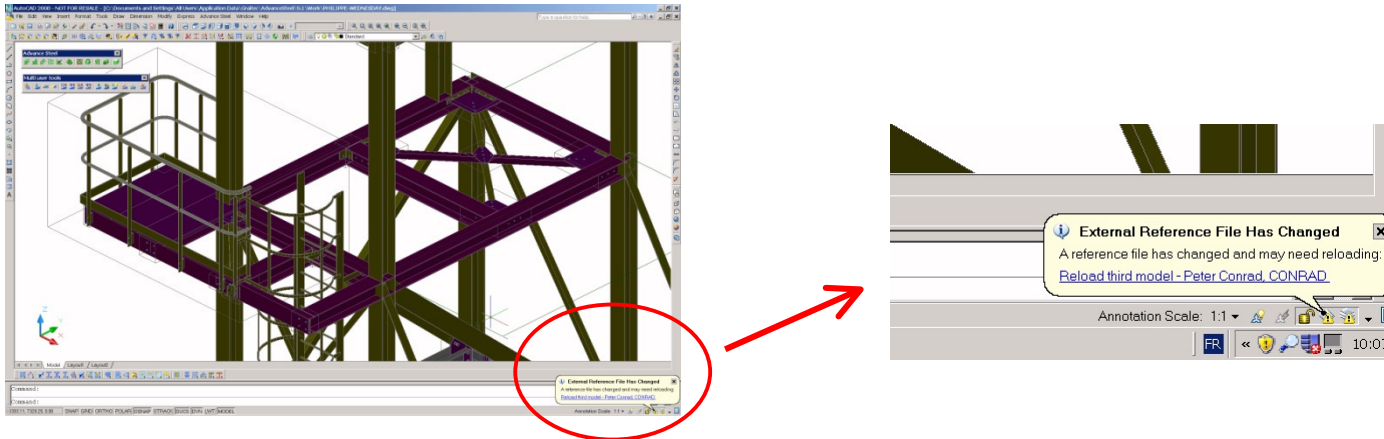
Users can work in a Multi-user mode to speed up their projects



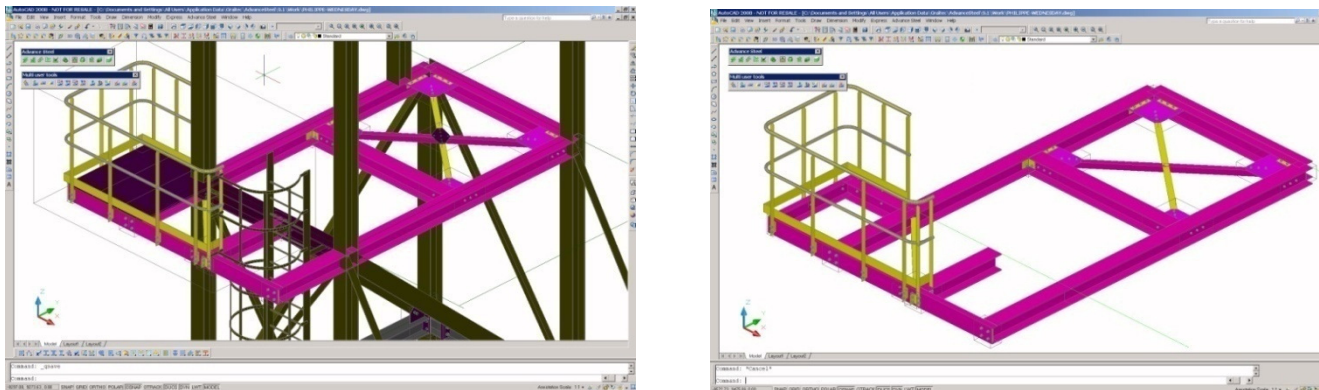
With a specific Multi-user toolbar



All users are informed in real time of a modification done by another user working on the same model.



Any user can borrow/check out a part of the model ...  
... and display only the area where he wants to work



## Several methods to check out objects

Users connected to the Master model can check out Advance Steel elements to work on them. This is possible with different methods.

The user can pick elements or make a window selection over them.

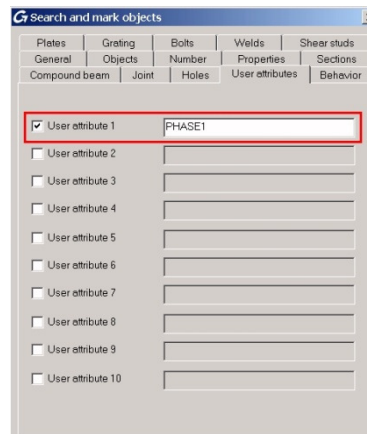
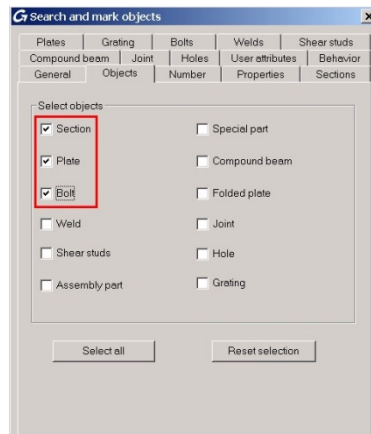


**Check out by selection - Complete**  
 Check out entire objects from master model by selection  
 ? Press F1 for more help

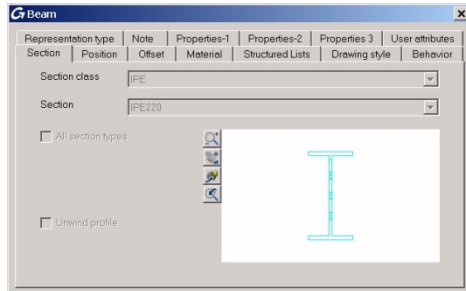
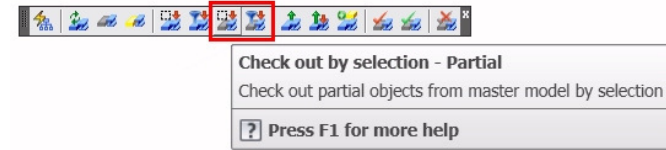
The user can use the Search tool and give different criteria's.



**Check out by filter - Complete**  
 Check out entire objects from master model by filter  
 ? Press F1 for more help

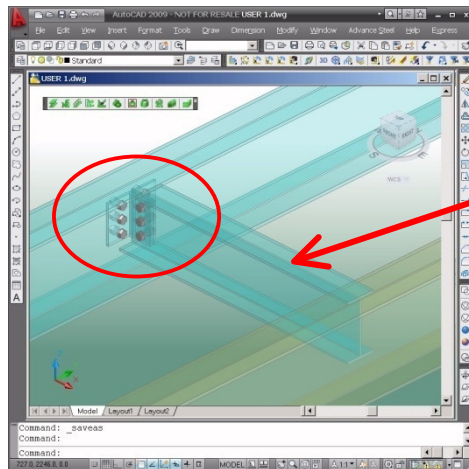


The Advance Steel multi-user allows to partially check out objects.

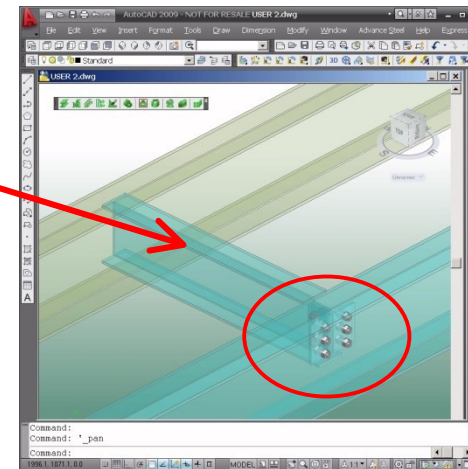


Then the object properties can be viewed and accessed but cannot be changed.

The advantage is that several users can partially check out the same beam in order to connect other beams to this common one.



User 1 creating the Joint between the common checked out beam, and the left beam



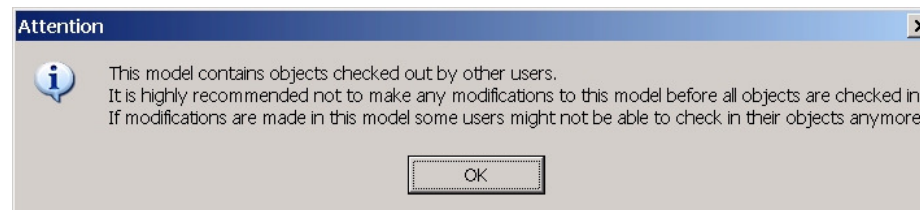
User 2 creating the Joint between the common checked out beam, and the right beam

## Complete secure Multi-user system

Any object already checked out by somebody cannot be borrowed by someone else. If a user tries to do so, warning messages appear.



If someone tries to make a modification in the master model, while the objects are still checked out, warning messages appear.



## Control graphically who is working on what

The Master model can be used to check who checked out which elements.

```
Command: _AstM4XRefMarkCOutObjects
Select objects:

Enter an option [All users/Choose user/Unmark all]

Choose user number:

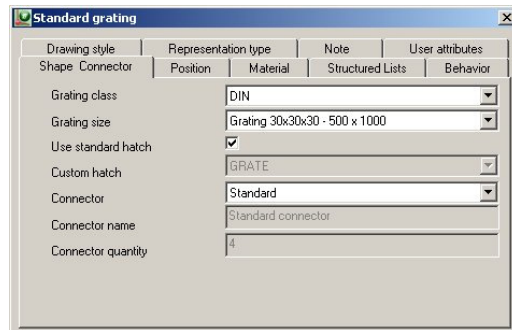
[0] HOSTGRAITEC106_USERphilippe.bonneau_TIME15:40:0.0_RAND24339 [C:\Documents
and Settings\All Users\Application
Data\Graitec\AdvanceSteel\2009\Work\User100.dwg]

[1] HOSTGRAITEC106_USERphilippe.bonneau_TIME15:40:54.0_RAND29452 [C:\Documents
and Settings\All Users\Application
Data\Graitec\AdvanceSteel\2009\Work\user200.dwg]
```

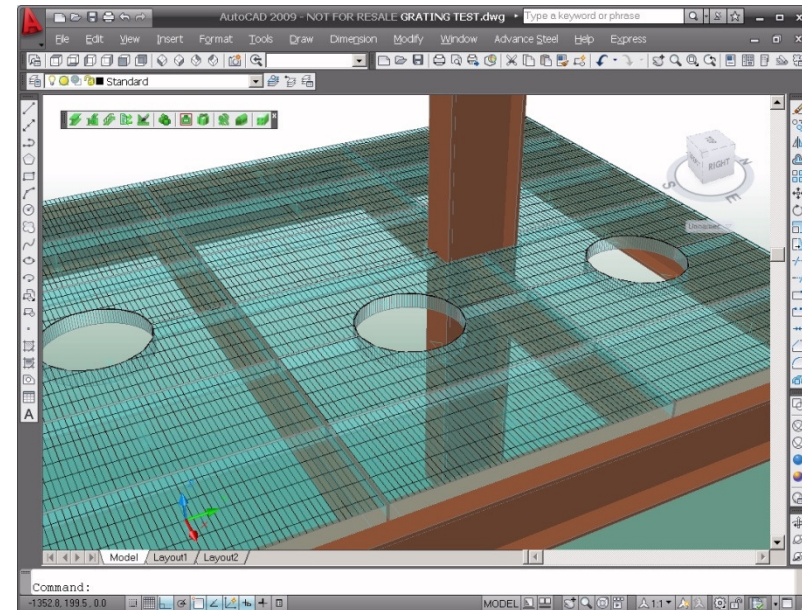
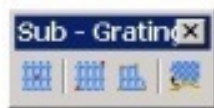
You can either display elements checked out by a specific user, or by all users.

# Add grating in your 3D model and get it in drawings and BOMs

- Specific Grating toolbar
- Complete Grating catalogs
- Rectangular or polygonal shape



- ARCO REDMAN - SP - 34x38
- ELEFANT - PP Stainless
- ELEFANT - PP Type 02 Stainless
- ELEFANT - Stair Treads - Galvanised
- Fisher Expanded Metal Al Flattened
- Fisher Expanded Metal Raised
- France - Diamond grating
- France - Gantois grating
- France - Meiser grating
- Lichtgitter Grating
- McNichols Expanded Al
- McNichols Expanded Carbon Steel
- McNichols Expanded StainlessSteel
- Poland - HMS PR grating
- Poland - MOSTOSTAL STO stair steps
- RAINHAM STEEL - Narrow
- RAINHAM STEEL - Square



Extract: Ext\_2008\_09\_08\_13:56:29.xml  
 Client: McArthur Ltd  
 Project: 2008-10  
 Detailer: Osaki  
 Job: 1881-145  
 Date: 08-sept.-2008

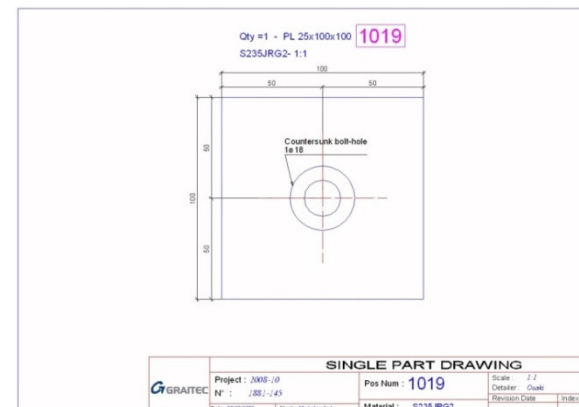
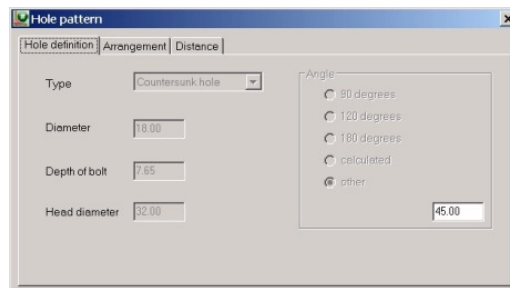
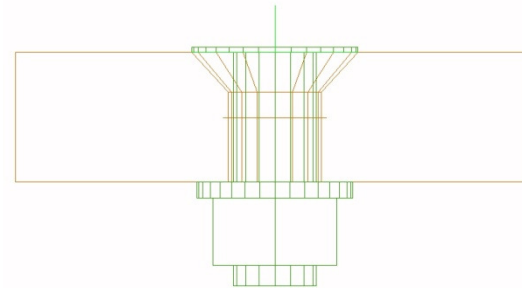
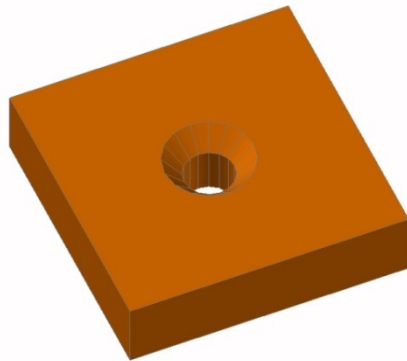
GRATING LIST										
Mark	Name	Quantity	Quality	Length (mm)	Width (mm)	Thickness (mm)	Weight of piece (Kg/piece)	Total weight (Kg)	Surface of piece (m2/piece)	Total Surface (m2)
5	Meiser plate 200x500x30	25	S235JR	500	200	30	2	50	0,242	6,05
6	Meiser plate 300x500x30	16	S235JR	500	300	30	3	48	0,348	5,568
7	Meiser plate 400x500x30	16	S235JR	500	400	30	4	64	0,454	7,264
		57						162		18,882

- Special grating list



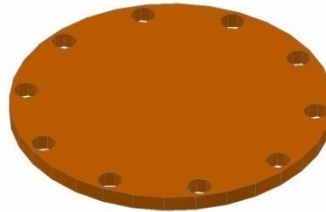
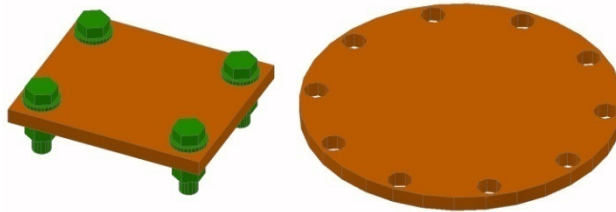
## Intelligent link between bolt and hole type

- Hole created accordingly to the bolt type
- Expected result on drawings

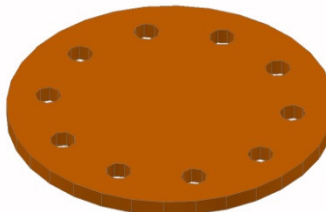
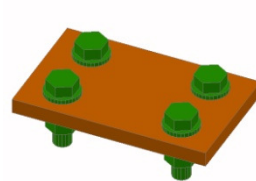


## Automatic checking tool for bolts (and holes) distances

- Extension of the “Steel checking” function to detect:
  - Bolts/holes distances are correct
  - Bolts/holes are not outside objects



```
-----  
| The following objects are semantically incorrect |  
| 1 Bolt [Bolt] |  
| *** Bolt is too close to the object's edge! |  
| 2 Hole [Hole] |  
| *** Hole is too close to the object's edge! |  
|-----
```



```
-----  
| No technical problems found |  
|-----
```

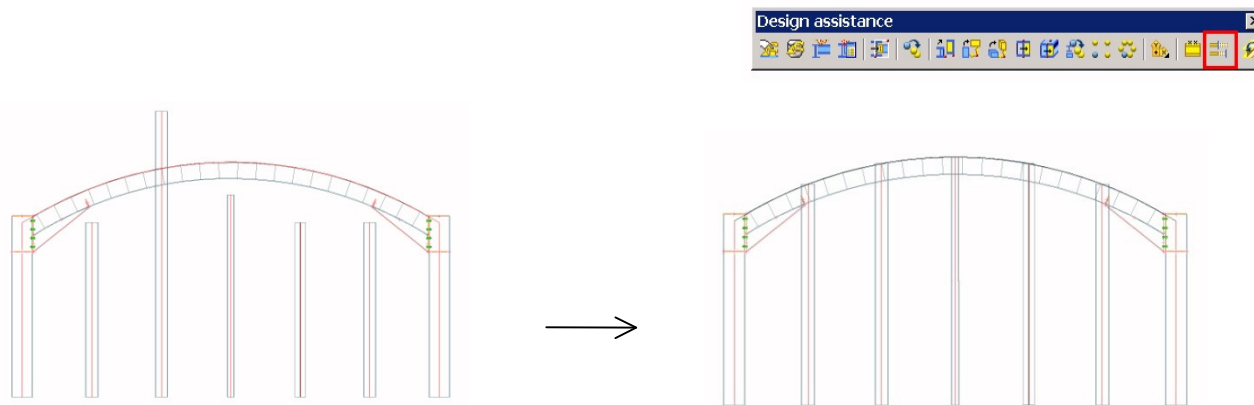
## Specific anchor list

- Anchors are now separated from bolts
- Specific anchor list is available

GRAITEC		Extract	Ext_2008_09_09_17:39:31.xml					
ANCHOR LIST		Client	Date 09-sept.-2008					
Type code	Length	Grade	Coating	Quantity	Type	Weight of piece	Total Weight	Description
	(mm)			(piece)		(kg/piece)	(kg)	
M24 NaW 725 DSTV Anchor 4.6 None	725	4.6		30	DSTV Anchor	3	90,9	
M20 NaW 620 DSTV Anchor 4.6 None	620	4.6		52	DSTV Anchor	1,8	92,4	
M12 Set 160 Hilti AS Steel galvanised	160	Steel		12	Hilti AS	0,1	0,7	
				94			184	

## Go faster on modeling

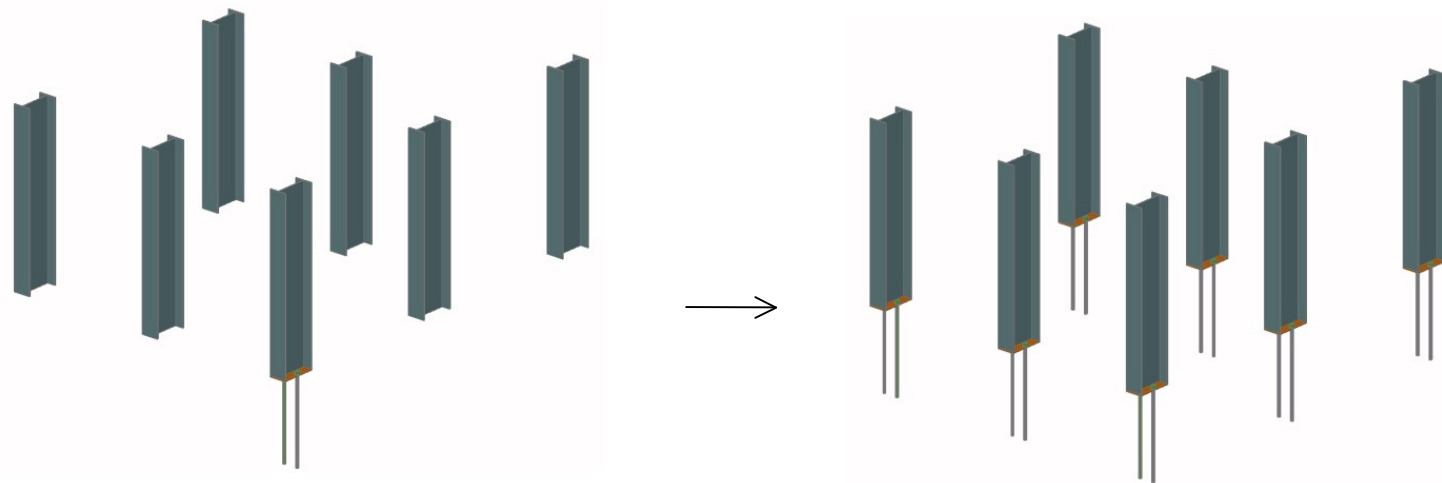
- Trim/extend commands



- Divide/measure commands
- Rotate member to UCS

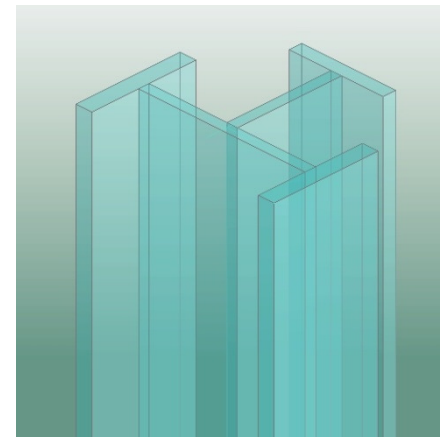
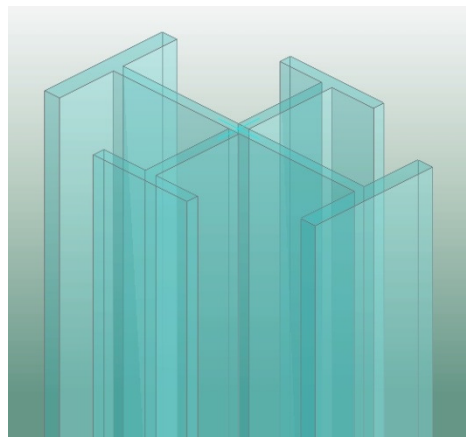
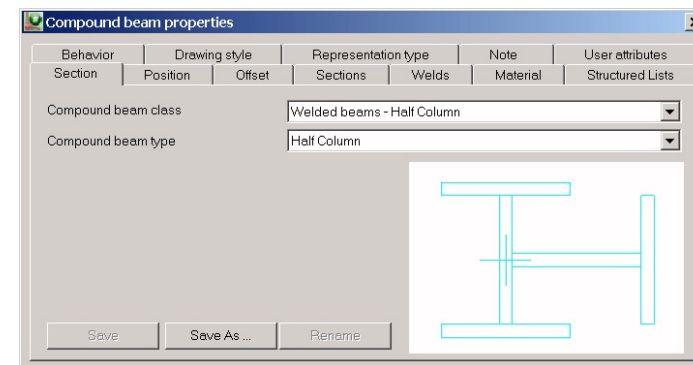
## Copy your connections faster

- Extended functionalities for “Create by template” command to use it in a continuous way



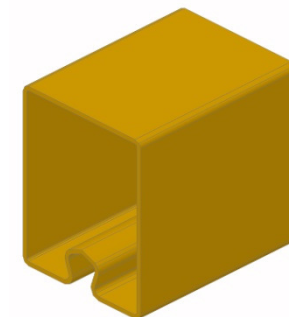
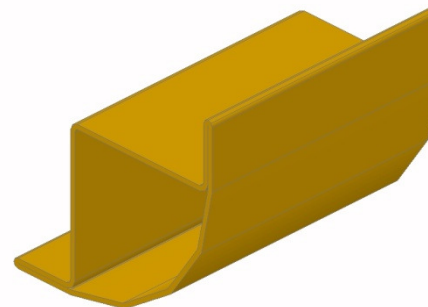
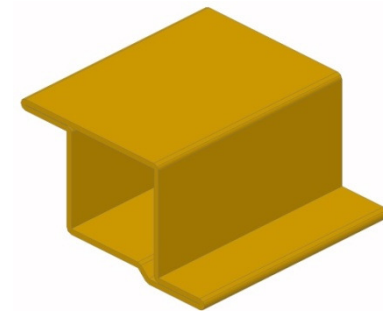
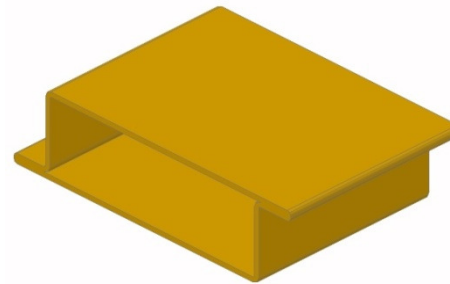
## New welded beam types

- New compound beams:
  - Half column I
  - Half column I+T



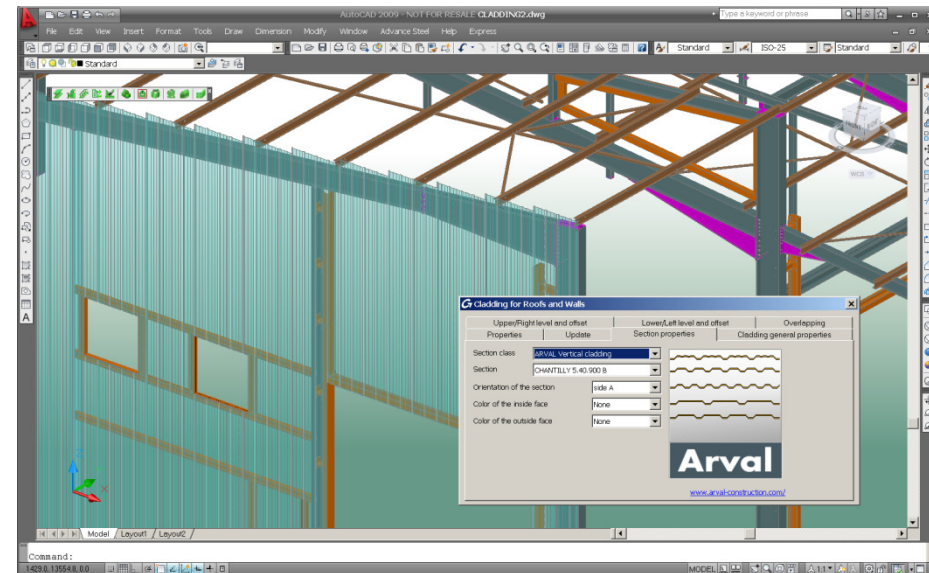
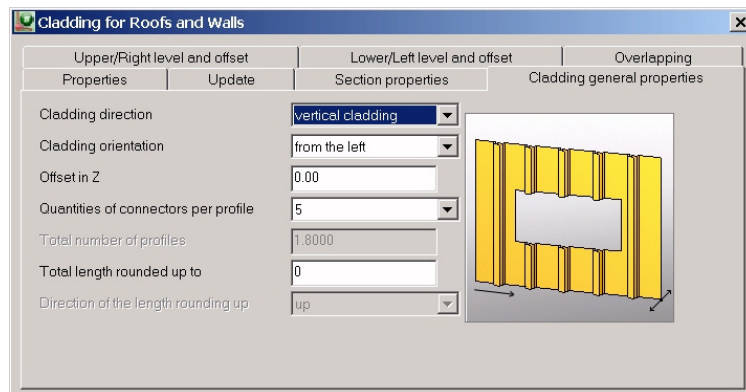
## New profiles for windows and doors

- New steel profiles:
  - RP TECHNICK
  - JANSEN
  - FORSTER



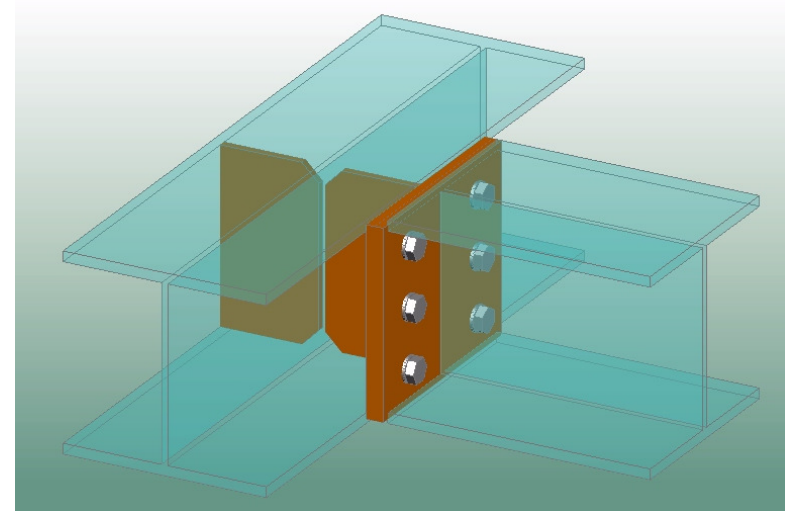
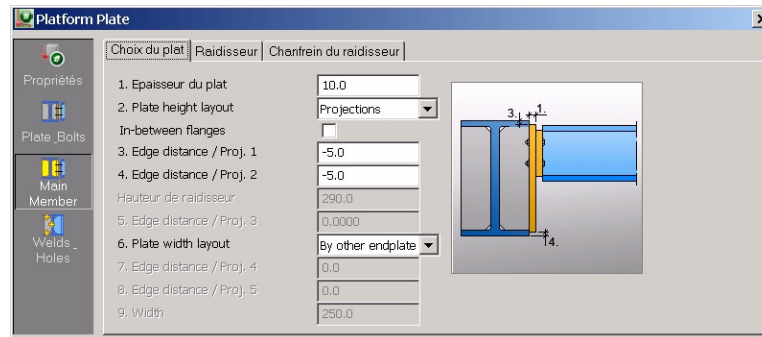
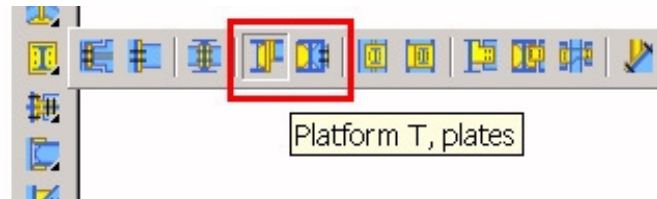
# New ARCELOR-MITTAL profiles

Update of the cladding catalog in order to deliver all cladding profiles currently available by ARVAL, a company from ARCELOR-MITTAL group



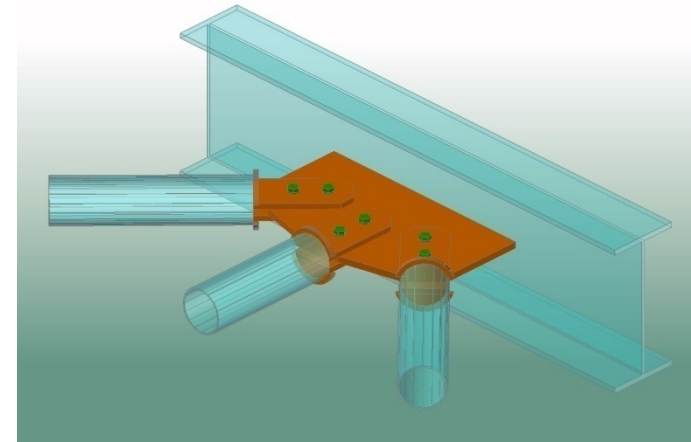
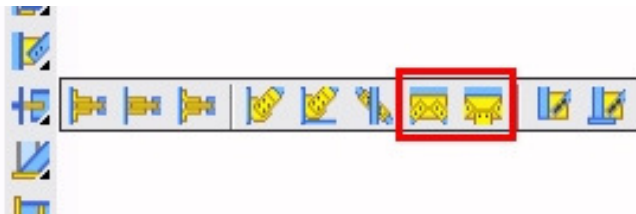


- New platform T

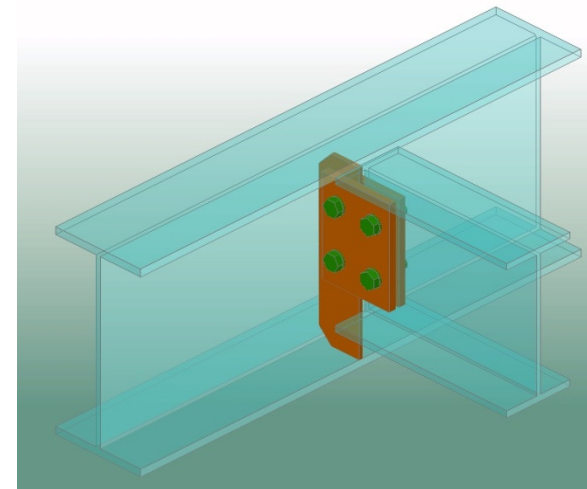


- New direct bolting (bolts on beams intersection)

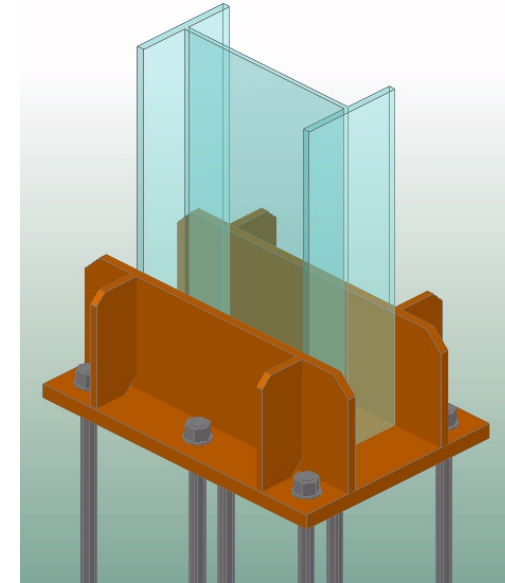
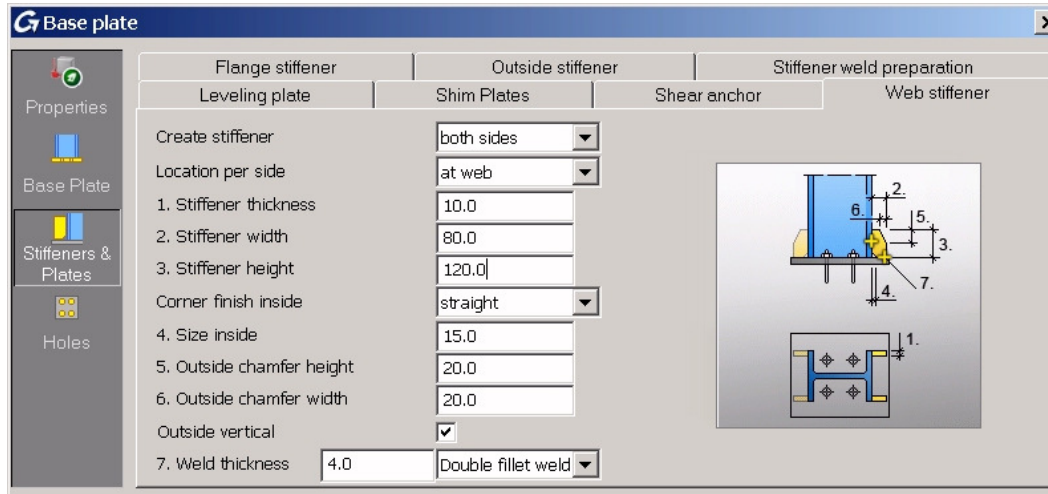
- Tube bracing for 2 diagonals
- Tube bracing for 3 diagonals



- New shear-splice plate



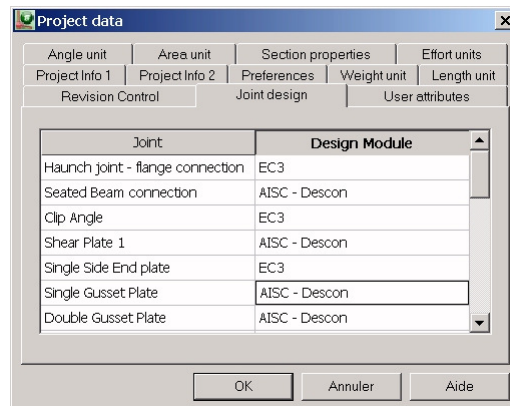
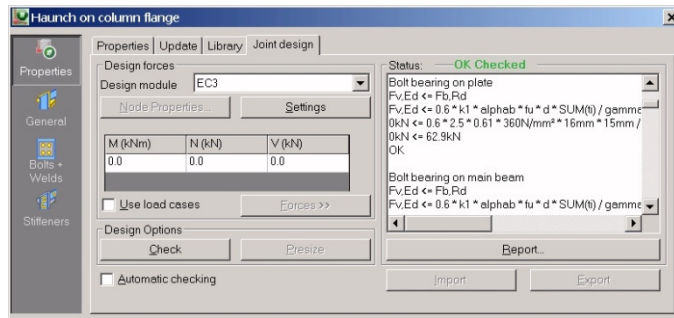
- New base plate



- Corner base plate improvements (galvanized holes, ..)
- Parametric cope improvements
- More Joints working with curved beams (e.g. Haunch joint)
- Additional options in existing Joints

# EC3 Joint Design integrated to several Joints

GRAITEC Joint Design engine integrated to more than 10 Joints



## Flange Haunch

Standard: EC3

Column: IPE330; ID: 3; Material: S235JRG2

Rafter: IPE240; ID: 5; Material: S235JRG2

## Bolt Verification

### Conditions

Min/Max bolt edge distance (on load direction)

$$1.2 \cdot d_b \leq e_1$$

$$21.6\text{mm} \leq 65\text{mm}$$

OK

Min/Max bolt edge distance (perpendicular on load direction)

$$1.2 \cdot d_b \leq e_2$$

$$21.6\text{mm} \leq 37\text{mm}$$

OK

Min/Max bolt spacing distance (on load direction)

$$2.2 \cdot d_b \leq p_1 \leq \min(14 \cdot t, 200\text{mm})$$

$$39.6\text{mm} \leq 65\text{mm} \leq 161\text{mm}$$

OK

### Bolt Shear Verification

$$F_{v,Ed} \leq F_{v,Rd}$$

$$V_{Ed} / (n \cdot A_{ub} \cdot \alpha_v) \leq n_s \cdot \alpha_v \cdot f_{ub} \cdot A_s / Y_{Mb}$$

$$4.1\text{kN} / (1 \cdot 12) \leq 1 \cdot 0.5 \cdot 1000\text{N/mm}^2 \cdot 0\text{m}^2 / 1.25$$

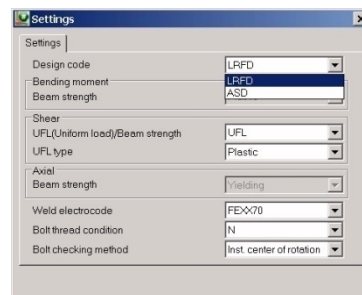
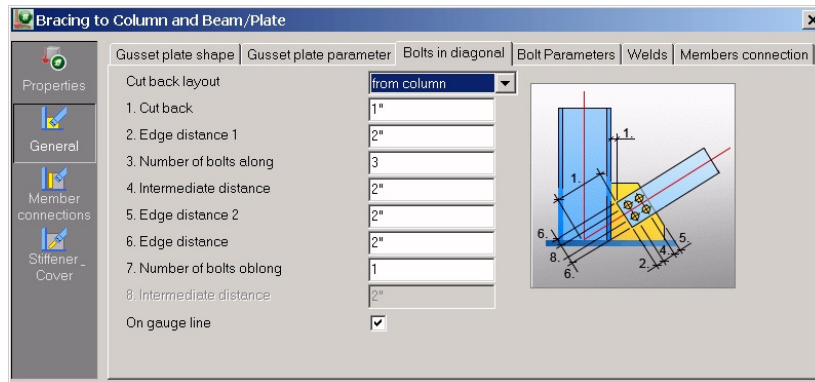
$$0.3\text{kN} \leq 62.8\text{kN}$$

OK

# AISC Joint Design for bracings

GRAITEC Joint Design engine integrated to:

- “Bracing to column and base plate” joint
- “Single gusset plate bracing” joint



## Bracing to Plate

Standard: LRFD

Column: W18x130; ID: 16; Material: ASTM A992

Secondary beam: W18x175; ID: 17; Material: ASTM A992

Diagonal: L2X2X3/8; ID: 24; Material: ASTM A36

### Connection Capacity

V = 50.8kN, (Tension Strength Of The Brace)

## Bolt Checking

### Conditions

#### Minimum Bolt Edge Distance

$1 \frac{3}{4}d$  (round up to 1/8 inch or 5 mm)  $\leq$  Bolt Edge Distance  
 $1 \text{ in.} \leq 1 \text{ in.}$

OK

#### Maximum Bolt Edge Distance

Bolt Edge Distance  $\leq \min(6 \text{ inch or } 150 \text{ mm}, 12 * \min(\text{connected objects thicknesses}))$   
 $2 \text{ in.} \leq 5 \text{ in.}$

OK

#### Minimum Bolt Spacing

$3*d$  (round up to 1/8 inch or 5 mm)  $\leq$  Bolt Spacing  
 $1 \text{ in.} \leq 2 \text{ in.}$

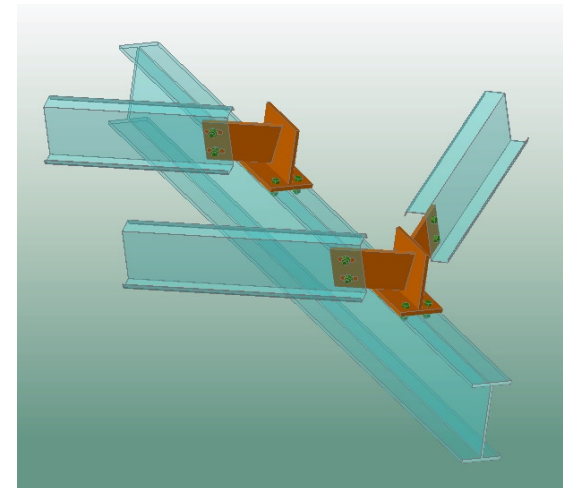
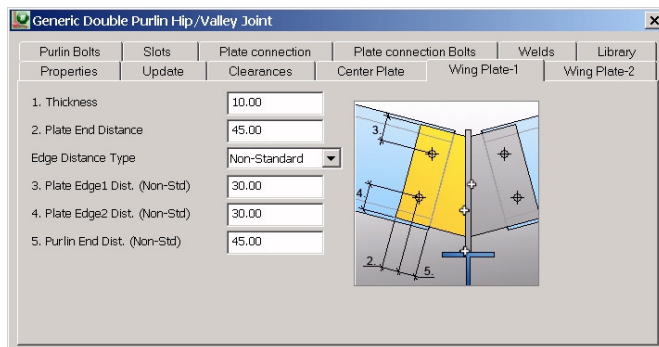
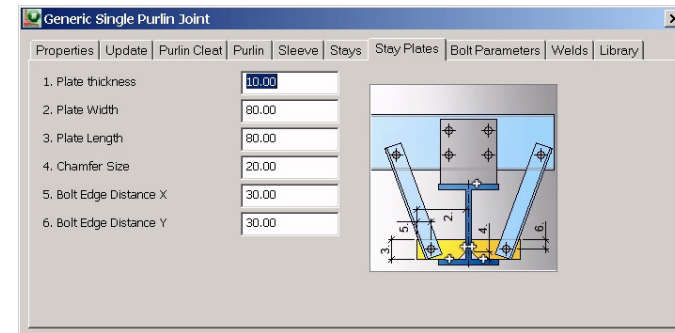
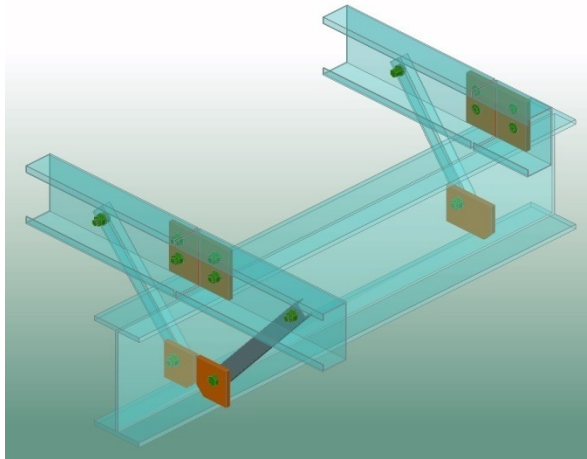
OK

#### Maximum Bolt Spacing

Bolt Spacing  $\leq \min(12 \text{ inch or } 305 \text{ mm}, 24 * \min(\text{connected objects thicknesses}))$   
 $2 \text{ in.} \leq 9 \text{ in.}$

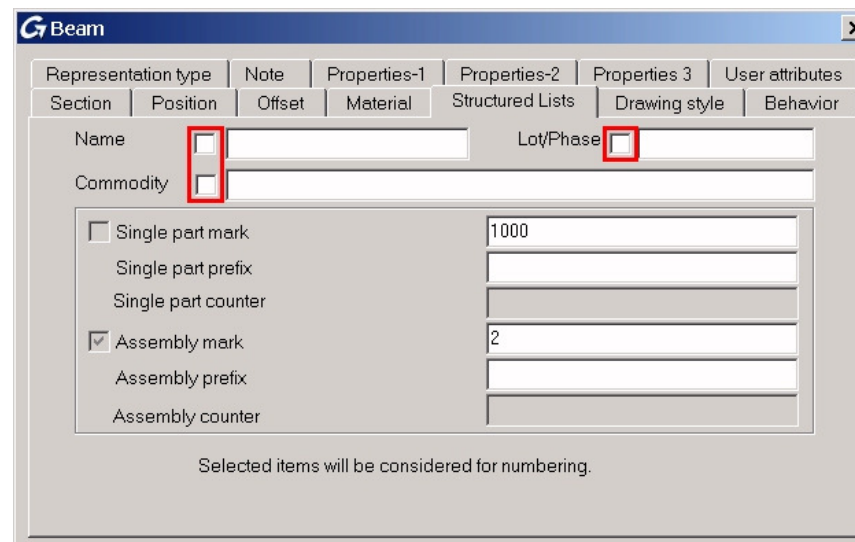
OK

# New Joints for Cold rolled profiles



## Better flexibility for Numbering

- Possibility to select properties to be taken in consideration
- Just requires to select the checkbox in front of it



GBeam

Representation type | Note | Properties-1 | Properties-2 | Properties 3 | User attributes

Section | Position | Offset | Material | Structured Lists | Drawing style | Behavior

Name  Lot/Phase

Commodity

Single part mark 1000

Single part prefix

Single part counter

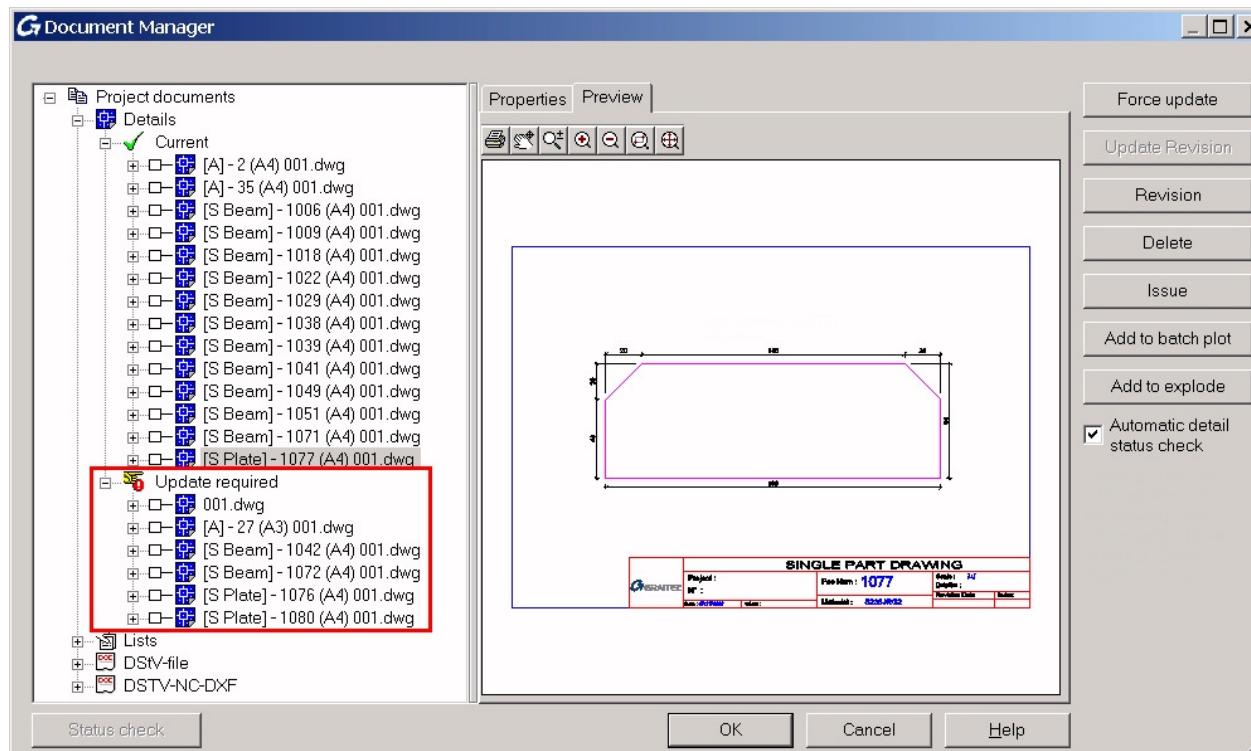
Assembly mark 2

Assembly prefix

Assembly counter

Selected items will be considered for numbering.

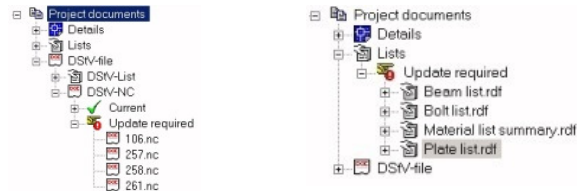
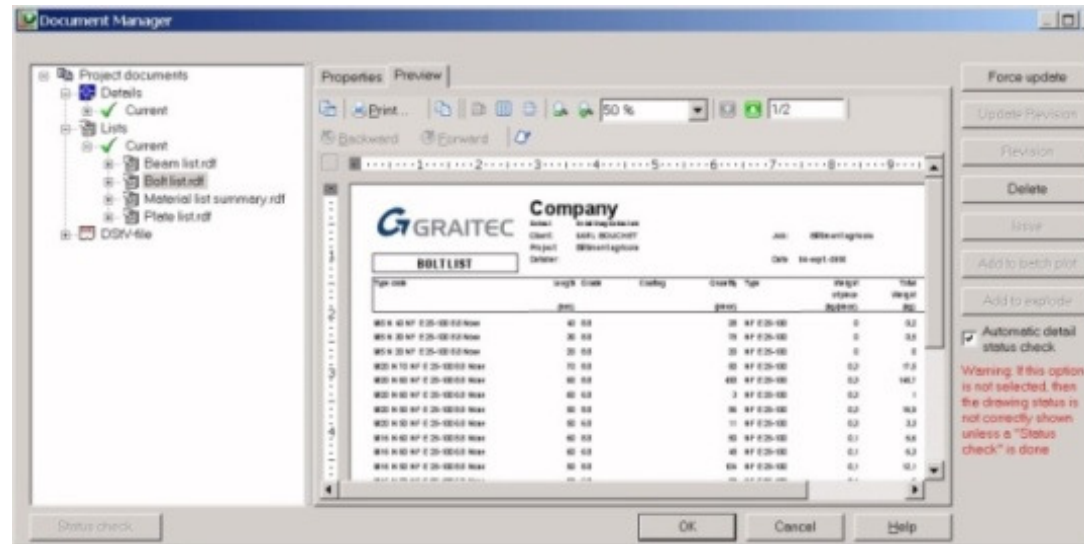
# Be 100% confident in the Document Manager



Advance Steel now flags only the drawings that absolutely need an update



# Update your BOMs and NC files



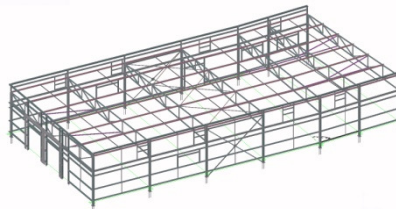
Possibility to check within the Document Manager the status of all your documents and to update (NEW) your BOMs and NC files (in addition to your drawings)



## Get access to your documents much faster

### *Result in AS8.1*

It takes **2min 20s** to open the Document Manager

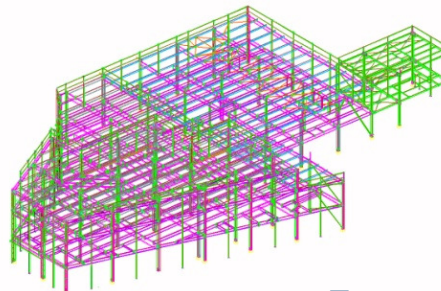


*16 Tons*

### *Result in AS2009*

It takes **7s** to open the Document Manager

Automatic creation of 1036 SP drawings of the beams with a Process

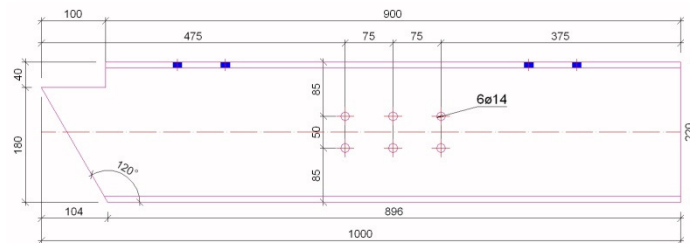


*500 Tons*

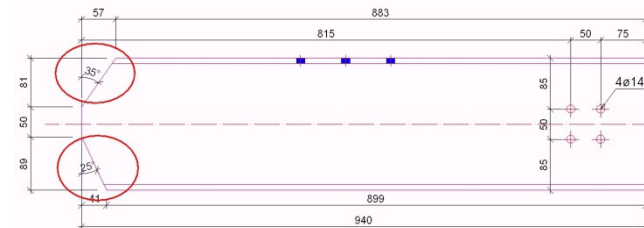
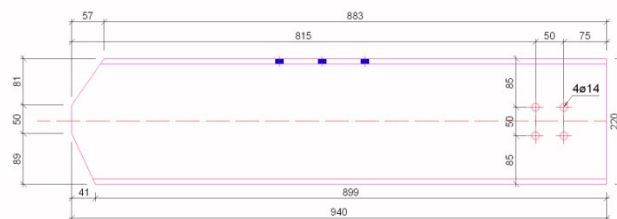
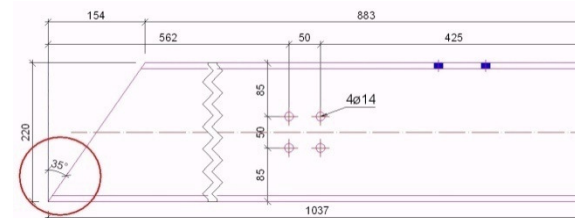
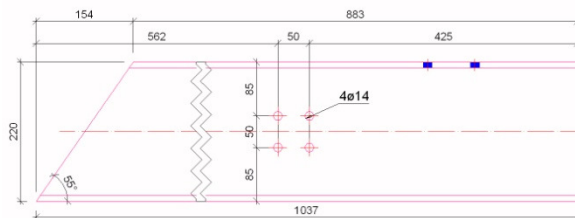
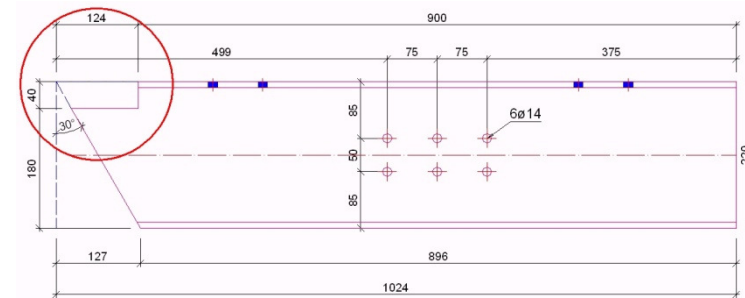
With the same process, you save **30%** of your time to get these 1036 drawings

# Expected automatic saw cut angle

*Result in AS8.1*



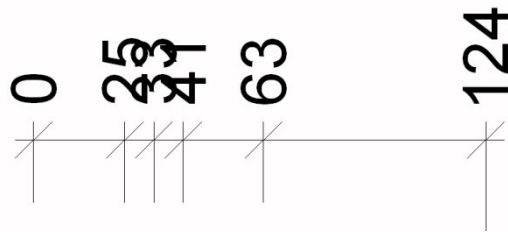
*Result in AS2009*



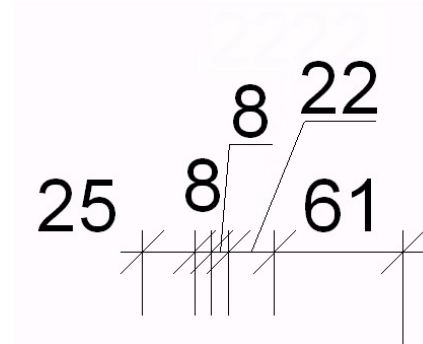
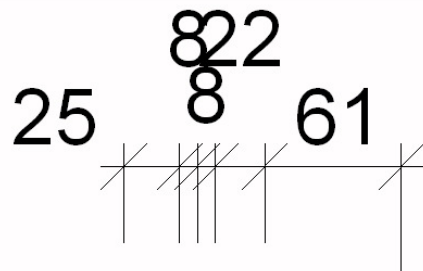
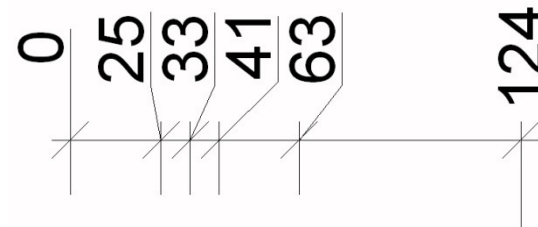


## Better automatic placement of AS dimensions

*Result in AS8.1*

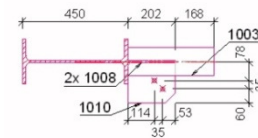
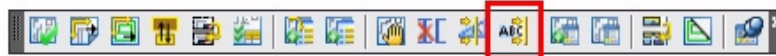


*Result in AS2009*

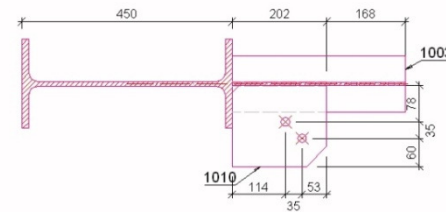


## Automatic cut view renaming

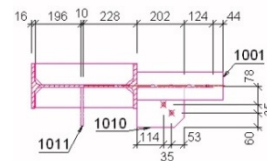
- Can be used when a cut view is deleted and a new one is created
- Deleted cut view number is then automatically reused
- No gap in the cut view numbering



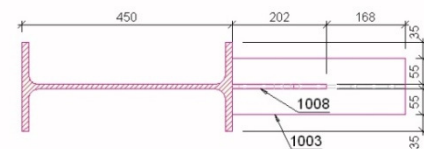
CUT A - A



CUT C - C



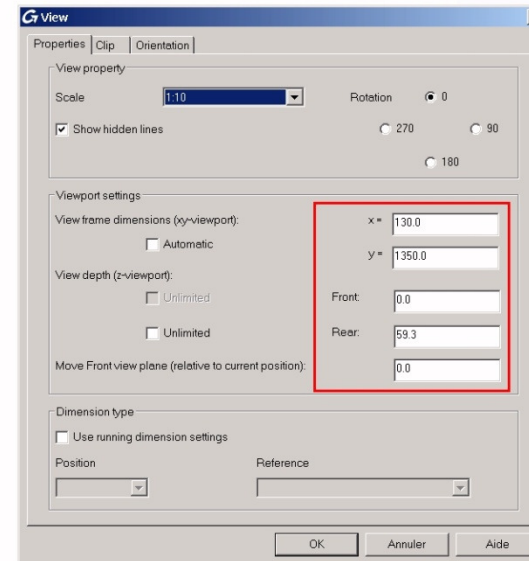
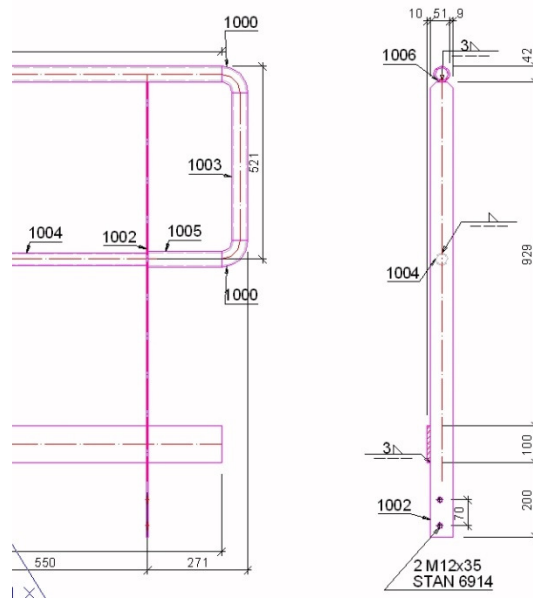
CUT B - B



CUT D - D

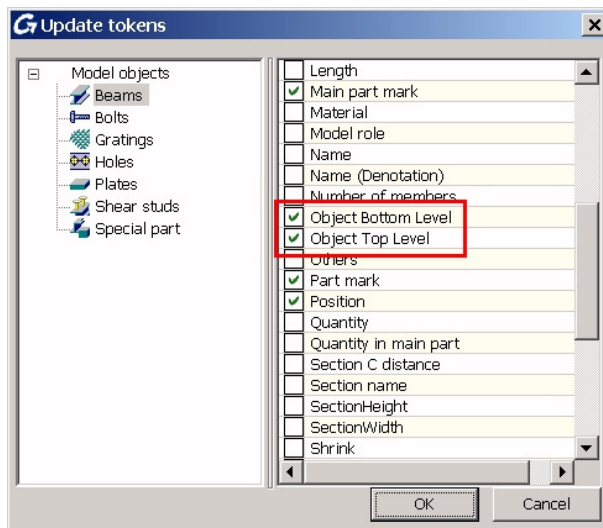
## Change the cut view size and depth afterwards

- Possibility to set x,y and z values afterwards
- Faster cut view creation
- Better automatic arrangements
- Manual cut view can be limited in view depths

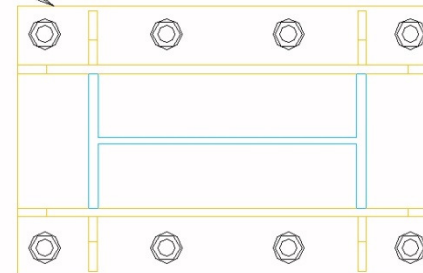


## Dimension base plate levels on anchor view

- New tokens to get bottom level and top level for Base plates
- Very useful when all base plates are not at the same level



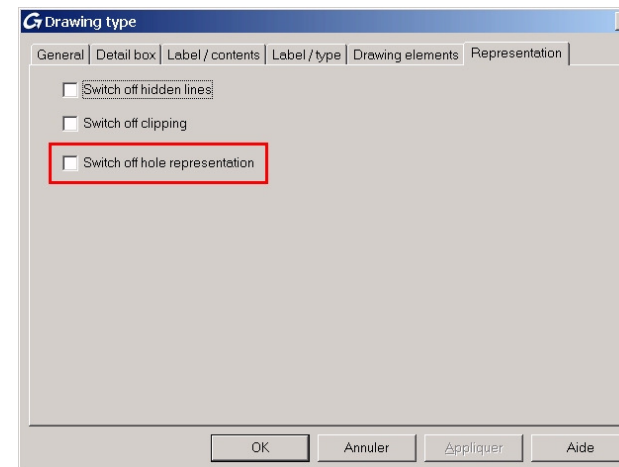
Bottom level: 0 mm  
Top level: 20 mm



## Get your drawings faster

- Workshop drawing creation is faster
- View properties modification (e.g. scale) is much faster
- Cut view creation is much faster
- Users can easily decide to display no holes on drawings, which speeds up drawing creation

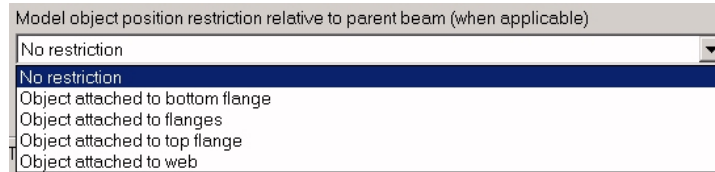
[S Plate] - 23 (A4) 001.dwg	65 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 25 (A4) 001.dwg	65 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 27 (A4) 001.dwg	62 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 28 (A4) 001.dwg	62 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 29 (A4) 001.dwg	63 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 38 (A4) 001.dwg	62 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 39 (A4) 001.dwg	62 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 40 (A4) 001.dwg	70 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 41 (A4) 001.dwg	61 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 72 (A4) 001.dwg	67 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 73 (A4) 001.dwg	62 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 74 (A4) 001.dwg	72 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 76 (A4) 001.dwg	65 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 102 (A4) 001.dwg	66 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 263 (A4) 001.dwg	67 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 264 (A4) 001.dwg	65 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 265 (A4) 001.dwg	70 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 267 (A4) 001.dwg	66 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 268 (A4) 001.dwg	66 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 269 (A4) 001.dwg	66 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 270 (A4) 001.dwg	66 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 271 (A4) 001.dwg	67 Ko	AutoCAD Drawing	04/09/2008 10:53
[S Plate] - 273 (A4) 001.dwg	66 Ko	AutoCAD Drawing	04/09/2008 10:53





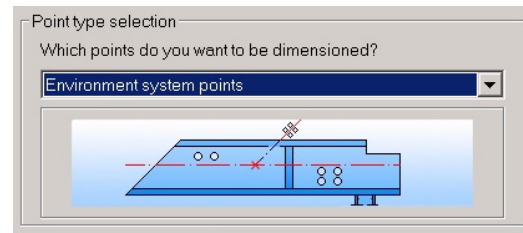
- Drawing styles - easier configuration

Simplified way to customize drawing styles by splitting main members in “web”, “upper flange” and “lower flange”



- Environment parts - automatic dimensioning

The environment parts can be dimensioned automatically on drawings



- Other improvements

- New option to have green frames around details always visible
- Improvements when changing the prototype within a drawing
- Rotate a view also rotate user adjustments (e.g. dimensions)
- Holding dialog for manual dimensions

## Get a saw cut list with colored pictures

**GRAITEC** Company









Extract file: TemporaryXML.xml

Client: Job No:

Project: Date: 07-nov.-08

Detailer:

**SAW LIST**

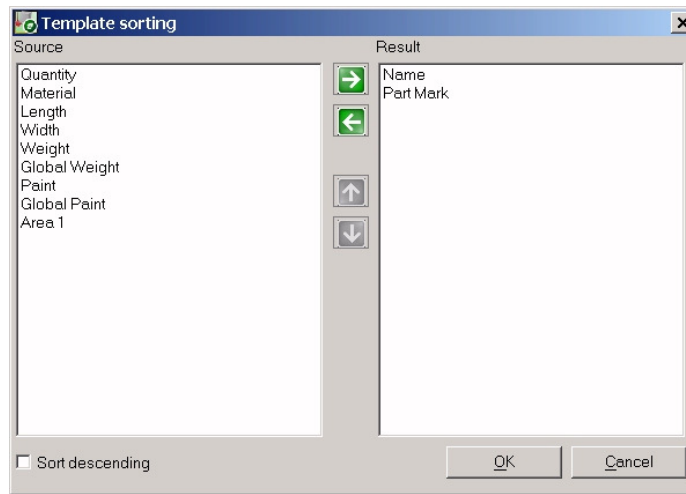
Mark	Description	Grade	Saw length (mm)	Amount	(Degree)	Web	(Degree)	(Degree)	Flange	(Degree)		
1	IPE300	S235JRG2	2 057	4	-25		I	-30	0		H	0
3	IPE300	S235JRG2	2 020	3	-25		I	0	0		H	0
4	IPE300	S235JRG2	2 002	3	-25		I	12	0		H	0
5	IPE300	S235JRG2	1 987	1	-25		I	12	0		H	0

# Get access to DSTV lists in the new BOM editor

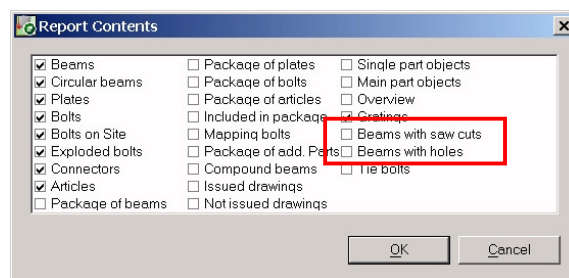
The screenshot displays the software's tree view on the left and a table of DSTV parameters on the right. The tree view shows a hierarchy starting with 'Advance Template', followed by 'User Template', 'Created documents', 'Drawing', 'DSV', and 'DSM Template'. Under 'DSM Template', there is a 'Main' folder containing 'Header', 'Z-Part', 'Beams', 'Plates', 'Bolts', 'Bolts on Site', 'Expl. Bolts', and 'Connectors'. The 'Beams' folder is expanded to show 'H-Part', 'W-Part', 'N-Part', and 'A-Part'. The 'H-Part' folder is selected, and the table on the right shows the parameters for this part type.

Name	Value setting	Value	Example
Material	DSTV Name	%IDSIV	HEA200
Length	Length	%Length	2000
Width	None	%Width	%Width
Main part mark	Part Mark	%IPNum	1
Quantity	Main Part Quantity	%MQuantity	5
Quality	Material	%Material	S235JRG2
Acceptance index	None		
Annotation	None		
TB text	DSTV Name	%IDSIV - %Length	HEA200 - 2000
Specification item 1	None		
Specification item 2	None		
Specification item 3	None		
Specification item 4	None		
Specification item 5	None		
Identifier - special weighth	None		
Identifier - special coating area	None		
Special weight	None		
Special coating	Paint	%IPaint	2
Production line	None		
Reservation number	None		
Characteristic	None		
No. of drill holes	Number Of Holes	%IHoles	9
Grid square	None		
Store	None		
Long	Dimension X	%MX	15
Wide	Dimension Y	%MY	2
High	Dimension Z	%MZ	1

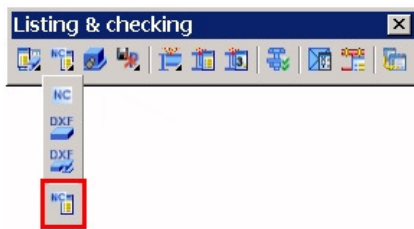
- More sorting possibilities



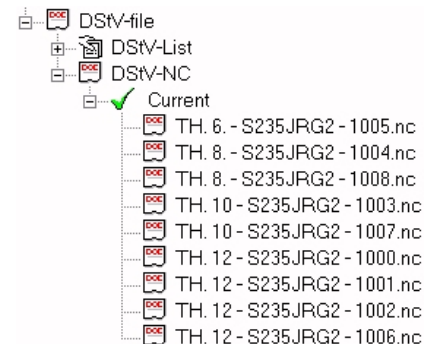
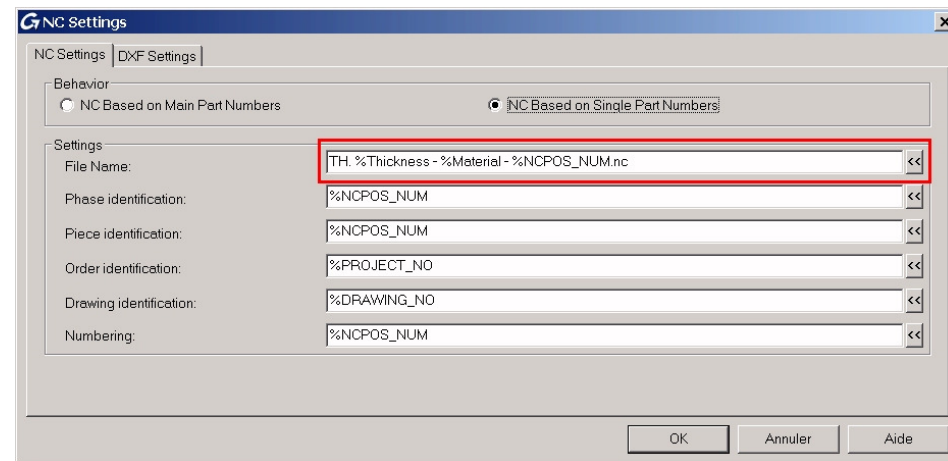
- New tokens (e.g. Revision description)
- Filter for beams with holes and for beams with cuts



# NC-DSTV and NC-DXF file name can be customized



- Quantity
- Assembly group
- User Attribute 1
- User Attribute 2
- User Attribute 3
- User Attribute 4
- User Attribute 5
- User Attribute 6
- User Attribute 7
- User Attribute 8
- User Attribute 9
- User Attribute 10
- Project User Attribute 1
- Project User Attribute 2
- Project User Attribute 3
- Project User Attribute 4
- Project User Attribute 5
- Material
- Thickness





**MULTI-USER**