

# GRAITEC Advance PowerPack 2016 R2

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This document describes the improvements in **GRAITEC Advance PowerPack 2016 Release 2**.

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**Note:** *You may experience errors while using Advance PowerPack commands if you have not installed the Advance Steel Update 2 (R2) released by Autodesk, for version 2016. The hotfix is available through Autodesk Application Manager.*

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## NEW COMMANDS

### 1: SPIRAL POLYLINE / STRAIGHT BEAM / POLY BEAM / FOLDED PLATE

This new command is used to quickly and easily define spirals (polyline, straight beam, poly beam, folded plate) by following a number of steps.

The command can create spirals and helices using different combinations between start, centre and end point and radius or angle.

For example, to create a spiral straight beam using an angle, the following steps must be applied:

- Select the "Spiral straight beam" command from the "Objects" category.
- Select the start point.
- Select the angle.

Please select centre point [Angle/Radius]: a

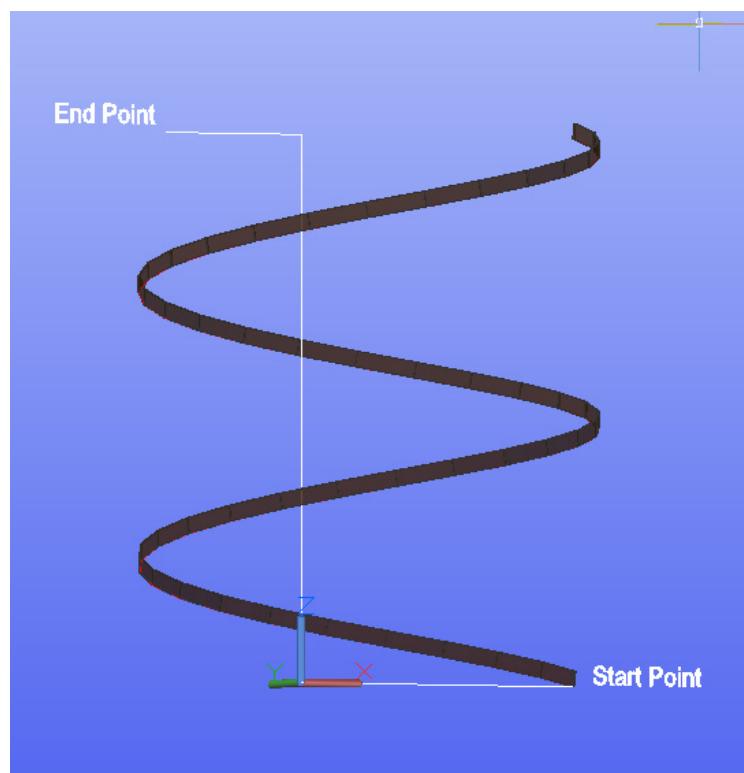
Please enter the total angle (positive angle for clockwise/negative for anti-clockwise): 720

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**Note:** A full rotation has an angle of 360 degrees.

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- Select the end point.
- Select the number of points.  
How many points? <30>:
- The spiral is created and the "Edit all" dialog opens.

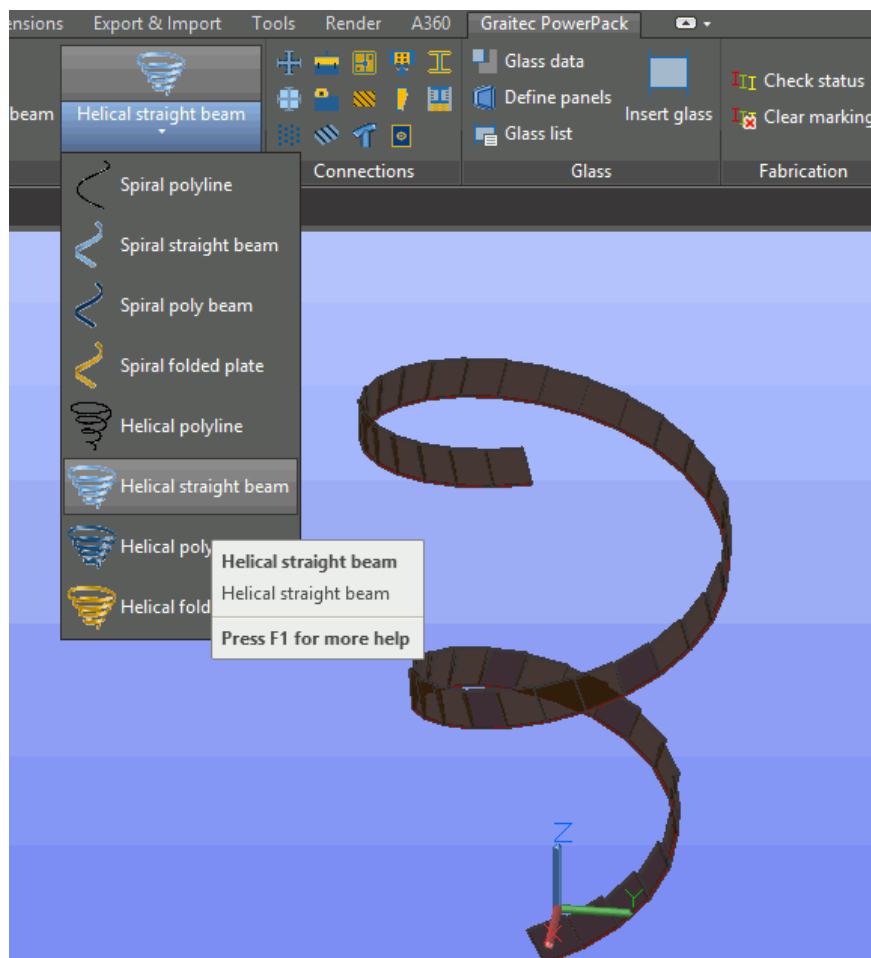


## 2: HELICAL POLYLINE / STRAIGHT BEAM / POLY BEAM / FOLDED PLATE

This new command is used to quickly and easily define helices (polyline, straight beam, poly beam, folded plate) by following a number of steps.

To create a helical straight beam using an angle, the following steps must be applied:

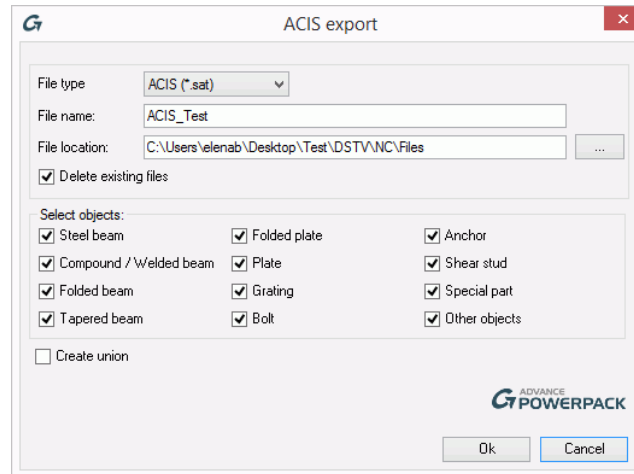
- Select the "Helical straight beam" command from the "Objects" category.
- Select the center point.
- Select the start and the end radius:
  - Please enter the start radius: 250
  - Please enter the end radius: 500
- Enter the total height:
  - Please enter the total height or [Number-of-rotations/Rotation-height/Direction]: 1500
- Enter the number of points.
  - How many points? <30>
- The helix is created and the "Edit all" dialogue opens.



### **3: EXPORT MODEL TO ACIS**

The new command allows users to export an Advance Steel model as a 3D Solid (ACIS format) to a file with a ".sat" or ".dwg" extension.

To export the complete model in a 3D solid, select the "Export model to ACIS" command from the "Tools" category. The following dialog opens:



In this dialog, set the file type, name and location.

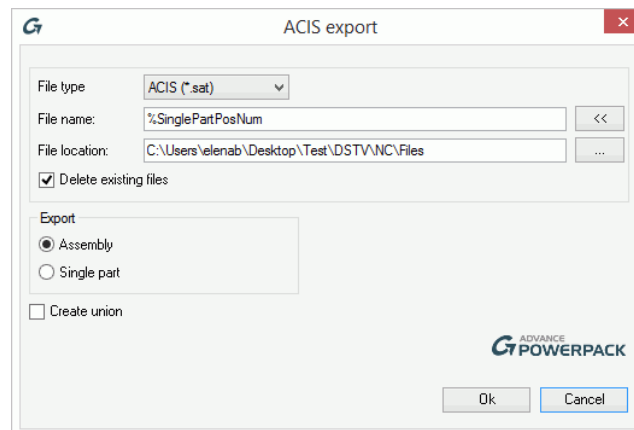
After the .sat file is exported, use the "Import" command in a new drawing in AutoCAD.

### **4: EXPORT PARTS TO ACIS**

The new command allows users to export objects by assembly/single parts as 3D Solids (ACIS format) to separate files with a ".sap" or ".dwg" extension.

To export the parts of an assembly in 3D solids to independent files, apply the following steps:

- Make sure your Autodesk Advance Steel model is saved and numbered.
- Select the "Export parts to ACIS" command from the "Tools" category.
- In the new dialog, set the files type and name and the path where to save the new files.



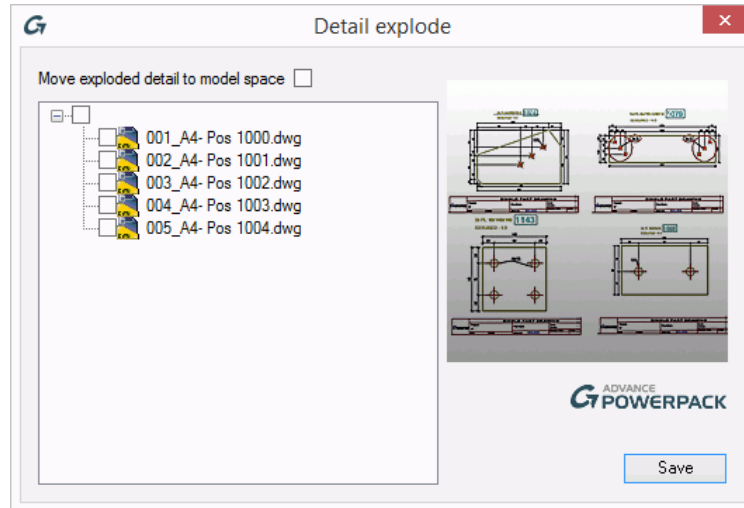
- After the .sat file is exported, use the "Import" command in a new drawing in AutoCAD.

## 5: EXPLODE DRAWINGS

The new command is available in the "Tools" category and allows users to explode the selected drawings from the "Document Manager" and to transform the Advance Steel dimensions into AutoCAD dimensions.

For example, to explode a drawing, the following steps should be applied:

- Select the "Explode drawings" command from the "Tools" category
- Select the desired drawings from the new dialog.

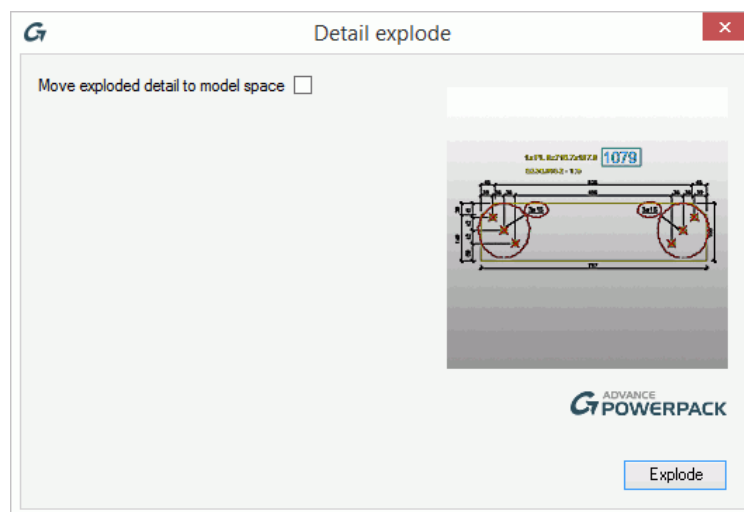


## 6: EXPLODE DETAILS

This new command is available in the "Tools" category and allows users to explode a drawing and transform the Advance Steel dimensions into AutoCAD dimensions.

For example, to explode a drawing using this command, apply the following steps:

- Select the "Explode details" command from the "Tools" category.
- Select the desired drawing from the new dialog.



## NEW CONNECTION TYPES

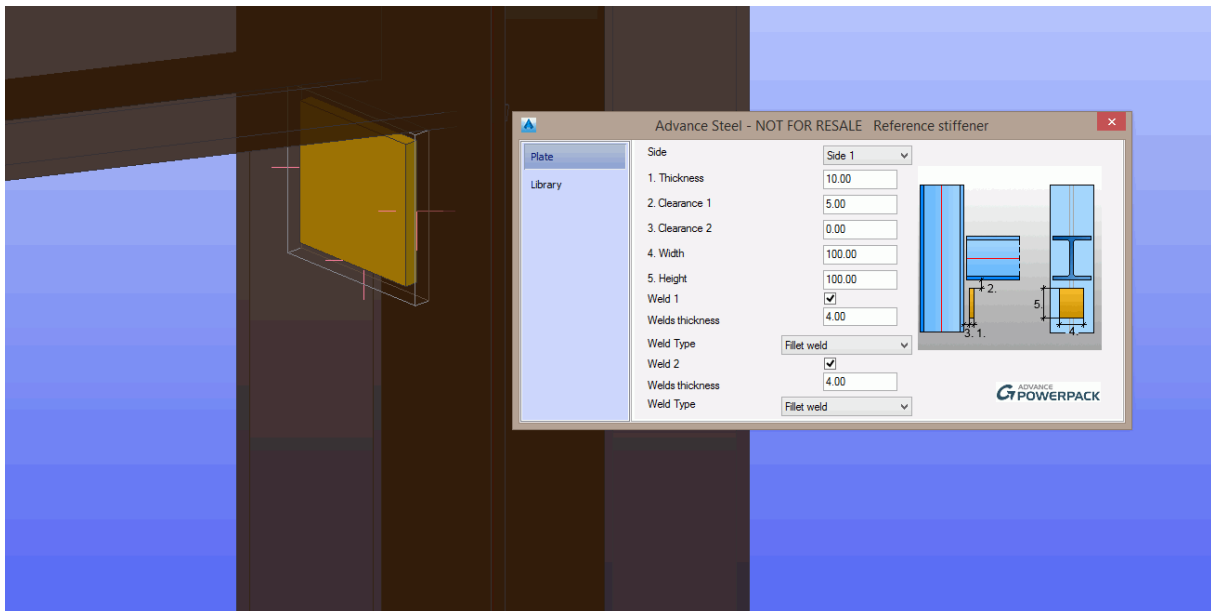
### 1: SUPPORT PLATE

The new "Support Plate" connection is available in the "Connections" tab of the Graitec PowerPack ribbon.

The connection is used to create a support stiffener from a plate, depending on the beam position.

To create a support plate:

- Run the "Support Plate" command from the "Connection" category.
- Select the elements in the following order: the column, and then the beam.
- Customize the connection using the options available in the joint's dialog box.



## 2: CREATE STIFFENERS

The new "Create Stiffeners" connection from the Graitec Advance PowerPack ribbon offers the possibility to increase the capacity in a beam web.

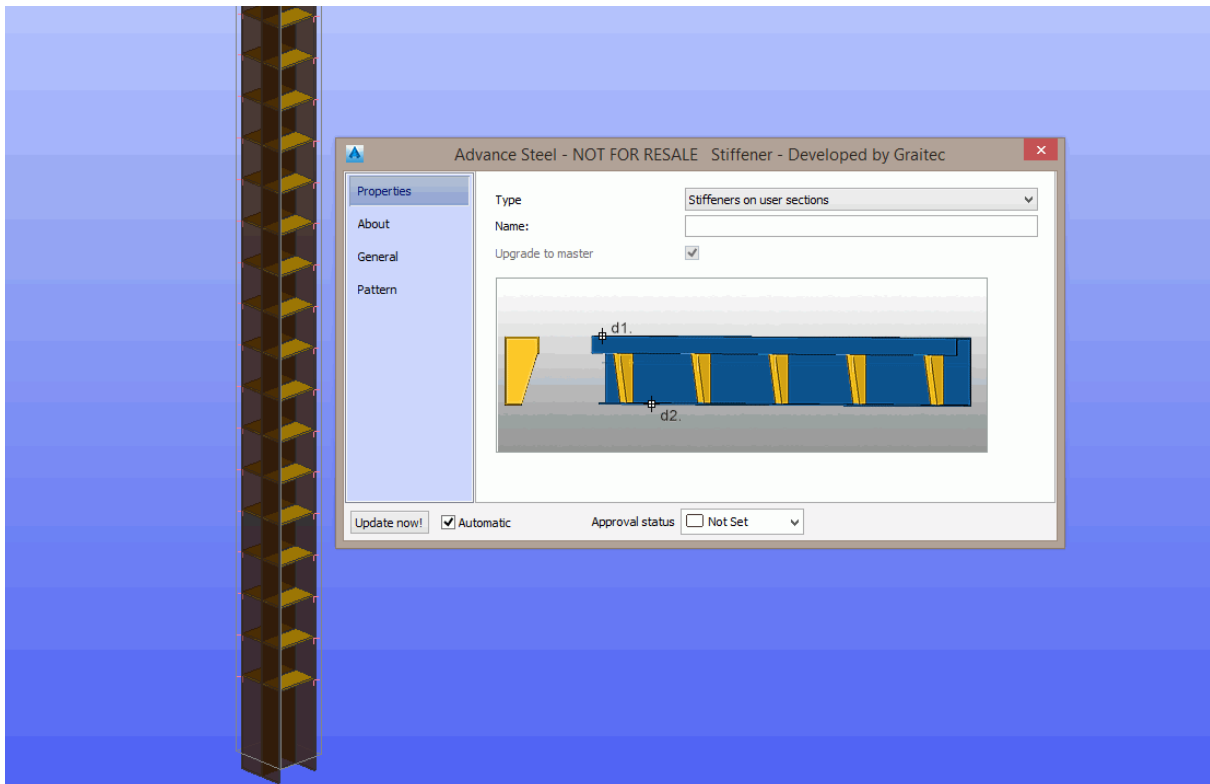
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**Note:** *The beams can have any type of section, including user section.*

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For example, to create stiffeners along a beam, apply the following steps:

- Select the "Create Stiffeners" command from the "Tools" category.
- Select the beam element and press Enter.
- Customize the connection using the options available in the joint's dialog box.



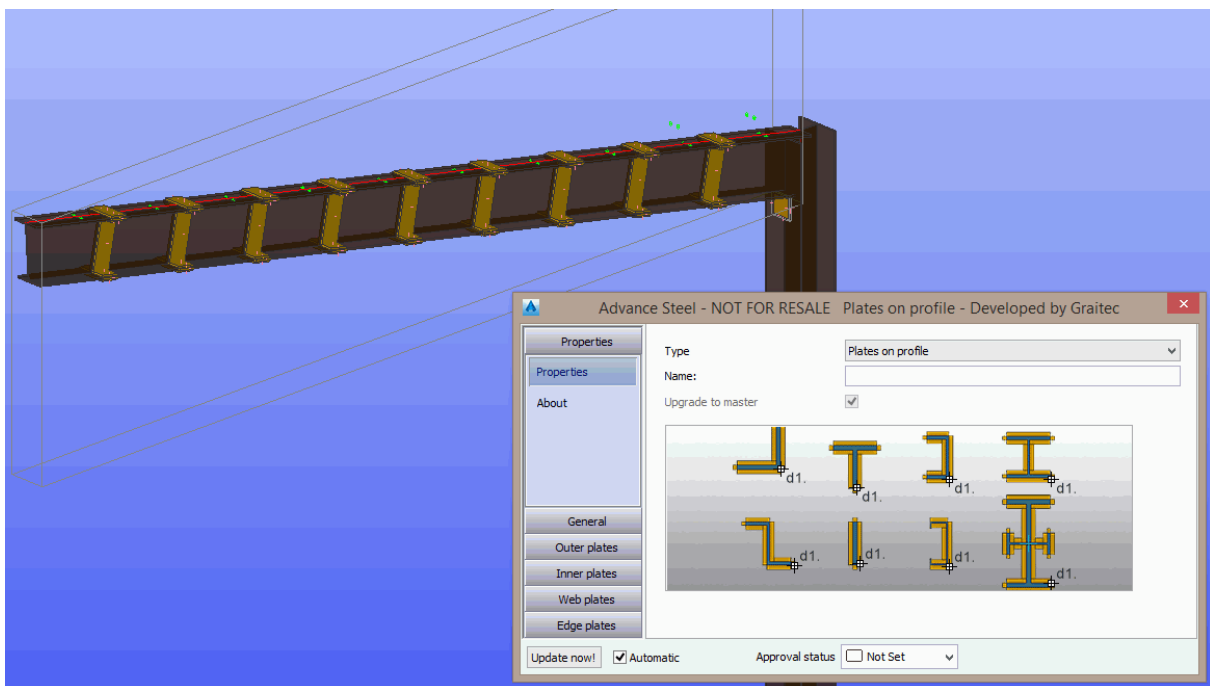
### **3: PLATES ON PROFILE**

The new "Plates on Profile" connection is available in the "Connections" tab of the Graitec PowerPack ribbon.

The connection allows to increase the resistance of the profiles. The plates are created on the profile contour.

To create plates on a profile contour, apply the following steps:

- Select the "Plates on Profile" command from the "Connection" category.
- Select the beam element and the joint dialog box will pop up.
- Customize the connection using the options available in the joint's dialog box.



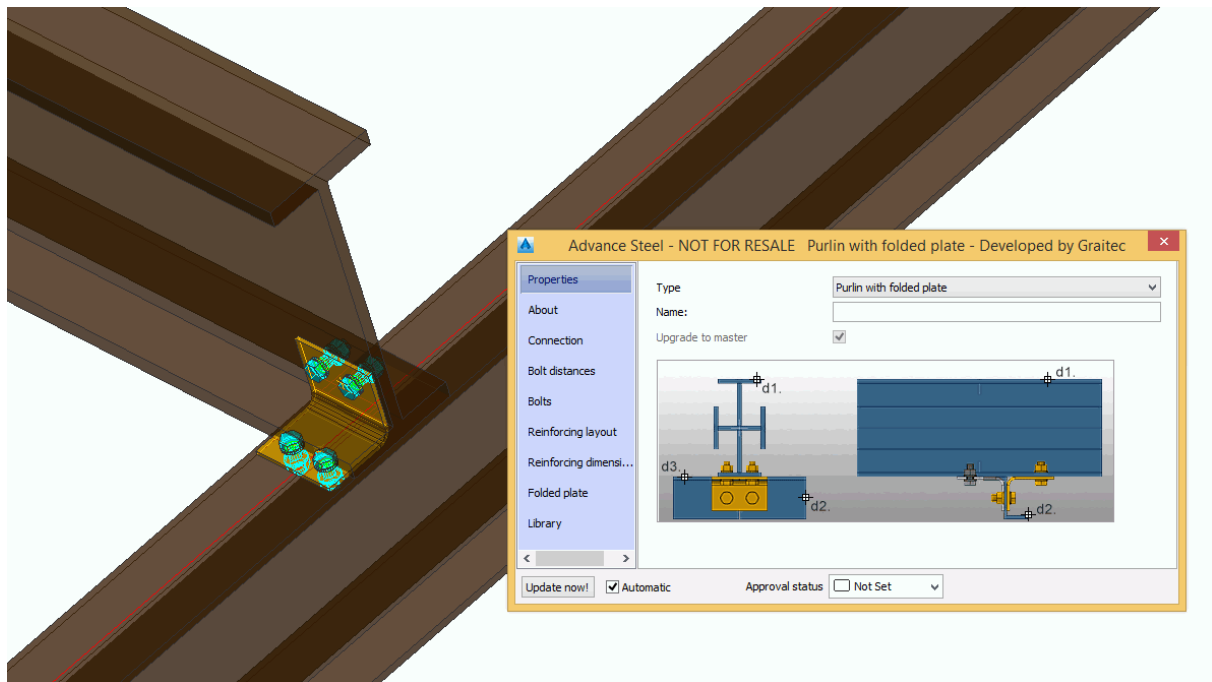


## **4: PURLIN CONNECTION WITH FOLDED PLATE**

The new "Purlin connection with folded plate" connection is available in the "Connections" tab of the Graitec PowerPack ribbon.

This joint is used to connect a purlin / two purlins to the main beam with folded plate.

To apply the command, first select the beam element, then select the purlin or purlins. The properties dialog will be displayed.



## **5: GRATINGS/ PLATES BORDER**

The new "Gratings/ plates border" connection is available in the "Connections" category of the Graitec PowerPack ribbon.

This connection is used for adding a border to a plate or a grating. The border is created all around the selected elements.

To create a border around a plate/grating or multiple plates/gratings:

- Select the "Gratings/plates border" command from the "Connections" category.
- Select a grating/plate or multiple gratings/plates with rectangular or polygonal contour.
- Customize the connection using the options available in the joint's dialog.

