GRAITEC MODELING THE FUTURE

What's New

PowerPack for Advance Steel 2026



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1. Welcome to Graitec PowerPack for Advance Steel 2026

GRAITEC is pleased to present the latest version of PowerPack for Advance Steel 2026, part of the Graitec Advance Suite.

1.1 Compliance with Autodesk Advance Steel 2026

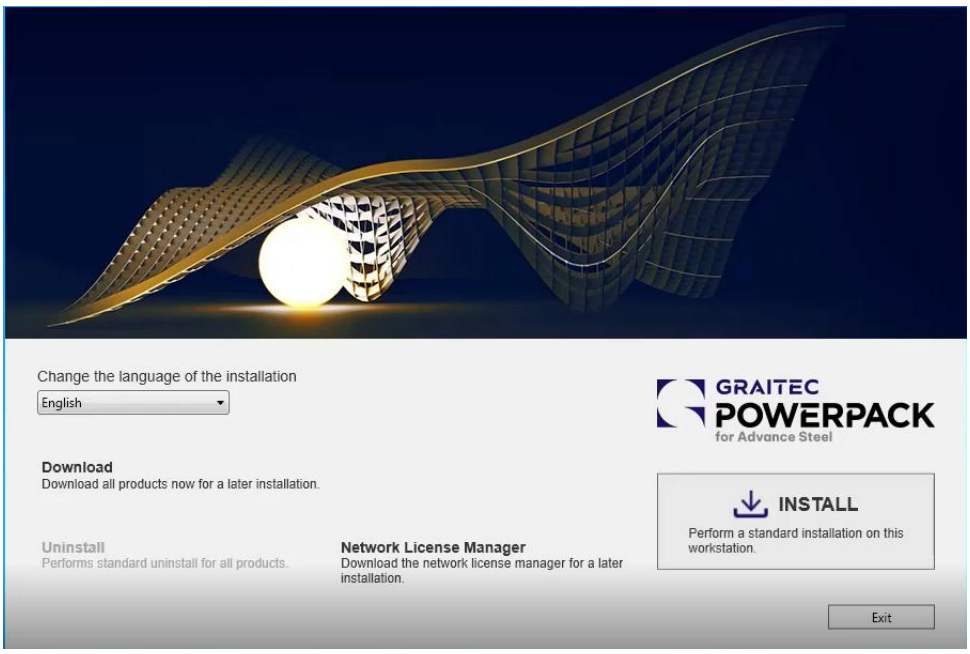
The PowerPack for Advance Steel 2026 is compliant with Autodesk Advance Steel 2026 and can be installed using the **Setup PowerPack for Advance Steel 2026.**

The installation of the 2026 version is also compatible with the 2025 version of the Advance Steel installation.

To install PowerPack version 2026, please follow these steps:

1. Open Advance Setup 2026 of PowerPack for Advance Steel. The setup will automatically identify the installed software.

2. Press **Install** to begin the update process.



Advance Setup 2026 Installer

2. Introducing New Features

With the 2026 version, we are excited to introduce several improvements to our existing tools within the PowerPack, along with a new feature, requested by users for easier modeling of several key features.

Our focus remains on enhancing productivity through additional features and improvements.

The features listed below are detailed further in this document. For comprehensive command help, please refer to the online help portal (PowerPack for Advance Steel (graitec.com)), which will be updated with information on these new elements.

New Powerpack Features:

- **Turnbuckle Bracing Connection with Tensioner Element.**
- **Special Part Manager**: New Turnbuckle Category including Advance Steel Parameters.

New Railing Features:

- **Railing**: "Horizontal Base" Connection for Concrete Step (top surface).
  - Subtype in the "Plate" Type
  - "Weld" type Connection – "Vertical Offset" Option.
- **Railing**: "Web" Section Connection to Railing Posts.

New Stair Features:

- **Cage Ladder**: Entry Hoop Segment, Flared Entry Arrangements.
- **Cage Ladder**: Exit Hoop Segment, Left and Right-Side Exit Options.
- **Cage Ladder**: Hoop Corners, "Miter" and "Bent".
- **Balance Stair**: Stringer Profiles, Separate Segments with Welds.
- **Balance Stair**: Rectangular and Square Hollow Sections. (H Shape Code Reference)

For more insight into these new features, please continue to explore the document as we outline the fundamentals of each new addition to the Powerpack for Advance Steel.

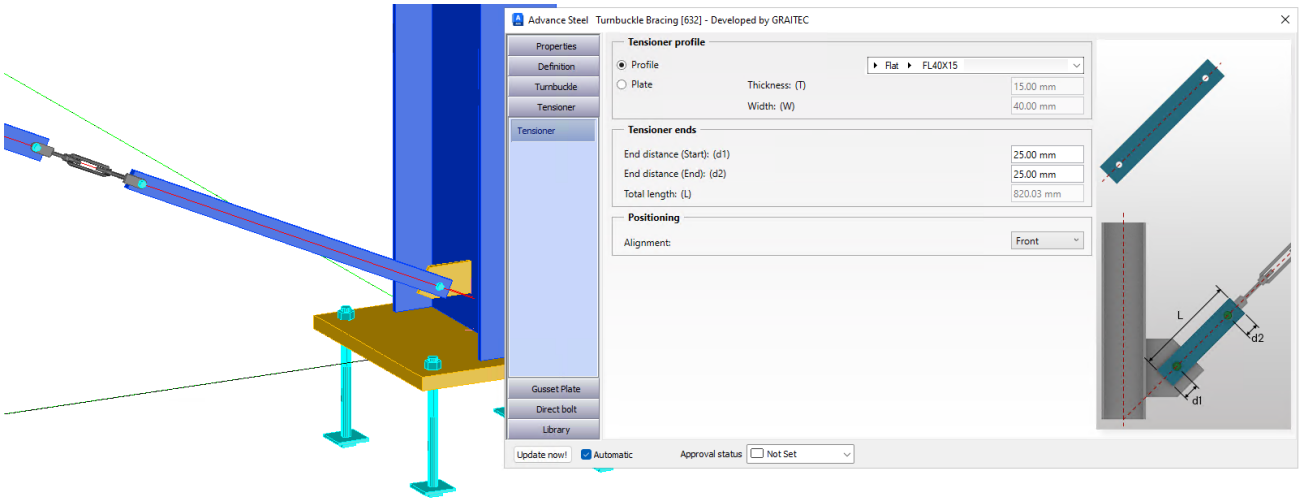
NOTE: *For further information on the command operation, refer to the Powerpack for Advance Steel online help portal.*

3. New Powerpack Features

This section of the What's New document focuses on the key features related to the main PowerPack application.

3.1 Turnbuckle Bracing with Tensioner Element

The Turnbuckle Bracing with tensioner element is a macro designed to work in conjunction with the core Advance Steel bracing macro, as well as manually created brace elements. The macro will insert a series of components and elements to form the connection to the supporting beam element.



Turnbuckle with Tensioner and Gusset

There are four main configurations available:

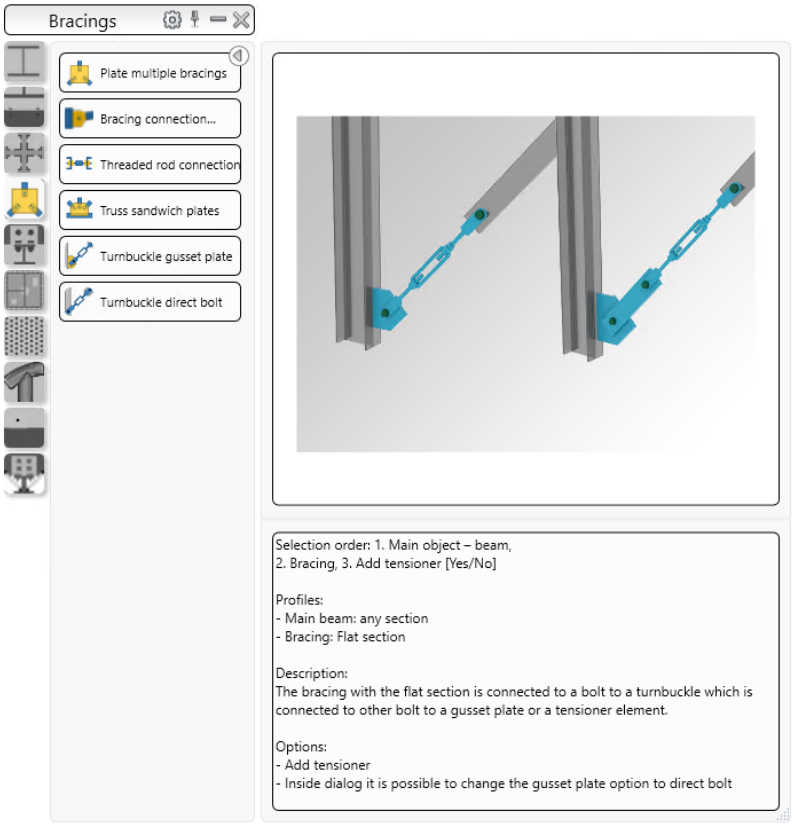
- Turnbuckle with tensioner element via gusset connection to main member.
- Turnbuckle with tensioner element via direct connection to main member.
- Turnbuckle without tensioner element via gusset connection to main member.
- Turnbuckle without tensioner element via direct connection to main member.

These are grouped into two main connection types based on connection methods, **Gusset** or **Direct bolt**, with options to **turn on/off the tensioner element**.

The command is located in the **Powerpack Connection Vault**, under the **Bracings** Tab, with new command buttons added to the existing list of commands.

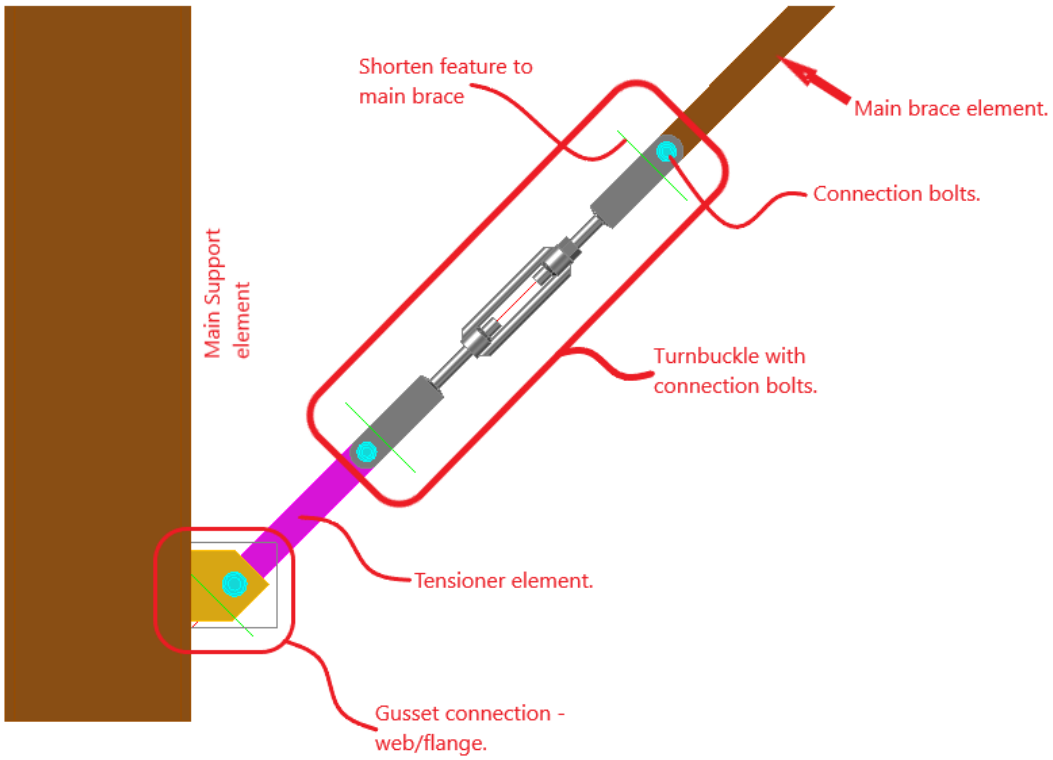
Palette commands

- **Turnbuckle Gusset plate:** Options to enable or disable the tensioner element.
- **Turnbuckle Direct bolt**: Options to enable or disable the tensioner element.



Bracing Tab with Turnbuckle Commands

The macro connection will introduce the following elements to the end of an existing brace member.



Turnbuckle Components and Feature Elements

To use the macro, select the existing brace element and then its supporting element. The macro will then prompt whether a tensioner element is required.

1. Select Main beam.
2. Select Brace element.
3. Add Tensioner (Yes/No)
    - Type Y for Yes, and then the tensioner element will be activated.
    - Type N for No, and then the tensioner element will be inactive.

The macro elements are placed in the model based on the initial type selected.

NOTE: *The joint dialog allows the user to change the option for tensioner, enabling or disabling it after joint creation as needed.*

NOTE: *You can adjust the macro configuration to switch the connection type from gusset to direct bolt (or vice versa) if the bracing element is moved laterally within the model.*

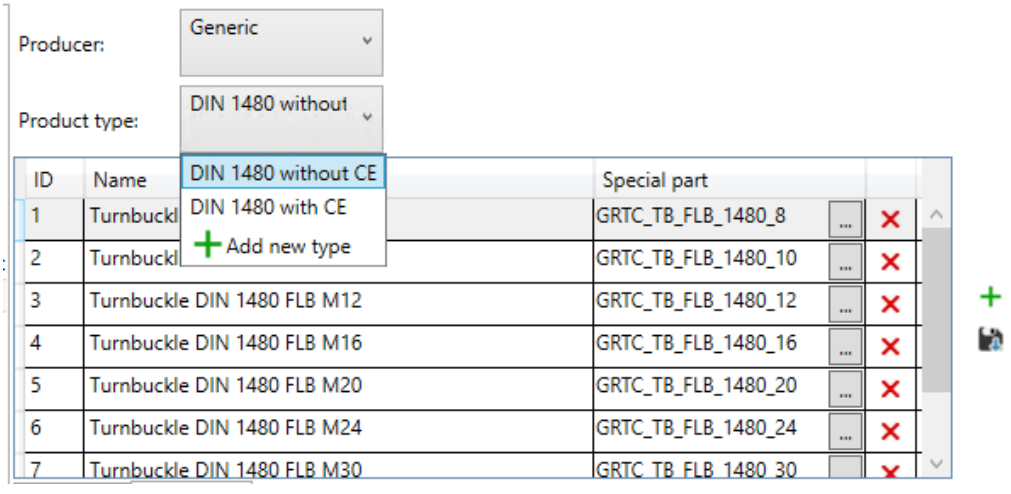
Advantage:

- The key advantage is the introduction of a tensioner element within the macro. This replaces the manual requirement to include such an element.
- Integration with existing brace macro and manually modelled elements that are placed for bracing purposes.
- Options to disable or enable the tensioner element after creation.
- Options to change between gusset and direct bolt, after initial creation, following a change in the main brace lateral location.

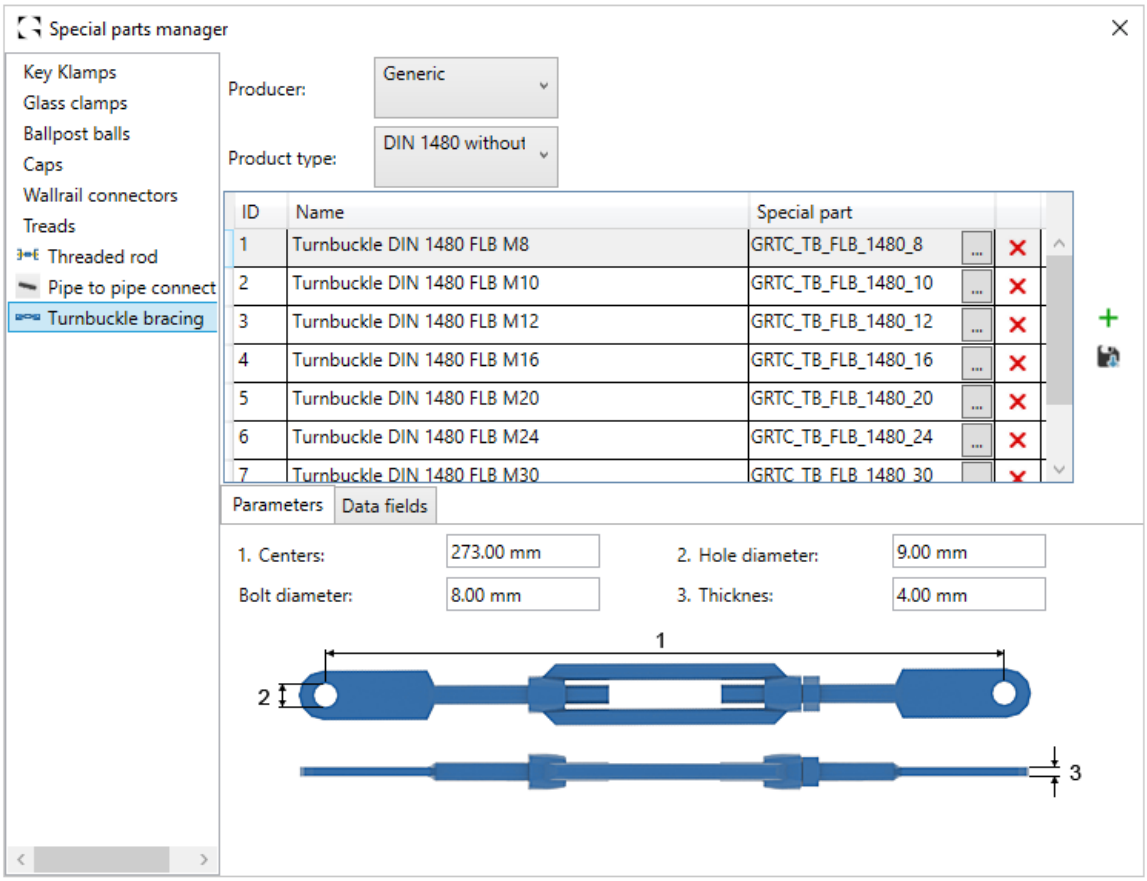
3.2 Special Part Manager: Add New Special Part, View Properties

The turnbuckle macro uses special parts added through the Graitec Special Part Manager, with a new category introduced where new AutoCAD solids files can be linked to the turnbuckle macro.

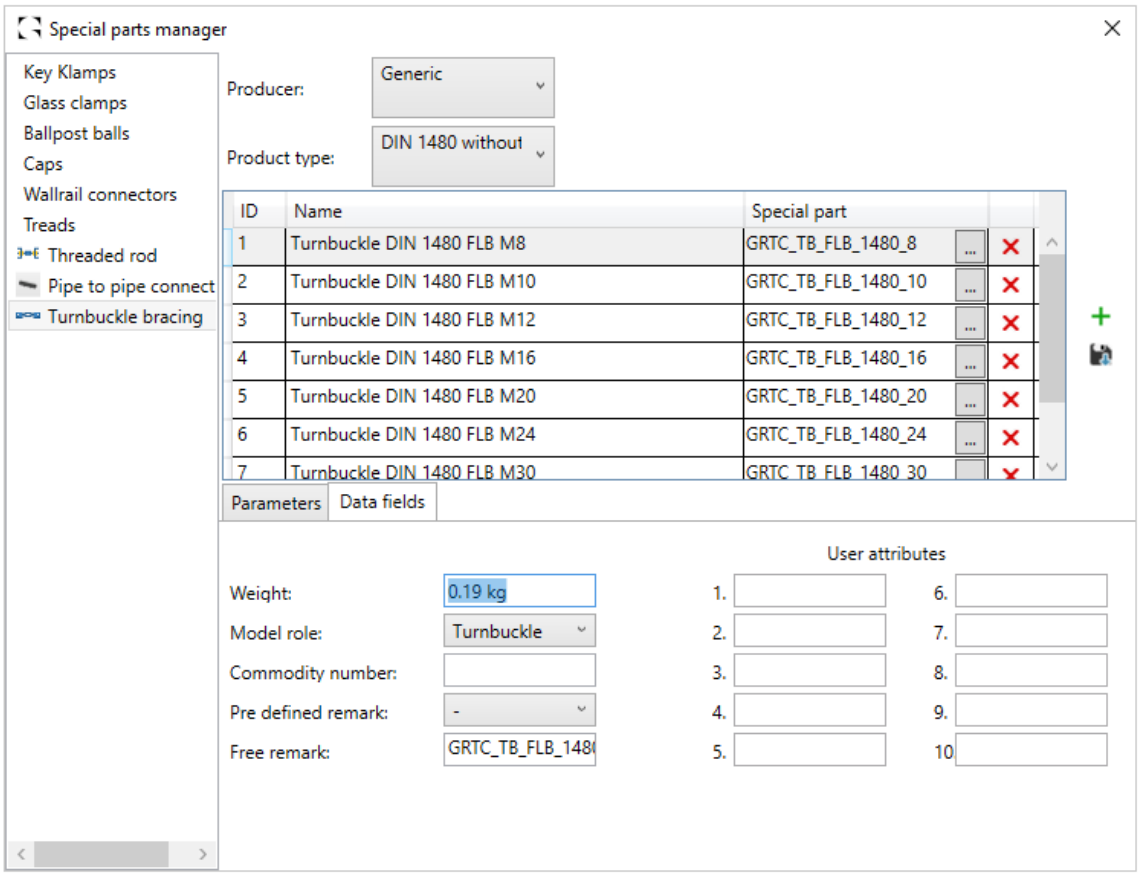
A series of generic files is hosted in the turnbuckle category, enabling users to use the macro under a generic arrangement. Users can then add their tensioners from the preferred suppliers.



Special Part Manager – Turnbuckle Generic

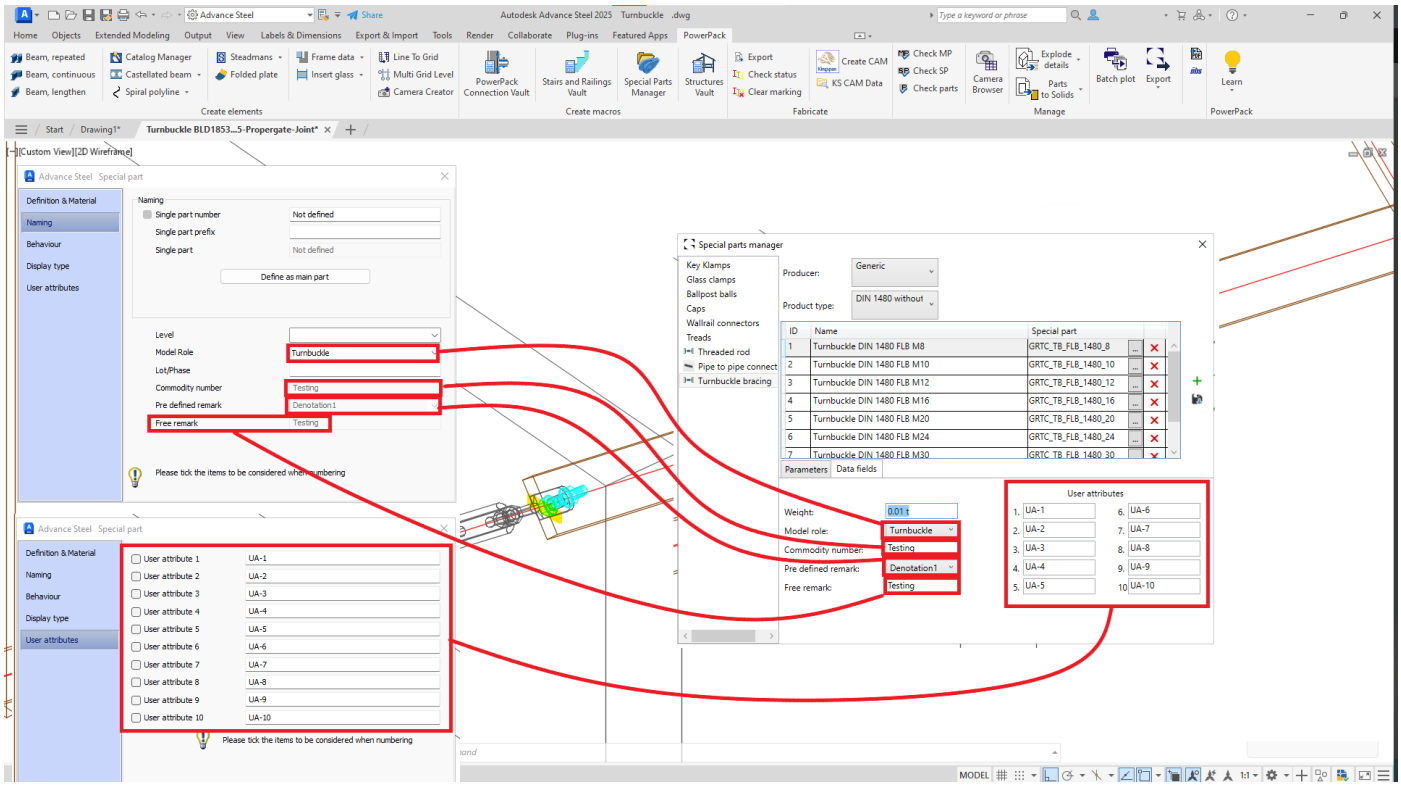


Special Part Manager – Turnbuckle Parameters Tab



Special Part Manager – Turnbuckle Data Fields

The tabs provide options to set up new turnbuckle parameters and data attributes within the manager, which can then be transferred into the turnbuckle macro.



Turnbuckle - Special Part Data Fields

Advantage:

- Sample generic turnbuckle provided.
- Multiple supplier-driven turnbuckle systems can be added to the system.
- Advance Steel data parameters can be added under the manager for inclusion in the multiple macro elements.

4. New Railing Features

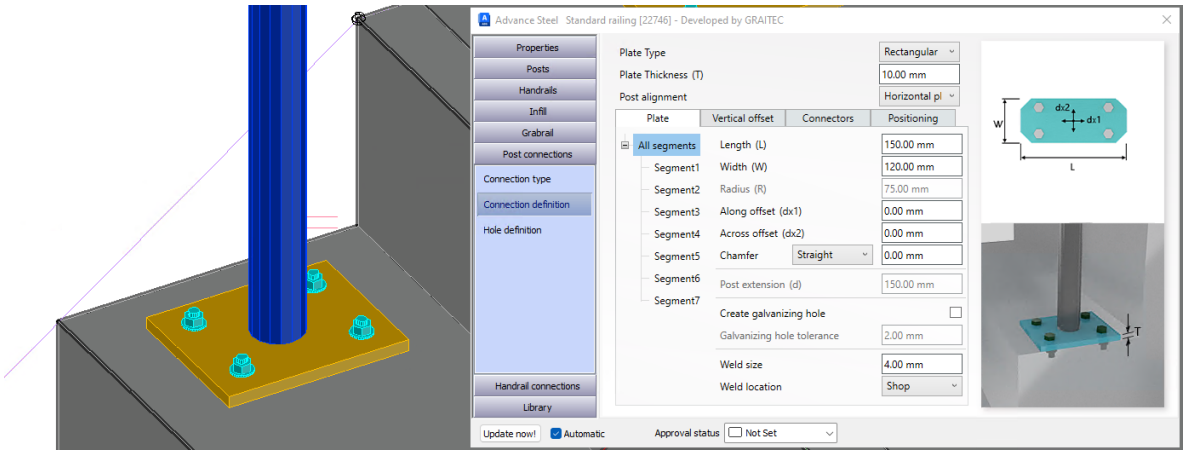
This version introduces several new base type connections, including a **horizontal base** for **concrete steps**. It targets the base plate attachment to concrete stair treads and offers options to control the extension value at each post location, considering those site tolerances associated with this stair type.

Furthermore, we are introducing a new side offset connection type: **Side Leg Offset**. This complements our existing side connections by using a section profile for forming the return, with an end fixing to the support element, combined with a post to return leg corner formed from either a miter, elbow or bent types.

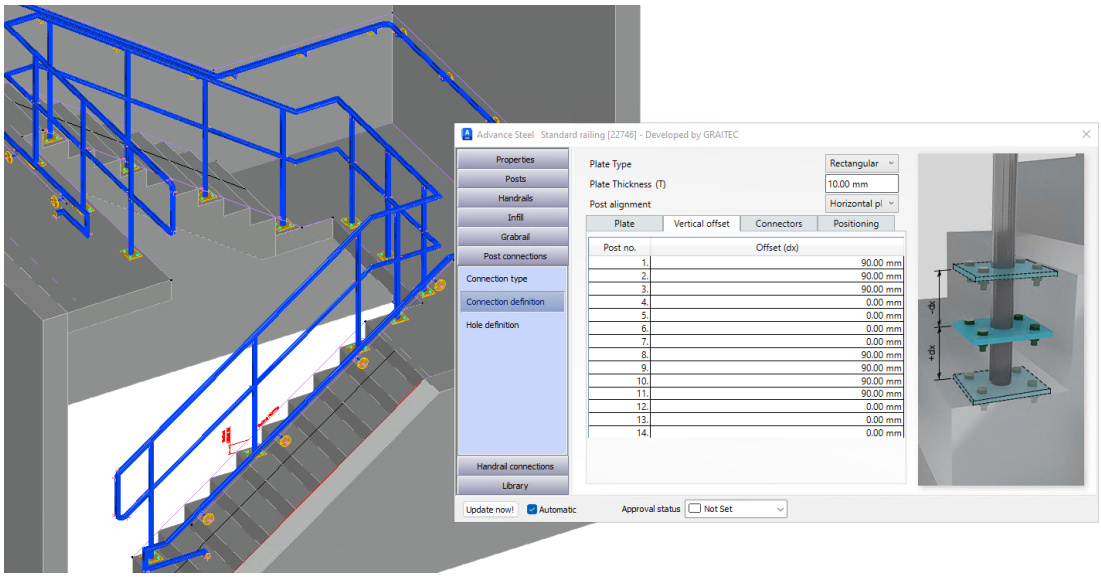
4.1 Railing: Horizontal Base Connection for Concrete Step (top surface)

For users who work with concrete stairs where the base plate is placed on the top of the tread, an additional option has been introduced under the Baseplate connection. This option allows for the setting of a **Horizontal plate** under the **Post alignment** combo selector.

Activate this option in the Post Positioning subpage by setting the alignment to top and entering a measurement to move the post on the tread or stair. This places a plate and fixing option at the end of the post, as the line/beam top that the railing was created with. The new **Vertical offset** tab allows for individual control over each post's offset to the top tread surface via a user-driven input under the table post entry line provided.



Railing – Horizontal Base to Concrete Step Arrangement

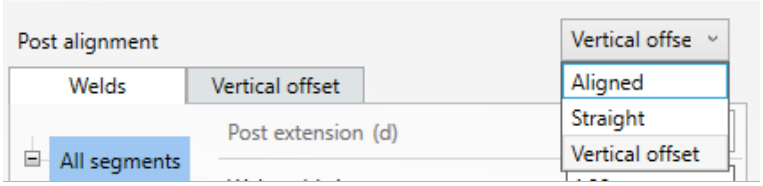


Railing – Horizontal Base to Concrete Step – Individual Vertical Offset Control

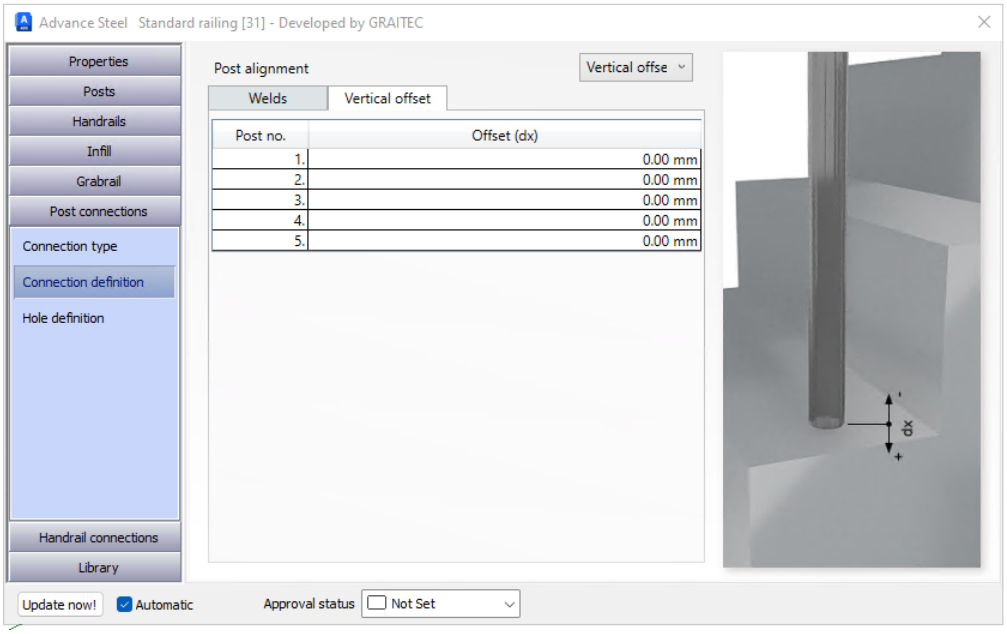
The other standard options for the base plate shape, thickness and connector types remain as previously implemented.

4.1.1 Weld Type: Vertical Offset

The horizontal base plate option also introduces some additional changes to the Weld type base connection. When the main post alignment is set to **Top**, the user can choose the **Vertical offset** option under the **Connection definition** subpage to adjust the vertical extension of the post.



Railing – Weld – Vertical Offset Option



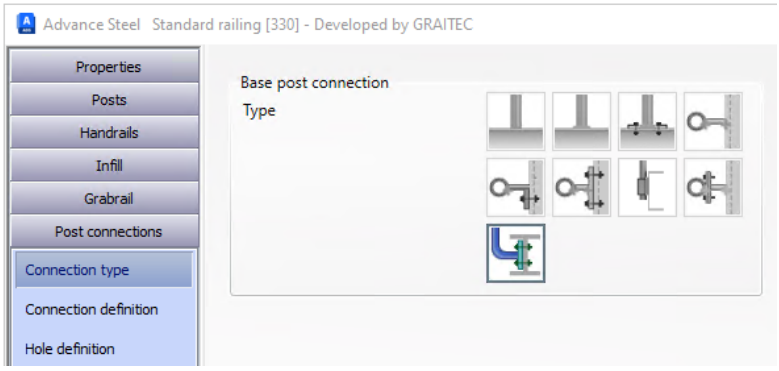
Railing – Weld – Vertical Offset Tab

Advantage:

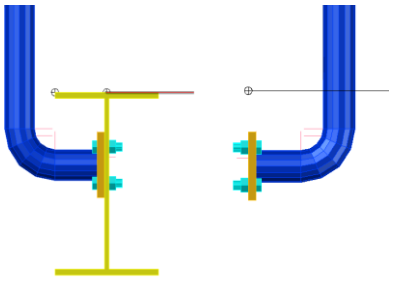
- Removes the need to create a manual custom connection to achieve this base detail.
- Unique control over each post extension value to suit local site conditions for railing base features.

4.2 Railing: Web Section Connection to Railing Posts

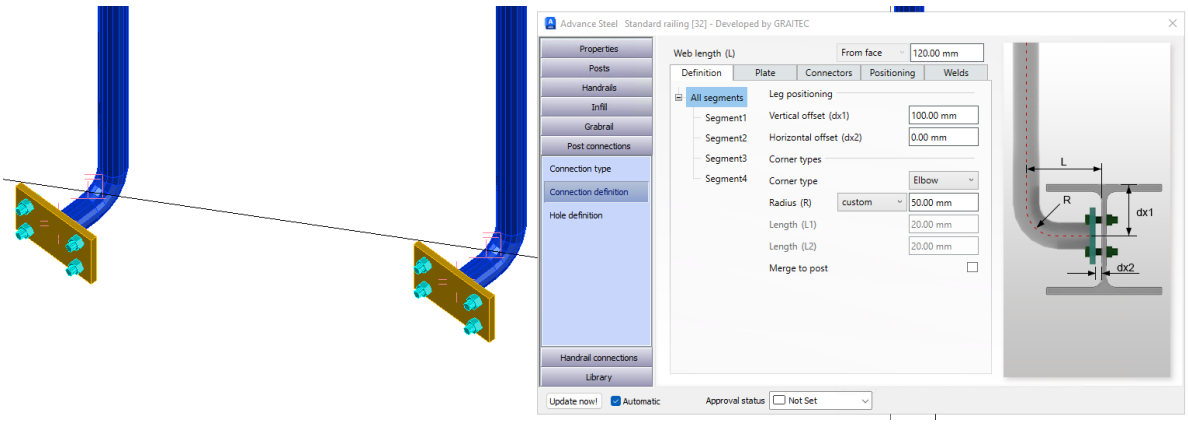
Within the Railing macro, we are introducing a new type of side offset connection to complement our existing options. This new connection is derived from a section profile that forms the main leg return element to the supporting element's face. It is created with an end plate with different connector options and links to the main post via a corner joint, offering configurations such as miter, elbow, or bent.



Railing – Web Section Connection selector



Web Section Connection
From Beam - From Line Options



Railing – Web Section Connection Dialog

Advantage:

- Previously not possible as an automated connection type.
- Set out control from the beam edge or web face.
- Options to merge into a single post element.
- Different options for preformed bends or manufactured bends with run-in and out segments.

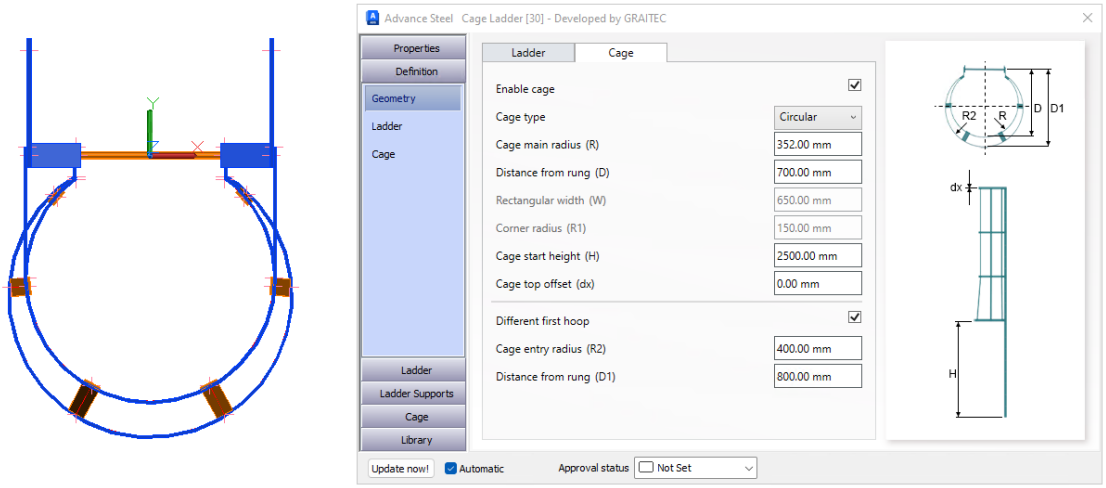
5. New Stairs Features

This version adds new features to the **Cage Ladder**: a flared entry zone to the cage ladder, combined with the main ladder cage zone, and a further option to enable side exit within the exit zone of the ladder cage.

We are enhancing **Balance Stairs** with options to split the profile stringer with a weld option at each main transition juncture in the stringer arrangement. This is also combined with the option to include Square and Rectangular hollow section profile shapes (H Shape code) within the profile selection, matching the stringer options under the balance stair with those of the straight stair.

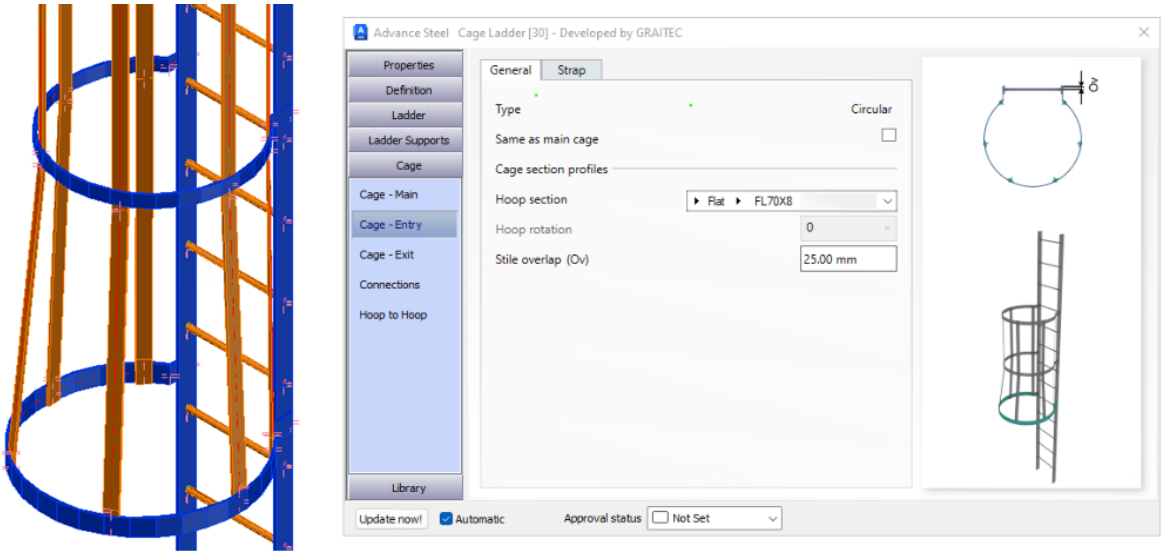
5.1 Cage Ladder: Entry Hoop Segment, Flared Entry Arrangements

For the **Cage ladder**, we have added a feature allowing a larger hoop size at the entry of the cage, along with strap elements that flare to match a larger entry hoop. This option is available under the Geometry > Cage tab with a new panel to activate and set the primary parameters.



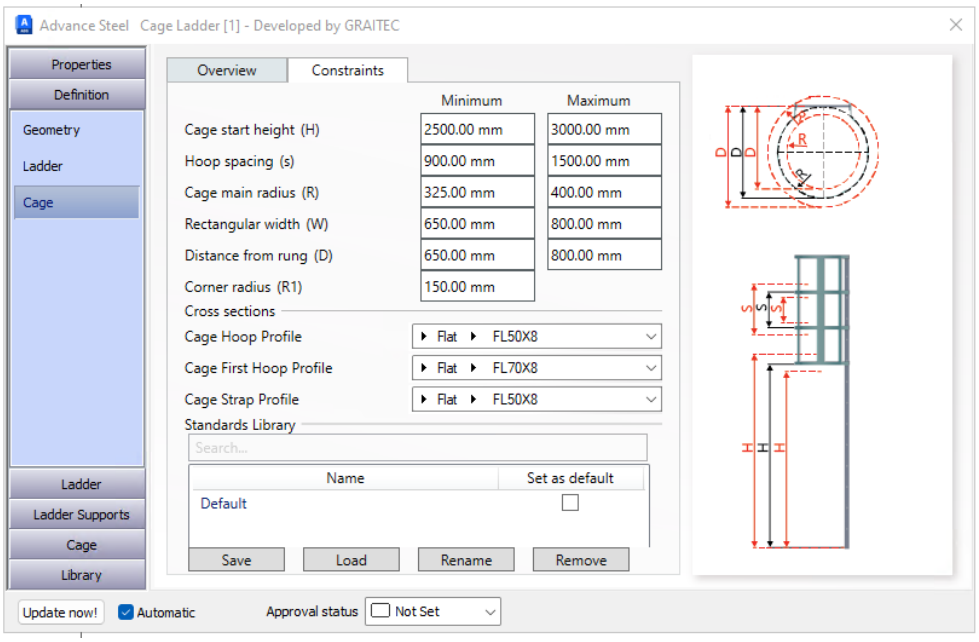
Cage Ladder – Different First Hoop Options

The new **Cage - Entry** subpage under the Cage page contains further options to set up the hoop configuration, following the same approach as the main cage. The default option for the hoop to be a different flat section is activated by default, but the user can select the **Same as main cage** checkbox to match the main cage.



Cage Ladder – Cage Entry Subpage

One further element is that the first hoop size is linked to the constraints page of the dialog, allowing the user to set up the predefinition of the section size to be used, to differentiate from the main cage hoop.



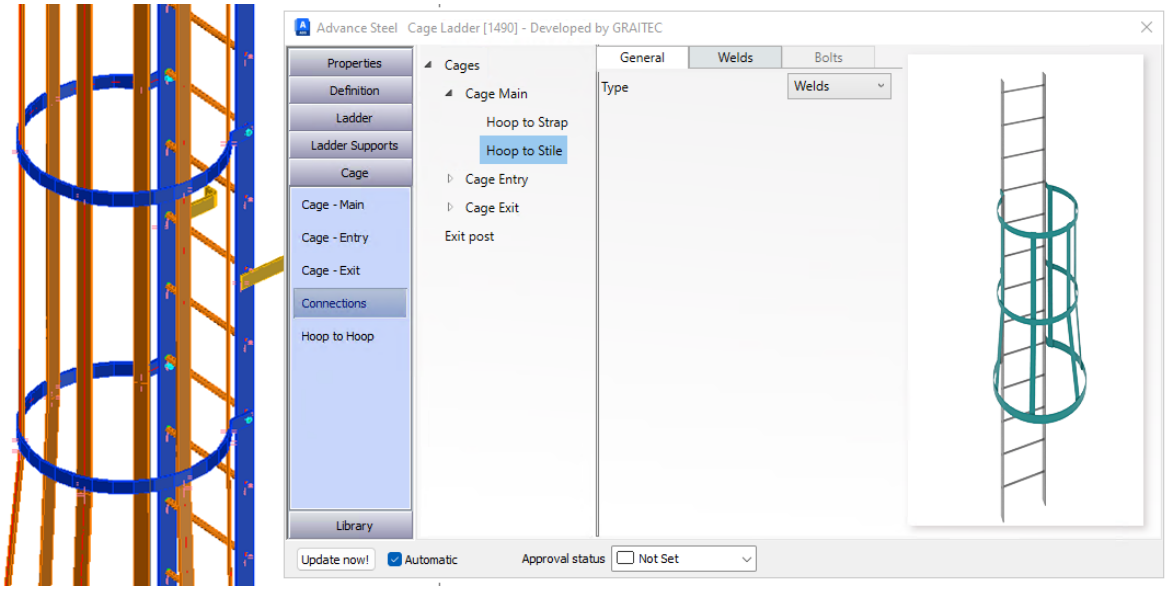
Cage Ladder – First Hoop Constraint Selection

Advantage:

- Aligns with ladder standards to permit this type of cage entry arrangement.
- Integration with the inbuilt constraint to allow for predefinition of ladder standards.

5.1.1 Cage Ladder: Connections Reorganization

The new cage entry and exit zones affect the connection options and their control within these zones. This has led to a reordering of the connections to group them under a dedicated subpage in the cage page. A tree browser on this subpage allows users to select within the corresponding elements of the cage. Users can now select at their required level and adjust from the options of welds and bolts, with the tabs embedded in the dialog.



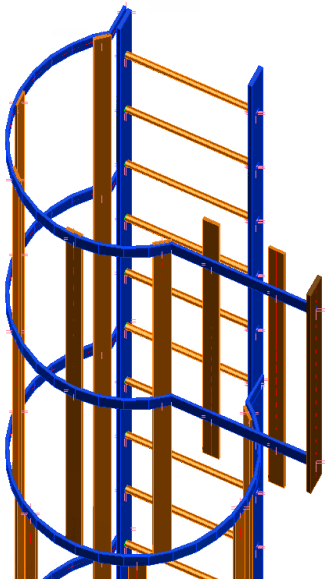
Cage Ladder – Connections Type Tab

NOTE: *There is no change in the core function of the connector elements, only where to control their grouped functionality.*

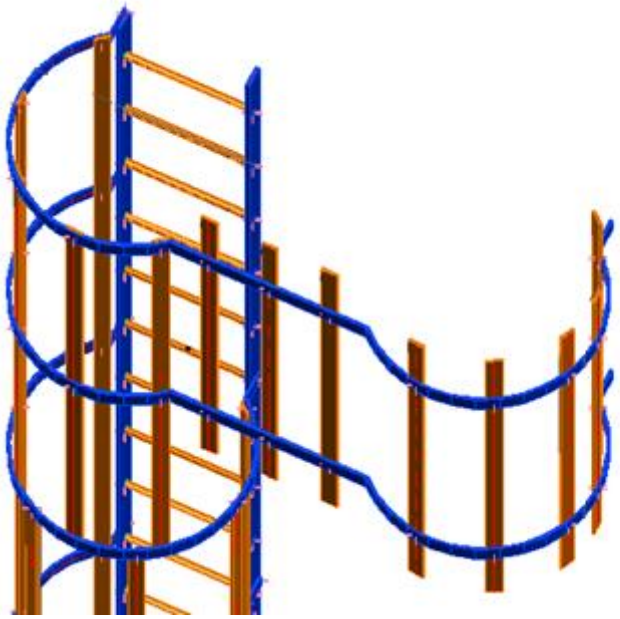
5.2 Cage Ladder: Exit Hoop Segment, Left and Right-Side Exit Options

The new cage exit options are now included in the exit dialog pages, allowing for exiting to the left or right of the main ladder exit. There are several exit arrangements covering the creation of a straight side extension of the exit hoops with the placement of additional strap elements and a closure post.

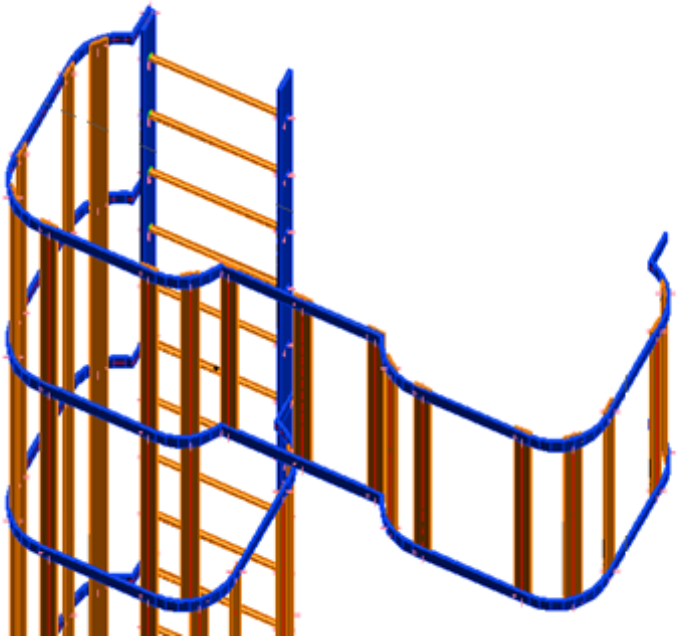
Users have the option to enable the second cage hoop arrangement, which extends the hoops to form an overall hoop at a second ladder location to form an enclosed area around the ladder platform base. This option is directly linked to the primary Circular and Rectangular cage types.



Cage Ladder – Exit Left - Right
With Straight Extension and Post

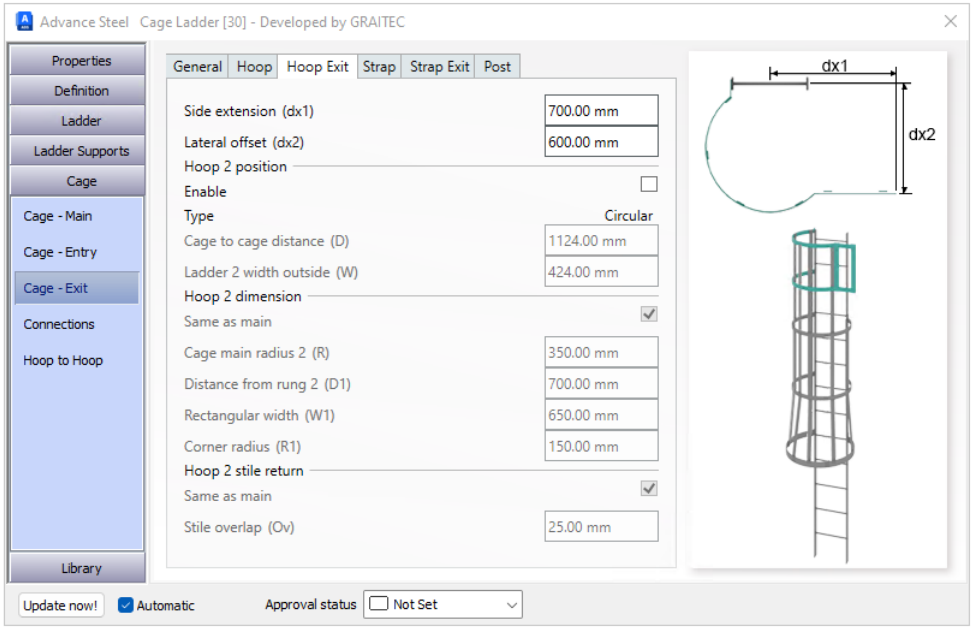


Cage Ladder – Exit Left-Right with Straight Extension and Second Cage Wrap Around



Cage Ladder – Exit Left-Right from Rectangular Cage Type

Dialog tabs for **Hoop Exit**, **Strap Exit**, and **Post** have been added. These tabs provide control over options and parameters to meet user requirements.



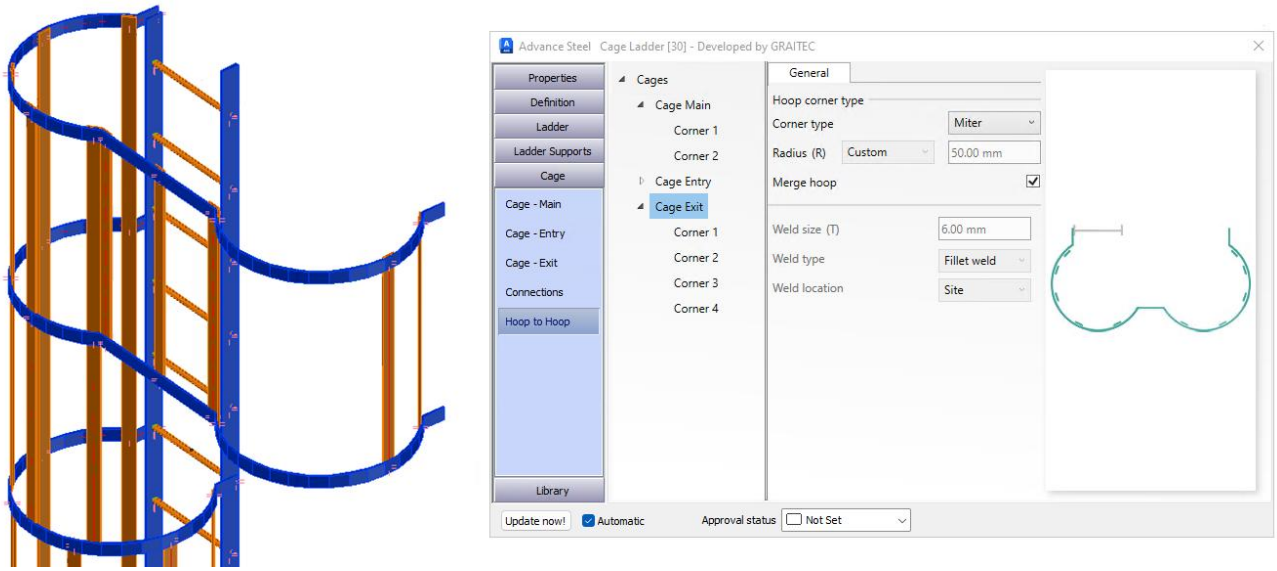
Cage Ladder - Hoop Exit Tab

Advantage:

- Options for side exit arrangements without the need to remove the main macro.
- Optional second hoop wrap around for linking ladders/cages at intermediate rest platform.
- Control of strap locations within the hoop segments.
- Optional extensions for straps to allow for closure of void areas, connecting using the lap joint.

5.2.1 Cage Hoop Corners - Miter and Bent Type

In relation to the cage exit left and right options, this feature introduces several junctures in the cage hoop formation. Therefore, an additional subpage has been added to control the type of corner applied at these junctures.



Cage Ladder - Hoop to Hoop Subpage

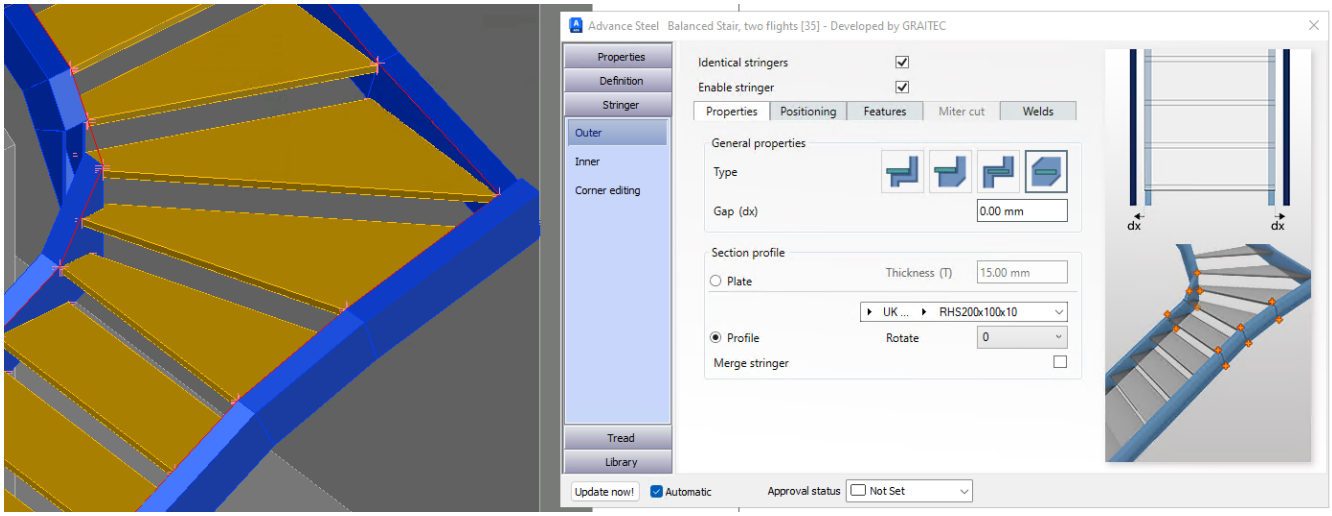
The options allow for a miter or bent type arrangement. Switching between these options will adjust the required parameters.

Advantage:

- Enable user control of all related corners in the overall cage body and its sub-segments.
- Bent type to reflect rolled and then formed to create the overall hoop shape outline.
- Miter corners for those who prefer to roll cage and form corners via welding.

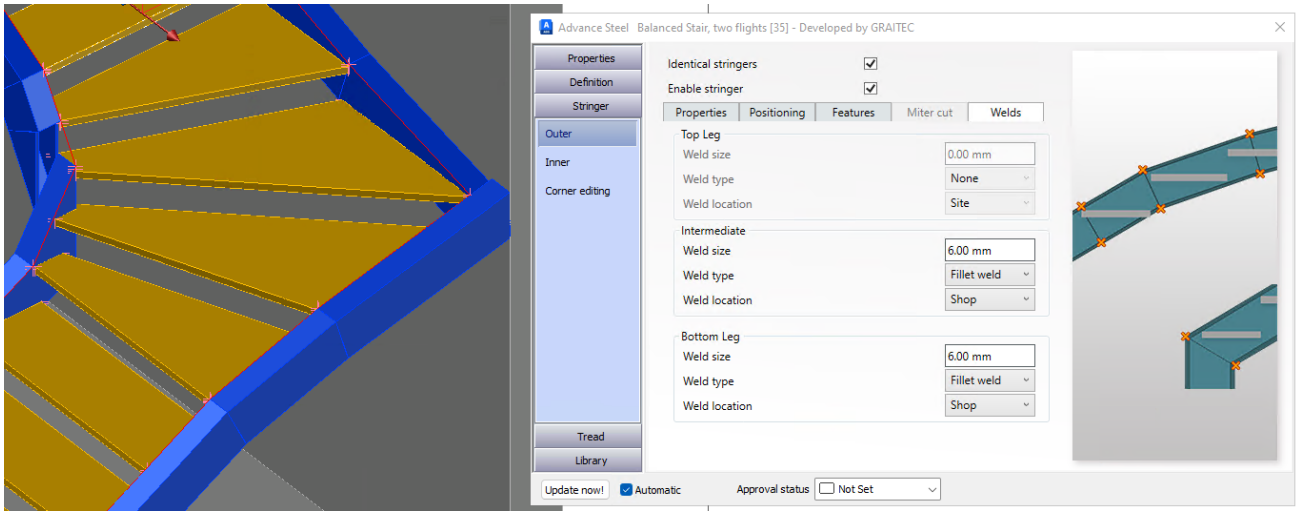
5.3 Balance Stair: Stringer Profiles, Separate Segments with Welds

In this version, the option to split section profiles for fabrication purposes has been added to the **balance stair**. This new feature introduces a merge option under the Stringer properties tab in the dialog. Additionally, weld options are now available when the segments are separated and then shop welded.



Balance Stair - Merge Stringer Checkbox - Default Status – Unchecked

The additional weld feature at intermediate locations has changed the weld activation and operation for the start and end stringer feature segments. These have been grouped under the new Welds tab, which can be found under the Stringers subpages for Outer and Inner.



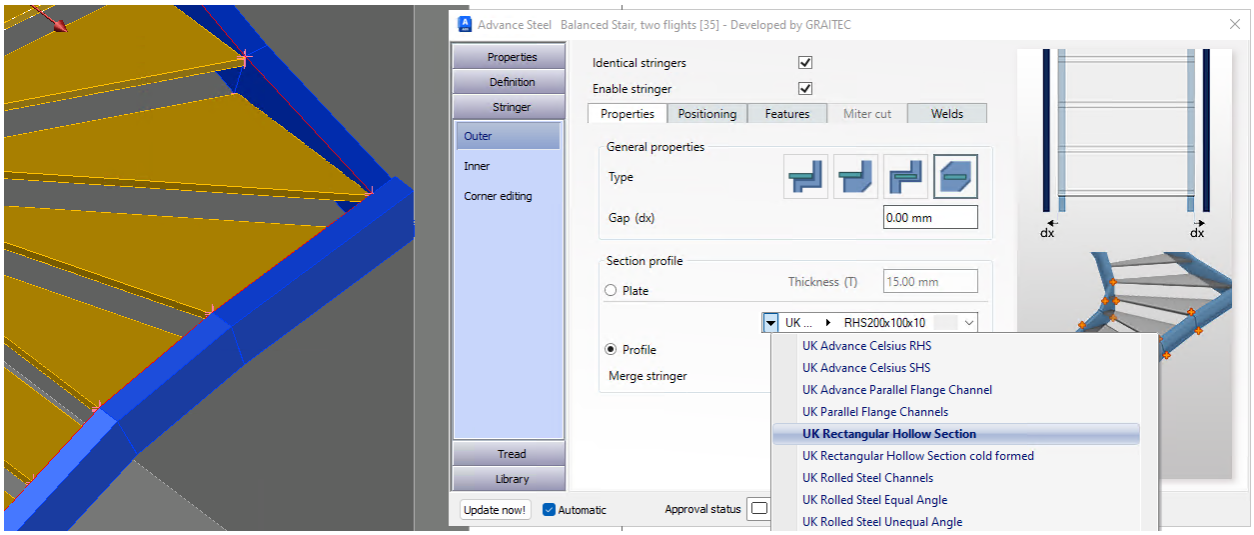
Balance Stair - Welds Tab for Stringer Segments and Start and End Features

Advantage:

- Alignment with standard fabrication practices.
- Better control for shop fabrication and preparation of stringer materials before the main fabrication process.
- Weld options are now easily managed in the overall dialog, by the internal grouping under the welds tab.

5.4 Balance Stair: Rectangular and Square Hollow Sections (H Shape reference)

The **Balance stairs** options for stringer profile selection have been extended to align with the use of Rectangular and Square Hollow Section profiles (H Shape code reference). This additional option aligns with industry requirements for the inclusion of the profile type.



Balance Stair – Rectangular and Square Hollow Sections Selection

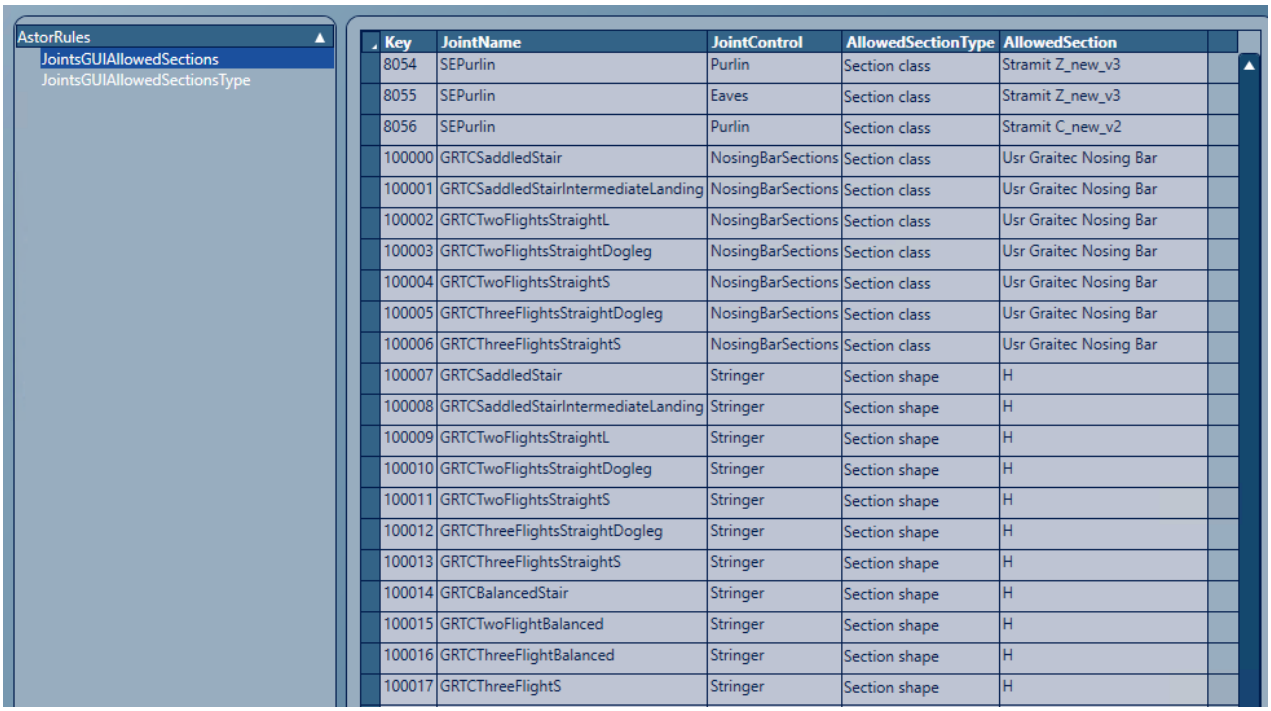
The GUI Allowed Sections table entries should include the required section profiles.

Joint Names:

- GRTCBalancedStair.
- GRTCTwoFlightBalanced.
- GRTCThreeFlightBalanced.
- GRTCThreeFlightS.

JointControl:

- Stringer.



Key	JointName	JointControl	AllowedSectionType	AllowedSection
8054	SEPurlin	Purlin	Section class	Stramit Z_new_v3
8055	SEPurlin	Eaves	Section class	Stramit Z_new_v3
8056	SEPurlin	Purlin	Section class	Stramit C_new_v2
100000	GRTCSaddledStair	NosingBarSections	Section class	Usr Graitec Nosing Bar
100001	GRTCSaddledStairIntermediateLanding	NosingBarSections	Section class	Usr Graitec Nosing Bar
100002	GRTCTwoFlightsStraightL	NosingBarSections	Section class	Usr Graitec Nosing Bar
100003	GRTCTwoFlightsStraightDogleg	NosingBarSections	Section class	Usr Graitec Nosing Bar
100004	GRTCTwoFlightsStraightS	NosingBarSections	Section class	Usr Graitec Nosing Bar
100005	GRTCThreeFlightsStraightDogleg	NosingBarSections	Section class	Usr Graitec Nosing Bar
100006	GRTCThreeFlightsStraightS	NosingBarSections	Section class	Usr Graitec Nosing Bar
100007	GRTCSaddledStair	Stringer	Section shape	H
100008	GRTCSaddledStairIntermediateLanding	Stringer	Section shape	H
100009	GRTCTwoFlightsStraightL	Stringer	Section shape	H
100010	GRTCTwoFlightsStraightDogleg	Stringer	Section shape	H
100011	GRTCTwoFlightsStraightS	Stringer	Section shape	H
100012	GRTCThreeFlightsStraightDogleg	Stringer	Section shape	H
100013	GRTCThreeFlightsStraightS	Stringer	Section shape	H
100014	GRTCBalancedStair	Stringer	Section shape	H
100015	GRTCTwoFlightBalanced	Stringer	Section shape	H
100016	GRTCThreeFlightBalanced	Stringer	Section shape	H
100017	GRTCThreeFlightS	Stringer	Section shape	H

Balance Stair – GUI Allowed Sections
for Rectangular and Square Hollow Sections Selection

Advantage:

- Aligns with industry request for this stringer section profile.
- Improved detailing and modelling processing in the macro definition.

6. New Section Profiles Added

For this release, PowerPack incorporates several new section profiles designed for deployment in Advance Steel. The newly included profiles are:

Budmat Steel Profiles

- Additional steel profiles are now present in the system
- The update covers several of the steel tube ranges.

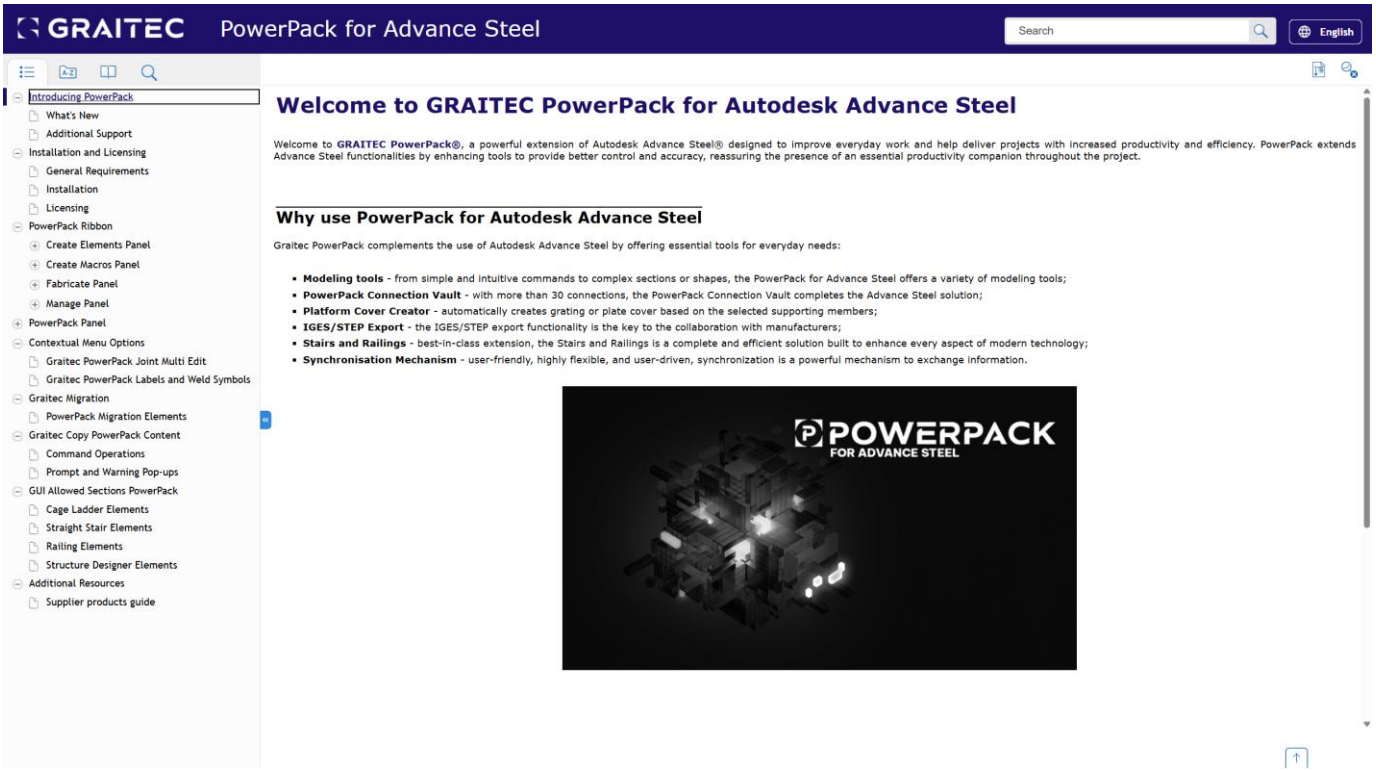
Northwest Metal Sections

- Cold rolled supplier for the UK - their mezzanine floor beam product range has been included in the Powerpack deployment.
    - This is accompanied by a drawing processing option to enable detailing of these cold rolled sections.
    - The section profiles are linked to the Mezzanine Floor tools of Advance Steel, enabling the creation of the mezzanine insert and connection macros.

7. Online Help: Continued Update

We continue to update the Powerpack for Advance Steel online help portal. As new features are added to the system, the help portal will receive additional content to complement these new features. This ensures users have access to vital insight into the command operations, quick start guides and accompanying media.

Certain updates to existing content are related to the Balance Stair and the Railing base plate connections, due to improvements in those existing Joint macros.



PowerPack for Advance Steel Online Help

Please check the portal for updates, which will be available shortly after the product release.

Link: PowerPack for Advance Steel (graitec.com)