Tekla Structures 2023

Get familiar with Tekla Structures

April 2023

Contents

1 Tekla Structures configurations

Depending on your Tekla Structures subscription, you have access to the **Tekla Structures Carbon**, **Tekla Structures Graphite**, or **Tekla Structures Diamond** configuration.

NOTE Only legacy configurations are supported if you use legacy on-premises licenses.

You can view the subscription details, including renewal information, in the Tekla Online Admin Tool.

Each subscription progressively enables more product features.

- **Tekla Structures Diamond** is for detailing and production information.
- **Tekla Structures Graphite** is for modeling and design documentation.
- **Tekla Structures Carbon** is for viewing and collaboration.

This documentation covers the content of the **Tekla Structures Diamond** configuration, so you might not have access to all the described features. If your subscription includes several different configurations, you can select between them when you start Tekla Structures.

Feature map for Tekla Structures subscriptions

	Carbon	Graphite	Diamond
Modeling			
Opening and viewing models	✔	✔	✔
Modeling of parts, steel assemblies, precast cast units, concrete pour units		✔	✔
Creating steel and concrete components		✔1	✔

	Carbon	Graphite	Diamond
Creating unique part marking (numbering)		✔2	✔
Intelligent batch editing tools			✔
Planning tools			
Logistics planning, sequencing, scheduling, classifying, status visualization	✔	✔	✔
Drawings and reports			
Creating reports & print drawings	✔	✔	✔
Creating general arrangement, rebar and anchor bolt drawings (plan, section, erection)		✔	✔
Creating steel and concrete production drawings (part, assembly, cast units)			✔
Interoperability			
Exports for steel CNC & MIS systems	✔	✔	✔
Exports to rebar manufacturing systems	✔	✔	✔
Exports for precast concrete ERP & MES systems	✔	✔	✔
Work with reference models (such as DWG, DXF, IFC formats)	✔	✔	✔
Analyzing			

	Carbon	Graphite	Diamond
Create analysis models and analysis loads		✔	✔
Analysis and design interfaces		✔	✔
Other			
Open API capabilities	✔	✔	✔

✔1 = Conceptual components only.

✔2 = Numbering is not available for steel or precast assemblies, reinforcement is still numbered.

Feature map for legacy on-premises licenses

	Full	Steel Detailing	Precast Concrete Detailing	Rebar Detailing	Engineering	Construction Modeling	EPM Modeler	Primary	Production Planner for Concrete	Project Viewer	Drafter
Viewing	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Grids, construction lines, points	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	
Building elements	✔	✔	✔	✔	✔	✔	✔	✔1			
Assemblies	✔	✔	✔	✔	✔	✔	✔	✔			
Precast cast units	✔		✔			✔	✔	✔			
Batch editing	✔	✔	✔	✔				✔			
Pour modeling	✔2	✔2	✔2	✔2	✔2	✔2	✔2	✔2			
Pour viewing	✔2	✔2	✔2	✔2	✔2	✔2	✔2	✔2	✔2	✔2	✔2
Cast in Place cast units	✔		✔	✔		✔	✔	✔			
Numbering	✔	✔6	✔	✔3				✔			
Assigning control numbers	✔	✔	✔					✔			

	Full	Steel Detailing	Precast Concrete Detailing	Rebar Detailing	Engineering	Construction Modeling	EPM Modeler	Primary	Production Planner for Concrete	Project Viewer	Drafter
Steel components	✔	✔		✔8	✔8	✔8	✔8	✔			
Concrete components	✔		✔	✔5, 8	✔8	✔8	✔8	✔			
User-defined attributes	✔	✔	✔	✔	✔	✔	✔	✔	✔9	✔9	✔7
Locking	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	
Multi-user	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Clash check manager	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	
Planning tools											
Lotting	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	
Precast planning tools (such as Palletizer and Stacker)	✔	✔10	✔						✔		
Sequencer	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	
Project status visualization (4D)	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Task manager	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	
Organizer	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔4
External editors											
Symbol Editor	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Template Editor	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Drawings, plans and reports											
Drawing layout editor	✔	✔	✔	✔	✔	✔		✔			✔
Creating general arrangement drawings (plan, section, erection)	✔	✔	✔	✔	✔	✔		✔			✔

	Full	Steel Detailing	Precast Concrete Detailing	Rebar Detailing	Engineering	Construction Modeling	EPM Modeler	Primary	Production Planner for Concrete	Project Viewer	Drafter
Modifying general arrangement drawings (plan, section, erection)	✔	✔	✔	✔	✔	✔		✔			✔
Creating steel fabrication drawings (single-part drawings)	✔	✔						✔			✔
Modifying steel fabrication drawings (single-part drawings)	✔	✔						✔			✔
Creating steel fabrication drawings (assembly drawings)	✔	✔						✔			✔
Modifying steel fabrication drawings (assembly drawings)	✔	✔						✔			✔
Creating precast concrete drawings (cast unit drawings)	✔		✔					✔			✔
Modifying precast concrete drawings (cast unit drawings)	✔		✔					✔			✔
Creating cast-in-place concrete drawings (cast unit drawings)	✔		✔	✔				✔			✔

	Full	Steel Detailing	Precast Concrete Detailing	Rebar Detailing	Engineering	Construction Modeling	EPM Modeler	Primary	Production Planner for Concrete	Project Viewer	Drafter
Modifying cast-in-place concrete drawings (cast unit drawings)	✔		✔	✔				✔			✔
Anchor bolt plans	✔	✔	✔	✔	✔	✔		✔			✔
Reports	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Printing and plotting	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Interoperability											
Export CNC, DSTV	✔	✔				✔	✔	✔		✔	
Steel MIS links	✔	✔				✔	✔	✔		✔	
Import 2D and 3D DWG, DXF	✔	✔	✔	✔	✔	✔	✔	✔			
Export 3D DWG, DXF, DGN	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	
Export drawings (DXF, DWG)	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Import and export CAD and FEM packages	✔	✔	✔	✔	✔	✔	✔	✔		✔	
IFC export	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	
CIS/2 import and export	✔	✔	✔	✔	✔	✔	✔	✔		✔	
ELiPLAN import and export	✔		✔					✔	✔		
BVBS export	✔		✔	✔				✔	✔		
HMS export	✔		✔					✔	✔		
Unitechnik export	✔		✔					✔	✔		
View reference models	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔

	Full	Steel Detailing	Precast Concrete Detailing	Rebar Detailing	Engineering	Construction Modeling	EPM Modeler	Primary	Production Planner for Concrete	Project Viewer	Drafter
Insert reference models (DXF, DWG, DGN, IFC, XML, PDF)	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	
Layout manager	✔	✔	✔	✔	✔	✔	✔	✔			
Analyzing											
Create analysis model	✔	✔	✔	✔	✔			✔			
Analysis and Design interface	✔	✔	✔	✔	✔			✔			
Loads	✔	✔	✔	✔	✔			✔			
Open API											
Open API capabilities	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔4

✔1 = Limitation: 2500 parts, 5000 reinforcement objects, unlimited number of bolts.

✔2 = Pours are enabled by an advanced option.

✔3 = Numbering is limited to cast-in-place parts, cast units and reinforcement.

✔4 = View only.

✔5 = Cast in Place concrete components only.

✔6 = Numbering is limited to steel parts and cast units.

✔7 = User-defined attributes in drawing properties can be edited, others view only.

✔8 = Conceptual components only.

✔9 = User-defined attributes that affect numbering cannot be edited.

✔10 = Availability depends on the extension. Check the Tekla Warehouse page for details.

2 Start Tekla Structures

With Tekla Structures, you can create information-rich 3D models of all structures and materials, and the 3D model is also the single source of information for drawings and other outputs, such as reports and NC data files.

When you start Tekla Structures, you are asked to choose your Tekla Structures setup. The setup consists of an environment, role, and configuration.

- *Environment* means region-specific settings and information. It defines, for example, which profiles, material grades, default values, drawing settings, component settings, reports, and templates are available and used for the specific region.
- *Role* is a user group profile that limits the availability of files and settings in an environment. The user interface has been customized for each role, meaning that some of the settings that are not relevant for the specific role are hidden to make the user interface clearer and easier to use.
- *Configuration* consists of a set of features that the user is entitled to based on the license agreement.

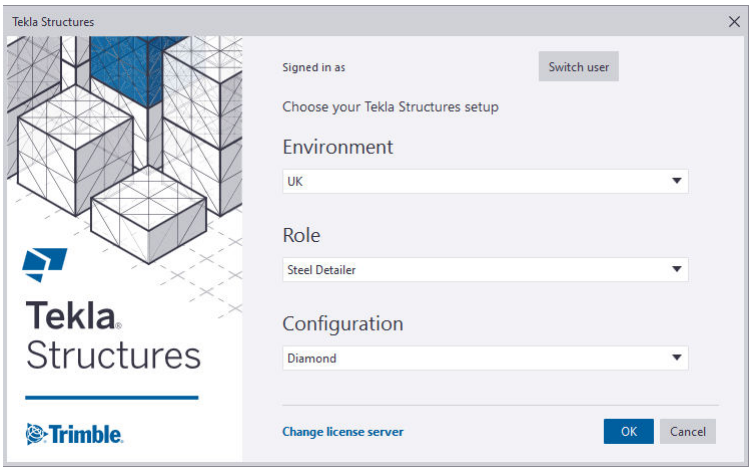
If you are a company administrator, see Overview of environments, roles, and configurations.

2.1 Choose your Tekla Structures setup

1. Start Tekla Structures by selecting it from the Windows Start menu or by double-clicking the desktop icon.
2. Sign in using your Trimble Identity when prompted.

   A dialog box where you choose your Tekla Structures setup and the type of license appears. Proceed with the default Tekla Structures subscription option.

   If you have an on-premises license, click **Change license server** --> **Use your on-premises license server**.



3. Select an environment that fits the region where your project is done.

   If you cannot find the environment that you want in the list, see Install and license Tekla Structures.

   You can also select **blank project** and use it as the basis to create your own customized environment.

4. Select a role.

   The availability of roles depends on your environment, but typically the following roles are available:

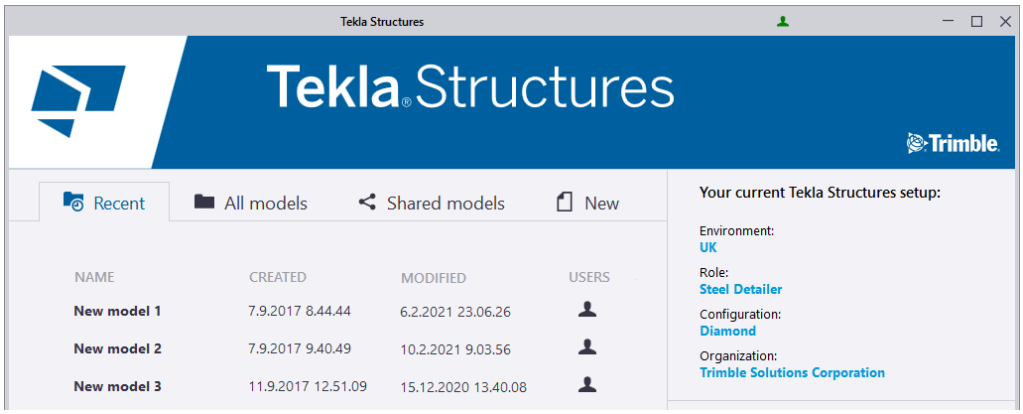
   - Concrete Contractor
   - Engineer
   - General Contractor
   - Precast Concrete Detailer
   - Production Planner for Concrete
   - Rebar Detailer
   - Steel Detailer

5. Select a configuration.

   The configuration that you are using might not contain all the features described in the Tekla Structures product guides. For more information on the features available in each configuration, see Tekla Structures configurations (page 5).

6. Click **OK**.

The start screen appears.



7. Select what you want to do:
   - On the **Recent** tab, you can open a recently used model (page 16).

     If the **Recent** tab is empty, then the **All models** tab is shown.
   - On the **All models** tab, you can open any existing model (page 16).

     If the **All models** tab is empty, then the **New** tab is shown.

     On the **Recent** and **All models** tabs, you can sort each of the columns. Additionally, you can change the order and size of the columns by dragging them.

     You can search models by name just by starting to type the name of the model. For example, when you type N, Tekla Structures selects the first model starting with the letter N.

     To open the selected model, double-click the selected model, or select the model and click the **Open** button.
   - On the **Shared models** tab, you can open a model that has been shared by using Tekla Model Sharing.
   - On the **New** tab, you can create a new model (page 17).

2.2 Create your own environment: blank project

Blank project is a Tekla Structures environment that includes only generic content, such as parametric profiles, undefined bolt, material and rebar grades, and basic drawing layouts. It can be used for gathering region-, company-, or project-specific settings, tools, and information. The blank project is always included in the Tekla Structures installation.

Download and install content to the blank project

You can use Tekla Warehouse to download and install content to the blank project. For example, you can download profiles, material grades, bolts, reinforcement, components, applications, and templates from Tekla

Warehouse across all environment- and manufacturer-specific collections, and make combinations that suit your needs.

You can download and install content from Tekla Warehouse both before and during a project. Before starting a project, you can install content to your project and firm folders. During a project, you can install content to the model folder.

2.3 Check or change your Tekla Structures setup

You can check your current Tekla Structures setup (environment, role, and configuration) at any time without having to close the model.

1. On the **File** menu, click **Settings** and scroll down to the **License** area.

   You current setup is displayed.

2. Change the setup if needed.

   You might be required to restart Tekla Structures after the changes.

2.4 Tekla Structures usage data

Tekla Structures collects usage data on how you use the software. This information helps to improve Tekla Structures, and it is an easy way to influence the future development of Tekla Structures. Your data is combined with other people's data to make a statistical analysis.

Tekla Structures collects usage patterns and trends of how you use the commands and tools in the software. The program collects this information automatically while you use Tekla Structures. You can view the log file to check the collected data.

1. On the **File** menu, click **Logs** --> **Usage data log** to view the log file.

   Note that the `UserFeedbackLog.txt` log file is always opened with the default text editor, unlike other log files which can be opened through the Tekla Structures log viewer. The option to switch between the viewers does not work for the `UserFeedbackLog.txt` file.

   The `UserFeedbackLog.txt` log file is located in the `Logs` folder under the path defined with **XSUSERDATADIR** in `teklastructures.ini` file.

2. To fine-tune the data saving interval or the data sending interval, use the advanced options XS_AUTOMATIC_USER_FEEDBACK_SAVING_INTERVAL and XS_AUTOMATIC_USER_FEEDBACK_SENDING_INTERVAL.

2.5 Open a model

You can have one model open at a time. If you open a model and already have one open, Tekla Structures prompts you to save the first model.

Open a recently used model

1. On the **File** menu, click **Open**.
2. Click **Recent**.
3. Select a model in the list.

   Tekla Structures shows the thumbnail image (page 18) of the model, if you have added a one, and some basic creation information of the model.
4. To open the selected model, click **Open** or double-click the model.

   If no views are visible in the model, Tekla Structures prompts you to select one.

NOTE If you want to remove a model from the **Recent** models list, right-click a model and select one of the options.

- **Delete the selected item**: delete the selected model from the list
- **Clear all**: remove all the models from the list
- **Clear invalid entries**: remove all invalid models from the list, such as deleted models that cannot be opened anymore

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Open any existing model

1. On the **File** menu, click **Open**.
2. Click **All models**.

   If you want to search for models in another folder, click **Browse...**.

   If you want to sort the models based on name or the modification date, use the **Order by** sorting.
3. Select a model in the list.

   Tekla Structures shows the thumbnail image (page 18) of the model, if you have added a one, and some basic creation information of the model.

4. To open the selected model, click **Open** or double-click the model.

   If no views are visible in the model, Tekla Structures prompts you to select one.

Open a shared model

If you want to open and work with a model that has been shared by using Tekla Model Sharing, you need to have a valid Tekla Model Sharing license.

1. On the **File** menu, click **Open**.
2. Click **Browse shared models**.

   Tekla Structures prompts you to log in with your Trimble Identity, if not already done so.
3. Select the shared model in the **Shared models** dialog box.

2.6 Create a new model

Create a separate model for each Tekla Structures project. Each model is stored in its own folder under the `TeklaStructuresModels` folder.

1. On the **File** menu, click **New**.
2. In the **Name** box, enter a name for the new model.

   The maximum length of the name is 40 characters.

   Do not use special characters (`/ \ ; : |`). We recommend that you try to decide on a permanent name at this point. The name of the model can be changed afterward, but it involves changing several file names.
3. Define where to save the new model.

   By default, the model is saved in the `TeklaStructuresModels` folder that was created during installation. You can change the default folder by clicking **Browse**. You can also select a recently used folder in the **Place in** list.
4. Select whether to run Tekla Structures in single-user or multi-user mode.
   - Single-user: the model will be used by one person at a time.
   - Multi-user: the model is stored on a server and may be used by several people simultaneously. Enter the name of the server in the **Server** box.
5. If you want to use a model template, select one.

   You can mark the important model templates as favorites, or hide the templates that you do not need.

   a. Select a model template in the list.

b. Right-click and select **Favorite** or **Hidden**.

   If you marked a template as **Favorite**, it is placed on top of the template list. Alternatively, use the star icon on the template to mark it as **Favorite**, or to remove the marking.

   If you marked a template as **Hidden**, it is removed from the template list. Select the **Show hidden items** check box to show it again.

6. If you want to link the model to a Trimble Connect project, select the **Start Trimble Connect collaboration** check box.

   Linking the model to a Trimble Connect project happens after the model has been created. For further instructions, see Link a Tekla Structures model to a Trimble Connect project.

7. Click **Create**.

   Tekla Structures creates the model and opens the default model view. The contents of the model view may differ based on the model template you chose in step 5.

See also

Create a thumbnail image of a model (page 18)

Edit project properties (page 19)

2.7 Create a thumbnail image of a model

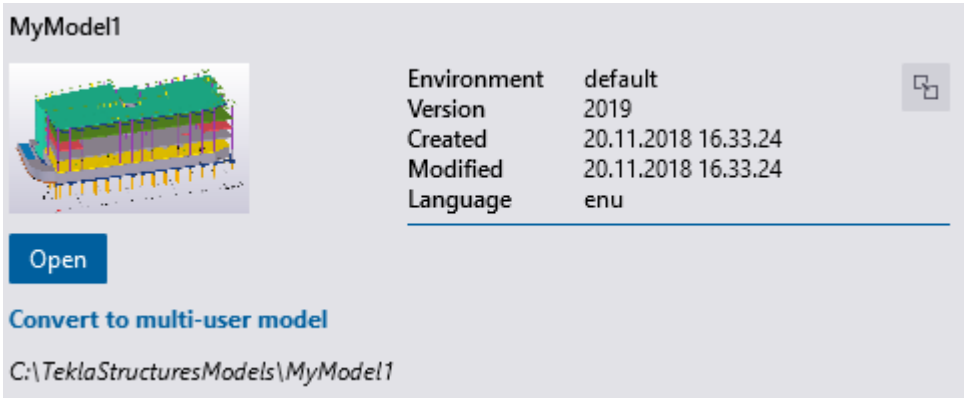
You can add a thumbnail image to make it easier to recognize your project even when you do not remember the exact name of the model. The thumbnail image is displayed when you browse for existing models.

1. On the **View** tab, click  **Screenshot** --> **Project thumbnail**.
2. Select a view.

   Tekla Structures creates the image and saves it in the model folder with the name `thumbnail.png`.

3. To check the thumbnail, go to the **File** menu, click **Open**, and select the model you created the thumbnail for in the **Recent** or in the **All models** list.

The image is now displayed with other model information. For example:



4. If you are unhappy with the thumbnail image, you can repeat steps 1–2 as many times as you need.

   For example, you can zoom the model in and out to adjust what is shown in the thumbnail image. When you create a new thumbnail, Tekla Structures overrides the existing thumbnail image with the new one.

TIP Alternatively, if you want to use a custom image, you can add the image directly to the model folder with the name `thumbnail.png`. The preferred size of the image is 120 x 74 pixels.

2.8 Edit project properties

You will need project information, such as project number and name, many times during a project. Update the project properties at the beginning of each project to make reports and drawings display the correct information automatically. All of the fields are optional.

1. On the **File** menu, click **Project properties**.
2. Edit the general project properties, and enter a description that helps you identify the model when you next need to open it.

   The description is listed with the other model information when you select a model in the **Recent** or in the **All models** list.

   The limit for the length of the description is 78 characters.

   When you edit the properties, Tekla Structures highlights the modified properties in yellow. When you are ready with the modifications, click **Modify** to apply the changes.
3. If you want to use another coordinate system for interoperability and collaboration, click **Base points** to define a new base point.

   Once a base point has been defined, you can select it from the **Location by** list.

4. To define project-specific user-defined attributes, click **User-defined attributes**.

   By default, you can define:

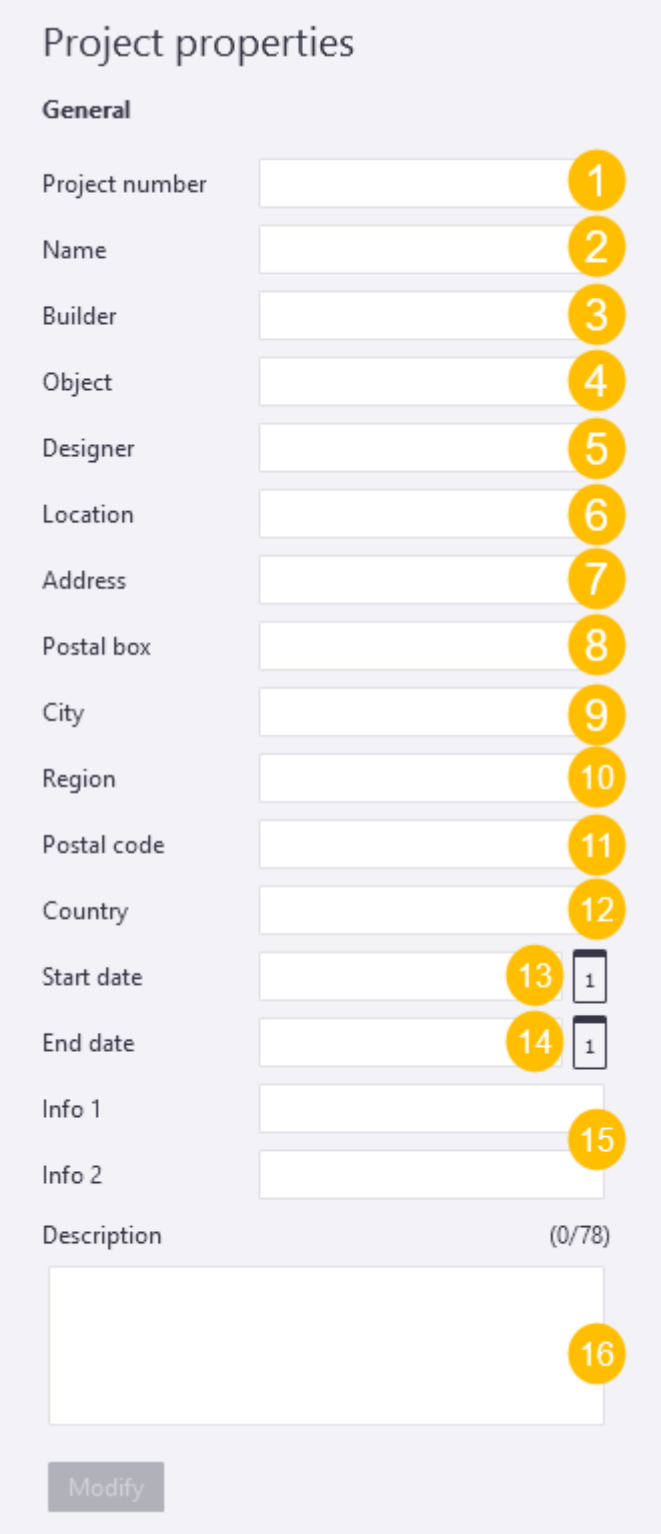
   - Project comment
   - User fields
   - Execution class
   - Classification system
   - IFC export attributes, like IFC site name, IFC building name, IFC building storey name, and IFC bridge name
   - Status attributes
   - Unitechnik factory location

   The availability of the various user-defined attributes depends on your environment (page 12), role and configuration (page 5).

Once you are finished with editing the project properties, as a result, you will get updated project properties in drawings and reports.

Displaying project information in templates and reports

The fields in the image below refer to template attributes, which you can use when designing your own reports and templates. To display project information, add the corresponding template attributes in the templates and reports.



(1) NUMBER#2

(2) NAME

(3) BUILDER

(4) OBJECT

(5) DESIGNER

(6) LOCATION

(7) ADDRESS

(8) POSTAL_BOX

(9) TOWN

(10) REGION

(11) POSTAL_CODE

(12) COUNTRY

(13) DATE_START

(14) DATE_END

(15) INFO1, INFO2

(16) DESCRIPTION

2.9 Save a model

You should save your model regularly to avoid losing any work. Tekla Structures also automatically saves your work at regular intervals.

NOTE Tekla Structures versions are not backwards compatible. When you save a model, you cannot open it in older versions of Tekla Structures due to database differences.

Save the current model

To save changes to the current model file, do one of the following:

- On the top left corner of the screen, click **Save**  .
- On the **File** menu, click **Save as** --> **Save**.
- Press **Ctrl+S**.

Save a copy with different name or location

You can create a copy of the model with a different name or in a different folder. The original version of the model remains intact.

NOTE When you save the model with a different name, all the GUIDs (globally unique identifiers) of the saved model will change and be different than in the original model. This means that the saved model has no relation to the original model, and the saved model cannot be used as backup.

1. On the **File** menu, click **Save as** --> **Save as**.
2. In the **Model name** box, enter a new name.
3. To save in a different location, click **Browse** and define where you want to save the model.
4. Click **OK**.

   Tekla Structures creates a new copy with a different name, but the original version of the model remains intact.

Save a backup copy

You can create a backup copy of the model with the same GUIDs (globally unique identifiers) as the original model.

1. On the **File** menu, click **Save as** --> **Save and create backup copy**.

   Tekla Structures saves a copy of the model in the `..\TeklaStructuresModels\backup\<model_name>\<date-time>` folder.
2. If you need to take the backup copy into use in place of the current model, move the backup copy from the chosen date to your model folder.

   You can either replace all contents of the current model folder with the content of the chosen backup folder, or you can rename the backup folder (`<date-time>`) to match the original model name.
3. If you want to change the location of the backup folder, use the advanced option XS_MODEL_BACKUP_DIRECTORY.

NOTE To save disk space, you can compress the `XS_MODEL_BACKUP_DIRECTORY` folder.

Save as a model template

You can save a model with the desired settings and use the model as a template when you create new models.

Define autosave settings

Use **Autosave** to automatically back up and save your work at set intervals. You can set the autosave interval separately for the model and drawings. Autosave files have the extension `.db1_<user>`.

If the autosave is not successful for some reason, check the status bar messages (page 48) for more information.

1. On the **File** menu, click **Settings** --> **Options**, and go to the **General** settings.
2. Under **Autosave**, set the autosave interval.
   a. In the first box, enter the number of minutes after which Tekla Structures saves the model. The default value is 15 minutes.

      If there are no changes in the model during the autosave interval, the model is not autosaved.

   b. In the second box, enter the number of drawings after which Tekla Structures saves your work.

   NOTE The smallest accepted value for the autosave interval is 2, both for modeling and for drawings.

   If you try to enter a value smaller than 2, Tekla Structures automatically changes the value to 2.

3. Click **OK**.
4. Define where to store the **Autosave** files.

   By default, Tekla Structures stores the autosave files in the `..\TeklaStructuresModels\autosave` folder. To change the folder, use the advanced option XS_AUTOSAVE_DIRECTORY.
5. Define whether to keep old autosave files.

   By default, Tekla Structures deletes the autosave files when you close a model, to save disk space. To keep autosave files even if you exit Tekla Structures without saving the model, use the advanced option XS_KEEP_AUTOSAVE_FILES_ON_EXIT_WHEN_NOT_SAVING.

When to use an autosaved model

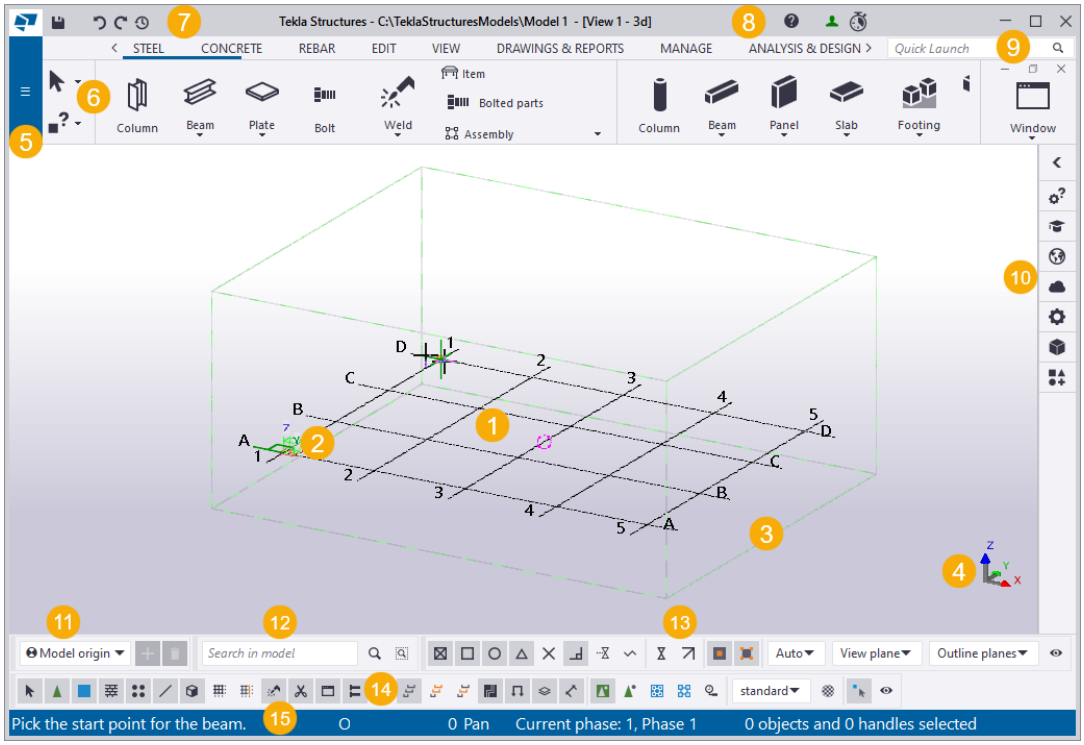
You can use the autosaved model if there are errors when trying to open a model (page 16). When you open a model, Tekla Structures automatically checks if the previous session ended normally. If it did not, Tekla Structures asks whether you want to continue by using the autosaved model or the original model.

If Tekla Structures displays the warning **Fatal: Model memory corrupted by read**, it means that hardware problems have damaged the model database.

Your hard disk may be damaged. Use autosave or system backup files to restore the model.

3 Introduction to Tekla Structures user interface

When you open a Tekla Structures model, a new window appears. By default, the user interface will look something like this:



(1) This is your Tekla Structures model. If you are starting a completely new project, you will only see the default model view and an empty grid at this point.

(2) The green cube symbol represents the global coordinate system and it lies at the global origin (x=0, y=0, z=0).

(3) The box around the grid represents the work area. In a view, you can only see the parts that are within this area. Objects that are outside the work area

exist in the model, but they are not visible. You can shrink and expand the work area to suit your needs. You can also hide the work area box.

(4) The coordinate symbol with the three axes x, y, and z represents the local coordinate system. It also indicates the direction of the model.

(5) The **File** menu is where you manage your models. You can save models (page 22), print drawings, and import and export models, among other things.

(6) The ribbon contains all the commands and other functions you will use when building your model. You can customize the ribbon according to your needs.

(7) By default, the Quick Access Toolbar (page 48) contains the **Save**, **Undo**, **Redo**, and **Undo history** shortcuts icons. You can customize the **Quick Access Toolbar** according to your needs.

(8) The upper right corner shows your user-name and a green symbol indicating that you are signed in and your subscription or license is working as expected. If a clock symbol is shown instead of the green symbol, the clock indicates that you are disconnected from the Tekla subscription service.

(9) If you cannot find the command or dialog box you are looking for, search with Quick Launch (page 31).

(10) Use the side pane (page 32) on the right side of the screen to check instructions for the currently active ribbon command, view objects properties, add reference models and components, attach point clouds, use custom inquiry, or to find direct access to Tekla Online services.

(11) The work plane handler toolbar controls which work plane you currently have in use in the model.

(12) The model search toolbar enables a quick search for objects in the entire model or within the selected model objects.

(13) The snap switches control which positions you can pick when creating objects.

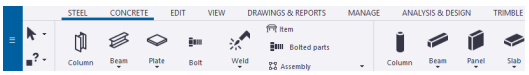
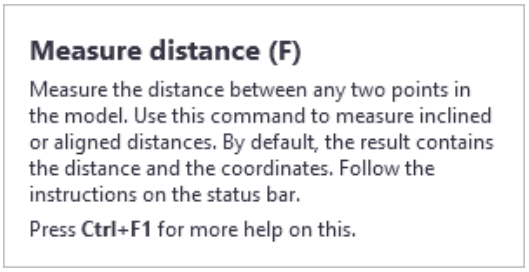
(14) The selection switches (page 41) control which objects you can select.

(15) When you create objects, the status bar (page 48) will tell you how to proceed and when to pick points.

3.1 How to use the ribbon and the commands on the ribbon

All the essential commands in Tekla Structures are available on the ribbon. The commands are grouped according to their use. You can modify the appearance of the ribbon, and customize the content of the ribbon, if needed. All commands throughout Tekla Structures work in the same manner.

How to use commands on the ribbon

To	Do this
Find commands	Slide the ribbon right or left with your mouse, or scroll with your mouse wheel.  Some commands have more options under them. The options become available when you click the command's name: 
Activate the command you want to use	On the ribbon, click the command. The command runs until you end it or use another command.
Check which command you need for your current task, if you are unsure	Rest the mouse pointer on a command. A small window called tooltip appears. Tooltips provide more information about commands and also give examples, hints, and tips. For example: 

To	Do this
	Press **Ctrl+F1** when a tooltip is open to find more help on the command. To switch the tooltips on or off, click **File menu** --> **Settings** --> **Switches** , and then select or clear the **Tooltips** check box.
View more detailed instructions on how to use the currently active ribbon command	In the side pane, click  to open the **Instructor** side pane window. On the ribbon, click a command. The **Instructor** side pane window shows short videos, steps and other information on how to use the active command.
End command	Right-click and select **Interrupt**. You can also press **Esc**.
Re-activate the last command	Press **Enter**.

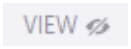
NOTE You can complete many commands by using the **Enter** or the **space** key as a shortcut, or by using the middle mouse button.

To use the **Enter** key as a shortcut for completing commands, set the advanced option `XS_ENTER_FINALIZES_COMMANDS` to `TRUE`.

Change the appearance of the ribbon

You can change the order of ribbon tabs, choose how they are aligned, and even hide some parts of the ribbon if you do not need them in your current project. For example, if you are only modeling steel parts, you can temporarily hide the **Concrete** tab.

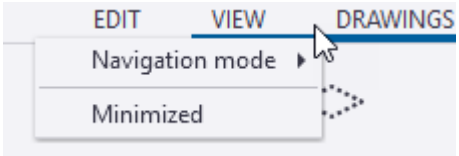
To	Do this
Change the order of tabs on the ribbon	Drag and drop the tab titles.
Change how the tabs are aligned	Right-click on the top bar of the ribbon, select **Navigation mode**, and then select one of the options. • **Scroll visible**: the ribbon movement is minimal when you switch between the tabs • **Align to left**: the icons start from the left side of the ribbon

To	Do this
	• **Align to tab**: the icons start from the left side of the current tab
Hide the tabs that you do not need in your current project	1. Rest the mouse pointer on a tab title. A small eye symbol appears next to the tab title:  2. Click the eye symbol  . The eye symbol changes and the tab title becomes gray:  The **View** tab is now hidden from the ribbon. If you slide the ribbon, hidden tabs appear as:  3. To re-display the hidden tab, click the eye symbol again.

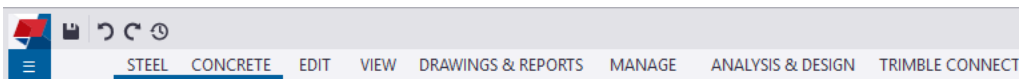
Minimize the ribbon

You can minimize the ribbon to save space on your screen. When the ribbon is minimized, the command buttons are hidden but the tabs are visible.

1. Right-click on the top bar of the ribbon, and select **Minimized**.



The ribbon is now minimized to save space on the screen:



2. To access the commands when the ribbon is minimized, click a tab title.

   The ribbon becomes visible so that you can select a command.

3. To restore the ribbon, right-click on the top bar of the ribbon, and select **Minimized** again.

3.2 How to use Quick Launch to find commands, dialog boxes, and toolbars

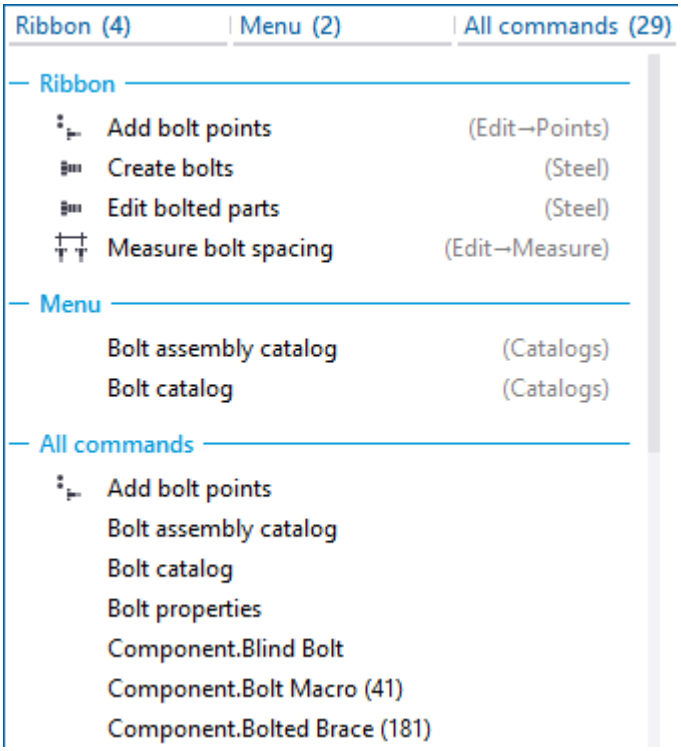
Use the **Quick Launch** box in the upper-right corner of the screen to find commands, dialog boxes, toolbars, and other functions. The shortcut key for **Quick Launch** is **Ctrl+Q**.

1. In the **Quick Launch** box 

, enter a search term.

   For example, type `bolt` if you are looking for bolt commands.

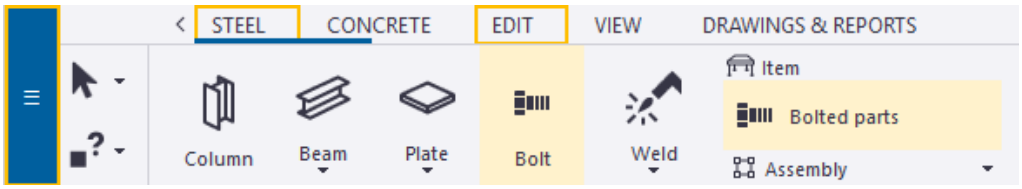
2. Wait for a list of search results to appear. For example:



   The search results show the location of the command. You can navigate in the list by clicking the **Recent**, **Ribbon**, **Menu**, and **All commands** tabs. The **Recent** tab lists 10 most recently started commands from the search results.

   Alternatively, you can navigate in the search results by using the up and down arrow keys on the keyboard. Start the selected command by clicking **Enter**.

   Tekla Structures highlights the commands on the ribbon or on the **File** menu. For example:

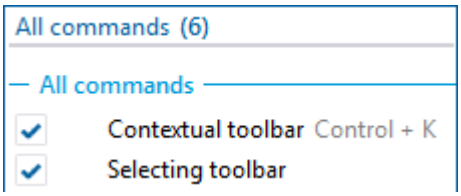


If the command you have searched is in the side pane, Tekla Structures opens the side pane window.

3. To run a command, click its name on the search results list.

   Or press the **Enter** key to instantly run the first command on the list.

4. For some basic settings (page 35) and toolbars a check box appears in front them on the search results list. Click the command to activate the setting, or to have the toolbar visible.



5. If you want to open the list of search results again, click the **Quick Launch** box and the list opens automatically.

   To clear the **Quick Launch** box, click the ✖ button or press the **Esc** key.

See also

How to use the ribbon and the commands on the ribbon (page 27)

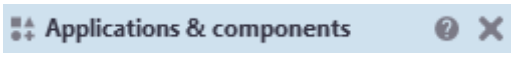
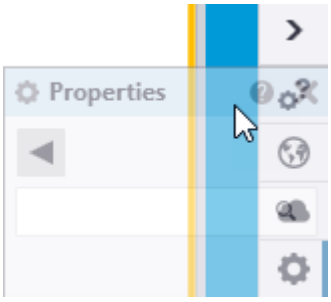
How to use the side pane (page 32)

3.3 How to use the side pane

Use the side pane on the right side of the screen, for example, to view object properties, and to add reference models and components.

To	Do this
Open a side pane window	Click a side pane button to open a side pane window. • Click  to view model object properties using Custom inquiry. • Click  to open **Instructor** and to view instructions for the currently active ribbon command.

To	Do this
	• Click  to find shortcut access to the different Tekla Online services. • Click  to attach point clouds to a model. • Click  to show the properties of model or drawing objects. • Click  to show the reference models list. • Click  to show the Applications & components catalog. When you click a side pane button, the side pane window opens and becomes active. Active side pane windows have blue buttons  .
Keep multiple side pane windows open at the same time	Tekla Structures opens only one side pane window at a time by default. You can keep multiple side pane windows open at the same time if needed. • Right-click a side pane button and select **Single pane** or **Stacked panes**. **Single pane**: Tekla Structures opens a new side pane window and closes all the other open side pane windows. **Stacked panes**: Tekla Structures opens a new side pane window and keeps the other open side pane windows stacked on top of each other. • Click **Ctrl+side pane button** to open the side pane windows stacked on top of each other. You can resize the side pane windows and change their order by dragging them.
Close a side pane window	You can close one active side pane window at a time, or several windows at one go if you have stacked them on top of each other. • Click another side pane button to close the active side pane window and to open a new window. • Click the  button in the upper right corner of each side pane window.

To	Do this
	• Click the arrow  in the side pane.
Move a side pane window	When you position the mouse pointer on the upper part of the side pane window, the upper part is shown in light blue. Grab the upper part of the side pane window and drag the window to a new location. 
Float and dock a side pane window	You can float or dock the side pane windows. • To float a side pane window: right-click a side pane button and select **Float**. • To dock a side pane window: right-click the side pane button of a floating window and select **Attach to side pane**. Alternatively, you can drag the side pane window back to the docking area on the right or at the bottom of the screen. The docking area is marked with blue color.  If you float a side pane window and close Tekla Structures, the side pane window will be opened in its floating position when you start Tekla Structures the next time.
Adjust the size of a side pane window	Resize a floating side pane window by dragging its borders.
Find more help on the content of a side pane window	Click the  button.

TIP Sometimes a side pane window opens on a second display that is not connected to your computer at the moment. To return the side pane window to the main display, right-click the side pane button and select **Attach to side pane**.

See also

Introduction to Tekla Structures user interface (page 26)

3.4 Basic settings in the File menu

Use the toolbar settings and the switches in **File menu** --> **Settings** to control some basic modeling and drawing settings.

1. In the upper-left corner of the screen, click **File**.

2. Go to **Settings**.
3. Under **User interface**, **Switches**, or **Toolbars**, switch the options either **on** or **off**.

   In drawings, under **Color mode**, click one of the options to change the color mode to **Black and white**, **Grayscale**, or **Color**.

Alternatively, you can use Quick Launch (page 31) box 

to control the toolbars and the switches. Start typing the name of the toolbar or the switch, for example, `smart`, in the **Quick Launch** box and select the toolbar or the switch on the search results list to activate the setting.

User interface

- **Toolbars**: Use the option buttons to adjust the size of the icons on the toolbars at the bottom of the screen, and at the same time the toolbar size.
- **Font size (Ribbon)**: Use the slider to adjust the ribbon font size. The default font size is 11p.

Switches

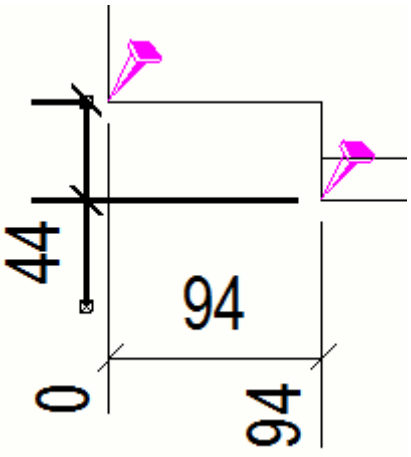
Option	Description
Smart select	Change how drag-and-drop works for object handles. When the option is **on**, you can drag from object handles without selecting them first. When the option is **off**, you must select the handles before dragging.

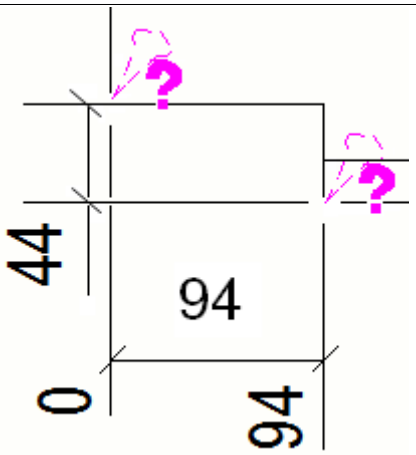
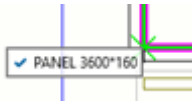
Option	Description
Drag & drop	Activate or inactivate the drag-and-drop command. When the option is **on**, you can use drag-and-drop when copying or moving objects. When the option is **off**, drag-and-drop cannot be used.
Middle button pan	Change the panning mode. When the option is **on**, you can move the model or drawing using the middle mouse button. When the option is **off**, you can move the model using the left mouse button.
Centered zooms	Change the zooming mode. When the option is **on**, the center point of zooming is kept in the middle of the view, regardless of the mouse pointer position. When the option is **off**, the mouse pointer position determines the center point of zooming.
Basic view auto rotation	Activate or inactivate the auto rotation of part and component 3D views. When the option is **on**, Tekla Structures rotates the view once whenever you create a new 3D view of a part or component. When the option is **off**, Tekla Structures does not rotate the view.
Crossing selection	Change how area selection works. When the option is **on**, all objects that fall at least partially inside the rectangular area are selected, regardless of the dragging direction. When the option is **off**, the dragging direction affects the selection of objects.
Rollover highlight	Switch the highlighting of objects on or off. Depending on the rendering engine you are using, OpenGL or DirectX, Tekla Structures highlights the objects differently when rollover highlight is on. When the option is **on**, Tekla Structures highlights selectable objects when you move the mouse pointer on them. When the option is **off**, selectable objects are not highlighted.

Option	Description
Select on right-click	Change how objects can be selected. When the option is **on**, you can select objects also with the right mouse button. Also the related context menu is displayed immediately. When the option is **off**, you can select objects with the left mouse button.
Automatic rotation center	Define how the view point is set. When the option is **on**, the view point changes whenever you click the middle mouse button. When the option is **off**, the view point stays in a set position.
Ortho	Activate or inactivate orthogonal snapping. Orthogonal snapping also works in drawings. When the option is **on**, Tekla Structures snaps to the closest orthogonal point on the plane (0, 45, 90, 135, 180 degrees, and so on). The mouse pointer automatically snaps to positions at even distances in the given direction. When the option is **off**, orthogonal snapping is not used.
Use legacy rendering	Activate or inactivate the DirectX rendering. When the option is **on**, the legacy OpenGL rendering is used. When the option is **off**, the DirectX rendering is used. DirectX rendering is better optimized for modern graphics cards. The rendering setting is model view specific, which means that you can use a different rendering options in different model views. If you switch between the rendering options, you need to reopen the model view to activate the new value.
Hatching of overlapping surfaces	In the DirectX rendered model views, switch the hatching of overlapping surfaces on the same plane on or off. When the option is **on**, the overlapping surfaces are visualized with a hatch, and you can detect duplicate objects or any overlapping parts. When the option is **off**, the overlapping surfaces are not visualized.

Option	Description
	Hatching is shown in views whose rendering option is **Parts rendered** / **Components rendered** (**Ctrl/Shift+4**). If you switch the option on or off, you need to reopen the view to activate the new value.
Dashed line for hidden line	In the DirectX rendered model views, show or hide dashed lines for part edge lines when the part edge lines are hidden behind another part. When the option is **on**, the dashed lines are shown, making it easier to see, for example, if the part flange is facing towards or away from the web, or, in more complex 3D views, which part is on top of which. Using the dashed lines also increases Tekla Structures performance in the transparent views. When the option is **off**, the dashed lines are not shown and the performance effect is removed. Dashed lines can be shown in all views whose rendering option is one of the following: • **Parts wireframe** / **Components wireframe** (**Ctrl/Shift+1**) • **Parts shaded wireframe** / **Components shaded wireframe** (**Ctrl/Shift+2**) • **Parts grayscale** / **Components grayscale** (**Ctrl/Shift+3**) • **Show only selected part** / **Show only selected component** (**Ctrl/Shift+5**). If you switch the option on or off, you need to reopen the view to activate the new value.
Tooltips	Show or hide the tooltips (page 27). When the option is **on**, a small window with examples, hints, and tips appears when you rest the mouse pointer on a command. When the option is **off**, no tooltips appear.
Snap tooltips	Show or hide the snap tooltips. When the option is **on** and you start a command that requires picking points, Tekla Structures displays a snap tooltip that shows the name of the snap point. When the option is **off**, no snap tooltips appear.

The following settings are available only in the drawing mode:

Option	Description
Printer line widths	Show on the screen the drawing lines with the defined line thickness in color and grayscale color modes. The black and white color mode always shows the printer line thicknesses on the screen, whereas the color and grayscale color modes only show the printer line thicknesses on the screen if the **Printer line widths** switch is enabled. When the option is **on**, the lines in color and grayscale modes are shown with defined thickness. When the option is **off**, the lines in color and grayscale modes are shown with default thickness.
Printer line colors	Show line colors in the drawing. Selecting this setting shows the changed drawing line colors immediately in drawings.
Ghost outline	Show hidden objects in drawings as ghost outlines in color drawings. In grayscale and black and white drawings, hidden objects are not shown even if **Ghost outline** is selected. When the option is **on**, hidden lines are shown as ghost outlines. When the option is **off**, hidden lines are not shown.
Associativity symbol	Shows which drawing objects are associative and automatically updated. Associativity symbols are shown only when you select a drawing object, for example a dimension.  Objects that do not have valid association get a ghost associativity symbol and a question mark.

Option	Description
	 When the option is **on**, associativity symbols are shown. When the option is **off**, associativity symbols are not shown.
Dimension creation associativity	Activate the dimension creation associativity functionality, which displays and allows you to change the dimension associativity rule for each dimension point separately during the manual dimensioning of the drawing objects. 
Drawing drag & drop	Activate or inactivate the drag-and-drop command in drawings. When the option is **on**, you can use drag-and-drop when moving objects such as annotations, sketch objects and grid lines without selecting the objects or handles first. When the option is **off**, you need to select the objects or handles first before you can drag.

Toolbars

Use the toolbar switches to switch the selected toolbars on and off:

- **Snapping toolbar**
- **Snap override toolbar**
- **Selecting toolbar**
- **Work plane handler toolbar**
- **Model search toolbar**

- **Contextual toolbar**

By default, the toolbars are located at the bottom of the screen.

See also

Snapping toolbar (page 45)

Selecting toolbar (page 41)

View and modify object properties by using the contextual toolbar (page 71)

How to use the ribbon and the commands on the ribbon (page 27)

How to use Quick Launch to find commands, dialog boxes, and toolbars (page 31)

3.5 Selecting toolbar

The *selection switches* on the **Selecting** toolbar are special commands that control which objects and object types you can select. For example, if you select the entire model area but only the **Select parts** switch is active, only the parts become selected.

Click the selection switches on the **Selecting** toolbar to switch them on or off.

By default, the **Selecting** toolbar is located at the bottom of the screen. If you are unable to find the toolbar, click **File** --> **Settings**, and in the **Toolbars** list ensure that the **Selecting** toolbar is selected.

Alternatively, you can control the selection switches with **Quick Launch**. Start typing the name of the selection switch, for example, `select`, and click the name of the selection switch on the search results list to activate the switch.

Main selection switches

The main selection switches control whether you can select components and assemblies, or objects included in them. These switches have the highest priority.

Switch	Selectable objects	Description
	Components	When you click any object belonging to a component, Tekla Structures selects the component symbol and highlights (but does not select) all component objects.
	Component objects	Objects created automatically by a component can be selected.

Switch	Selectable objects	Description
	Assemblies and cast units	When you click any object in an assembly or a cast unit, Tekla Structures selects the assembly or cast unit and highlights all objects in the same assembly or cast unit.
	Objects in assemblies and cast units	You can select single objects in assemblies and cast units.

Other selection switches

The table below lists the remaining selection switches. Use these switches to control which object types you want to select.

Switch	Selectable objects	Description
	Any objects	Turns all switches on. You can select all object types, except for single bolts.
	Components	You can select component symbols.
	Parts	You can select parts, such as columns, beams, or plates.
	Surface treatments and surfaces	You can select surface treatments and surfaces.
	Points	You can select points.
	Construction lines and circles	You can select construction lines and circles.
	Reference models	You can select entire reference models. This selection switch may affect the speed of zooming and rotating in the model. For more information, see Tips for large models.
	Grids	You can select entire grids by selecting one line in the grid.
	Grid lines	You can select single grid lines.
	Welds	You can select welds.

Switch	Selectable objects	Description
	Cuts and added material	You can select line, part, and polygon cuts, fittings, and added material.
	Views	You can select model views.
	Bolt group	You can select entire bolt groups by selecting one bolt in the group.
	Single bolts	You can select single bolts.
	Rebar sets	You can select rebar sets, and also reinforcing bar groups and single reinforcing bars.
	Rebar groups	You can select bar groups in rebar sets, and also reinforcing bar groups and single reinforcing bars.
	Single rebars	You can select single bars in rebar sets, and also reinforcing bar groups and single reinforcing bars.
	Pour breaks	You can select pour breaks.
	Planes	You can select construction planes.
	Distances	You can select distances that are used in custom components or in parametric modeling.
	Tasks	You can select Task Manager tasks.
		Switch Direct Modification on or off.
		Hide selected switches from the toolbar.

Analysis model switches

The following switches can be used to select objects in an analysis model:

Switch	Selectable objects	Description
	Loads	You can select point, line, area, uniform, and temperature loads.
	Analysis parts	You can select analysis parts.
	Nodes	You can select analysis nodes.
	Rigid links	You can select analysis rigid links.

Selection switches in drawings

Similar selection switches are available in drawings:

Switch	Selectable objects	Description
	Any objects	Turns all switches on. You can select all object types, an entire group of dimensions, or an entire grid.
	Lines	You can select drawing objects such as lines, arcs, circles, rectangles, polylines, polygons, and clouds.
	Text	You can select any text in drawings.
	Marks	You can select all kinds of marks and associative notes in drawings. This selection switch also selects weld marks.
	Parts	You can select parts, such as columns, beams, and plates in drawings.
	Section symbols	You can select section symbols in drawings.
	Welds	You can select welds in drawings. To select weld marks, use the **Select drawing marks** selection switch.
	Views	You can select drawing views.
	Dimensions	You can select drawing dimensions. You can select an entire group of dimensions by

Switch	Selectable objects	Description
		selecting one dimension in the group.
	Single dimensions	You can select single drawing dimensions.
	Grids	You can select grids in drawings.
	Grid lines	You can select single grid lines in drawings.
	Detail marks	You can select details marks in drawings.
	Plugins	You can select custom plugins in drawings.

3.6 Snapping toolbar

Use the *snap switches* on the **Snapping** toolbar to control which positions you can pick in the model or drawing. By using snap switches, you can position objects precisely without having to know the coordinates. Use the **Snapping** toolbar to activate snap switches and to access additional snapping options.

Click the snap switches on the **Snapping** toolbar to switch them on or off. If there is more than one point available to snap to, press the **Tab** key to cycle forward through the snap points, and **Shift+Tab** to cycle backwards through them. Click the left mouse button to select the appropriate point.

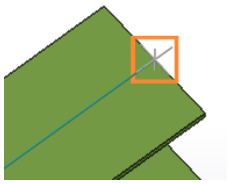
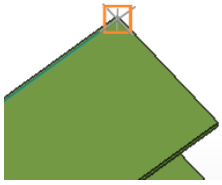
By default, the **Snapping** toolbar is located at the bottom of the screen. If you are cannot find the toolbar, click **File** --> **Settings**, and in the **Toolbars** list ensure that the **Snapping** toolbar is selected.

Alternatively, you can control the snap switches with **Quick Launch**. Start typing the name of the snap switch, for example, `snap`, and click the name of the snap switch in the search results list to activate the switch.

Main snap switches

The two main snap switches define whether you can snap to reference points or any other points on objects, for example part corners. These switches have

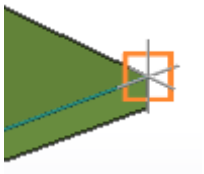
the highest snap priority. If both these switches are off, you cannot snap to any positions, even if all the other switches are on.

Switch	Snap positions	Description	Symbol
	Reference lines and points	You can snap to object reference points (points that have handles).	Large 
	Geometry lines and points	You can snap to any point on an object. In drawings, you can use this switch to snap to snapshot overlays.	Small 

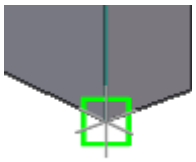
Snap switches and snap points

The snap symbols have two colors in the model:

- Orange for model objects



- Green for objects inside components



Make sure that you do not have too many snap switches on when snapping, as it may easily lead to inaccuracies and errors in snapping. Be particularly careful when you use the  **Snap to any position** snap switch.

Switch	Snap positions	Description
	Points	Snaps to points and grid line intersections.

Switch	Snap positions	Description
	End points	Snaps to end points of lines, polyline segments, and arcs.
	Centers	Snaps to centers of circles and arcs. In a drawing, when you want to snap to the center point of a circle that has been created by using a polygon cut in the model, set the advanced option XS_ADD_SNAPPING_SYMBOL_TO_CIRCLES to `TRUE`.
	Midpoints	Snaps to midpoints of lines, polyline segments, and arcs.
	Intersections	Snaps to intersections of lines, polyline segments, arcs, and circles.
	Perpendicular	Snaps to points on objects that form a perpendicular alignment with another object.
	Line extensions	Snaps to the line extensions of nearby objects, and reference and geometry lines of drawing objects.
	Any position	Snaps to any position.
	Nearest point	Snaps to the nearest points on objects, for example, any point on part edges or lines.
	Lines	Snaps to grid lines, reference lines, and the edges of existing objects.
	Dimensions and mark lines, drawing layout items and drawing frames	Snaps to annotation geometries, drawing layout items and drawing frames. Available only in drawings.

Snapping in drawings

In drawings, you can snap in positions in the same way as in the model. You can also snap to orthogonal angles while placing drawing objects or sketching.

3.7 View status bar messages

Status bar is the area located at the bottom of the Tekla Structures main window. Follow the instructions on the status bar when you use commands. For example, when you are creating a part, the status bar will tell you how to proceed and when to pick points.

1. Instructions and error messages
2. The status of **Ortho** (**O**), **Smart select** (**S**) and coordinate locks (**X**, **Y**, **Z**).
3. The level in assembly or component hierarchy (0–9)
4. The middle mouse button mode (**Pan** or **Scroll**)
5. The current phase
6. The number of selected objects and handles

See also

Basic settings in the File menu (page 35)

3.8 Icons on the Quick Access Toolbar

Quick Access Toolbar provides shortcut icons to the commonly used commands. The toolbar is located on top left corner of the screen.

If needed, you can customize the **Quick Access Toolbar** and add the commands of your choice to it.

Icon	Description
	Save (page 22) changes to the current model file.
	Undo the last action.
	Redo the actions previously undone.
	Open the Undo history (page 49) dialog box. The dialog box lists the commands you have run and the modifications you have done. Use the list to undo or redo several commands or modifications at one go.

Icon	Description
	This icon is visible if you use Tekla Model Sharing. Read in other users' model changes from the sharing service. Only the changed data is read in.
	This icon is visible if you use Tekla Model Sharing. Write out your model changes to the sharing service. Only new or changed data is written out.
	The icon is visible if you use Tekla Model Sharing. Show read in changes. After you have read in, a list of model changes is displayed.

See also

Introduction to Tekla Structures user interface (page 26)

3.9 Undo modeling and drawing changes

The **Undo history** list helps you to check which commands and modifications you have done and undone, and to keep track of the changes. By selecting a command or an action in the **Undo history** dialog box, you can undo or redo several commands at one go, and thus go back and forth in the model history. **Undo history** is available both in the modeling and in the drawing mode.

How to use Undo history

To open the **Undo history** dialog box, click the  button on the Quick Access Toolbar, next to the **Undo** and **Redo** buttons. Alternatively, use **Quick Launch** to open the dialog box.

To	Do this
Undo commands	Click any row on the list. If the undo operation takes a long time, Tekla Structures highlights the clicked row to show what was selected. All the modifications you have done after the selected command are undone. The modifications you have undone have a dark gray background color in the list.

To	Do this
Redo previously undone commands	Click any row with a dark gray background color in the list. All the modifications you have done before the selected command are redone.
Add a bookmark	Move your mouse pointer over any row. A bookmark icon  is shown. Click the bookmark icon to mark certain commands. Use the bookmarks to mark important commands or actions. You can later return to these commands or actions if the changes in the model are not satisfactory. To remove a bookmark, click the bookmark icon  again.

The **Undo history** dialog box

- lists the commands you have run and modifications you have done, starting from the top of the list. The latest commands and modifications are at the bottom of the list.
- updates constantly according to the changes you make in the model or in the drawing.
- creates a hierarchy for some of the used commands. The hierarchy is created when you first run a command, then you undo some commands to a certain point in the list, and run another command.

  The hierarchy is marked with an arrow in the list. You can undo or redo commands at any point in the hierarchy, making it possible to undo commands that you have previously redone.

  This means that after you have undone a command, you can continue working with the model, and you still have the option to go back to the commands you have used first.

The **Undo history** list is cleared when you

- save a model
- open or close a drawing
- synchronize Organizer with the model
- read in or write out model changes using Tekla Model Sharing
- use CIS/2 or SDNF import commands.

See also

Introduction to Tekla Structures user interface (page 26)

3.10 Default keyboard shortcuts

Tekla Structures contains a large number of keyboard shortcuts that you can use to speed up your work.

If you want to assign new shortcuts or change the default shortcuts, you can customize the keyboard shortcuts (page 111).

Common commands

Command	Keyboard shortcut
Help	**F1**
Help: when tooltip is open	**Ctrl+F1**
Open **Recent** models list	**Ctrl+O**
Create new model	**Ctrl+N**
Save model	**Ctrl+S**
Delete	**Del**
Open properties When an object is selected, the properties are opened either in the property pane or in a dialog box.	**Alt+Enter**
Undo	**Ctrl+Z**
Redo	**Ctrl+Y**
Interrupt	**Esc**
Repeat last command	**Enter**
Show/hide contextual toolbar	**Ctrl+K**
Switch direct modification on/off	**D**
Quick Launch	**Ctrl+Q**
Open **Advanced options** dialog box	**Ctrl+E**
Open **Applications & components catalog** side pane	**Ctrl+F**
Open **Keyboard shortcuts** dialog box	**Ctrl+Shift+C**

Rendering options

Command	Keyboard shortcut
Parts wireframe	**Ctrl+1**
Parts shaded wireframe	**Ctrl+2**
Parts grayscale	**Ctrl+3**
Parts rendered	**Ctrl+4**
Show only selected part	**Ctrl+5**
Components wireframe	**Shift+1**
Components shaded wireframe	**Shift+2**
Components grayscale	**Shift+3**
Components rendered	**Shift+4**
Show only selected component	**Shift+5**
References wireframe	**Ctrl+Shift+1**
References shaded wireframe	**Ctrl+Shift+2**
References grayscale	**Ctrl+Shift+3**
References rendered	**Ctrl+Shift+4**
Show only selected reference	**Ctrl+Shift+5**

Selecting objects

Command	Keyboard shortcut
Switch rollover highlight on/off	**H**
Select all selection switch	**F2**
Select parts selection switch	**F3**
Select rebar sets selection switch	**Alt+Q**
Select rebar groups selection switch	**Alt+W**
Select single rebars selection switch	**Alt+E**
Select all objects in the model	**Ctrl+A**
Select previous objects	**Alt+P**
Select assembly	**Alt+object**
Add to selection	**Shift**
Toggle selection	**Ctrl**
Selection filters	**Ctrl+G**
Hide object	**Shift+H**

Snapping

Command	Keyboard shortcut
Snap to reference lines/points	**F4**
Snap to geometry lines/points	**F5**
Snap to nearest points	**F6**
Snap to any position	**F7**
Switch **Ortho** on/off	**O**
Relative coordinate input	**R**
Absolute coordinate input	**A**
Global coordinate input	**G**
Cycle forward through the available snap points	**Tab**
Cycle backwards through the available snap points	**Shift+Tab**
Switch coordinate lock X, Y or Z on/off	**X**, **Y** or **Z**

Copying and moving objects

Command	Keyboard shortcut
Copy	**Ctrl+C**
Move	**Ctrl+M**
Switch smart select on/off	**S**

Viewing the model

Command	Keyboard shortcut
Open the **Views** list	**Ctrl+I**
Switch between 3D/plane view	**Ctrl+P**
Switch between views	**Ctrl+Tab**
Updated window	**Ctrl+U**
Zoom original	**Home**
Zoom previous	**End**
Zoom in	**Page Up**
Zoom out	**Page Down**
Zoom selected	**Shift+Space**
Rotate using mouse	**Ctrl+R**

Command	Keyboard shortcut
Rotate using keyboard	**Ctrl+arrow keys** **Shift+arrow keys**
Set view rotation point	**V**
Rotate once Rotate continuously	**Shift+R** **Shift+T**
Switch view rotation on/off	**F8**
Pan	**P**
Switch middle button pan on/off	**Shift+M**
Move right Move left Move down Move up	**arrow keys**
Center by cursor Use to center the model on a particular point.	**Insert**
Fly	**Shift+F**
Create clip plane	**Shift+X**
Switch fullscreen on/off	**F11**

Checking the model

Command	Keyboard shortcut
Inquire object	**Shift+I**
Measure distance	**F**
Create report	**Ctrl+B**
Open **Phase manager**	**Ctrl+H**
Create AutoConnections	**Ctrl+J**

Rebar display options

Command	Keyboard shortcut
Leg face visibility	**Alt+1**
Guideline visibility	**Alt+2**
Property modifier visibility	**Alt+3**
Splitter visibility	**Alt+4**

Command	Keyboard shortcut
End detail modifier visibility	**Alt+5**
Rebar dimension visibility	**Alt+6**
Color rebar groups	**Alt+7**

Part position options

These keyboard shortcuts work for both native Tekla Structures parts as well as for analysis parts.

Command	Keyboard shortcut
Part position up	**Alt+arrow up**
Part position down	**Alt+arrow down**
Part position left	**Alt+arrow left**
Part position right	**Alt+arrow right**
Part rotation clockwise 90 degrees Note that this command is not available for analysis parts.	**Alt+space**

Drawings

Command	Keyboard shortcut
Open **Document manager** in model	**Ctrl+L**
Open **Document manager** in drawing mode	**Ctrl+O**
Print drawings	**Shift+P**
Open next drawing	**Ctrl+Page Down**
Open previous drawing	**Ctrl+Page Up**
Associativity symbol	**Shift+A**
Set next drawing color mode	**B**
Ghost outline	**Shift+G**
Add orthogonal dimension	**G**
Add free dimension	**F**
Open any drawing after creating the drawing	**Ctrl+Shift**
In **Document manager**: Open user-defined attributes	**Alt+U**

Command	Keyboard shortcut
In **Document manager**: Add to **Master Drawing Catalog**	**Ctrl+M**
In **Document manager**: Revision handling	**Ctrl+R**
In **Master Drawing Catalog**: Select all	**Ctrl+A**
In **Master Drawing Catalog**: Create drawings for all parts	**Alt+A**
In **Master Drawing Catalog**: Create drawings	**Alt+C**
Set UCS origin	**U**
Set UCS by two points	**Shift+U**
Toggle orientation	**Ctrl+T**
Reset current	**Ctrl+1**
Reset all	**Ctrl+0**

3.11 Change the language of Tekla Structures user interface

You can change the language of the Tekla Structures user interface at any time.

1. On the **File** menu, click **Settings** --> **Change language**.
2. Select a language from the list.

   You have the following options. The three-letter language codes that are given in parentheses are used in some language-dependent file and folder names.

   - Chinese – simplified (chs)
   - Chinese – traditional (cht)
   - Czech (csy)
   - Dutch (nld)
   - English (enu)
   - French (fra)
   - German (deu)
   - Hungarian (hun)
   - Italian (ita)
   - Japanese (jpn)
   - Korean (kor)

- Polish (plk)
- Portuguese (ptg)
- Portuguese – Brazilian (ptb)
- Russian (rus)
- Spanish (esp)

3. Click **OK**.
4. Restart Tekla Structures for the change to take effect.

3.12 Take screenshots

A screenshot is an image of a model or drawing view. You can use screenshots in posters, brochures, or other material to show projects carried out using Tekla Structures.

By default, the screenshots are saved in the `\screenshots` folder under the current model folder with the name `snap_xx.png`.

Take a screenshot of a model

You can take screenshots of model views.

1. Open a model and adjust the model view according to your needs.

   For example, hide the work area box if you do not want to show it.

2. On the **View** tab, click  **Screenshot** --> **Screenshot**.
3. If you have multiple views of the model, click **Pick view** and select the view to take the screenshot from.
4. To modify the settings, click **Options**.
   a. Define the width, height, and DPI of the screenshot.
   b. Click **OK** to save the changes.
5. Define a name and location for the screenshot.
   a. Select **Print to file** and enter a descriptive name for the screenshot in the **File name** box.

      You can also change the whole path. If you do not want to do this, you can keep the default values for the path and the file name.
6. Click **Show with associated viewer** to show the screenshot in an application that is by default associated with this file type.
7. Click **Capture**.

Take a screenshot of a drawing

A drawing screenshot is an image of an open drawing with or without borders.

1. Open a drawing and adjust the drawing view according to your needs.

   For example, delete unnecessary marks or dimensions, and hide unnecessary parts.

2. On the **Views** tab, click  **Screenshot** --> **Screenshot**.
3. Do one of the following:
   - Select **View** to take a screenshot of the open drawing with window borders
   - Select **View without borders** to take a screenshot of the open drawing without window borders.
4. Under the preselected **Print to file** option enter a descriptive name for the screenshot in the **File name** box.

   You can also change the whole path. If you do not want to do this, you can keep the default values for the path and the file name.
5. Click **Show with associated viewer** to show the screenshot in an application that is by default associated with this file type.
6. Click **Capture**.

Save a screenshot in bitmap format

By default, screenshots are created as Portable Network Graphics (`.png`) files. You can also save a screenshot in bitmap (`.bmp`) format to use it, for example, as a custom component thumbnail. Note that the bitmap file size is much larger than when saving as PNG.

1. On the **Views** tab, click  **Screenshot** --> **Screenshot**.
2. Select **Place on clipboard**.
3. Click **Capture**.
4. Paste the screenshot in your graphics editor and save it in `.bmp` format.

NOTE The software that you use to open the screenshot may have a limit for the number of pixels.

Screenshot settings

Use the **Screenshot** dialog box to view and modify the screenshot settings.

The following options are available in model views and in drawings.

Option	Description
View name	Shows the selected view name.
View	Includes the view content and window borders in the screenshot. Not available in model views.
View without borders	Includes only the view content in the screenshot. Not available in model views.
Rendered view	For high resolution screenshots from model views. The **Options** button displays the **Screenshot Options** dialog box. Not available in drawings.
Place on clipboard	Places the screenshot on the clipboard. Not available in drawings.
Print to file	Saves the screenshot to a file.

The following screenshot options are only available in model views:

Option	Description
Final width	The width of the screenshot. The units depend on the settings in **File menu** --> **Settings** --> **Options** --> **Units and decimals** .
Final height	The height of the screenshot. The units depend on the settings in **File menu** --> **Settings** --> **Options** --> **Units and decimals** .
DPI	The pixel density (DPI) of the screenshot. There are limitations to pixel density. You can change the DPI using a graphics editor.
White background	Uses white background.
Smooth lines	Uses smooth lines to decrease jagged edges.
Line width	Sets the line width.

4 Work with model object and drawing object properties

When you start creating model or drawing objects in Tekla Structures, most commands ask you to pick points to place the objects in the model or in the drawing. The objects are typically then created by using a predefined set of properties.

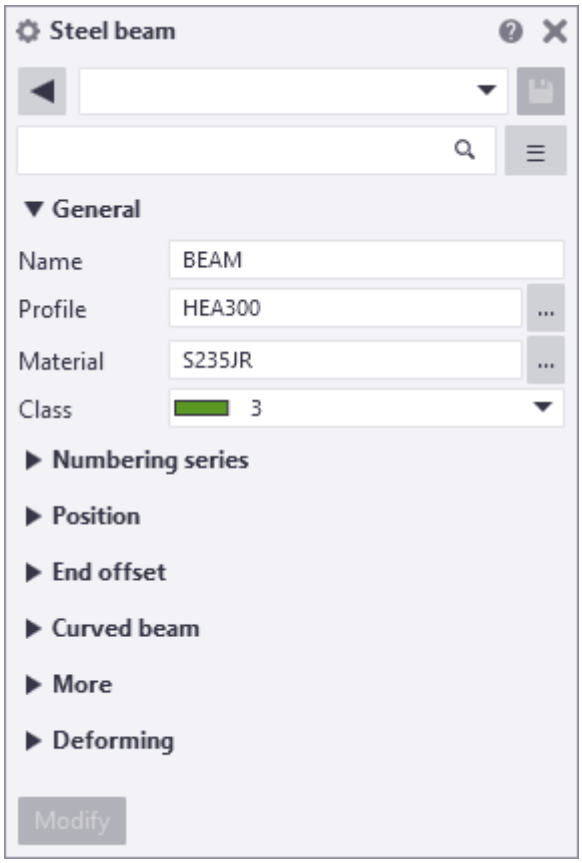
The object properties can be viewed and further modified, typically by using the property pane (page 60). Alternatively, you can also use contextual toolbar (page 71) to modify many of the object properties. Some properties, such as analysis part properties, are modified by using dialog boxes (page 78).

The property pane or contextual toolbar can be used for copying properties from one object to another. Additionally, you can define the properties for each object type you plan to create before you start modeling or creating drawings. You can save and load these properties (page 76) in the property pane or in the dialog boxes.

4.1 View and modify object properties by using the property pane

Tekla Structures shows the properties of different model objects and drawing objects in the property pane, which is a side pane window.

Note that you can have only one property pane window open at a time. This means that you can view the properties of only one object type at a time.



You can customize the property pane (page 96). For example, you can organize the settings as you wish, or hide or remove the settings you do not need.

Open the property pane

To open the properties in the property pane:

- If the property pane is closed: double-click a model or a drawing object, or click the **Properties** button in the side pane.
- If the property pane is open: select a model or a drawing object.
- Hold down **Shift** and click a command on the ribbon.
- Double-click a command on the ribbon.

Modify the properties of a model object or a drawing object

1. To start modifying the properties, double-click a model or a drawing object.

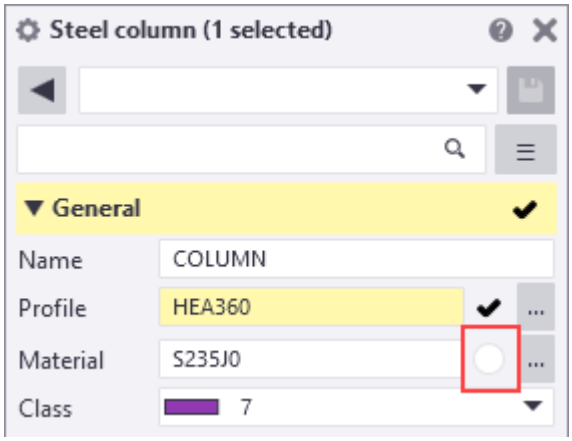
   The property pane opens and shows the current properties of the object.

2. Modify the properties as needed.

   Tekla Structures highlights the modified properties in yellow in the property pane.

3. If you want to discard some of the changes, click the check marks next to each setting to remove them.

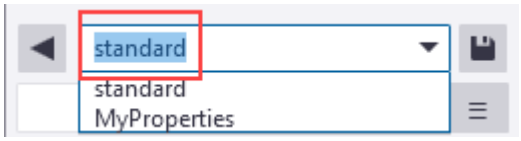
   You can clear the check marks one by one, or select a whole section and all its properties.



   You can use the **Select All** and **Select None** switches at the bottom of the property pane to select all the changes or to clear all the changes.

4. When you are ready with the modifications, click **Modify** to apply the changes.

5. If you want to create an object using the standard values instead of the values you just applied, load the standard file first.



Note that if you use the contextual toolbar or direct modification to modify an object, the current properties do not change and are not automatically applied when you create the next object of the same type.

Modify the properties of multiple model objects or drawing objects

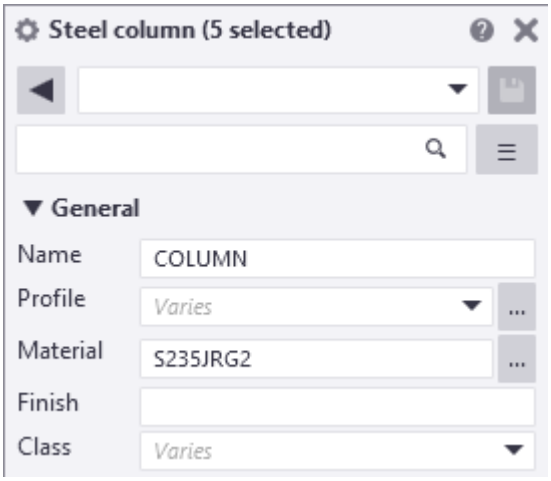
You can select several model or drawing objects in the model or in the drawing, and change their properties at one go. The selected objects can be of the same object type, such as steel columns or drawing sketch objects, or they can be of different object types.

The property pane shows only the properties that are common for all the selected objects.

1. Select the objects in the model or in the drawing.

   Property pane shows the properties for the selected objects.

   The settings where the values differ have the text **Varies**, and the values or options are shown in a list. If there are no common properties, the property pane is empty.



2. Modify the properties as needed.

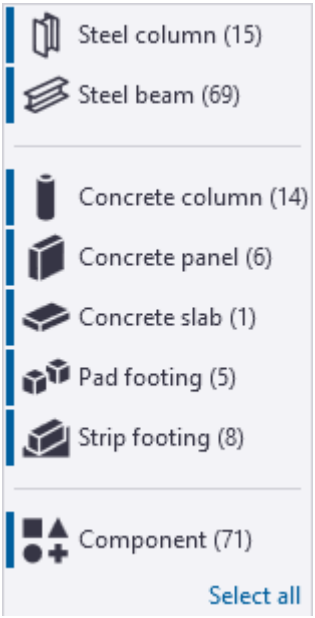
   You can select a value from a list or enter a new value for a property, in the same way when only one model or drawing object is selected.

   Tekla Structures highlights the modified properties in yellow.

3. Click **Modify**.

   The selected properties are modified.

TIP To check which objects you have selected in the model or in the drawing, click the **Object type list** button to open the list of the selected objects.



To modify the object selection, hold down **Ctrl**, and in the list click the object types that you want to exclude or include in the selection.

The content of the property pane changes according to your selection.

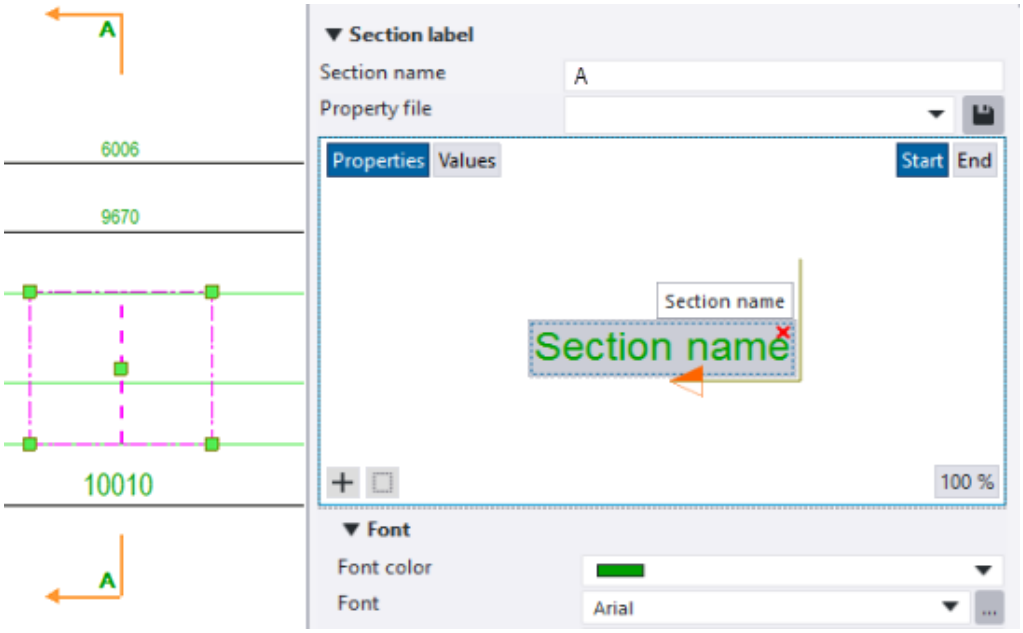
If you want to select all the objects, click the **Select all** button.

Modify the properties of drawing annotation objects in visual editor

The drawing property pane contains a visual editor for editing drawing annotations, such as dimension tags, view labels, associative notes, and most mark types. You can see the resulting annotation as you create it, which makes the editing of the drawing objects much easier.

1. To start modifying the properties, double-click an annotation object in an open drawing.

The property pane opens and shows the current properties of the annotation object. The properties are located in boxes called containers. Below is an example of the section mark visual editor.



- To load predefined contents for the annotation object, select a property file from the **Property file** list.
- To show either the property name or the property value in the preview, click the **Properties** or **Values** button. These buttons are only available when you are modifying an annotation.
- The **%** button shows the current zoom level in the preview. You can zoom in or out by scrolling the middle mouse button. Click the % button to zoom to the best fit.
- In section marks, to indicate which end of the cutting line you want to work with, click **Start** or **End**.

2. To add an element in a container, click a container, and then click the + **New element** button.
   - If the container is empty, the element list opens automatically when you click the container.
   - In most of the visual editors, you can drag elements and containers. In the section mark editor, you can only drag elements inside and between containers. The dimension tag editor only allows you to drag elements inside a container.
   - To delete an element or a container, click the red delete button ✖ in the upper-right corner of the element or container.

- To search for elements, use the search box that opens when you open the element list. The available elements vary according to the annotation object type.
- To add new containers in section marks, detail marks, or view labels, click the **New container** button. You can add up to five containers.
- In dimension tags, you first need to click a tag container to be able to add elements in the tag in the tag editor. When a dimension tag has some content, the container icon changes to  . You can also type text directly in dimension tags, the text will be shown as it is in the container.

3. Modify the representation of the whole annotation object or an individual element. For example, modify the font styles and frames.
4. Modify other annotation object properties.
5. Click **Modify**.

Show only frequently used properties

You can control separately for each object type which properties are shown in the property pane. Thus, you can create your favorite sets of properties for every object type, and make the property pane less cluttered by hiding the properties that are not needed frequently.

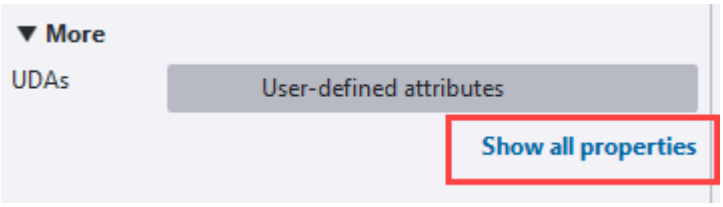
Customize the property pane layout (page 96) using the **Property pane editor**, and mark each property as frequently or infrequently used. When using the property pane, you can select between showing only the frequently used properties or all the properties of one object type.

After you have marked the properties as frequently or infrequently used in the **Property pane editor**, the **Show fewer properties** or the **Show all properties** button is activated at the bottom of the property pane. Use the buttons to switch between showing the frequently or the infrequently used properties.

1. To show only frequently used properties in the property pane, customize the property pane layout (page 96) of the selected object type.
2. In the model or in the drawing, double-click an object to open the property pane.

   Only the properties that are marked as frequently used are shown. Other properties are hidden.

   If all the properties are marked as frequently used, the **Show fewer properties** button is not available.
3. If you want to see all properties, click the **Show all properties** button.



4. If you want to switch back to only frequently used properties, click the **Show fewer properties** button.

NOTE If you close Tekla Structures or switch between modeling mode and drawing mode, Tekla Structures shows the frequently used properties in the property pane.

You have to click the **Show all properties** button to show all the properties.

Control the visibility of property groups in the property pane

You can control which property groups are shown in the property pane without customizing the property pane layout (page 96) by using the **Property pane settings** ☰.

1. Click the **Property pane settings** ☰ button to open a drop-down menu.
2. If you want to expand or collapse all the property groups (page 98), click **Expand all** or **Collapse all**.
3. In the modeling mode:

   You can select between showing only those properties that have a value, or showing the property groups that you have defined to be visible.

   - **Show properties that have a value**: property pane shows all the properties and user-defined attributes (UDAs) for which you or someone else has entered a value. Properties and UDAs which do not have a value are hidden.

     UDAs with a value are listed in the **Additional matches** property group.

     The **Show properties that have a value** option is common for all object types. For example, if you select a steel beam in the model and use the **Show properties that have a value** option, and then select a concrete beam in the model, only properties that have a value are shown for the concrete beam.
   - **Show properties based on group visibility**: property pane shows all the property groups that are marked to be visible. Property groups

with the icon are visible. Property groups with the icon are hidden. Click the property group names to change the visibility. You can show and hide only the main level property groups, not nested groups.

The **Show properties based on group visibility** option is common for all object types. If different object types have property groups of the same name, the visibility of a property group is adjusted for all the object types. For example, if you select a steel beam and hide the **Position** property group, and then select a concrete beam, the **Position** property group is hidden for the concrete beam as well.

The default visibility of property groups can be defined in the **Property pane editor**. Note that the changes in the visibility settings in the property pane override the default settings done in the **Property pane editor**.

4. In the drawing mode:

   Show and hide property groups. Property groups with the icon are visible. Property groups with the icon are hidden. Click the property group names to change the visibility. You can show and hide only the main level property groups, not nested groups.

   Showing and hiding of property groups is common for all object types. If different object types have property groups of the same name, the visibility of a property group is adjusted for all the object types.

   The default visibility of property groups can be defined in the **Property pane editor**. Note that the changes in the visibility settings in the property pane override the default settings done in the **Property pane editor**.

Search in the property pane

Use the search to find the needed properties or the user-defined attributes (UDAs). Enter the search term in the search box in the property pane.

If you have several different object types selected in the model, the search finds the properties that are common to the all selected object types. UDAs that match to the search criteria are shown even if they have not been added to the property pane layout.

If you enter a single asterisk ***** in the search box, all properties and UDAs available for the selected object type are shown. You can then easily enter a

value for a property or for an UDA, even if the property or the UDA is not visible in the property pane by default.

Switch between automatic and manual applying of properties

When you modify object properties in the property pane, you can switch between automatic and manual applying of properties. This means that you can select whether only the selected object is modified, or if also the next objects of the same type that you create use the current values.

You can switch between manual and automatic applying of properties at any time in the **Property pane settings** by selecting the **Set default values automatically** option. The option is not dependent on the selected object type.

Enable automatic applying of properties (the default option)

1. Select an object in the model or in the drawing.
2. Click the **Property pane settings** button in the property pane to open a drop-down menu.
3. Ensure that the **Set default values automatically** option **is** selected.

   When the **Set default values automatically** option is selected, Tekla Structures automatically uses the current values for the next objects of the same type.
4. Change the property values as needed.
5. Click **Modify**.

   Tekla Structures modifies the object and creates the next object of the same type using the current values.

Enable manual applying of properties

1. Select an object in the model or in the drawing.
2. Click the **Property pane settings** button in the property pane to open a drop-down menu.
3. Ensure that the **Set default values automatically** option is **not** selected.

   A **Set as default** button appears at the bottom of the property pane.

   Note that if you have selected multiple objects in the model, the **Set as default** button does not appear.
4. Change the property values as needed.

5. Select how to proceed.
   - To modify only the selected object, click **Modify**.
   - To modify the selected object and to use the current values for the next objects of the same type, click the **Set as default** button and then click **Modify**.
   - To use the current values for the next objects of the same type, but not to modify the selected object, click the **Set as default** button.

   Depending on your actions, Tekla Structures either modifies the selected object or creates the next object of the same type using the current values.

Property pane settings

When you modify the property pane settings by clicking the **Property pane settings**  button and selecting an option, the current settings are saved to the `PropertyPaneSettings.xml` or to the `PropertyPaneDrawingSettings.xml` file. The files are located in the `..\Users\<user>\AppData\Local\Trimble\Tekla Structures\<version>\UI\PropertyPane\` folder.

If you do not change the settings, the `PropertyPaneSettings.xml` or the `PropertyPaneDrawingSettings.xml` file is not created.

The settings in the file are:

- `FilterMode`: `ByData` for **Show properties that have a value**
- `FilterMode`: `ByGroups` for **Show properties based on group visibility**
- `AutoApply`: `True` when **Set default values automatically** is selected
- `AutoApply`: `False` when **Set default values automatically** is not selected

The `PropertyPaneSettings.xml` and the `PropertyPaneDrawingSettings.xml` files are read when Tekla Structures is started and a model is opened.

If the settings in the `PropertyPaneSettings.xml` and the `PropertyPaneDrawingSettings.xml` files are customized, the company administrators can distribute the customized property pane settings to other users in the company.

1. Create a sub-folder called `\PropertyPane` either in a model, project (`XS_PROJECT`), firm (`XS_FIRM`) or environment (`XS_SYSTEM`) folder.
2. Place the `PropertyPaneSettings.xml` and the `PropertyPaneDrawingSettings.xml` file to the `\PropertyPane` folder.
3. Restart Tekla Structures.

The property pane settings in the `..\Users\<user>\AppData\Local\Trimble\Tekla Structures\<version>\UI\PropertyPane\` folder has the highest priority, and after that Tekla Structures uses the default search order.

If the `PropertyPaneSettings.xml` and the `PropertyPaneDrawingSettings.xml` file is placed in several different folder locations, Tekla Structures reads the settings from different folders and merges them.

See also

Copy properties from another object by using the property pane or the contextual toolbar (page 73)

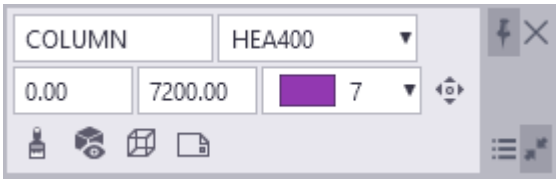
Save and load object properties in the property pane or in the dialog boxes (page 76)

Undo modeling and drawing changes (page 49)

Customize the property pane layout (page 96)

4.2 View and modify object properties by using the contextual toolbar

When you click an object in a model or drawing, a contextual toolbar symbol  appears next to the mouse pointer. Click the symbol to open the contextual toolbar. Use the contextual toolbar to quickly view and change some basic properties of an object, view, grid, and so on.



If multiple objects are being selected, the contextual toolbar displays the text `Varies` for any properties that differ.

How to change object properties using contextual toolbar

The changes that you make on the contextual toolbar are immediately applied to the model or drawing.

1. Click an object in a model or drawing.

   A contextual toolbar appears next to the mouse pointer.

2. Change the object properties on the contextual toolbar.

   The changes are applied immediately.

TIP Press the **Tab** key to move between the properties and command buttons on the contextual toolbar.

Drawing commands in contextual toolbar

In the model, the **Open or create drawings** command in the contextual toolbar opens a menu that lists the drawings created for the selected objects, and contains the **Create fabrication drawing** command for creating single-part, assembly and cast unit drawings, and a command for showing the drawings created for the selected objects in **Document manager**, where you can then open the drawings.

In drawings, you can use the contextual toolbar to quickly view and change some basic properties of a drawing object, view, grid, and so on.

Show or hide contextual toolbar

You can define whether the contextual toolbar is visible in Tekla Structures.

1. On the **File** menu, click **Settings**.
2. Under **Toolbars**, select or clear the **Contextual toolbar** check box.

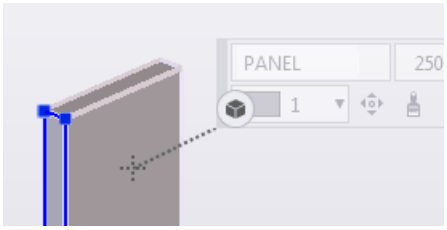
   Alternatively, use the keyboard shortcut **Ctrl+K** to show or hide the contextual toolbar.

Define contextual toolbar's position

You can define the position of the contextual toolbar, relative to an object's reference point.

1. Select an object.
2. Hold down the **Ctrl** key and click the contextual toolbar with the left mouse button.

A dashed line appears between the contextual toolbar and the object.



3. Drag the contextual toolbar to a new position.

   For example, you can position the contextual toolbar on the left side of the selected object.

4. Release the left mouse button.

   The contextual toolbar now appears in the position you defined, for example on the left side of any object you select.

Pin contextual toolbar in place

You can pin the contextual toolbar to a specific location on the screen, so that the position is locked. For example, you could have it appear at the upper left corner of the screen. In the locked state, the position of the contextual toolbar is independent of the individual part's location.

1. Drag the contextual toolbar to a new location.
2. Click to pin the contextual toolbar to the new location.

   The pin icon changes when the position is locked.

3. To unlock the position, click .

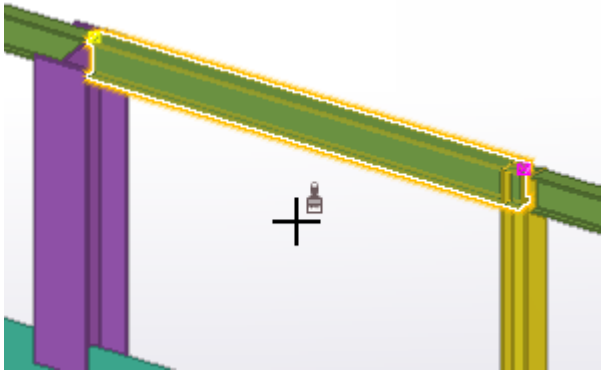
Minimize contextual toolbar

You can minimize the contextual toolbar so that it takes less space on your screen.

1. On the contextual toolbar, click . The contextual toolbar now has the symbol .
2. To restore the contextual toolbar to its original size, click again.

4.3 Copy properties from another object by using the property pane or the contextual toolbar

Use the **Copy properties** command in the property pane to copy model or drawing object properties from one object to another. Alternatively, you can use the contextual toolbar if you want to quickly copy properties to a few objects only.



Copy object properties by using the property pane

You can use the property pane to copy properties between any objects as long as both of the objects have the same property available. Use this method when you need to copy properties to a large number of objects.

1. Select the object you want to copy properties from.
2. Click **Copy properties** in the property pane.

   The mouse pointer changes into a paintbrush. In the property pane, Tekla Structures uses the same properties as when you previously copied properties of an object of the same type.

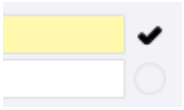
   If you want to discard some of the changes, remove the check marks next to the properties.

   You can clear the check marks one by one, or select a whole section and all its properties, or use the **Select All** and **Select None** switches at the bottom of the property pane to select all the changes or to clear all the changes.

   If you clear all the selections, all check marks will be selected the next time you start the **Copy properties** command.
3. Select the objects you want to copy properties to.

   You can use area selection to quickly select a large number of objects.

4. In the property pane, Tekla Structures highlights the modified properties in yellow.

   If needed, you can clear the check marks if you do not wish to copy some of the properties.

5. Click **Modify** or press **Enter**.

   When the properties have been copied, the mouse pointer returns to normal.

   Note that if you have customized the property pane and added user-defined attributes (UDAs) to it, the values of the UDAs are copied when you use the **Copy properties** command in the property pane.

   Values of the UDAs that are visible only in the UDA dialog boxes are **not** copied with the object.

   Unique user-defined attributes (`unique_attribute`) are **not** copied with the object.

TIP To copy properties to multiple objects, double-click the  **Copy properties** button to keep the **Copy properties** command running. Click **Modify** after each selected object. The mouse pointer remains in the paintbrush mode until you press **Esc** or click  again.

Copy object properties by using the contextual toolbar

Use this method when you want to quickly copy properties to a few objects only.

1. Select the object you want to copy properties from.

   A contextual toolbar (page 71) appears.

2. Click  **Copy properties** on the contextual toolbar.

   The mouse pointer changes into a paintbrush.

3. Select the object you want to copy properties to.

   When the properties have been copied, the mouse pointer returns to normal.

   Note that user-defined attributes (UDAs) are not copied with the object, even if you have customized the contextual toolbar and added UDAs to it.

4. To copy properties to multiple objects, double-click the **Copy properties** button.

   Now you can copy properties to multiple objects. The pointer remains in the paintbrush mode until you press **Esc** or start another command.

4.4 Save and load object properties in the property pane or in the dialog boxes

The property pane and many dialog boxes have the possibility to save the property information in *property files*. You can load these saved properties later on when you create new objects.

For example, you can define the properties for each object type you plan to create before you start modeling, and then use these user-defined property files when you are creating new objects. Tekla Structures stores the user-defined property files, including the properties of sub-dialog boxes, in the current model's `\attributes` folder.

You can save and load object properties either in the property pane or in a dialog box, depending on the object type.

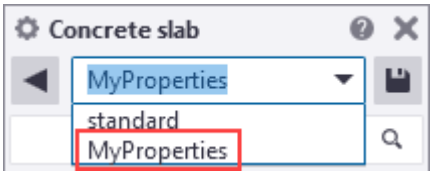
Save and load properties in the property pane

Use the property pane to save and load the properties of model or drawing objects.

1. Click a model or a drawing object to view the current properties in the property pane.
2. In the property pane, modify or enter the properties (page 60) you want to save.
3. In the box next to the button, enter a name for the property file in which the properties are saved.

   For example, `MyProperties`.
4. Click to save the properties in the property file.

   The property file is now saved in the current model folder:



5. When you want to load the saved properties, select the property file from the list.
   - If you select an object in the model or in the drawing and load a property file in the property pane, the properties and the user-defined attributes (UDAs) are loaded immediately. Changed values are highlighted in yellow in the property pane. Click **Modify** to apply the new values.

     If there are changes only in the UDA values in the UDA dialog box and not in the values in the property pane, the **Modify** button in the property pane does not become active. Click **Modify** in the UDA dialog box to active the UDA values.
   - If you start an object creation command and load a property file in the property pane, the properties and the user-defined attributes (UDAs) are used immediately and Tekla Structures creates the object using the loaded values.

   NOTE If the UDA dialog box is open when you load a property file in the property pane, the UDA dialog box updates and shows the values of the UDAs that are saved in the property file. However, if you first select an object and load a property file and only then open the UDA dialog box, the dialog box shows the UDA values of the selected object.

   To check which UDA values are saved in a property file, you need to open the UDA dialog box first, or load the property file again after opening the UDA dialog box.

6. If you want to make changes to an existing property file:
   a. Load the property file you want to change.
   b. Modify the properties.
   c. Click  .

      Tekla Structures saves the changes in the property file shown in the list, overwriting the old property file.

      Tekla Structures uses the new properties the next time you create an object of the same type.

      If you want to create an object using the standard values instead of the saved properties, load the standard file.

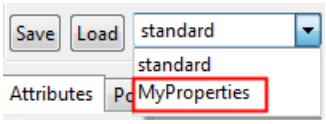
Save and load properties in a dialog box

Use this method with properties that are displayed in a traditional dialog box. For example, with view properties.

1. Open the properties dialog box.
2. In the dialog box, modify or enter the properties you want to save.
3. In the box next to the **Save as** button, enter a name for the property file in which the properties are saved.

   For example, `MyProperties`.
4. Click **Save as** to save the properties in the property file.

   The property file is now saved in the current model folder:

5. When you want to load the saved properties, select the property file from the list, and click **Load**.
6. If you want to make changes to an existing property file:
   a. Load the property file you want to change.
   b. Modify the properties.
   c. Click **Save**.

      Tekla Structures saves the changes in the property file shown in the list, overwriting the old property file.

Remove existing properties

You can remove user-defined property files manually by removing them from the model's `\attributes` folder.

1. Remove the selected property file from the model's `\attributes` folder.

   The property files may have different file name extensions, depending on their type.
2. Restart Tekla Structures.

4.5 View and modify properties by using dialog boxes

You can use dialog boxes to view and modify the properties of various objects in Tekla Structures.

NOTE Model and drawing object properties, such as part properties, are modified with the property pane (page 60), not with dialog boxes.

Learn the common dialog box buttons

The following table lists some common buttons that can be found in the Tekla Structures dialog boxes.

Button	Description
OK	Saves the properties and closes the dialog box. Tekla Structures uses these properties the next time you create an object of this type.
Apply	Saves the properties without closing the dialog box. Tekla Structures uses these properties the next time you create an object of this type.
Modify	Modifies the selected objects using the current properties of the dialog box.
Get	Fills the dialog box with the properties of the selected object. If several objects are being selected, Tekla Structures takes the properties randomly from one of them.
☑ / ☐	Switches all check boxes in the dialog box on and off.
Cancel	Closes the dialog box without saving the properties or modifying objects.
Save	Saves the properties in the file shown in the list.
Load	Loads the previously saved properties to the dialog box. Tekla Structures also loads the properties of sub-dialog boxes, even if they are not open. Select the name of the properties file you want to use.
Save as	Saves the properties with the name given in the box. The **Save as** button also updates the **Load** list. This is important if you add or delete files manually. Tekla Structures stores the properties files in the model folder, also including the properties of sub-dialog boxes.

Use dialog boxes to modify properties

1. Double-click an object to open the properties dialog box.
2. To indicate which properties should be changed, select or clear the desired check boxes.

   For example, if you want some properties to share the same value but do not want to change any other individual properties, ensure that only the check box for the specific property is selected.

   TIP Click ☑ / ☐ to switch all check boxes on or off.

3. Modify the properties as needed.

4. Select the objects you want to modify.
5. Click **Modify**.
   Tekla Structures changes the properties whose check boxes you selected.

5 Customize the basic user interface elements

You can customize the basic user interface elements according to your needs.

The following user interface elements are customizable:

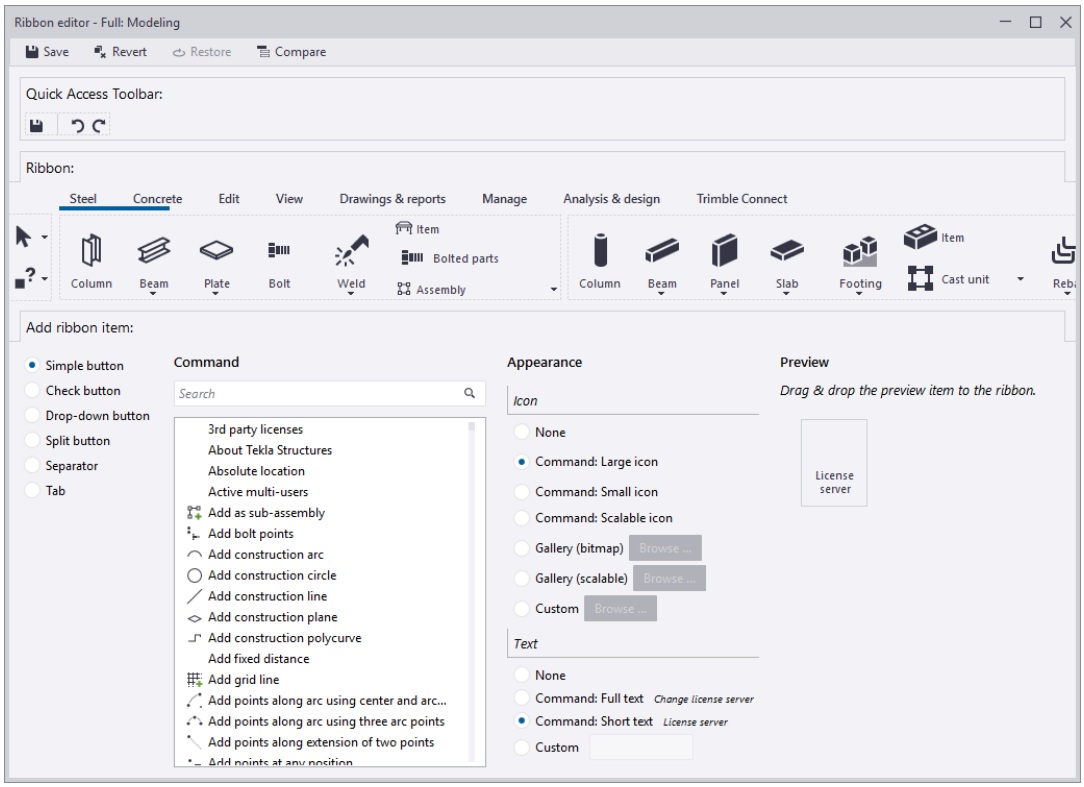
- ribbon (page 81)
- property pane (page 96)
- keyboard shortcuts (page 111)
- toolbars (page 115)
- contextual toolbar (page 115)

The customizations can be distributed to other users in the company.

5.1 Customize the ribbon

With the **Ribbon editor** you can customize the ribbon according to your needs. You can change the size and shape of any button, for example. You can create user-defined commands, and bring your favorite components and extensions to the ribbon for an easy access.

To open **Ribbon editor**, click **File menu** --> **Settings** --> **Customize** --> **Ribbon** .



With the **Ribbon editor**, you can

- add new buttons to the ribbon
- move existing buttons on the ribbon
- resize the buttons on the ribbon
- change the icons and texts of the buttons
- remove buttons you do not need
- create new commands and add buttons for them
- add separator bars to the ribbon
- add new tabs

NOTE If you want to customize the modeling ribbon, open the **Ribbon editor** in the modeling mode.

If you want to customize the drawing ribbon, open the **Ribbon editor** in the drawing mode.

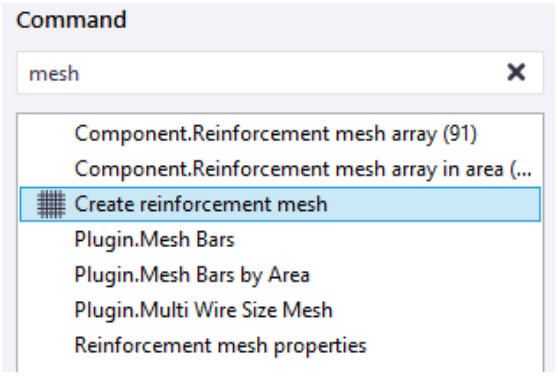
You can only customize the ribbons that are available in your configuration.

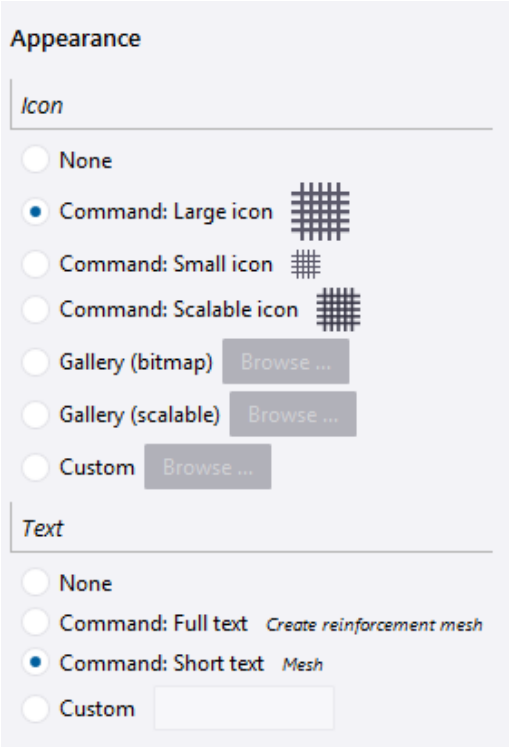
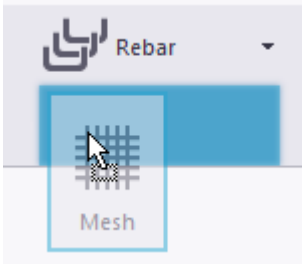
The customized ribbons are saved to `..\Users\<user>\AppData\Local\Trimble\Tekla Structures\<version>\UI\Ribbons` folder. If you cannot find the folder, ensure that you are able to view the hidden files and folders on your computer.

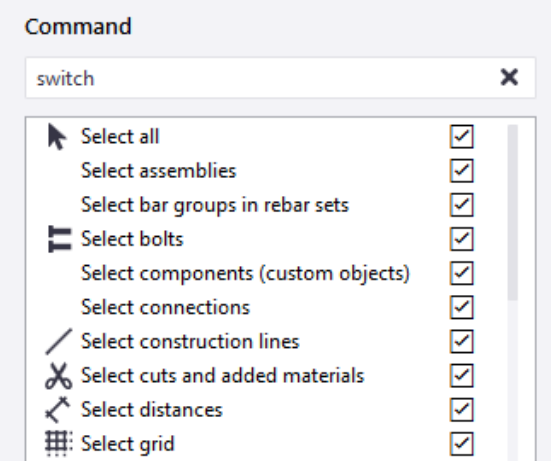
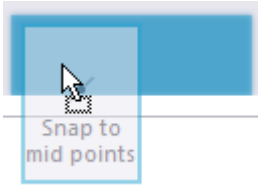
Company administrators can distribute the customized ribbons or tabs to the whole organization, in the same way as customized property pane layouts.

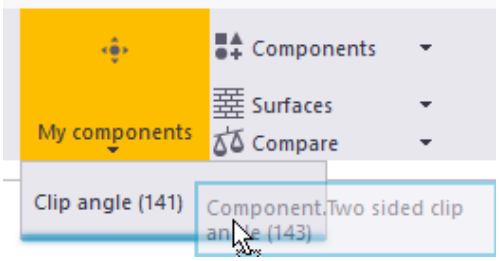
Add a button to the ribbon

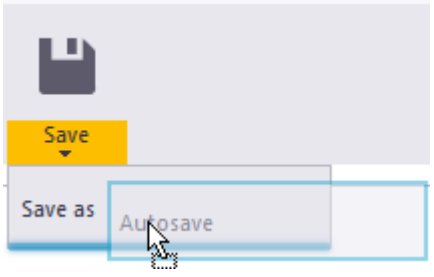
You can add buttons simply by selecting a button type and its appearance and then dragging the command to the ribbon or to the **Quick Access Toolbar**.

To	Do this
Add a button for a single command	1. In the **Add ribbon item** list, select **Simple button**. 2. In the **Command** list, select the command you want to add to the ribbon. You can also add components, macros, and extensions. Browse through the list or use the **Search** box to filter content. For example, type `mesh` to find the **Create reinforcement mesh** command and other mesh related components:  3. In the **Appearance** list: • Select whether the button has an icon. Select the size of the icon, or whether you want to use a scalable icon, or browse for the icon image.

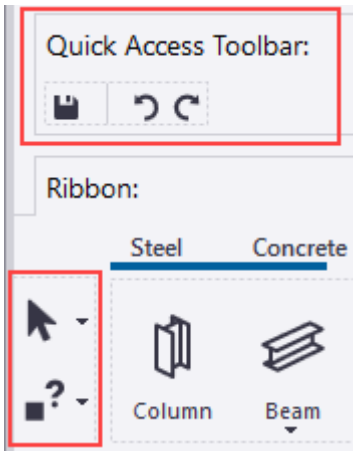
To	Do this
	• Select whether the button has any text.  4. **Preview**shows what the button looks like. Modify the button appearance, if needed. 5. Drag the button to the ribbon. The blue color indicates the place where the button will be inserted. 
Add a toggle button that switches a particular command on or off	Use this to add any switch from the **File menu** --> **Settings** --> **Switches** to the ribbon, for example. You can also add single snap switches and select switches to the ribbon. 1. In the **Add ribbon item** list, select **Check button**.

To	Do this
	2. In the **Command** list, select a command that can be switched on or off. Commands that can be switched on or off have a check box next to them.  3. In the **Appearance** list: • Select whether the button has an icon. Select the size of the icon, or whether you want to use a scalable icon, or browse for the icon image. • Select whether the button has any text. 4. **Preview** shows what the button looks like. Modify the button appearance, if needed. 5. Drag the button to the ribbon. The blue color indicates the place where the button will be inserted. 
Add a drop-down button with a group of commands underneath it	1. In the **Add ribbon item** list, select **Drop-down button**. 2. In the **Appearance** list: • Select whether the button has an icon. Browse for the icon image.

To	Do this
	• Select whether the button has any text. 3. **Preview** shows what the button looks like. Modify the button appearance, if needed. 4. Drag the button to the ribbon. The button is now an empty placeholder for single commands. You need to add commands to the drop-down button to make it work. a. In the **Add ribbon item** list, select **Simple button**. b. In the **Command** list, select the command you want to add to the drop-down list. c. In the **Appearance** list, set the appearance of the button. d. Drag the button to the drop-down list. The blue color indicates the place where the button will be inserted. If you hover over a down arrow, a list will open and you can drag commands to the list. The list will remain open until you click the down arrow again.  e. Add as many commands as needed to the drop-down button.
Add a button for a single command, plus a drop-down button with a group of commands underneath it	1. In the **Add ribbon item** list, select **Split button**. 2. In the **Command** list, select the command you want to add to the ribbon as the main button for the whole split button.

To	Do this
	3. In the **Appearance** list: • Select whether the button has an icon. Select the size of the icon, or whether you want to use a scalable icon, or browse for the icon image. • Select whether the button has any text. 4. **Preview** shows what the button looks like. Modify the button appearance, if needed. 5. Drag the button to the ribbon. The button now has a single command. You need to add commands to the drop-down list. a. In the **Add ribbon item** list, select **Simple button**. b. In the **Command** list, select the command you want to add to the drop-down list. c. In the **Appearance** list, set the appearance of the button. d. Drag the button to the drop-down list. The blue color indicates the place where the button will be inserted. If you hover over a down arrow, a list will open and you can drag commands to the list. The list will remain open until you click the down arrow again.  e. Add as many commands as needed to the drop-down button.

You can also drag commands to the **Quick Access Toolbar**, which is located above the ribbon, or to the fixed container on the left side of the ribbon:

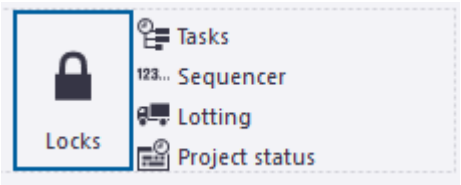


Move a button

You can rearrange buttons on the ribbon. Note that you cannot move drop-down buttons underneath each other.

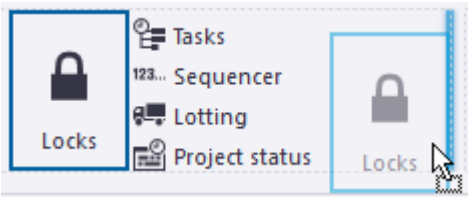
1. Select the button you want to move.

   The button becomes highlighted:



2. Drag the button to a new location.

   The blue color indicates the place where the button will be inserted. For example:

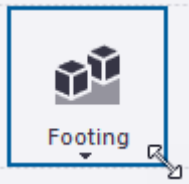


Resize a button

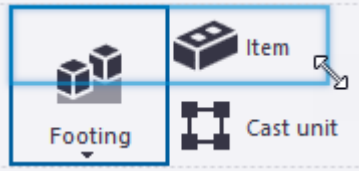
You can change the size of existing buttons.

1. Select the button you want to resize:

2. Move the mouse pointer over any side or corner of the button to display a white arrow symbol:



3. Drag with the arrow to define a new size:



The size of the button changes accordingly. The other buttons are automatically moved forward on the ribbon, if needed.

4. Double-click the button to expand it.

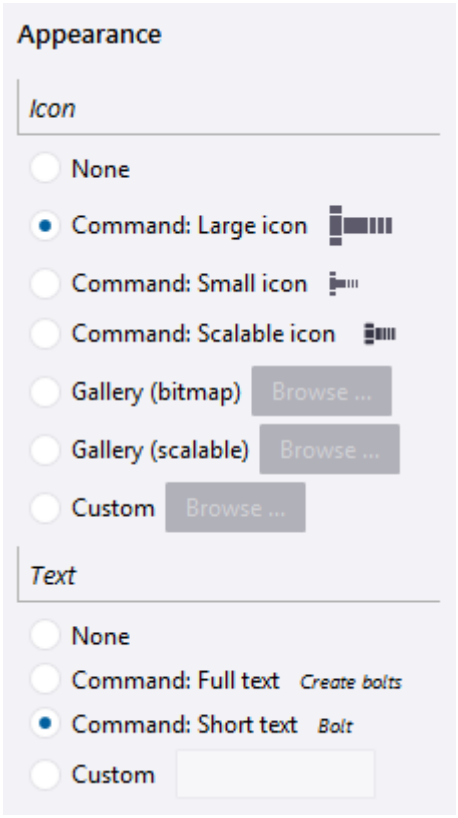
The button now fully occupies the empty space around it:

Change the appearance of a button

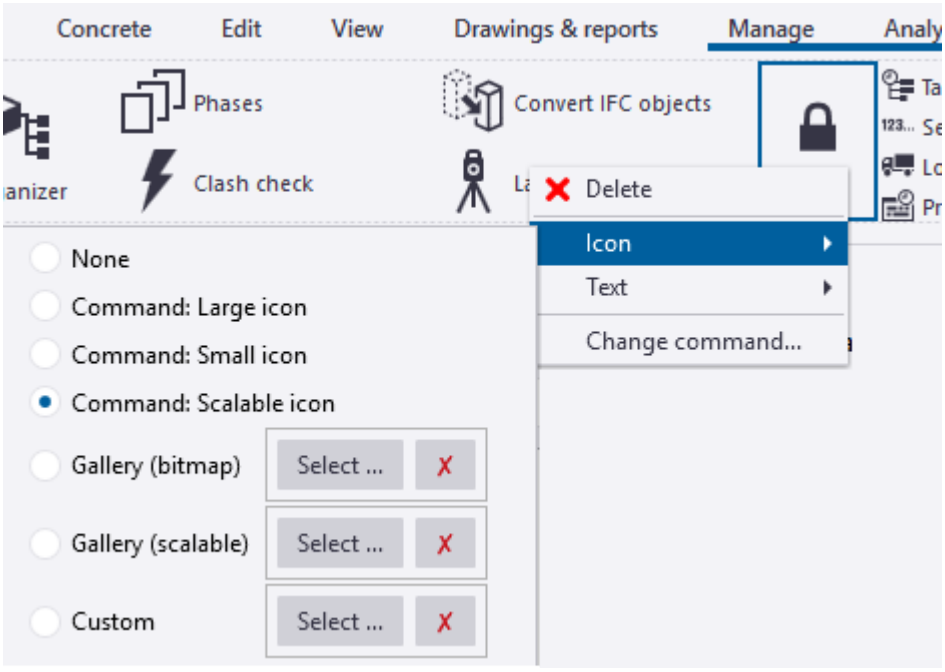
You can change the appearance of any button.

1. Select the button you want to modify.
   - If you are adding a new button: select the command in the **Command** list.

     The current properties of the button are shown in the **Appearance** list.



- If the button already exists on the ribbon: right-click the selected button on the ribbon.



2. To change the icon, select one of the options:
   a. **None**: no icon is used for the button

b. **Command: Large icon**: the default large icon (32x32) is used

c. **Command: Small icon**: the default small icon (16x16) is used

d. **Command: Scalable icon**: the scalable vector icon is used

e. **Gallery (bitmap)**: select a large or small bitmap icon from the Tekla Structures icon gallery

f. **Gallery (scalable)**: select a scalable icon from the Tekla Structures icon gallery

g. **Custom**: define a custom icon by selecting a suitable image file. The recommended size is 32x32 pixels for large buttons and 16x16 pixels for small buttons. If you have problems with your custom image not appearing the right size, check the DPI setting of the image file. A DPI of 96 is recommended.

3. To change the name, select one of the options:
   - **None**: no name is used for the button
   - **Command: Full text**: the default full version of the name is used
   - **Command: Short text**: the default short version of the name is used
   - **Custom**: enter a custom name for the button

Create a user-defined command with Command editor

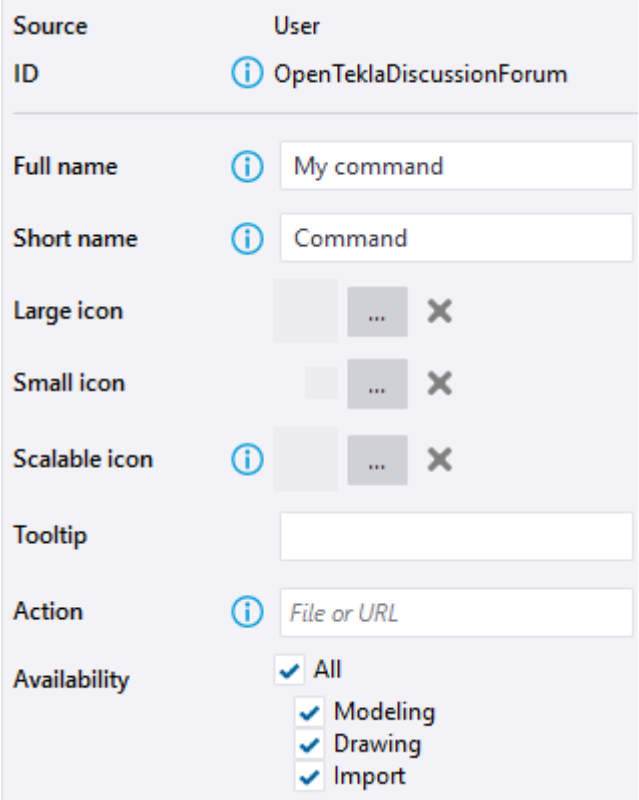
You can create user-defined commands and link them to any file or URL. Create the user-defined commands with **Command editor**.

The user-defined commands are saved to `..\Users\<user>\AppData\Local\Trimble\Tekla Structures\<version>\UI\Commands` folder.

1. Click **File menu** --> **Settings** --> **Customize** --> **User-defined commands** to open **Command editor**.
2. Click **New**.
3. Enter a unique ID for the command, and then click **OK**.

   For example, create a link to the **Tekla Discussion Forum**. Enter `OpenTeklaDiscussionForum` as the ID of the command.

   A new column with more properties appears.



4. In the **Full name** and **Short name** boxes, enter a name for the command.

   This name will be visible in the Tekla Structures user interface. You can define two alternative names: a full name and a short version. For example, enter `Tekla Discussion Forum` as the full name of the command, and `Forum` as the short version.

5. In the **Large icon**, **Small icon**, and **Scalable icon**settings, select an icon for the command.

   You can define three alternative icons: a large one and a small one, or a scalable vector icon.

   You can use your own icon or select a suitable icon from the Tekla Structures icon gallery.

6. In the **Tooltip** box enter a tooltip for the command.

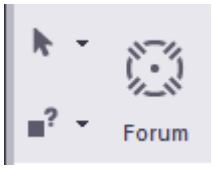
   For example, enter `Go to the Tekla discussion forum`.

7. In the **Action** box define a file or URL.

   For example, enter `https://forum.tekla.com`.

8. In **Availability**, select the mode where the command will be available.
9. Click **Save** to save the new command.
10. Go to **Ribbon editor**.

11. Select the button type.
12. In the **Command** list, search for the new command you created.
13. In the **Appearance** list, modify the appearance of the button, if needed.
14. Drag the new button to the ribbon.



15. To modify a user-defined command, right-click the command on the ribbon and edit the command properties just like for any other command.

Add a separator bar

You can add vertical and horizontal separator bars to divide buttons into smaller groups on the ribbon.

1. In the **Add ribbon item** list, select **Separator**.
2. In the **Appearance** list, select whether to add a horizontal or a vertical bar, and the thickness of the bar.

   Preview shows what the separator bar looks like.
3. Drag the preview item to the ribbon.
4. To modify the orientation or the line thickness of the bar, right-click the bar on the tab and select **Orientation** or **Thickness**.
5. To delete the bar, select the bar on the ribbon and press **Delete** on your keyboard.

   Alternatively, right-click the bar on the ribbon and select **Delete**.

Remove a button

1. Select the button on the ribbon.
2. Press **Delete** on your keyboard.

   Alternatively, right-click the button on the ribbon and select **Delete**.

Add, hide, and edit tabs

You can add, move and rename ribbon tabs, choose how they are aligned, and hide some tabs if you do not need them in your current project. For example, if you are only modeling steel parts, you can temporarily hide the **Concrete** tab.

To	Do this
Add a new tab	1. In the **Add ribbon item** list, select **Tab**. 2. Enter a name for the tab in the **Text** box. 3. Click **Add tab** to add it to the ribbon.
Change the order of tabs on the ribbon	Drag and drop the tab titles.
Select how the tabs are aligned	Right-click in the ribbon area and select one of the **Navigation mode** options: • **Scroll visible**: the ribbon movement is minimal when you switch between the tabs • **Align to left**: the icons start from the left side of the ribbon • **Align to tab**: the icons start from the left side of the current tab
Hide the tabs that you do not need in your current project	1. Rest the mouse pointer on a tab title. A small eye symbol appears next to the tab title:  2. Click the eye symbol . The eye symbol changes and the tab title becomes gray: The **View** tab is now hidden from the ribbon. If you slide the ribbon, hidden tabs appear as:  To re-display the hidden tab, click the eye symbol again.
Rename a tab	Right-click the tab and select **Rename**. Enter a new name for the tab.
Remove a tab	Select the tab and press **Delete**. Alternatively, right-click the tab and select **Delete**.

Save the ribbon

When you are happy with the changes, save the customized ribbon.

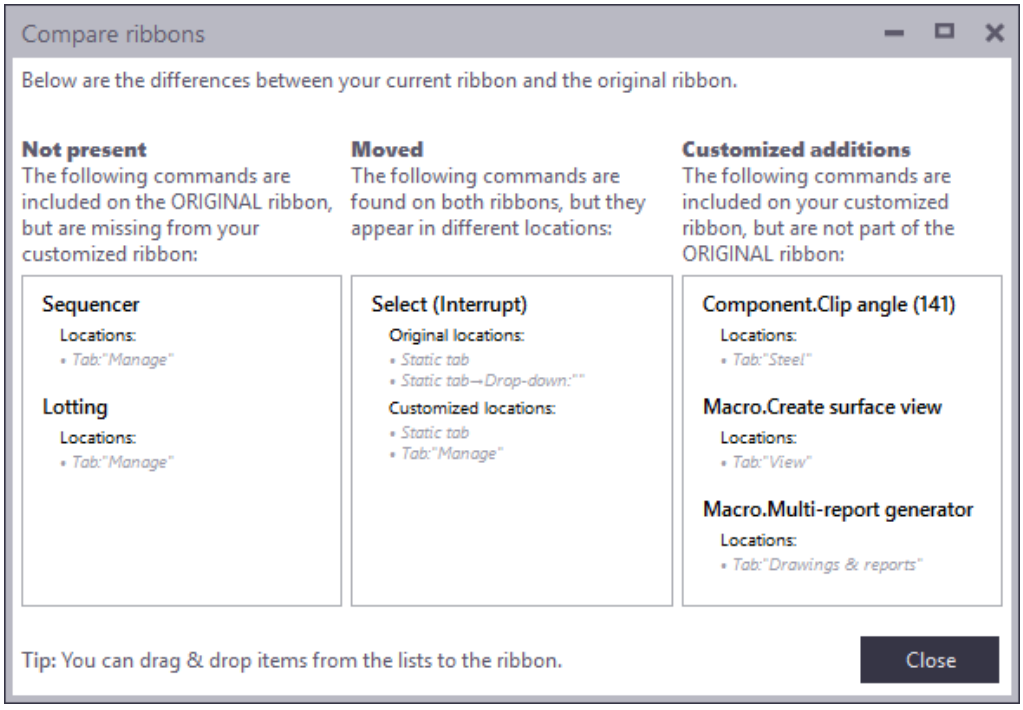
1. In **Ribbon editor**, click the **Save** button.
2. When you return to Tekla Structures and the program asks if you wish to load the new ribbon, click **Yes**. The ribbon becomes updated with the changes you made.

Check the changes

You can compare the original ribbon with the changes you have made. You can check what has been added and removed, and what has been moved to different tabs.

1. Save the customized ribbon, if you have not already done so.
2. Click the **Compare** button.
3. In the **Compare ribbons** dialog box, check the changes you have made.

   For example:



- **Not present**: these commands have been removed
- **Moved**: these commands have been moved to a new place
- **Customized additions**: these commands have been added

NOTE **Original ribbon** refers to the ribbon file that came with theTekla Structures installation for your current configuration.

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4. If you have removed a command that you would like to get back, drag it from the **Compare ribbons** dialog box to the ribbon.
5. When you are finished, click **Close**.

Back up and restore ribbons

You can restore the default Tekla Structures ribbons at any time. Before restoring the default settings, make sure to save a backup copy of your customized ribbon, because the customizations will be permanently deleted. You can use the backup file to take your customized ribbon back into use, to copy the ribbon settings to another computer, or to share the customized ribbon with your co-workers.

1. To save a backup copy of the customized ribbon:
   a. In **Ribbon editor**, click the **Save** button.
   b. Go to the `..\Users\<user>\AppData\Local\Trimble\Tekla Structures\<version>\UI\Ribbons` folder.
   c. Make a copy of the desired ribbon file and save it in another folder.

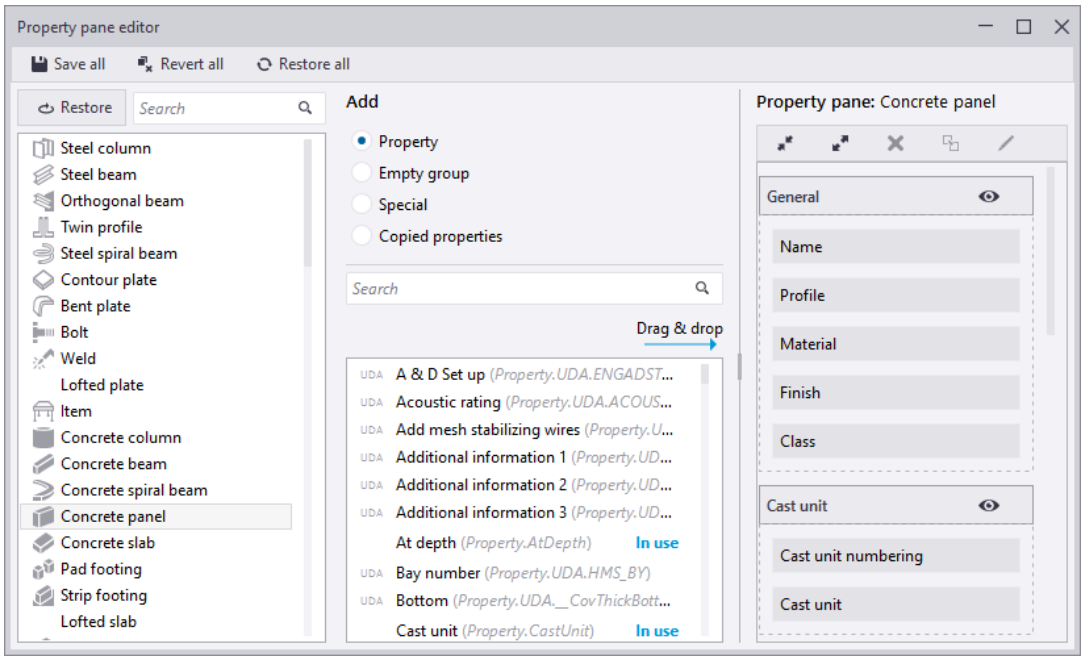
      The ribbons are named according to the Tekla Structures configurations. For example, in the **Full** configuration, the name of the **Modeling** ribbon file is `albl_up_Full--main_menu.xml`.
2. Click the **Restore** button to restore the default Tekla Structures modeling or drawing ribbon.
3. To take the customized ribbon back into use:
   a. Copy the backup file back to the `..\Users\<user>\AppData\Local\Trimble\Tekla Structures\<version>\UI\Ribbons` folder.
   b. When you return to Tekla Structures and the program asks if you wish to load the new ribbon, click **Yes**.

      The ribbon becomes updated with the changes you made.

5.2 Customize the property pane layout

Tekla Structures shows the model object or the drawing object properties in the property pane. Use the **Property pane editor** to customize the property pane to better suit your needs. You can select separately for each object type which properties you want to see in the property pane. You can show, hide and organize the settings in the property pane, and add your most needed user-defined attributes (UDAs) directly to the property pane.

To open the **Property pane editor**, click **File menu** --> **Settings** --> **Customize** --> **Property pane** , or, in the property pane, click the **Property pane settings** ☰ button and select **Customize...**.



With the **Property pane editor**, you can

- organize properties to a suitable order or to suitable groups
- hide or remove properties you do not use or need
- create your own groups for properties that you find relevant, including user-defined attributes (UDAs)
- add properties, including user-defined attributes (UDAs), to an existing group
- create nested property groups
- rename properties or groups
- save the customized property pane layouts

The customized property pane layouts are saved to the `PropertyTemplates.xml` or `PropertyTemplates.Drawing.xml` files in the `..Users\<user>\AppData\Local\Trimble\Tekla Structures \<version>\UI\PropertyTemplates\` folder. If you cannot find the folder, ensure that you are able to view the hidden files and folders on your computer.

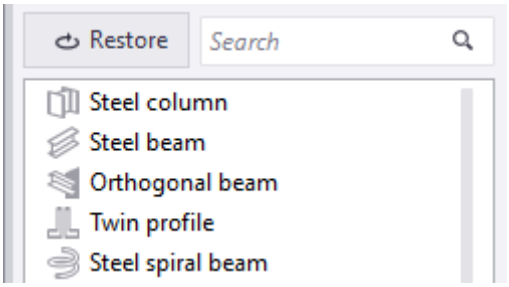
Company administrators can distribute the customized property pane layouts to the whole organization, in the same way as customized ribbons or customized tabs.

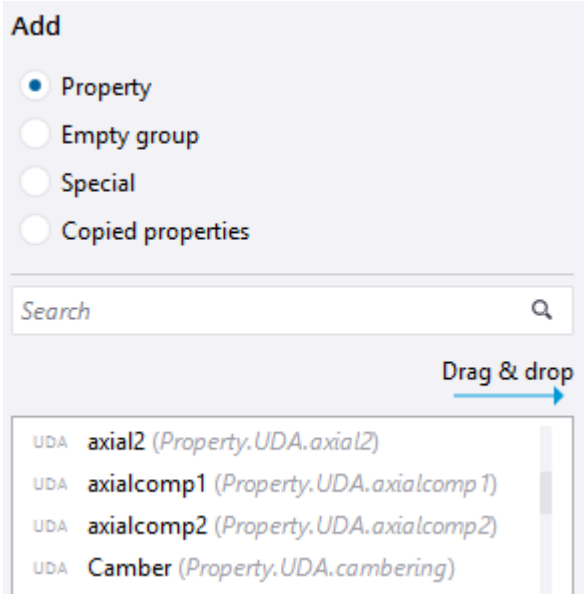
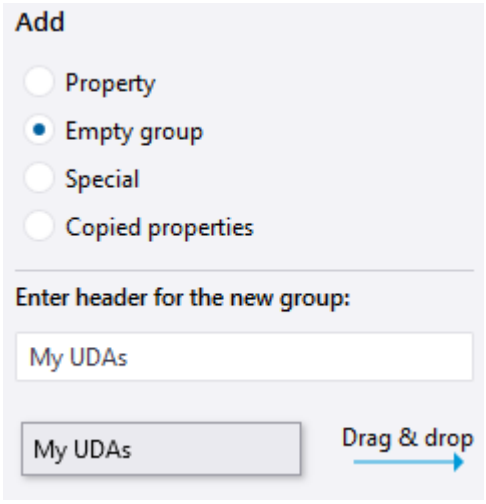
Add a property or a property group

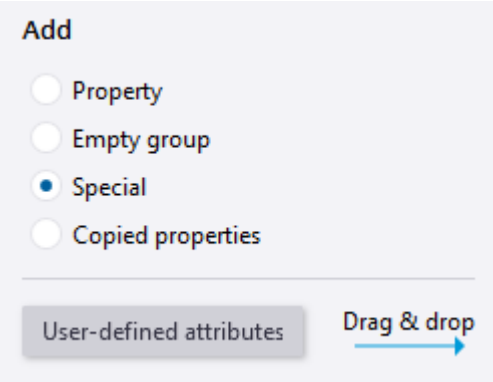
The **Property pane editor** has three columns:

- *Object type list* on the left. The list shows all the objects that have a property pane. Select from the list the object type whose property pane layout you want to modify.

  Each object type's tooltip shows the source from where the object type definition is loaded: the default source, your environment, or a user-defined customization.
- *Property list* in the middle. The list shows all the available properties for each model object or drawing object. For model objects, also the user-defined attributes (UDAs) for each object type are shown. You can add these properties and UDAs to the property pane layout as regular properties. Properties which are already in use cannot be added for a second time but you can reorganize them in the property pane layout. Properties that are incompatible with the selected object type cannot be added.
- *Property pane layout* on the right. It shows the current layout of the property pane for the selected object type.

To	Do this
Select the object type whose property pane layout you want to modify	In the object type list on the left, browse through the list or use the **Search** box to filter content. 
Add a new property to the property pane layout	1. In the middle column's **Add** section, select **Property**. 2. In the property list, select a property. Use the **Ctrl** or **Shift** key to select multiple properties.

To	Do this
	 3. Drag the property to the property pane layout on the right. You can drag the property to any group in the property pane.
Add a new group to the property pane layout	1. In the middle column's **Add** section, select **Empty group**. 2. Enter a title for the new group.  3. Drag the group template to the property pane layout on the right.

To	Do this
	You can create a new group, or insert a new group inside an existing group to create nested groups. You can reorganize the existing groups by dragging them.
Add the **User-defined attributes** button to the property pane layout	If you have accidentally removed the **User-defined attributes** button from the property pane layout, you can add it back to the property pane layout for model objects. 1. In the middle column's **Add** section, select **Special**.  2. Drag the **User-defined attributes** button to the property pane layout on the right. Note that the **User-defined attributes** button cannot be added for some object types, such as components.

Some model object types have user-defined attributes that are part of an attribute group and/or hidden in the **Property pane editor**. For example, the **Bottom** concrete cover belongs to the **Concrete covers for rebar sets** group. If you need to use these attributes individually, you can find them by entering __ (double underscore) in the middle column's search box. You can also use these attributes in templates. For example, to add the **Bottom** concrete cover to a report template, use the value field formula `GetValue("USERDEFINED.__CovThickBottom")`.

Change the name of a property or a property group

To	Do this
Rename a property or a property group	1. In the property pane layout, select the property or the property group that you want to rename.

To	Do this
	2. Click  . 3. In the **Rename** dialog box, enter a new name and click **OK**. Alternatively, right-click the name of the property or the property group and select **Rename...**.
Restore the original name of a property or a property group	1. In the property pane layout, select the group or the property whose name you want to restore to the original. 2. Right-click and select **Restore original name**.

Copy properties from one object type to another object type

You can copy properties from one object type to another object type, for example, from steel beam to steel plate. If needed, you can copy several property groups at one go.

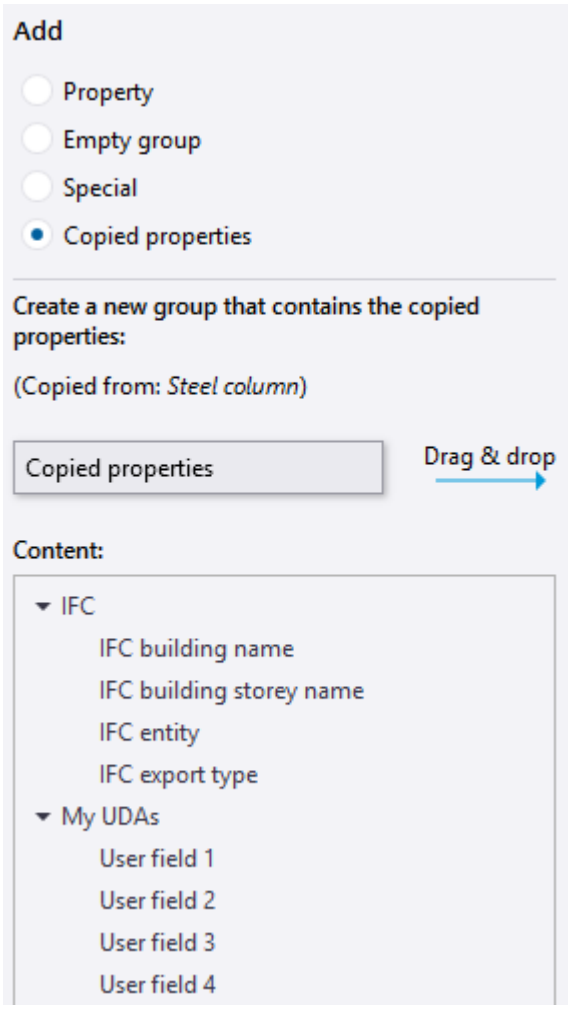
1. In the object type list on the left, select the object type from which you want to copy properties.
2. In the property pane layout on the right, select the properties you want to copy.

   Use the **Ctrl** or **Shift** key to select multiple properties.

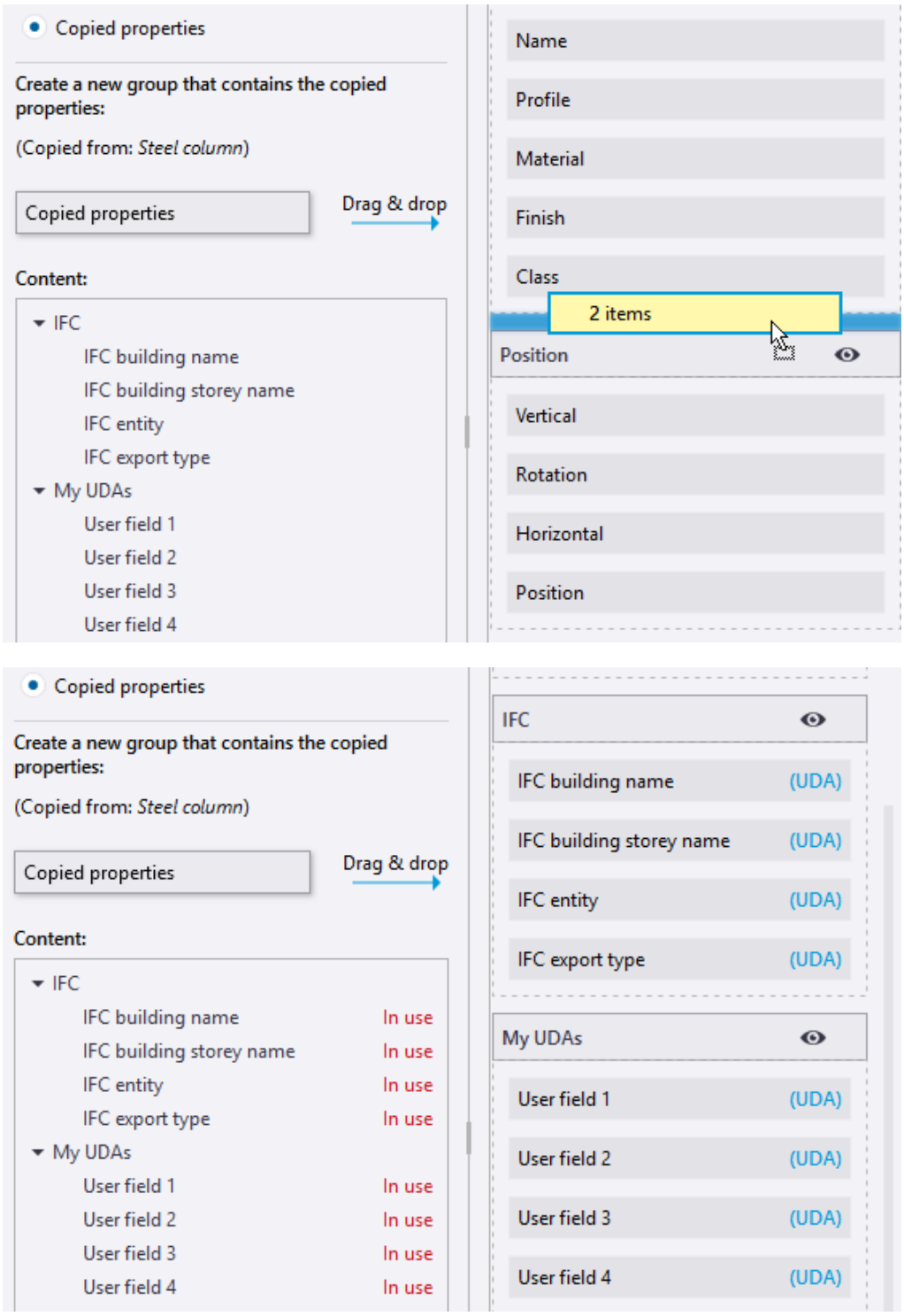
3. Click  to copy the selected properties.

   Alternatively, right-click and select **Copy properties**.

   The copied properties are shown in the middle column, under the **Content** section.



4. In the object type list on the left, select the object type to which you want to copy the properties.
5. In the **Add** section, ensure that the **Copied properties** option is selected.
6. Drag the **Copied properties** box from the middle column to the property pane layout on the right.



The names and the content of the copied groups are shown in the middle column until you copy another group or close the **Property pane editor**.

If you copy nested groups, all the nested groups inside the main group are copied, too.

NOTE Properties that are already in use cannot be added for a second time. If you copy properties that are already in use, the copied properties have the text **In use** in the **Content** section.

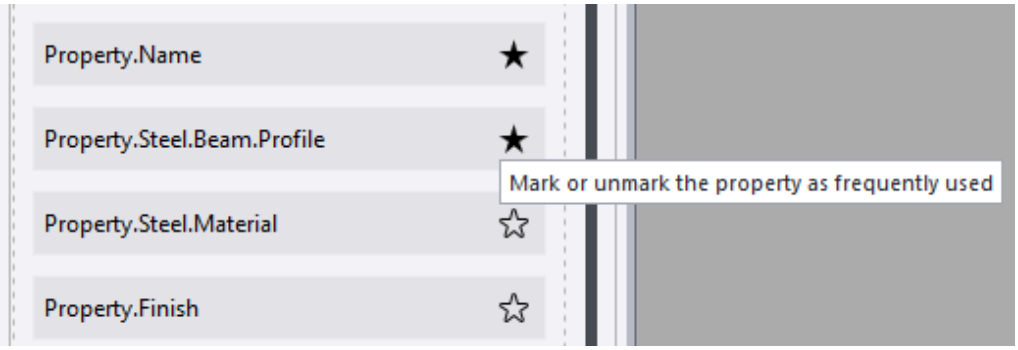
Properties that cannot be added to the selected object type have the text **Incompatible** in the **Content** section.

Set the default visibility for a single property

You can define separately for each object type which properties are visible or hidden by default in the property pane, and create your favorite sets of properties.

By default, some object types have a large number of properties visible in the property pane, and it can be cumbersome to find the needed property among all the properties. To make the property pane less cluttered, you can mark properties as frequently or infrequently used and thus hide the infrequently needed properties.

1. In the property pane layout on the right, select the property you want to mark as frequently or infrequently used. Use the star to mark it frequently used.



   - Clear the star selection to mark the property infrequently used. The property will be hidden in the property pane.
   - Select the star to mark the property frequently used. The property will be visible in the property pane.

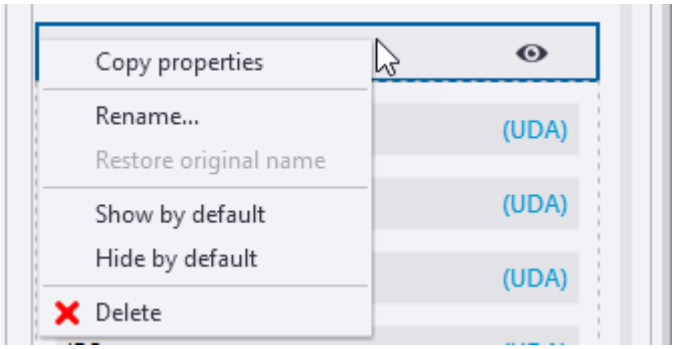
2. To mark several properties as frequently or infrequently used at one go, use the **Ctrl** or **Shift** key to select multiple properties.

   When you save the customized property pane layout, only the properties that have been marked as frequently used are visible.

Set the default visibility for a property group

You can define whether selected property groups are by default visible or hidden in the property pane.

1. In the property pane layout on the right, select the property groups you want to hide.
2. Right-click and select **Hide by default**.



   The eye icon changes to hidden: . The selected property groups are now by default hidden in the property pane.
3. To have the property groups by default visible again in the property pane, right-click and select **Show by default**.

   The eye icon changes to visible: . The selected property groups are now by default visible in the property pane.

Note that the property group visibility changes in the property pane (page 67) override these default settings.

Remove a customization

To	Do this
Delete a property or a property group	1. In the property pane layout, select the property or the property group to be deleted. Use the **Ctrl** or **Shift** key to select multiple properties. 2. Click . Alternatively, right-click a property or a property group, and select **Delete**.
Discard changes	Click the **Revert all** button to discard changes and to revert to the previous save.

To	Do this
Remove a single customization	Click the **Restore** button to remove the customization of a selected object type's property pane. Alternatively, right-click the selected object type and select **Restore to default**.
Remove all customizations	Click the **Restore all** button to remove the customization of all property pane layouts.

Save the changes

When you are happy with the changes, save the customized property pane layout.

1. Click the **Save all** button. When you return to Tekla Structures, Tekla Structures asks if you want to reload the changed property pane templates.
2. Click **Yes** to apply the customized property pane layout.

User-defined attributes (UDAs) in the customized property pane

In the property pane of model objects, the **User-defined attributes** button in the **More** property group opens the user-defined attributes (UDAs) dialog box. If you customize the property pane, you can add your most important UDAs directly to the property pane, so that you do not need to open separate UDA dialog boxes.

Note that the **User-defined attributes** button is not available for some object types, such as components. Drawing objects do not have UDAs.

When you create or modify model objects, UDAs are automatically applied together with all the other object properties. UDAs are automatically applied regardless of them being in the property pane or in the UDA dialog boxes.

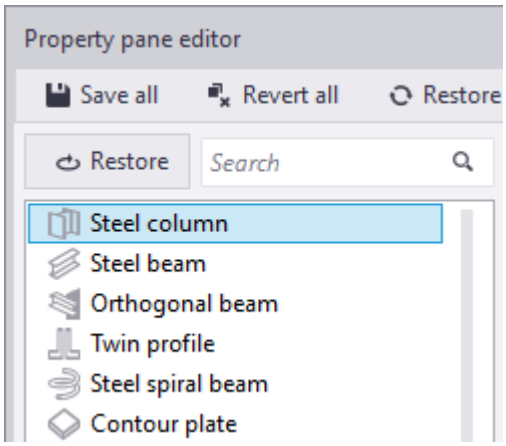
UDAs with the following unit types are supported and work correctly if they are added in the property pane: `Option`, `String`, `Integer`, `Float`, `Date`, `Distance`, `Weight`, `Force`, `Moment`, `Angle`, `Factor`, and `Area`. UDAs with other unit types need to be used through the UDA dialog boxes.

NOTE You can control the visibility of UDAs in the property pane also without customizing the property pane layout. Use the property visibility options (page 67) and search in the property pane.

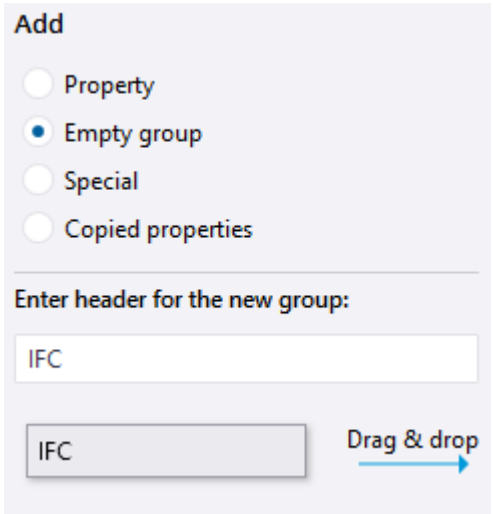
Example: How to add IFC related user-defined attributes to the property pane layout and copy them to another object type

This example shows how to add a group of IFC related user-defined attributes (UDAs) to the steel column property pane layout, and copy the group to the steel beam property pane layout.

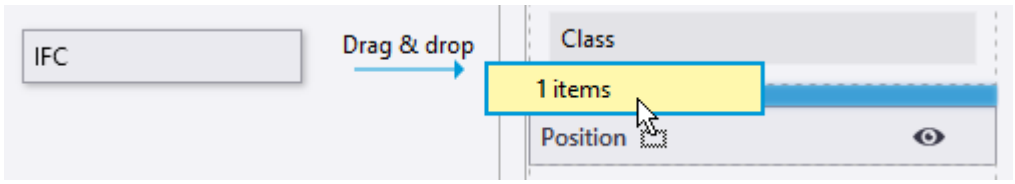
1. In the object type list, select **Steel column**.



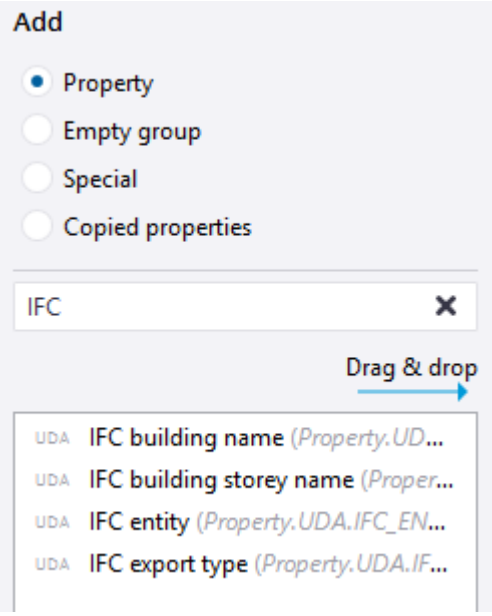
2. In the **Add** section, select **Empty group**. Enter `IFC` as the title for the new group.



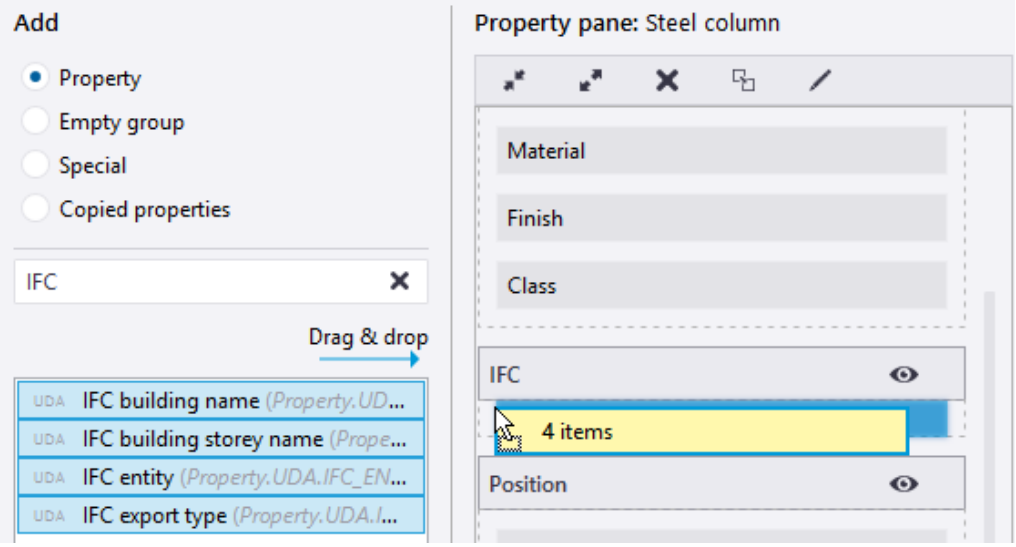
3. Drag the group template to the property pane layout on the right.



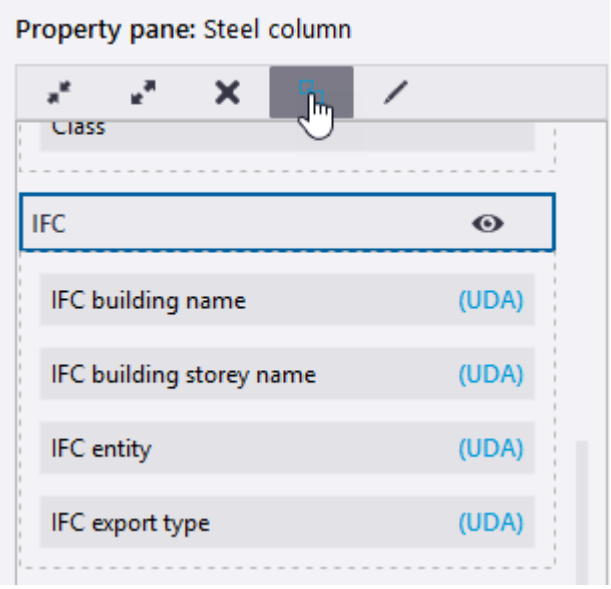
4. In the **Add** section, select **Property**. In the search, enter `IFC` to search the `IFC` related UDAs.



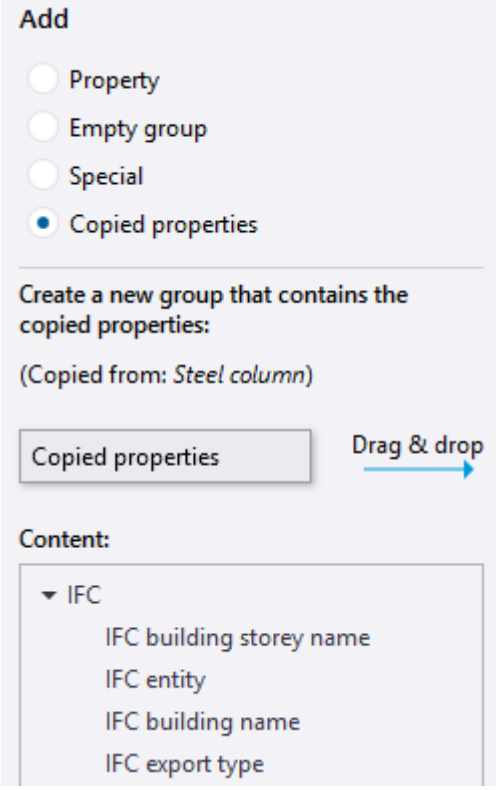
5. Select all the IFC UDAs and drag them to the group you created in the property pane layout.



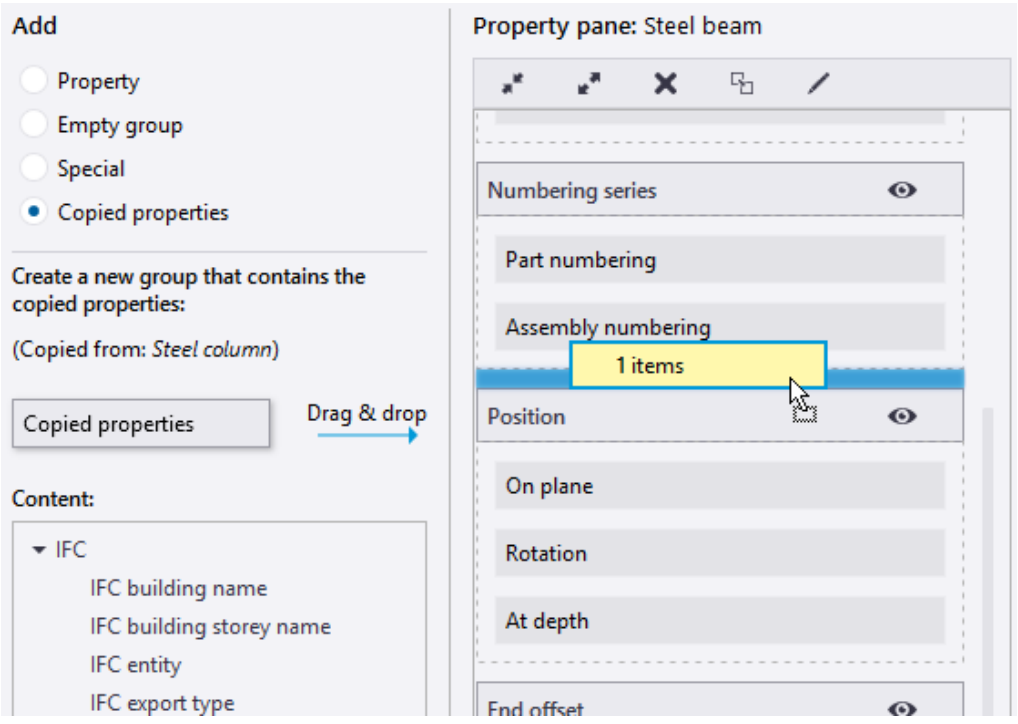
6. When you have added the needed UDAs to the new group, copy the group so that you can add the group also to the steel beam property pane layout. Select the title of the group and click the **Copy selected items**  button.



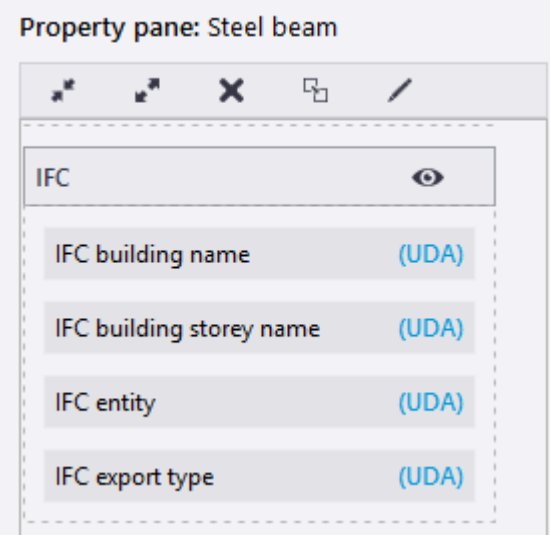
The name of the copied property group and the content of the group is shown in the middle column. You can see that the properties are copied from steel column.



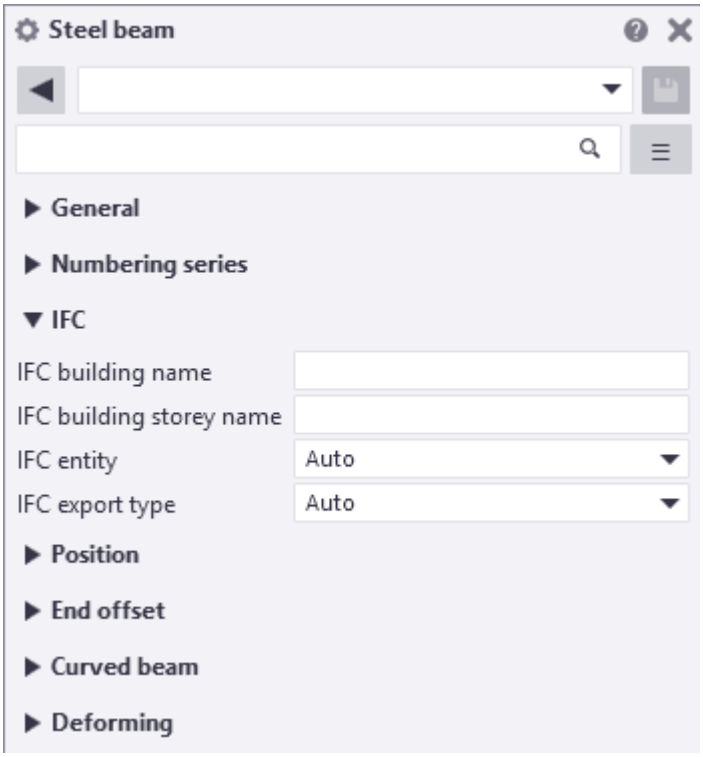
7. To add the copied property group in the steel beam property pane layout, select **Steel beam** in the object type list.
8. Drag the copied group from the middle column to the steel beam property pane layout on the right.



Now the IFC related UDAs are available both in the steel column property pane layout and in the steel beam property pane layout.



9. Click the **Save all** button to save the changes. When you return to Tekla Structures, Tekla Structures asks if you want to reload the changed property pane templates. Click **Yes** to apply the customized property pane layout.



5.3 Customize the keyboard shortcuts

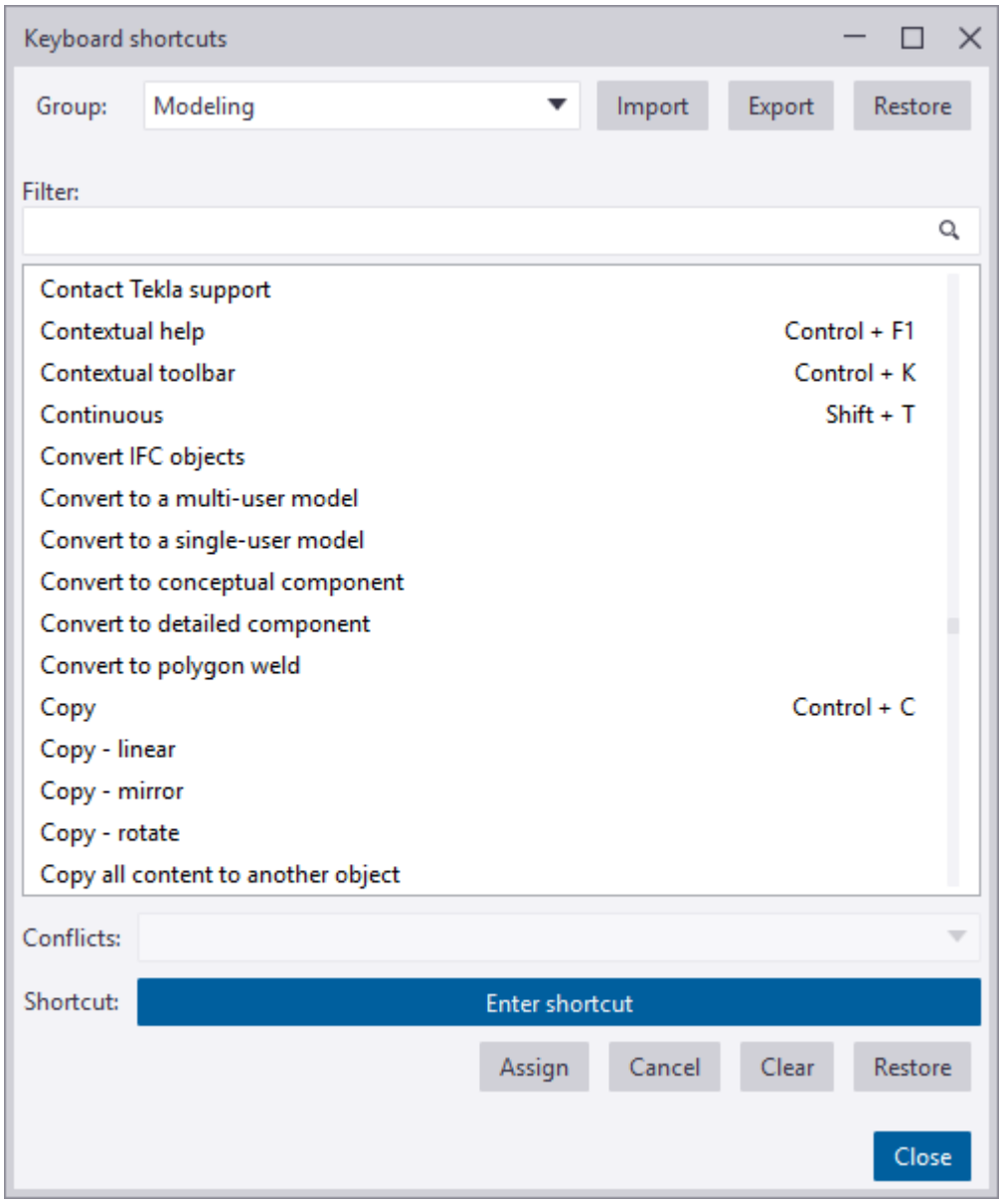
In the **Keyboard shortcuts** dialog box, you can view a list of all shortcuts available in Tekla Structures. You can define new keyboard shortcuts and remove existing ones. After customization, you can export the keyboard shortcuts and share them with your co-workers.

Define new keyboard shortcuts

You can assign keyboard shortcuts to any command, macro, or component. You can even change the default keyboard shortcuts, if needed.

1. On the **File** menu, click **Settings** --> **Keyboard shortcuts** .

The **Keyboard shortcuts** dialog box opens.



2. In the **Group** list, select the shortcut group you want to modify.

   A list of commands and shortcuts appears.

3. If you want to search for a particular command or keyboard shortcut, enter some text in the **Filter** box.

   For example:

   - Type `grid` to only see the commands whose name contains the word "grid".
   - Type "`+`" to get a list of shortcuts that consist of two parts (such as **Ctrl +S**).

- Type ", " to get a list of shortcuts that consist of two consecutive keys (such as **M, N**).

4. Select a command from the list.
5. Click **Enter shortcut**.
6. On the keyboard, enter the combination of keys you would like to use as the shortcut.
7. Check the **Conflicts** box to see if the keyboard shortcut is already assigned to another command.

   If the shortcut is already in use, enter a different combination of keys.

   NOTE If you reassign a keyboard shortcut that is already used, it will no longer be associated with the command it was originally assigned to.

8. Click **Assign** to save the keyboard shortcut.

Clear and reset shortcuts

You can remove any existing shortcut. You can also reset all shortcuts back to the defaults.

1. On the **File** menu, click **Settings** --> **Keyboard shortcuts**.
2. To remove a keyboard shortcut, select the command from the list and click **Clear**.
3. To reset all the keyboard shortcuts to the defaults (page 51), click the **Restore** button.

Export keyboard shortcuts

You can export your customized keyboard shortcuts and share them with your co-workers.

1. On the **File** menu, click **Settings** --> **Keyboard shortcuts**.
2. Click **Export**.
3. Enter a file name and location.
4. Click **Save** to export the keyboard shortcuts.
5. To share your keyboard shortcuts with other users, send them the exported file.

Import keyboard shortcuts

You can import keyboard shortcuts from a file. Use this method to import keyboard shortcuts from Tekla Structures 2016 or newer.

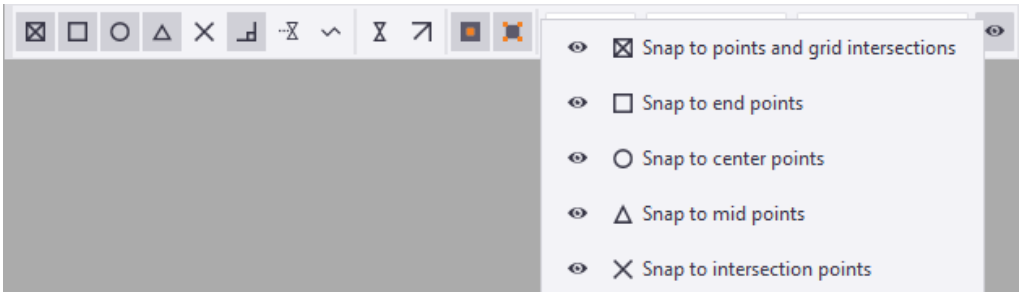
1. On the **File** menu, click **Settings** --> **Keyboard shortcuts**.
2. Click **Import**.
3. Browse for the shortcuts file you want to import. For example, `..\Users\<user>\AppData\Local\Trimble\Tekla Structures\<version>\Settings\KeyboardShortcuts_4.xml`.
4. Click **Open** to import the keyboard shortcuts.

5.4 Customize the Selecting, Snapping, and Snap override toolbars

You can customize the **Selecting**, **Snapping**, and **Snap override** toolbars by hiding some of the switches. You can customize the toolbars both in the modeling mode and in the drawing mode.

You can define which selection switches or snap switches are visible and which are hidden on the selected toolbar. Company administrators can distribute the customized toolbars to the whole organization.

1. Click the eye button on the toolbar to open a list that contains all the switches on the toolbar.



   Alternatively, right-click on the selected toolbar to open the list.
2. To hide a switch, click the name of the switch in the list.

   The selected switch becomes hidden on the toolbar and the eye icon changes to hidden: .
3. To have the switch visible again, click the hidden switch in the list.

   The selected switch becomes visible on the toolbar and the eye icon changes to visible: .

5.5 Customize the contextual toolbar

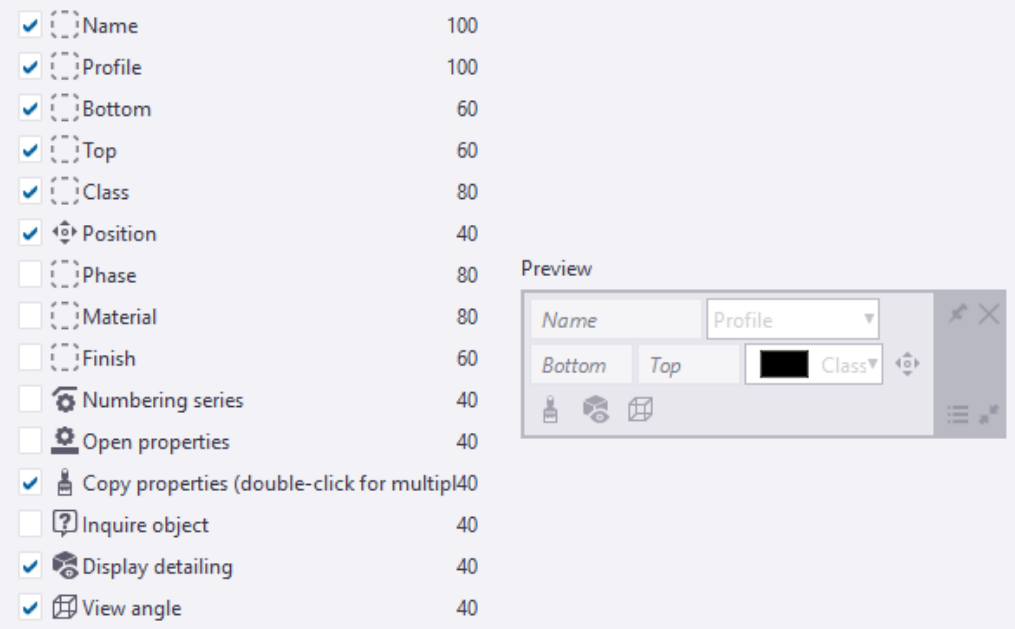
You can customize the contextual toolbar by selecting which toolbar elements are visible. You can also adjust the width of the elements, and add icons and additional titles to the elements.

Customize contextual toolbar

1. On the contextual toolbar, click .
2. In the list of contextual toolbars, select the toolbar you want to customize.

   The list of contextual toolbars shows only the toolbars that are available in the current mode, meaning in the modeling mode or in the drawing mode.
3. Select and clear check boxes to define which toolbar elements you wish to show or hide.

   The **Preview** area shows what the toolbar will look like. For example:



4. To modify the toolbar elements:
   a. Click the toolbar element.

      If the element can be modified, the following box appears:

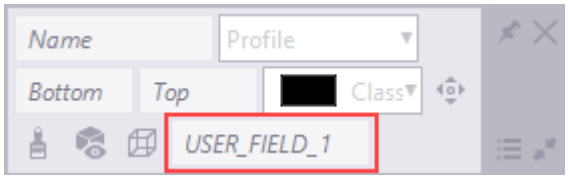
   b. Use the slider to adjust the width of the toolbar element.
   c. To add an additional title, click the text box and enter a title.

d. To add an icon, click and select an icon from the list.

e. To remove the icon or title, click .

5. To add macros and user-defined attributes:
   a. Select the desired macro or user-defined attribute from the list.
   b. Click **Add**.

      Tekla Structures adds the macro or the user-defined attribute to the list of toolbar elements and to the **Preview** image. For example:



   c. To hide the macro or user-defined attribute, clear the corresponding check box in the toolbar elements list.

6. Click **OK** to save the changes.

Create user profiles for contextual toolbars

You can create multiple profiles for contextual toolbars. Each profile contains the same contextual toolbars, but with different settings.

1. On the contextual toolbar, click .
2. In the **Set profiles** box, enter a name for the profile.
3. Click to save the new profile.
4. Customize the selected contextual toolbar.

   For example, remove some elements from the contextual toolbar.
5. Click **OK** to save the changes.

   The user profile is now active with the settings you defined.
6. To switch to another profile:
   a. In the **Set profiles** list, select another profile from the list.
   b. Modify the settings.
   c. Click **OK**.

      This user profile is now active.

When Tekla Structures is restarted, the last used profile is loaded by default.

Back up and share contextual toolbars

We recommend you to save a backup copy of your customized contextual toolbars. You can use the backup file to copy settings to another computer or to share the customizations with your co-workers.

1. Save the contextual toolbar under a user profile, with a name that you can easily recognize. For example, `MyContextualToolbar`.
2. Go to the `..\Users\<user>\AppData\Local\Trimble\Tekla Structures\<version>\ContextualToolbar\Profiles` folder.
3. Make a copy of your customized contextual toolbar and save it in the corresponding folder on another computer.
4. To open a customized contextual toolbar on another computer:
   a. On the contextual toolbar, click .
   b. In the **Set profiles** list, select the correct profile from the list.

      For example, `MyContextualToolbar`, if that is the name you used in step 1.
   c. Click **OK**.

      The customizations are now active.

NOTE Alternatively, you can place the entire `ContextualToolbar` folder in your company's firm folder or in the system folder. Note that the firm folder location needs to be defined in the `teklastructures.ini` file.

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6 Contact Tekla Structures support (Support tool)

The Support tool allows you to contact Tekla Structures support directly. With this tool you can collect the model, related files, and other necessary information in one support request, and safely upload your request to Tekla Structures support.

The Support tool:

- Automatically identifies the open model and includes all files or selected files according to your selection from the model folder as attachments to your request. Some logs and files in other folders are also attached, such as the user feedback log, Tekla Structures logs and user-defined attribute files.
- Automatically gathers application and system information.
- If a crash is encountered, attaches automatically to the Support tool the crash dumps, session log files and Windows logs of type Error from last 72 hours. They can be skipped by clearing the **Crash information** file category selection.
- Uploads the problem description, attached model, attached files, and all other gathered information to Tekla Structures support.

NOTE **Confidentiality information**

All files you upload are treated as confidential. Only the recipient can access the files.

6.1 Create a support request

1. On the **File** menu, click **Help** --> **Contact Tekla support** .
2. Log in using your Trimble Identity.

The Support tool opens and automatically fills in user, application and Tekla Structures version information. Support tool reads your name, email address, company name and support email address from your Trimble Identity profile.

You can switch to another account by clicking **Switch user**.

3. Select a category from the list of predefined categories, or select **Other** and enter the category.
4. Enter the problem description.
5. Click **Next**.
6. Select what you want to attach. The file name, file group, file size, and file location are mentioned for each file.
   - By default all files are selected.
   - Select the **All** check box, or select specific files from the **Select the files** list.
   - If you want to send some other attachments than shown in the **Select the files** list, click the **Add extra files** button and browse for the files.
7. Click **Next**.

   The Support tool creates the package and shows the total attachment size. You can also check application information and operating system information before finalizing the support case creation.
8. Click **Create case** to upload your case to Tekla Structures support.

While you create the support case, the navigating back button in the upper-left corner is disabled for a moment so that you cannot accidentally interrupt the upload.

When the upload is complete, you will receive a notification at your email address. After a successful upload, an automatic confirmation message will be sent to you, and then Tekla Structures support will start solving your case.

For a list of offices and resellers together with their contact information, see Offices and resellers.

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