Tekla Structures 2020

Get started with Tekla Structures

March 2020

Contents

1 Tekla Structures configurations

Tekla Structures is available in different configurations for different industries, materials, and professions. Also special student and developer configurations are available.

Our documentation covers the content of the Full configuration, so you may not have access to all the described features. If your organization has licenses for different configurations, you can select between them when you start Tekla Structures.

Feature map

The features included in different configurations are:

Configuration Feature	Full	Steel Detailing	Precast Concrete Detailing	Rebar Detailing	Engineering	Construction Modeling	EPM Modeler	Primary	Production Planner - Concrete	Project Viewer	Drafter
Viewing	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Grids, construction lines, points	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	
Building elements	✔	✔	✔	✔	✔	✔	✔	✔1			
Assemblies	✔	✔	✔	✔	✔	✔	✔	✔			
Precast cast units	✔		✔			✔	✔	✔			
Pour modeling	✔2	✔2	✔2	✔2	✔2	✔2	✔2	✔2			
Pour viewing	✔2	✔2	✔2	✔2	✔2	✔2	✔2	✔2	✔2	✔2	✔2

Configuration Feature	Full	Steel Detailing	Precast Concrete Detailing	Rebar Detailing	Engineering	Construction Modeling	EPM Modeler	Primary	Production Planner - Concrete	Project Viewer	Drafter
Cast in Place cast units	✔		✔	✔		✔	✔	✔			
Numbering	✔	✔6	✔	✔3				✔			
Assigning control numbers	✔	✔	✔					✔			
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	✔	✔	✔	✔	✔	✔		✔			✔

Configuration Feature	Full	Steel Detailing	Precast Concrete Detailing	Rebar Detailing	Engineering	Construction Modeling	EPM Modeler	Primary	Production Planner - Concrete	Project Viewer	Drafter
Creating general arrangement drawings (plan, section, erection)	✔	✔	✔	✔	✔	✔		✔			✔
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)	✔		✔					✔			✔

Configuration Feature	Full	Steel Detailing	Precast Concrete Detailing	Rebar Detailing	Engineering	Construction Modeling	EPM Modeler	Primary	Production Planner - Concrete	Project Viewer	Drafter
Creating cast-in-place concrete drawings (cast unit drawings)	✔		✔	✔				✔			✔
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	✔		✔					✔	✔		

Configuration Feature	Full	Steel Detailing	Precast Concrete Detailing	Rebar Detailing	Engineering	Construction Modeling	EPM Modeler	Primary	Production Planner - Concrete	Project Viewer	Drafter
View reference models	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
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 Install and license Tekla Structures

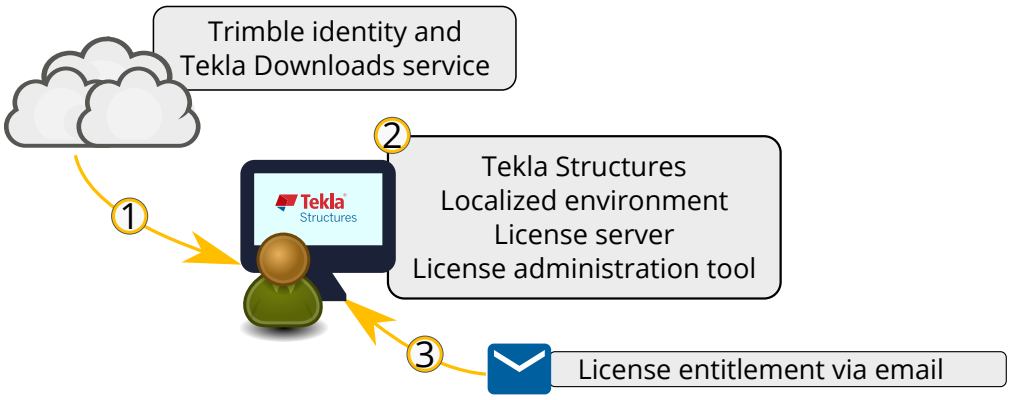
To use Tekla Structures, you need to have a license, and Tekla Structures installed on your computer. In most cases, you will also install a standard localized environment or your organization's own customized Tekla Structures environment. Each environment includes many important localized settings and tools, such as profiles, templates and components.

About Tekla Structures licenses

Tekla Structures cannot be used without a valid license.

- You license most full commercial configurations of Tekla Structures by activating an entitlement certificate on your license server (on-premises licensing). The entitlement certificate is sent in an email to the contact person your organization has named when purchasing the license.
- Online licensing is used with the **EPM Modeler** and **Partner** configurations and with the free learning license (Tekla Campus).
  - The **Tekla Structures Partner** and **EPM Modeler** configurations have an online license that is connected to your Trimble Identity. The license is delivered directly to the Tekla Online Admin tool, where your organization's administrator(s) can assign the online licenses to individual users.
  - For a free learning license for Tekla Structures, visit the **Tekla Campus** site, where you can activate an online license that is connected to your Trimble Identity. Note that you are not allowed to use this configuration for commercial work.
- You can see the license type of licenses in the **About Tekla Structures** dialog box. It is either **Domestic** or **Enterprise**. For the Partner edition, the value is **Partner** and for the Tekla Campus edition the value is **Educational**.

If you manage your own installation of Tekla Structures



The general process you must complete:

1. Download installers.
2. Install the software.
3. Activate your license.

In detail (follow the links for step-by-step instructions):

- Create your Trimble Identity (page 12) to access all Tekla online services.
- Download the installation package for Tekla Structures, the license server and at least one of the Tekla Structures environments from Tekla Downloads.
- Install the Tekla Structures software and at least one of the Tekla Structures environments on your computer:

  Tekla Structures installation (page 13)
- If you have a standard on-premises license, install the license server software on your computer and activate your license.

  1. Install Tekla license server (page 18)
  2. Save your Tekla Structures license entitlement certificate (page 19)
  3. Activate Tekla Structures licenses (page 20)
  4. Connect Tekla Structures to the license server (page 20)
- If you have an online license, you can start Tekla Structures and select the **Use your Tekla online license** licensing option. Online licenses are available for specific configurations as listed in the previous section above.

If someone manages Tekla Structures for you

If your organization has a Tekla Structures administrator (IT administrator or main user), you should follow their instructions for installation and licensing. You may still need to consider the following points:

- You need an account to access Tekla online services. If your administrator has not invited you to your organization, ask to join so that you have access to all Tekla online services:

  Create your Trimble Identity (page 12)
- In most cases, your Tekla Structures administrator will prepare a customized installation package for you or install the software for you. Ask your administrator for further instructions.
- To be able to use Tekla Structures outside the office, you may need to know how to borrow a license for offline use:

  Borrowing licenses for using Tekla Structures offline (page 22)

If you manage Tekla Structures for other users

The general workflow for a new Tekla Structures deployment can go for example like this:

- Install the Tekla license server.
- Install Tekla Structures for your own use and start customizing it for your organization.
- Add users to your organization group in the Tekla Online Admin tool to give them full access to Tekla online services and any online licenses that your organization may have.
- Deploy Tekla Structures to the users in your organization.
- Continue developing your organization's customizations and redeploy as needed.

Start your journey in Manage Tekla Structures PDF, which introduces you to all of the topics listed above.

2.1 Create your Trimble Identity

You need a Trimble Identity to download Tekla Structures.

Some Tekla Online services require that your account is connected to an organization that has a valid maintenance contract with Trimble. If you are the named contact at your organization, Trimble automatically creates an account for you or connects your existing Trimble Identity to your organization. The named contact has administrator status and must add other users into the

organization to enable their access to content and services that require a valid maintenance contract.

NOTE Membership in an organization can also affect your access to your organization's cloud-stored data, such as Tekla Model Sharing models. Make sure you do not switch between organizations unnecessarily.

If you are the named contact, Trimble sends you an email with an invitation to accept membership in the organization group and complete the profile information if you did not have an existing Trimble Identity. You are then responsible for managing the organization group together with other administrators that you assign. See Managing Trimble Identities and Tekla Model Sharing licenses for more information.

If you are not the named contact, you receive an email invitation to join the organization group when an administrator from your own organization invites you. You can also create a new Trimble Identity here.

If you are having problems using your Trimble Identity in Tekla Online services, see the troubleshooting information on this page.

2.2 Tekla Structures installation

Tekla Structures installation packages are available for download in Tekla Downloads. In addition to installing Tekla Structures, you need to install and set up a Tekla license server and activate your Tekla Structures license.

Tekla Structures software and environments are available as separate installation packages. The software installation package always contains a blank project (page 27) environment that includes generic content. Other Tekla Structures environments are available as separate installation files. Environments are region or company-specific settings and information that are predefined in Tekla Structures, or that are defined by the user.

You can install the Tekla license server on the same computer as the Tekla Structures software and environments. The license server can also be installed on a separate server computer if there are many Tekla Structures users and many Tekla Structures licenses in the company. The licenses you can use and their activation IDs are listed in an entitlement certificate you receive via e-mail.

Tekla Structures uses the FlexNet Publisher License Management (FlexNet) licensing system. The FlexNet licensing system is not used with Tekla Structures Educational (Tekla Campus), and FlexNet licensing instructions do not apply.

Centralized installation

Tekla Structures can be installed across the company network using centralized installation. Installing Tekla Structures centrally across the

company network saves time in a large company as the installation is done silently in the background for each user.

Using Tekla Structures with application and desktop virtualization

Tekla Structures can be used with the Citrix application and desktop virtualization. Tekla Structures is installed on a server or on a virtual machine running on the server. Using Tekla Structures from the server ensures that all users in a project are using the same project environment set-up.

Version updates: Service packs

Service packs are version updates that can contain new features, and improvements and fixes to existing features.

Service packs are available in Tekla Downloads for all customers with a valid maintenance agreement. We recommend that all users install the latest service pack.

Borrowing licenses with Tekla License Borrow Tool

If you want to work offline and do not have the Tekla license server on your computer, you can borrow an activated license from the license server (page 22) using the Tekla License Borrow Tool. The borrowed license is transferred from the license server to your computer. It is not available for other users during the borrowing. The installer for Tekla License Borrow Tool is available in Tekla Downloads.

Collaboration within a Tekla Structures model

Tekla Model Sharing allows several users to access the same model simultaneously. With Tekla Model Sharing a global team can work efficiently within one model regardless of the team location and time zone. The model data is shared and synchronized over the Internet, and stored to a cloud-based Tekla Model Sharing service. It is also possible to work offline. Tekla Model Sharing requires a license.

Multi-user mode also allows several users to access the same model simultaneously. Multi-user mode is suitable for local teams with projects where the team members do not necessarily have an Internet connection. In the multi-user mode a server computer runs the multi-user server, a file server computer contains the multi-user master model and client computers run Tekla Structures. The Tekla Structures multi-user server installer is available in Tekla Downloads.

Using the multi-user server requires your company to have more than one Tekla Structures license.

Extensions

Extensions are applications that have been made using the Tekla Open API or custom components. Extensions are not part of the Tekla Structures product release. Extensions for Tekla Structures are available in Tekla Warehouse.

You can import the Tekla Structures extensions that have the `.tsep` (Tekla Structures Extension Package) file extension to the **Applications & components** catalog in Tekla Structures. The extensions are installed when you restart Tekla Structures. Tekla Structures extensions that have the `.msi` file extension have to be installed separately by running the installation file.

Tekla User Assistance

Tekla User Assistance collects all help and support material to one place. By default, all help content is online. You can access Tekla Structures help material in Tekla User Assistance by pressing the F1 button in Tekla Structures. You can also use the help offline. Offline help installation packages are available in Tekla Downloads.

See also

Tekla Structures installation prerequisites (page 15)

Tekla Structures installation folders (page 16)

Install Tekla Structures (page 17)

Tekla Structures installation prerequisites

Installing Tekla Structures requires one of the following operating systems: Windows 10 or Windows 8.1.

The Tekla Structures installer is available as a 64-bit version.

Tekla Structures needs the following redistributable packages that are automatically installed during the Tekla Structures software installation if they, or newer versions of the packages, do not exist on your computer:

- Microsoft .NET Framework 4.7.2
- Microsoft Visual C++ 2010 Redistributable (x64) 10.0.40219
- Microsoft Visual C++ 2010 Redistributable (x86) 10.0.40219
- Microsoft Visual C++ 2013 Redistributable (x64) 12.0.40649
- Microsoft Visual C++ 2013 Redistributable (x86) 12.0.40649
- Microsoft Visual C++ 2015 Redistributable (x64) 14.0.23026
- Microsoft Visual C++ 2015 Redistributable (x86) 14.0.23026

In addition, the following installers are automatically installed during the Tekla Structures software installation:

- Tsep File Dispatcher Launcher

- Tekla Warehouse Service

These installers are needed to get Tekla Warehouse to work properly.

Tekla Warehouse offline content is available online. To find this content in Tekla Warehouse, search for **Catalogs** and under **Show**, select **Collections**.

Recommended hardware is described in .

See also

Install Tekla Structures (page 17)

Tekla Structures installation folders

Tekla Structures software and environments are installed into different folder locations by default. You can select the Tekla Structures software installation folder in the software installation wizard. The location of the environment installation folder depends on where you have installed the software. You cannot select the installation folder for the environments in the environment installation wizard.

By default, the software and environments are installed in the following folders:

- Software is installed under the `\Program Files\Tekla Structures\<version>\` folder.
- Environments and extensions are installed under the `\ProgramData\Trimble\Tekla Structures\<version>` folder.
- User settings are installed under the `\Users\<username>\AppData\Local\Trimble\Tekla Structures\<version>` folder.

If you install Tekla Structures software under `C:\`, the software and the environments are both installed under `C:\Tekla Structures\<version>`. User settings are installed under the `\Users\<username>\AppData\Local\Trimble\Tekla Structures\<version>` folder.

Tekla Warehouse content is installed under `C:\ProgramData\Tekla\Tekla Warehouse`.

When you install a new Tekla Structures version, make sure that the installation folder does not contain any files from other Tekla Structures versions. This is to ensure that you get all the files that are included in the installation package.

Note that when you are installing a service pack and you already have the related Tekla Structures version or a previous service pack installed, you cannot select the installation folder. The service pack will be installed to the same folder as the related Tekla Structures version or the service pack that you are updating. The installation folder will contain files from the related Tekla Structures version or the previous service pack. Installing the new

service pack will automatically remove the old files before copying the new files. Note that if you have your own files in the installation folder, these files will remain unchanged in the folder.

When you have installed the software and the environments, you can check the installation paths in Windows **Control Panel**.

NOTE If you need to install Tekla Structures to a folder that has a non-Unicode folder name, for example, in Chinese, Japanese, Korean, or Russian, change the language in XS_STD_LOCALE and the Windows system locale in Windows **Control Panel** to that same language so that Tekla Structures can work normally.

See also

Install Tekla Structures (page 17)

Install Tekla Structures

To use Tekla Structures, install the Tekla Structures software and the Tekla Structures environments that you want to use.

You also need to have the Tekla license server installed, either on your own computer or on another computer, and you need to activate your Tekla Structures license.

NOTE You need to be logged in with administrator rights to install the Tekla Structures software on your computer.

1. Install the Tekla Structures software.
   a. Download the installation file from Tekla Downloads to your computer.
   b. Double-click the installation file to run the installation.
   c. Follow the steps in the installation wizard to complete the installation.

      You can select the installation folder (page 16) and the model folder.
2. Install the Tekla Structures environments.

   Note that the location of the environment installation folder depends on where you have installed the software. You cannot select the environment installation folder in the installation wizard.
   a. Download the environment installation files from Tekla Downloads to your computer.

      Note that you can also later install as many environments as you want to a Tekla Structures version that you are using.
   b. Double-click the installation file to run the installation.

c. Follow the steps in the installation wizard to complete the installation.

   You can select in the installation wizard that the environment setting files (`.tsep`) are installed when running the environment installation wizard.

   If you do not select to do this, the environment setting files are installed to the environment folder when you start Tekla Structures after the installation. Tekla Structures opens a dialog box that shows the installation progress.

   If you are installing several environments for the first time, we recommend that you do not select to install the environment setting files (`.tsep`) when running the environment installation wizard. Some of the `.tsep` packages are used in more than one environment and the same version of a `.tsep` package is only installed once.

See also

Tekla Structures installation prerequisites (page 15)

Tekla Structures installation folders (page 16)

2.3 Taking Tekla Structures licenses into use

To take your Tekla license server into use, follow the workflow below:

1. Install Tekla license server (page 18)
2. Save your Tekla Structures license entitlement certificate (page 19)
3. Activate Tekla Structures licenses (page 20)
4. Connect Tekla Structures to the license server (page 20)

NOTE When you set up the Tekla licensing system, you may also need to configure the firewall settings to be able to connect Tekla Structures to the license server. For more information about configuring the firewall, see .

If you have problems, see for more information.

Install Tekla license server

Install the Tekla license server. This is phase 1 in the workflow Taking Tekla Structures licenses into use (page 18).

If you are using other FlexNet licensing services, you need to stop them before you install the Tekla license server. When you have completed installing the Tekla license server, you can restart the other licensing services.

To install the license server:

1. Go to Tekla Downloads and download the latest Tekla license server installation. To check the license server version to use, see Hardware recommendations for Tekla 2020 license server.
2. For standard setup, select the options **Automatic** and complete the installation.

   Tekla license server is installed.

   In automatic license server installation, the license server host name is automatically set to `27007@your_host_name`, where `27007` is the port and `your_host_name` is your computer name.

   Automatic installation is recommended. Use the **Manual** installation only if you are an advanced user of FlexNet or Flexlm licensing, and you need to change something in the default installation, for example, the TCP/IP port. For more information, see

Save your Tekla Structures license entitlement certificate

Save your license entitlement certificate. This is phase 2 in the workflow Taking Tekla Structures licenses into use (page 18).

As a preliminary action for transferring license rights from Trimble Solutions license activation server to your license server, you need to save the entitlement certificate, which is sent in an e-mail to the person in your organization who has made the license purchase, or to someone named as the contact person.

To save the license entitlement certificate:

1. In your e-mail application, open the e-mail containing the entitlement certificate.
2. Download the entitlement certificate file `EntitlementCertificate.html` to the `..\Tekla\License\Server` folder.

The entitlement certificate states the configurations, quantities and activation IDs of your Tekla Structures licenses. The entitlement certificates are not computer-specific. This means that you can activate licenses from several

entitlements on one license server and you can activate licenses from one entitlement (containing several licenses) on several license servers.

Activate Tekla Structures licenses

Activate your Tekla Structures licenses. This is phase 3 in the workflow Taking Tekla Structures licenses into use (page 18).

You need to activate the licenses on the license server to use Tekla Structures. When you activate the licenses and notify the server, the license rights are transferred from the activation server at Trimble Solutions to the license server. Use Tekla License Administration Tool for activating licenses.

NOTE Do no use the automatic license server notification functionality if you are using some other FlexNet license and license server administration tool, such as FlexNet Manager. To use manual notification, see .

To activate your licenses and notify the license server about license changes:

1. Go to **Tekla Licensing** --> **Tekla License Administration Tool** through the **Start** menu or **Start screen**, depending on your Windows operating system.
2. Enable the automatic license server notification functionality by clicking the **Notify Server** button.
3. You saved your entitlement certificate in the `..\Tekla\License\Server` folder, and the licenses should now be listed in the **Entitled Licenses** area. If they are not listed, click **Open**, select `EntitlementCertificate.html`, and click **Open** again.
4. Select the number of licenses to activate.
5. Click the **Activate** button.

   Your license server contacts the activation server at Trimble Solutions. The activated licenses are displayed under the **Activated Licenses** area.

Next, you need to connect Tekla Structures to the license server when you start Tekla Structures for the first time.

Connect Tekla Structures to the license server

Connect Tekla Structures to the license server. This is phase 4 in the workflow Taking Tekla Structures licenses into use (page 18).

If you installed the license server on the same computer with Tekla Structures and successfully activated your license, the license is reserved automatically

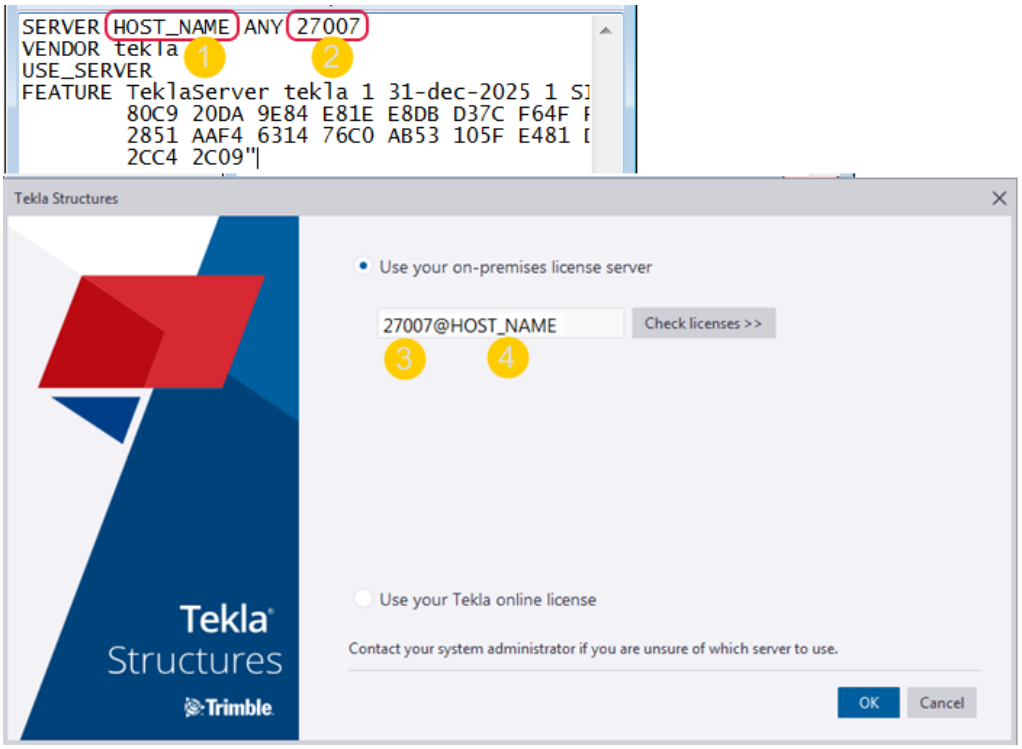
without any further action. The license server is always running in the background as a Windows service under the name Tekla Licensing Service.

If the license server is installed on a different computer, you must tell Tekla Structures the name of the license server computer in your internal network so that your computer can contact the license server computer.

To connect Tekla Structures to the license server when you start Tekla Structures for the first time:

1. Start Tekla Structures.
2. To connect Tekla Structures to the license server, enter the `port@hostname` information in the licensing dialog box, for example `27007@HOST_NAME`.

   The host name and port must correspond with the host name and port found in the `tekla.lic` file on the server computer located at `..\Tekla\License\Server`. The license server administrator informs users about the license server name and port number.



   1. host
   2. port

   If there is more than one license server available with activated licenses, you can define a primary and a secondary server in the licensing dialog box by separating the servers with a semicolon as follows: `27007@HOST_NAME_1;27007@HOST_NAME_2`

3. Click **OK** to start Tekla Structures.

2.4 Borrowing licenses for using Tekla Structures offline

You can borrow an activated license from the license server when you work offline and no license server is installed on your computer. The borrowed license is transferred from the license server to your computer, so it is not available for other users during the borrowing period.

To borrow licenses, follow the workflow below:

1. Install and set up Tekla License Borrow Tool for license borrowing (page 22)
2. Borrow a Tekla license (page 23)
3. Return a borrowed Tekla license (page 24)

Install and set up Tekla License Borrow Tool for license borrowing

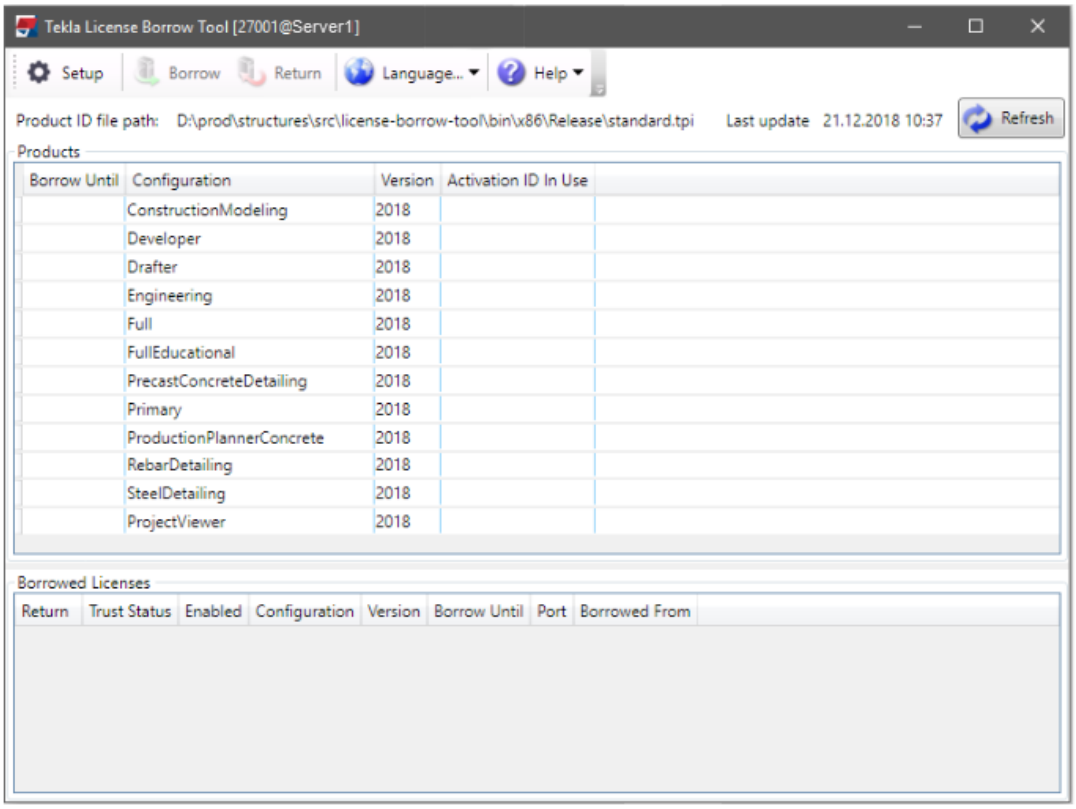
Set up Tekla License Borrow Tool: install Tekla License Borrow Tool, connect Tekla Structures to the license server, and open the product ID file containing all Tekla Structures configurations and their product IDs. You may use the default product ID file (`standard.tpi`) or ask your administrator to send you a new and customized product ID file that contains only the configurations that you are allowed to use. This is phase 1 of the workflow Borrowing licenses for using Tekla Structures offline (page 22).

To install and set up Tekla License Borrow Tool:

1. Download and install the latest Tekla License Borrow Tool from Tekla Downloads.
2. Go to **Tekla License Borrow** --> **Tekla License Borrow Tool** through the **Start** menu or **Start screen**, depending on your Windows operating system.
3. In the **Setup** dialog box, enter the port number and the hostname (computer name) of the license server in the **Server** box in the format `port@hostname`, for example, `27007@server_hostname`.

   You need to use exactly the same port and host name as in the licensing dialog box when starting Tekla Structures.
4. Still in the **Setup** dialog box, click **Browse** and select the product ID file.
5. Click **OK**.

   The **Products** area in the Tekla License Borrow Tool is updated. Now you can borrow licenses.



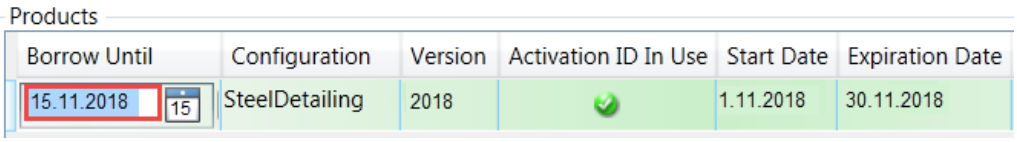
Borrow a Tekla license

Borrow a license from the Tekla license server. This is phase 2 of the workflow Borrowing licenses for using Tekla Structures offline (page 22).

To borrow a license from the license server:

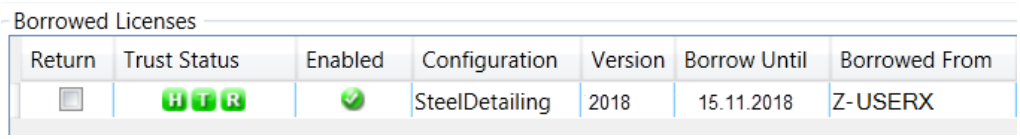
1. In Tekla License Borrow Tool, in the **Products** area, click the **Borrow Until** box and select the expiration date for the borrowing period from the calendar.

   The maximum borrowing period is one month.



2. Click the **Borrow** button.

The borrowing progress is displayed. After successful borrowing the **Borrowed Licenses** area shows the borrowed license.



3. Disconnect your computer from the license server and start Tekla Structures with the borrowed license to ensure that the borrowing succeeded.

Return a borrowed Tekla license

Return the borrowed license when you do not need to use it anymore. This is phase 3 of the workflow Borrowing licenses for using Tekla Structures offline (page 22).

A borrowed license is automatically available on the license server one day after the expiration date. However, you need to return the expired license to the license server to update the **Borrowed Licenses** area in Tekla License Borrow Tool. You can return a borrowed license any time.

To return a borrowed license:

1. Connect your computer to the network where you can connect to the license server.
2. Close Tekla Structures.
3. Go to **Tekla License Borrow** --> **Tekla License Borrow Tool** through the **Start** menu or **Start screen**, depending on your Windows operating system.
4. Select the **Return** check box in the **Borrowed Licenses** area to select the license to return.
5. Click the **Return** button at the top.

After successful returning, the **Borrowed Licenses** area is updated.

3 Start Tekla Structures

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

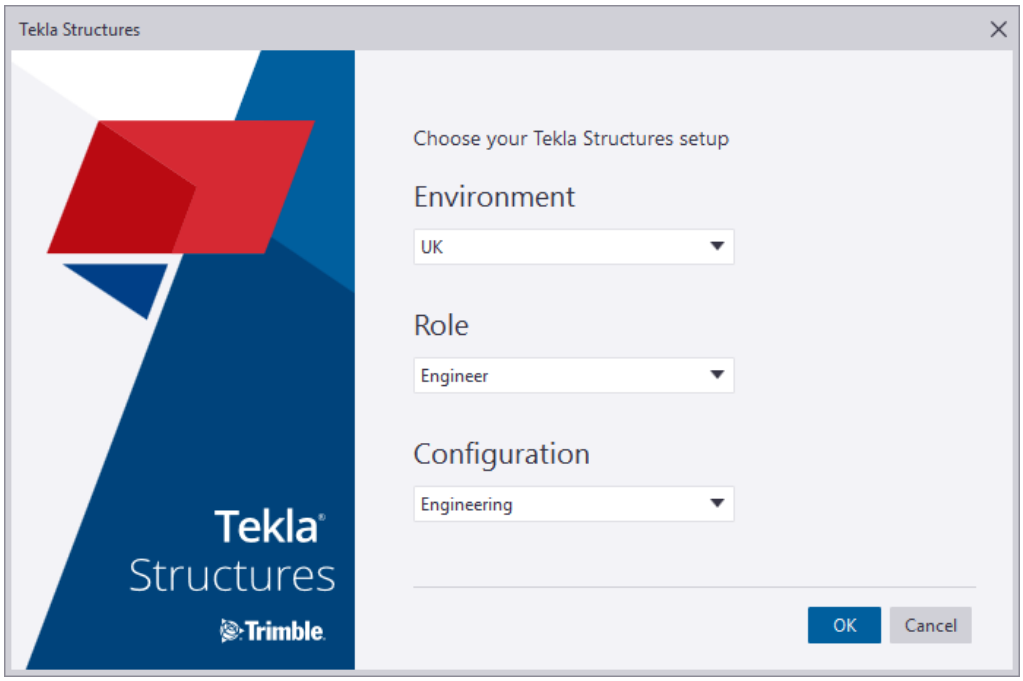
- *Environment* means region-specific settings and information. It defines, for example, which profiles, material grades, default values, drawing settings, component settings, reports, and templates are available and used for the specific region.
- *Role* is a user group profile that limits the availability 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. Each configuration is meant for a specific user group, to suit the various players in the construction industry.

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

3.1 Choose your Tekla Structures setup

1. Start Tekla Structures by selecting it from the Windows Start menu or by double-clicking the desktop icon.

A dialog box where you choose your Tekla Structures setup appears.



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

   If you cannot find the desired environment from the list, see Install Tekla Structures (page 17).

   You can also select blank project and use it as a basis for a customized environment.

3. Select a role.

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

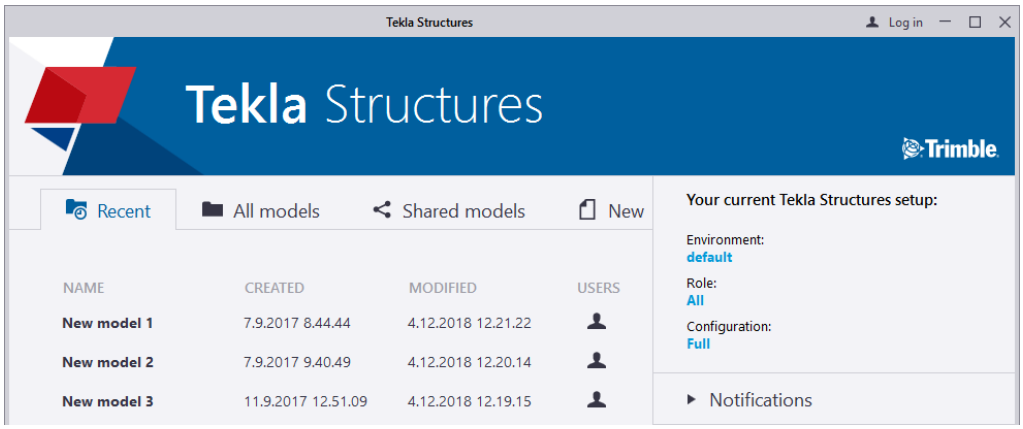
   - Concrete Contractor
   - Engineer
   - General Contractor
   - Precast Concrete Detailer
   - Production Planner - Concrete
   - Rebar Detailer
   - Steel Detailer

4. Select a configuration.

   The configuration you are using may 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).

5. Click **OK**.

Tekla Structures start screen appears.



6. Select what you want to do:
   - On the **Recent** tab, you can open a recently used model (page 31).

     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 32).

     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. Note that you need to be logged in with your Trimble Identity to be able to work with Tekla Model Sharing models.
   - On the **New** tab, you can create a new model (page 32).

3.2 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.

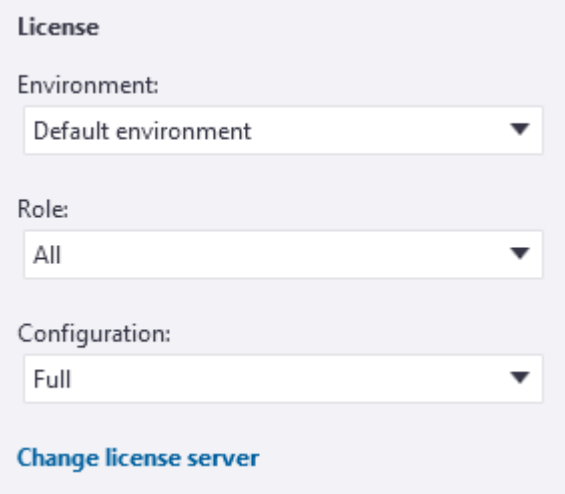
You can download and install content from Tekla Warehouse both before and during a project. Before starting a project, you can install content to your project and firm folders. During a project, you can install content to the model folder.

3.3 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 may be required to restart Tekla Structures after the changes.

3.4 Tekla Structures usage data

Tekla Structures collects anonymous 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.

Tekla Structures collects usage patterns and trends of how you use the commands and tools in the software. The program collects this information

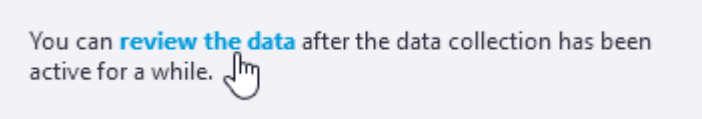
automatically while you use Tekla Structures. You can view the log file to check the collected data. Your privacy is always a priority - the information we collect is anonymous and it cannot be used to identify you, and your data is combined with other people's data to make statistical analysis.

1. On the Tekla Structures menu, click **Settings** and scroll down to the **Usage statistics** area.

   The data collection is on by default.

2. If you do not want Tekla Structures to collect the usage data, select the **Disable data collection** check box.

3. To check the data that has been collected, click the **review the data** link.

   Tekla Structures displays the `UserFeedbackLog.txt` file.

4. 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

5. To send feedback or questions about the data collecting, send e-mail to the address `tekla.usability@trimble.com`.

4 Work with 3D models

With Tekla Structures, you can create information-rich 3D models of all structures and materials. The model contains all the information that is needed to manufacture and construct the structure: part geometry and dimensions, profiles, materials, and so on.

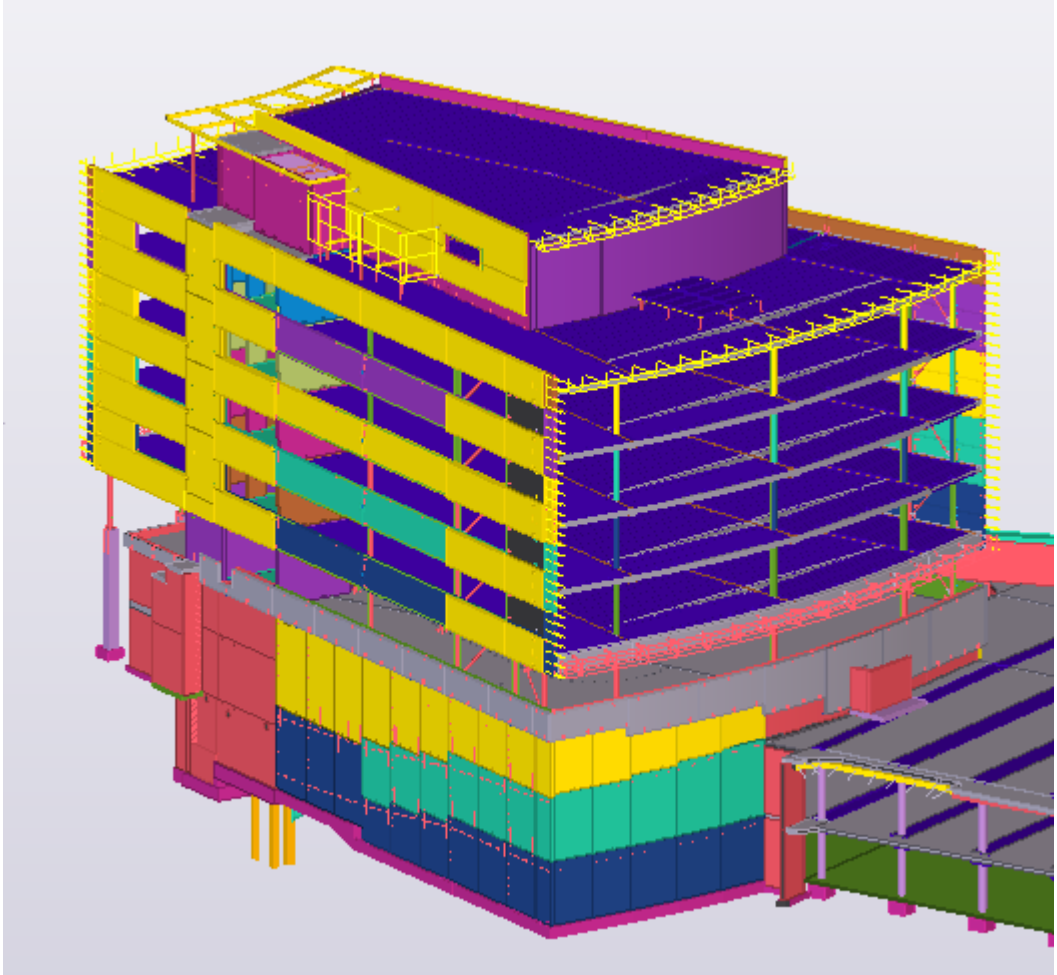
- Open a model (page 31)
- Create a new model (page 32)
- Save a model (page 37)

Model output

The 3D model is also the single source of information for drawings and other outputs, such as reports and NC data files. This ensures that the information in drawings and reports is always up to date, as they react to modifications in the model.

Collaboration

You can use the multi-user mode or Tekla Model Sharing to work collaboratively within a model.



4.1 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 34) 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

---

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 34) 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 a model that has been shared by using Tekla Model Sharing, you need to be logged in with your Trimble Identity.

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.

4.2 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.

   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 .
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 34)

Edit project properties (page 34)

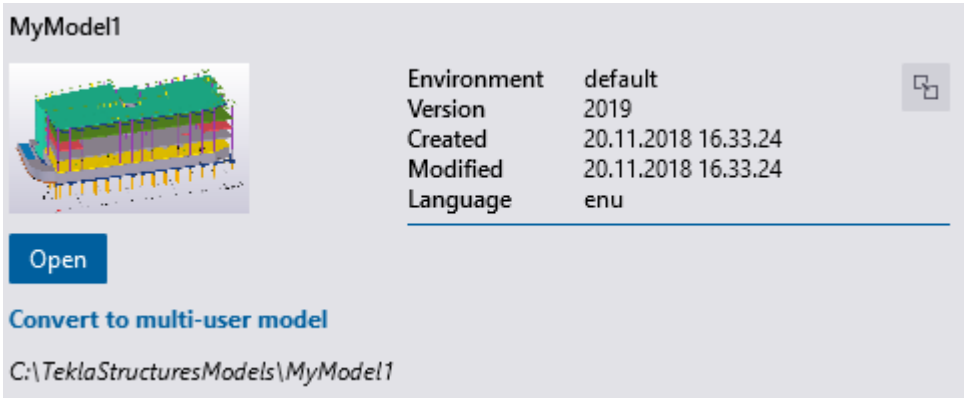
4.3 Create a thumbnail image of a model

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.

4.4 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:

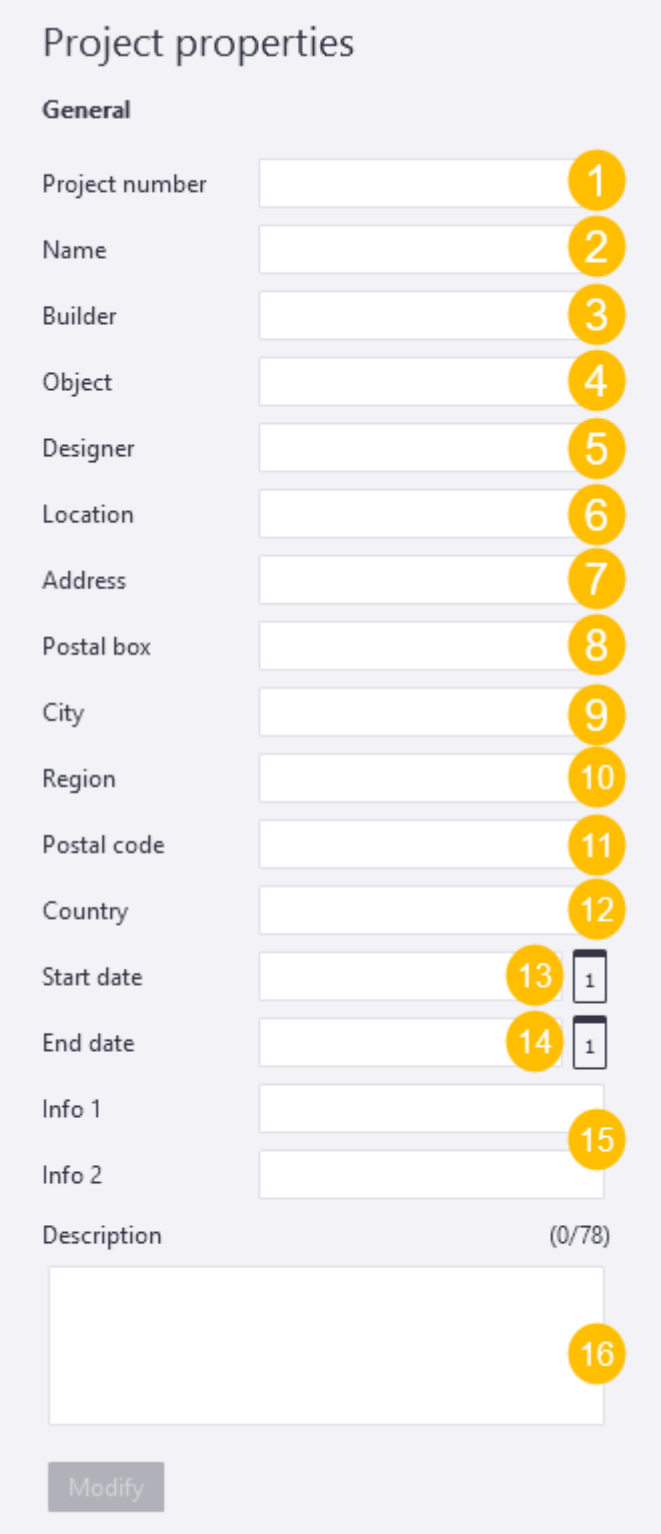
   - Project comment
   - User fields
   - Execution class
   - Classification system
   - IFC export attributes
   - GEO coordinates
   - Status attributes
   - Unitechnik factory location

   The availability of the various user-defined attributes depends on your environment (page 25), 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

4.5 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>`.

You can use the autosaved model if there are errors when trying to open a model (page 31). 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.

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, define how often Tekla Structures saves the model or drawing.

      This number represents the number of commands you will have to run before Tekla Structures saves the model or drawing. For example, if you create many steel beams without interrupting the **Create steel beam** command, it only counts as one command.

   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.

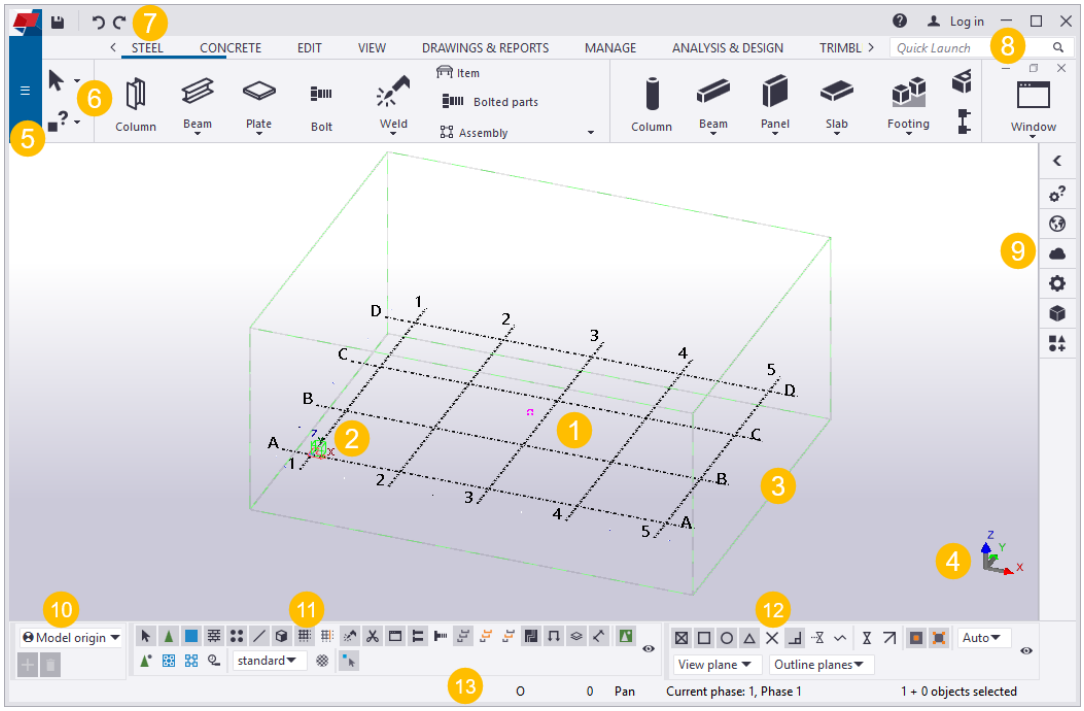
   By default, Tekla Structures stores the autosave files in the `..\TeklaStructuresModels\autosave` folder. To change the folder, use the advanced option XS_AUTOSAVE_DIRECTORY.

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.

5 Get familiar with the 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 37), 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 55) contains the **Save**, **Undo**, **Redo**, and **Undo history** shortcuts icons.

(8) If you cannot find the command or dialog box you are looking for, search with Quick Launch (page 44).

(9) Use the side pane (page 46) on the right side of the screen to view model objects properties, add reference models and components, attach point clouds, use custom inquiry, or to find direct access to Tekla Online services.

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

(11) The selection switches control which objects you can select.

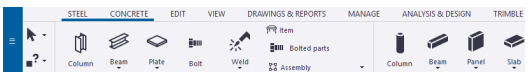
(12) The snap switches control which positions you can pick when creating objects.

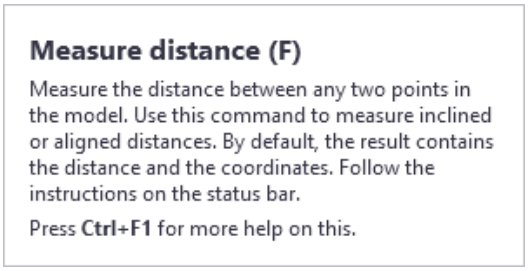
(13) When you create objects, the status bar (page 50) will tell you how to proceed and when to pick points.

5.1 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.

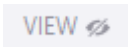
How to use commands on the ribbon

To	Do this
Find commands	Slide the ribbon right or left with your mouse, or scroll with your mouse wheel. 

To	Do this
	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: 
Find more help on the command	Press **Ctrl+F1** when a tooltip is open. To switch the tooltips on or off, click **File menu** --> **Settings** --> **Switches** , and then select or clear the **Tooltips** check box.
End command	Right-click and select **Interrupt**. You can also press **Esc**.
Re-activate the last command	Press **Enter**.

Change the appearance of the ribbon

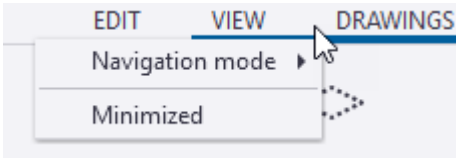
You can change the order of ribbon tabs, choose how they are aligned, and even hide some parts of the ribbon if you do not need them in your current project. For example, if you are only modeling steel parts, you can temporarily hide the **Concrete** tab.

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 • **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.

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

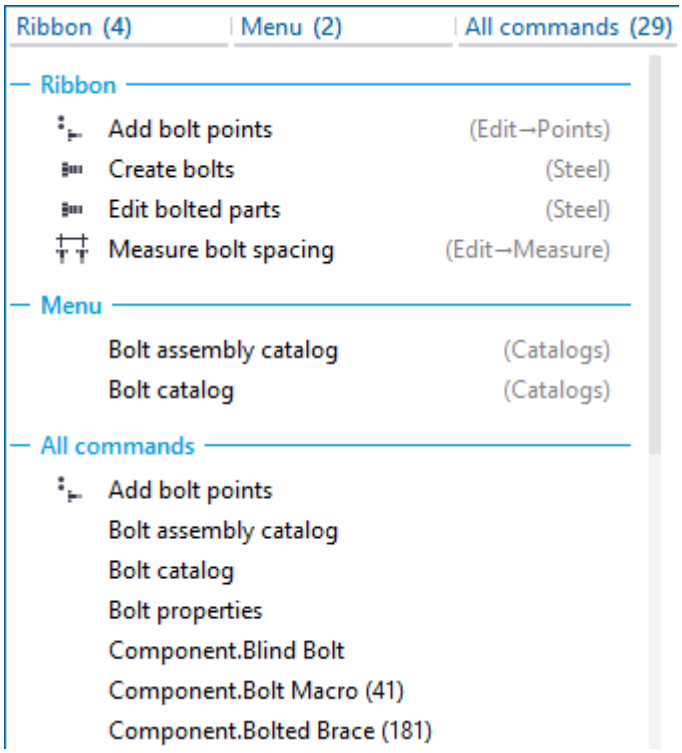
Use the **Quick Launch** box in the upper-right corner of the screen to find commands, dialog boxes, toolbars, and other functions. The shortcut key for **Quick Launch** is **Ctrl+Q**.

1. In the **Quick Launch** box 

, enter a search term.

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

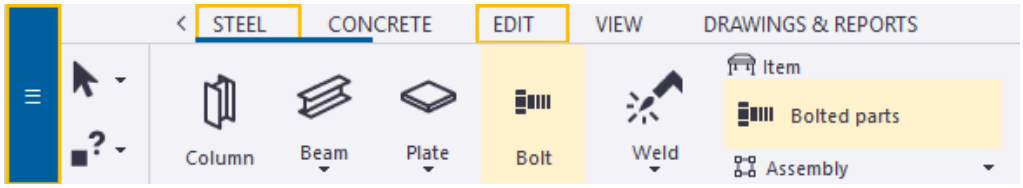
2. Wait for a list of search results to appear. For example:



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:

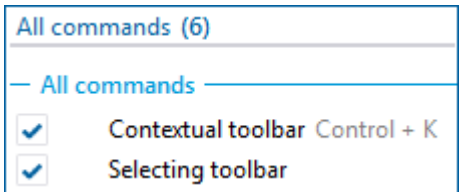


If the command you have searched is in the side pane, Tekla Structures opens the side pane window.

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 51) 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

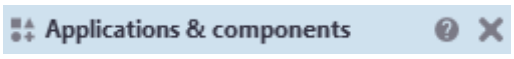
How to use the ribbon and the commands on the ribbon (page 41)

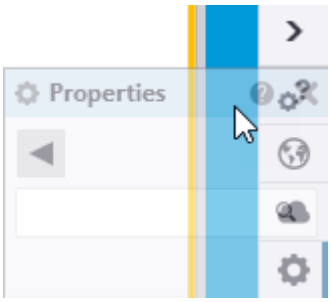
How to use the side pane (page 46)

5.3 How to use the side pane

Use the side pane on the right side of the screen, for example, to view model 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 find shortcut access to the different Tekla Online services. • Click  to attach point clouds to a model. • Click  to show the properties of model 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  .

To	Do this
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. • 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	Do this
	• 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.

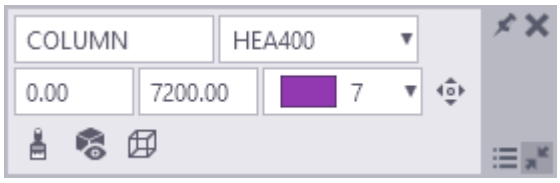
TIP Sometimes a side pane window opens on a second display that is not connected to your computer at the moment. To return the side pane window to the main display, right-click the side pane button and select **Attach to side pane**.

See also

Get familiar with the user interface (page 40)

5.4 How to use 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.

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.

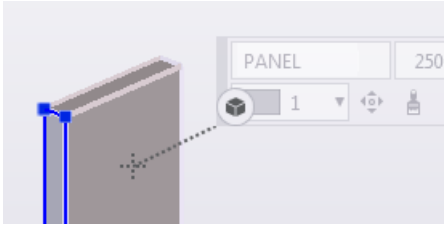
   Alternatively, use the keyboard shortcut **Ctrl+K** to show or hide the contextual toolbar.

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.

5.5 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 51)

5.6 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.

Alternatively, you can use Quick Launch (page 44) 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 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.

Option	Description
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.
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 shortcut 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. 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.

Option	Description
DirectX rendering	Switch between the OpenGL rendering and DirectX rendering. When the option is **on**, the DirectX rendering is used. When the option is **off**, the OpenGL rendering is used.
Tooltips	Show or hide the tooltips (page 41). 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 drawings:

Option	Description
Printer line widths	Show the lines in color drawings with thickness defined on the screen. When the option is **on**, the lines in color drawings are shown with defined thickness. When the option is **off**, the lines in color drawings are shown with default thickness.
Printer line colors	Show line colors in the drawing.
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.

Option	Description
	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. When the option is **on**, associativity symbols are shown. When the option is **off**, associativity symbols are not shown.
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**, drag-and-drop cannot be used.

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 (page 48)

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

5.7 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 37) changes to the current model file.
	Undo the last action.
	Redo the actions previously undone.
	Open the Undo history 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.
	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

Get familiar with the user interface (page 40)

5.8 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.

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**

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**
Rotate using mouse	**Ctrl+R**
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**
End detail modifier visibility	**Alt+5**
Rebar dimension visibility	**Alt+6**
Color rebar groups	**Alt+7**

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**

Command	Keyboard shortcut
In **Document manager**: Open user-defined attributes	**Alt+U**
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**

5.9 How to use dialog boxes

You can use dialog boxes to view and modify the properties of various objects in Tekla Structures. Typically dialog boxes open when you double-click an object in the model or in the drawing.

NOTE Model object properties, such as part properties, are modified with the property pane, 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
	Saves the properties and closes the dialog box. Tekla Structures uses these properties the next time you create an object of this type.
	Saves the properties without closing the dialog box. Tekla Structures uses these properties the next time you create an object of this type.
	Modifies the selected objects using the current properties of the dialog box.

Button	Description
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.

Modify object properties by using dialog boxes

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 part marks to share the same name but do not want to change any of their other individual properties, ensure that only the **Name** check box 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.

5.10 Change the language

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.

5.11 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.

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.
- 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** .

   If you are having problems in opening Tekla Structures, you can use the **Start** menu/**Start screen** to start the Support tool. The command to use is **Support tool**.

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.
   - 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.
   - To add crash dumps, click **Add crash dumps**.
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.

7 Disclaimer

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