Tekla Structures 2016

Tekla Structures system

April 2016

Contents

1 Files and folders in Tekla Structures

Sometimes you need to know where Tekla Structures stores information, and the types of files that Tekla Structures contains, where the files are located, and how the files should be should be used.

Tekla Structures contains a large amount of files that affect the way the software works. It is important to know which file controls which functionality, and also which files we do not recommend that you touch.

The initialization file reading order is also very important. You need to know the order in which the files are read when you open Tekla Structures, so that you do not modify the files unnecessarily.

See also

1.1 Initialization files (.ini files)

Initialization files are used for defining Tekla Structures start-up parameters and default settings. They contain advanced options that are used for configuring Tekla Structures for different standards, and for your or your company's style of working.

Tekla Structures automatically creates the necessary initialization files (page 6) during installation. The number of initialization files it creates depends on how many Tekla Structures environments you have installed.

See also

Global default environment settings - env_global_default.ini (page 11)

Local environment settings - env_<environment>.ini (page 11)

Role settings - role_<role>.ini (page 11)

Typical initialization files (.ini files) and their reading order

Below is a list of all the typical initialization files that are read when Tekla Structures is started. The numbers indicate their reading order at startup. If there are conflicting settings, the ones read later override the ones read earlier.

WARNING	Changing an advanced option value in `.ini` files located outside the model folder does not affect the existing models. You can only update advanced options in the **Advanced Options** dialog box or in the `options.ini` file located in model folder; not from an `options.ini` file located in folders defined for the advanced options XS_FIRM or XS_PROJECT. The `.ini` files are read also when you open an existing model, but only new advanced options that do not exist in `options_model.db` or `options_drawings.db` are inserted, for example, such options that are not yet in the **Advanced Options** dialog box but have been added in the software.

To check the files that have been read and their reading order, go to **File menu** --> **Logs** --> **Session history log** .

File and reading order	Description
1. `fonts_<lang>.ini`	This file is optional, and it is only needed for languages using special characters. One example is the `fonts_jpn.ini` file for the Japanese language.
	This file is read from `Tekla Structures\<version>\nt\bin\` if it is available. It is installed to the `..\nt\bin` folder when Tekla Structures is installed.
	NOTE: Do not change these settings.
2. `teklastructures.ini`	The file `teklastructures.ini` starts Tekla Structures. It is read from `..\Program Files\Tekla Structures\<version>\nt\bin\`.
	This file contains basic system settings, such as the location of software and environment files. This file is installed to the `..\nt\bin` folder when Tekla Structures is installed. It is always read at Tekla Structures startup.
	NOTE: Do not change these settings.
3. `lang_<lang>.ini`	This file contains the language settings. It is read from `..\Program Files\Tekla Structures \<version>\nt\bin\`.
	This file is installed to the `..\nt\bin` folder when Tekla Structures is installed.
	Which `lang_<lang>.ini` files exist in the `..\nt\bin` folder depends on which languages you have selected to install during the software installation.
	The language that is read depends on the language you have selected in **File menu** --> **Settings** --> **Change language** in the previous Tekla Structures session.
	NOTE: Do not change these settings.

File and reading order	Description
4. `env_global_default.ini`	This file is used as a default for all environments and contains the global settings. The settings in the `env_global_default.ini` file provide the basics for all environment settings globally. The settings in this file can be localized and specified differently in an environment-specific initialization file that is read later than this file.
	This file is always read at Tekla Structures startup from `..\ProgramData\Tekla Structures\<version>\environments\common\` and is installed there from the common environment installation package.
	NOTE: Do not change these settings.
5. `env_<environment>.ini`	The `env_<environment>.ini` files contain all the advanced options that have environment-specific settings. They are read from `..\ProgramData\Tekla Structures\<version>\environments\<environment>\`.
	The `env_<environment>.ini` files that exist on your computer depends on which environment packages you have installed. Which `env_<environment>.ini` file is read depends on the environment that you select in the Tekla Structures startup dialog box.
	For example, this file defines that the US imperial environment uses imperial units, shows the fractions correctly, and understands input as imperial. In metric environments metric units are used.
	NOTE: Do not change these settings.
6. `role_<role>.ini`	The `role_<role>.ini` files contain all the advanced options that have typical role-specific settings. They are read from `..\ProgramData\Tekla`

File and reading order	Description
	`Structures\<version>` `\environments\<environment>\.`
	The available roles depend on the environments you have installed.
	You can select the role in the Tekla Structures startup dialog box.
	NOTE: Do not change these settings.
7. All `.ini` files defined in shortcut/command line with `-i <name>.ini`	Usually none.
8. `company.ini`	The `company.ini` file is useful especially for big companies that want to unify certain enterprise-level settings. This file is read from a folder specified with the advanced option XS_COMPANY_SETTINGS_DIRECTORY. This file is read only if the advanced option `XS_COMPANY_SETTINGS_DIRECTORY` is set. This file is created by the system administrator when necessary, it is not created by the installation.
9. `user.ini`	The `user.ini` file is where you can save your personal user settings. This file is located in the same location as the user-specific `options.bin` file, for example, `C:\Users\<user>\AppData\Local\Tekla Structures\<version>\UserSettings`. The `user.ini` is created in the above mentioned location when you start Tekla Structures for the first time and create and save a model using the current version. It is read when you start Tekla Structures. The changes you make in the advanced options in the **Advanced Options** dialog box override the settings in all other initialization files, if the advanced option exists in both locations.

File and reading order	Description
	If `user.ini` has system options they are read always when Tekla Structures is opened.
	If `user.ini` has model-specific options they are used when new model is created.
	If `user.ini` has user-specific options they are used when Tekla Structures is used for the first time.
10. `options.ini` in system folder	The folder is specified with the advanced option XS_SYSTEM.
11. `options.ini`, firm-specific, if any exist **12.** `options.ini`, project-specific, if any exist	The `option.ini` files containing firm- or project-specific model settings are saved in and read from user-defined locations specified with the advanced options XS_FIRM and XS_PROJECT. They work in the specified way for the firm in question, or for the specified project if the model has been set up to read settings from these locations, and if the user has manually moved the `options.ini` file to these locations. An `options.ini` is created in the firm or project folder when you copy or move it there.
	Updating of model-specific and user-specific advanced options can only be done from the **Advanced Options** dialog box or `options.ini` located in model folder, not from the firm- or project-specific `options.ini` files.
	The `options.ini` in the firm or project folder is read when you start Tekla Structures or open the model.
13. `options.ini`, model-specific	The `options.ini` in the model folder.

See also

Global default environment settings - env_global_default.ini

The `env_global_default.ini` file defines the global defaults for advanced options. The file is read from `..\ProgramData\Tekla Structures \<version>\environments\common\`.

WARNING Do not modify the `env_global_default.ini` file. If you need to modify some environment settings, copy the needed advanced options from this file to your user.ini (page 12) file and modify the settings there, or modify the settings in the **Advanced Options** dialog box.

For advanced options that are set according to your local standards, see the environment settings file env_<environment name>.ini (page 11) and the role settings file role_<role name>.ini (page 11). The local files override the advanced options set in `env_global_default.ini`.

If the advanced option in the `env_global_default.ini` file is preceded by `rem`, the software defaults are used and shown as the value. The outdated advanced options are listed at the end of the file.

See also

Typical initialization files (.ini files) and their reading order (page 6)

Local environment settings - env_<environment>.ini

The `env_<environment>.ini` file contains advanced options that are set according to local standards and are different from the global defaults. The file is read from `..\ProgramData\Tekla Structures\<version> \environments\<environment>\`.

WARNING Do not modify the `env_<environment>.ini` file. If you need to modify some settings, copy the needed advanced options from this file to your user.ini (page 12) file and modify the settings there, or modify the settings in the **Advanced Options** dialog box.

The global default environment settings file env_global_default.ini (page 11) contains a complete listing of advanced options. The local files override the advanced options set in `env_global_default.ini`.

See also

Typical initialization files (.ini files) and their reading order (page 6)

Role settings - role_<role>.ini

The `role_<role>.ini` files contain all the advanced options that have typical role-specific settings. The file is read from `..\ProgramData\Tekla Structures\<version>\environments\<environment>\`.

WARNING Do not modify the `role_<role>.ini` file. If you need to modify some settings, copy the needed advanced options from this file to your user.ini (page 12) file and modify the settings there, or modify the settings in the **Advanced Options** dialog box.

The `role_<role>.ini` file contains advanced options that are set according to typical role requirements in your local area. These settings are different from your environment settings in env_<environment name>.ini (page 11). The global default environment settings file env_global_default.ini (page 11) contains a complete listing of advanced options. The advanced option settings in `role_<role>.ini` override the ones in `env_<environment>.ini`

See also

Typical initialization files (.ini files) and their reading order (page 6)

Add an advanced option to the user.ini file

You can save your personal user settings to the `user.ini` file. The `user.ini` file is located in the same location as the user-specific `options.bin` file, for example, `..\Users\<user>\AppData\Local\Tekla Structures \<version>\UserSettings`.

NOTE We recommend that you add only system-specific (page 33) advanced options to the `user.ini` file. You can also add model-specific (page 33) advanced options, but the model-specific advanced options only affect new models that you create. Adding user-specific advanced options in `user.ini` may not work as desired as `options.bin` is loaded after `user.ini` and may override the value.

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1. Right-click the `user.ini` file in Windows Explorer and select **Open with**. Select a standard text editor from the list of available programs.

2. On a new line, enter `set`, then a space, then the name of the advanced option followed by an equal sign, and then the value in a single line.

    Tekla Structures only reads lines in the initialization file that start with `set`.

3. Save `user.ini`.

4. Restart Tekla Structures for the changes to take effect.

Possible values	Example

TRUE
 	
FALSE
	`set XS_DISABLE_WELD_PREP_SOLID=TRUE`
	
	`set XS_UNDERLINE_AFTER_POSITION_NUMBER_IN_HARDSTAMP=FALSE`

1	`set XS_SINGLE_CLOSE_DIMENSIONS=1`
0	`set XS_SINGLE_USE_WORKING_POINTS=0`
string value	`set XS_USER_DEFINED_BOLT_SYMBOL_TABLE=bolt_symbol_table.txt`
switches	`set XS_ASSEMBLY_FAMILY_POSITION_NUMBER_FORMAT_STRING=%%TPL:PROJECT.NUMBER%%` Use two switches.

TIP When you are moving to a new version of Tekla Structures, you can use the Migration Wizard to automatically copy your `user.ini` file to the new version. The Migration Wizard appears once you start Tekla Structures for the first time after installation.

See also

Create startup shortcuts with customized initializations

You can use shortcuts for starting `teklastructures.exe` with initializations that you have customized, for example, for certain customers or projects. The Tekla Structures installation automatically creates shortcuts for the selected environments.

We recommend that only administrators create the customization and the necessary shortcuts. Otherwise, your settings may differ from the settings defined for your firm, or for the particular project you are working for.

1. Open the `user.ini` file using any standard text editor.

2. Save the file with a new name, for example, `customer.ini` or `project.ini`.

3. Modify the file by adding the required settings.

4. Save the modified initialization file.

5. Open the Windows **Start** menu and select **All Programs** --> **Tekla Structures <version>** .

6. Right-click **Tekla Structures <version>** and select **Copy**.

7. Paste the shortcut to your desktop.

8. Select the shortcut, right-click and select **Properties**.

9. Modify the **Target** of the shortcut by adding the required project initialization information to it.

    First enter the path to the current `teklastructures.exe`, then the desired parameters. In the following example, the name of the customized initialization file is `project1.ini`.

    The quotation marks (") in the path are there to avoid possible problems if the path contains spaces. If you have installed Tekla Structures to a path that does not contain spaces, there will be no problems even if you remove the quotations marks, for example, `C:\TeklaStructures\`. If you have installed Tekla Structures to a path that contains spaces, the quotation marks are needed, for example, `C:\Program Files\Tekla Structures\`.

Target type:	Application
Target location:	bin
Target:	`eklaStructures.exe" -i "C:\MyProject\project1.ini"`
Start in:	C:\Program Files\Tekla Structures\2016\nt\bin\"
Shortcut key:	None
Run:	Normal window
Comment:	
	Open File Location Change Icon... Advanced...
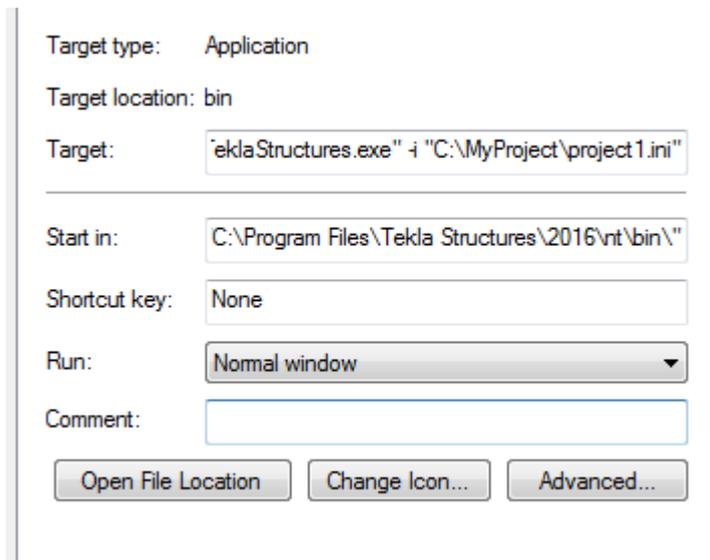
    You can use the following parameters in shortcuts:

    - `-i <initialization_file>`: The initialization file to be read during startup after the `<role>.ini` file, for example, `-i \\MyServer\MyProject\project1.ini`. You can repeat this parameter as many times as you need, and this way enter as many initialization files you need.

    - `<model_to_be_opened>`: Full path to the model to be opened automatically, for example, `"C:\TeklaStructuresModels\New model 1"`.

The settings in `user.ini` and `option.ini` files override the settings defined in the shortcuts using the parameter `-i <initialization_file>`.

The maximum length of a shortcut is 256 characters. If you have problems with the length, you can call all other necessary initialization files from your customized initialization file instead of adding them to the shortcut.

See also

Initialization files included in customized initialization files (page 15)

Typical initialization files (.ini files) and their reading order (page 6)

Initialization files included in customized initialization files

Initialization files can include or call other initialization files. You can use this functionality to create shortcuts for different purposes, for example, to have customized setup files depending on the client you are working for in a project such as fabricators.

Below is an example of a customized project initialization file that calls other initialization files.

`MyProject.ini`

```
// The project is based on the default US imperial settings
call c:\ProgramData\Tekla Structures\19.0\environments\usimp\env_usimp.ini
// ..but our company policy requires these changes
call c:\CompanySettings\OurPolicy.ini
// ..and the fabricator requires something
call c:\Fabricators\Fabricator1.ini
// ..and then we let users to make some changes (bg color etc.)
call c:\Users\user_%USERNAME%.ini
```

The project shortcut for `MyProject`:

```
C:\Program Files\Tekla Structures\21.0\nt\bin
\TeklaStructures.exe -i \\MyServer\MyProject\MyProject.ini \
\MyServer\MyProject\MyModel\MyModel.db1
```

See also

Create startup shortcuts with customized initializations (page 13)

1.2 File storing options and advanced options

WARNING Changing an advanced option value in `.ini` files located outside the model folder does not affect the existing models. You can

only update advanced options in the **Advanced Options** dialog box or in the `options.ini` file located in model folder; not from an `options.ini` file located in folders defined for the advanced options XS_FIRM or XS_PROJECT. The `.ini` files are read also when you open an existing model, but only new advanced options that do not exist in `options_model.db` or `options_drawings.db` are inserted, for example, such options that are not yet in the **Advanced Options** dialog box but have been added in the software.

What happens at model creation

When a new model is created, Tekla Structures reads model-specific option and advanced option values from the `standard.opt` file, and from the `.ini` files in a certain reading order (page 6), and creates the databases `options_model.db` and `options_drawings.db`, and the `options.ini` file under the model folder.

Changing a model-specific options or advanced options

- When you change a model-specific (page 33) option or advanced option and press **OK** or **Apply** in the **Options** or **Advanced Options** dialog box, the settings are taken into use (otherwise you will get a warning message).

- The updated model-specific option or advanced option settings are saved in `options_model.db` and `options_drawings.db` under model folder when the model is saved.

- In addition, there are also some special model-specific advanced options that can be updated from the `options.ini` file located in the model folder, for example, new advanced options that are not yet in the **Advanced Options** dialog box.

- You can change model-specific advanced options only in the **Advanced Options** dialog box or in the `options.ini` file that is located in model folder.

- You can change model-specific options only in the **Options** dialog box manually or by loading `standard.opt` file values in the dialog box.

Changing a user-specific options or advanced options

- When you change a user-specific (page 33) option or advanced option, and press **OK** or **Apply** in the **Options** or **Advanced Options** dialog box, the settings are saved in `options.bin` in `..\Users\<user>\AppData\Local\Tekla Structures\<version>\UserSettings`.

- You can change user-specific advanced options only in the **Advanced Options** dialog box.

- You can change user-specific options only in the **Options** dialog box manually or by loading `standard.opt` file values in the dialog box.

Saving customized settings in the Options dialog box

- You can save your own model-specific settings in the Options dialog box (page 17) by using the **Save** button. Then the `standard.opt` file is saved in the `\attributes` folder under the model folder.

Creating a list of advanced options and their values

- You can create a complete list of advanced options in a text file by clicking **Write to file** in the **Advanced Options** dialog box. The list shows the name of the advanced option, current value and type.

For more information about the `standard.opt` file, see Standard.opt settings

Settings in the Options dialog box

The **Options** dialog box (**File menu** > **Settings** > **Options**) contains the current values for a number of Tekla Structures settings.

Check the settings before you start modeling and change them, if necessary.

The model-specific (page 33) settings in this dialog box are saved in the `options_model.db` and `options_drawings.db` databases in the model folder, and the user-specific (page 33) settings in `options.bin` in your local `<user>` folder. Changing user- or model-specific options in the **Options** dialog box does not require Tekla Structures restart.

You can also save your own settings by using the **Save** button. Then the `standard.opt` file is saved in the `\attributes` folder under model folder. You may want to copy this file to your firm folder. When you create a model, the `standard.opt` is read from the firm folder.

The options in the **Options** dialog box are described below.

Clash check settings

NOTE: Settings on this page are model specific. Changing the settings does not require Tekla Structures restart.

For more information about clash check, see Detect clashes.

Option	Description
Clash check between bolt and bolted part	Defines whether the model is checked for clashes that occur between bolts and the related bolted parts.
	If you select **Yes**, Tekla Structures will check the bolts against the real geometry of the bolted part profiles including roundings, and using the real bolt dimensions.

Option	Description
	Defines the clash check clearance area for bolts. If you do not enter a value, Tekla Structures uses the default value `1.00`. If you clear the check boxes, the clearance will be zero.
Reinforcing bar clearance (negative value to allow overlap) 	Defines the minimum clearance or the allowed overlap for reinforcing bars when they are checked against other reinforcing bars. To allow reinforcing bars to overlap, enter a negative value. If you clear the check box, the clearance will be zero.
Reinforcing bar cover thickness 	Defines the reinforcing bar cover thickness. Tekla Structures checks the cover thickness against the part that the reinforcing bar belongs to. Tekla Structures only checks the distance from bar side to part surface. Tekla Structures does not check the distance from bar end to part surface. If the bar penetrates a part surface, a clash is reported, even if the bar is completely inside a cast unit or pour. If you clear the check box, Tekla Structures will not check the cover thickness.
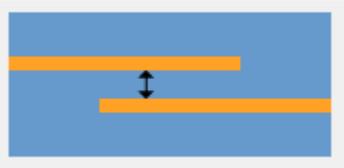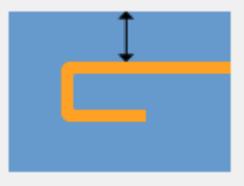
Components settings

Tekla Structures uses the information on the **Components** tab when it creates parts using components.

Component properties defined in component dialog boxes override these settings. Tekla Structures only uses these settings if the corresponding boxes in the component dialog boxes are empty.

If you change settings here, Tekla Structures only applies the new settings to components you subsequently create. Components you created prior to changing the preferences are not affected.

NOTE: Settings on this page are model specific. Changing the settings does not require Tekla Structures restart.

Option	Description
Profile names	Defines parametric profile prefixes for plates. It is important that profile names are set up correctly so that you can use filters and wizards effectively.
	Profile names must exist in the profile catalog. If you want to use a parametric profile that does not have a name in the catalog, first add it to the **Profile Catalog**, then enter it here. Tekla Structures uses the **Folded plate** prefix when you use the folded plates in components.
Bolts	In components, Tekla Structures uses **Factor of bolt edge distance** and **Compare edge distance to** to check that the bolts it creates are not too close to the edge of a part, and warns you if they are. Check that **Factor of bolt edge distance** is set according to the standard you are using. The default edge distance setting depends on your environment.
	Compare edge distance defines whether the edge distance checks are based on bolt or hole diameter.
	To define the default bolt properties to use in connections, select a **Bolt standard** and **Bolt size**.
Parts	**Part material** defines the default part material grade.
	Part start numbers defines start numbers for parts that are **Welded to primary** and **Welded to secondary**, **Loose parts**, and **Assembly loose parts**.
	Cross-check these settings against the numbering series you define to make sure they do not overlap. If they overlap, Tekla Structures may create two non-identical parts with the same

Option	Description
	part number. This generates an error in the log file `numbering.history`.

Drawing dimensions settings

NOTE: Settings on this page are model specific. Changing the settings does not require Tekla Structures restart.

Option	Description
Exaggeration	This setting defines the default values for **Exaggeration limit** and **Exaggeration scaling**. When you enable the exaggeration of the dimensions, a drawing dimension that is narrower than the defined limit is expanded. **Exaggeration limit** defines the default value for this limit. **Exaggeration scaling** defines whether you are using **Paper** or **Model** as the exaggeration scaling method: • If you select **Paper**, the exaggeration limit is multiplied by the view scale. • If you select **Model**, and the scale is 1:10, all the dimensions smaller than 10 mm are exaggerated regardless of the drawing scale.
Absolute dimensions	**Show zero in absolute dimensions** --> **Yes** shows zero at the zero points in absolute dimensions. **Draw absolute dimension values parallel to dimension line** --> **Yes** shows dimensions parallel to dimension lines in absolute dimensions.
Dimensions in tags	**Units**, **Format** and **Precision** define the default unit, format and precision used in dimension tags. Available units: mm, cm, m, foot - inch, cm / m, inch, feet.

Option	Description
	Available formats: ###, ###[.#], ###.#, ###[.##], ###.##, ###[.###], ###.###, ### #/# and ##$^{\#}$/##.##$^{\#}$.
	Available precision: 0.00, 0.50, 0.33, 0.25, 1/8, 1/16, 1/32, 1/10, 1/100, 1/1000
	Show dimension in middle tag of automatic dimension defines whether you want to create dual dimension tags in assembly, single-part, cast unit, or general arrangement drawings.
	When Tekla Structures creates the drawing, it adds the lower dimension tag in the selected unit, format and precision.
Add mark to reinforcement	**Dimension Marks settings** and **Tagged Dimension Mark settings** define the predefined property files used for dimension marks and tagged dimension marks files.
	Using the option **Dimension line settings** you can save the dimension properties file in the **Dimension Properties** dialog box and take it into use in rebar dimensioning.
Dimension line	**Dimension line extension length for line arrow** defines the length of the line extension for dimensions that have line arrows.
	Note that line extensions are not applied to dimensions that have different arrows from line arrows, and certain knock-off dimension types.
	For the option **Tapered skewed reinforcement group**, you can select skewed or horizontal presentation.

Option	Description
	Below is an example of tapered skewed reinforcement group dimensions that are shown skewed:
	For the option **Tapered curved reinforcement group** you can select, curved or horizontal presentation.
	Below is an example of tapered curved reinforcement group dimensions that are shown curved:

For more information about dimensions, see:

Automatic dimension settings

Automatic view-level dimensions

Add dual dimensions manually

Add predefined reinforcement dimensions

Create exaggerated dimensions.

Add tags to dimensions

Drawing objects settings

NOTE: Settings on this page are model specific. Changing the settings does not require Tekla Structures restart.

Option	Description
Edge chamfer	**Line color** defines the default line color of the edge chamfers in drawings.
	Line type defines the default line type of the edge chamfers in drawings.
	These values are overridden by the values set in the **Edge Chamfer Properties** dialog box.
	For more information about edge chamfers, see Edge chamfers in drawings

General settings

NOTE: On this page, **Autosave** settings are user specific. All other settings are model specific. Changing the settings does not require Tekla Structures restart.

Option	Description
Hidden lines	These options are no longer used. Use Display settings instead.
Autosave	**Autosave interval: Autosave after every xx modeling or editing commands** defines how often Tekla Structures automatically saves a model and a drawing.
	This number represents the number of commands you have given. For example, if you create many objects without interrupting (**Esc**), it counts as one command.
	Autosave after creating every xx drawings defines the number of drawings after which Tekla Structures automatically saves your work.
	For more information, see:

Option	Description
	Save a model
	Autosaving in multi-user mode
Default adaptivity	**Off** means that adaptivity is not defined.
	Relative defines that handles retain their relative distances to the nearest part faces in relation to the part's overall size.
	Fixed defines that handles retain their absolute distances to the nearest part faces.
	You can also modify the adaptivity settings for each part separately. These modifications override the default settings in the **Options** dialog box.
	For more information about reinforcement and adaptivity, see Use adaptivity to modify a reinforcement

Load modeling settings

Use the settings on the tabs of this page to define the building code and safety factors Tekla Structures uses in load combination. For more information about load combinations, see Combine loads.

NOTE: Settings on this page are model specific. Changing the settings does not require Tekla Structures restart.

Mouse settings

NOTE: Settings on this page are user specific. Changing the settings does not require Tekla Structures restart.

Option	Description
Display snap symbols	Hides or shows the snap symbols.
Activate snap grid when free snap is on	Activates the snap grid. You can define grid spacing intervals and offsets for the snap grid origin.

For more information, see:

Snap switches and symbols

Align objects using a snap grid

Numbering settings

NOTE: Settings on this page are model specific. Changing the settings does not require Tekla Structures restart.

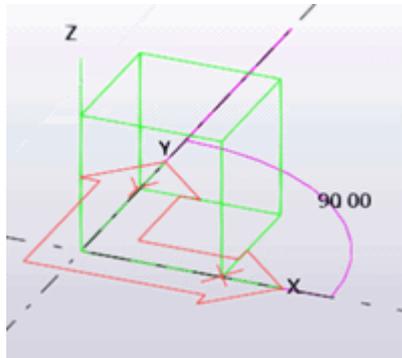| Option	Description
Position number separator	Defines the default position number separator. The options are dot (.), comma (,), slash (/), and hyphen (-).
Rebar position number separator	Defines the default reinforcing bar position number separator. The options are dot (.), comma (,), slash (/), and hyphen (-).
Part number type	Defines the default part number type. The options are **Part number** and **Combined assembly / part number**.

Orientation marks settings

NOTE: Settings on this page are model specific. Changing the settings does not require Tekla Structures restart.

Option	Description
North direction	**Project north (degrees counter clockwise from global x)** defines which direction is north in the model. Enter the value in degrees counter-clockwise from the global x axis.

Option	Description
Part viewing direction	Defines which direction parts are viewed from in drawings.
Beam skew limit **Column skew limit**	Tekla Structures uses limit angles to determine whether a part is a beam or a column when creating orientation marks. Tekla Structures treats parts outside these limits as braces. Parts skewed more than 80° are columns. Parts skewed less than 10° are beams.
Preferred location for mark	Defines the location of part marks in drawings, to the left or right end of the part.
Mark always to center of column	This setting only affects columns. **Yes** places part marks in the center of columns in plan views. To indicate part orientation, include compass direction (**Face direction**) in the part mark instead. **No** places part marks on the same flange in general arrangement and assembly drawings.

For more information, see

Show orientation marks (north marks)

Show compass direction in part marks

Mark location

Define viewing direction for columns in assembly drawings

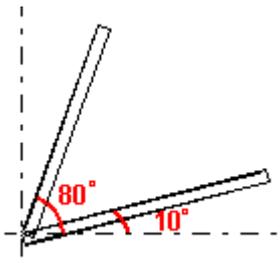Set viewing direction for beams and bracings in assembly drawings...

Units and decimals settings

NOTE: Settings on this page are model specific. Changing the settings does not require Tekla Structures restart.

For more information on unit and decimal settings, see Change units and decimals.

Option	Description
Length	**mm**, **cm**, **m**, **in (decimal)**, **ft (decimal)**, **ft-in**
Angle	**°**, **rad**
Spring constant	kg/m kg/cm kg/mm T/m T/cm T/mm N/m N/cm N/mm daN/m daN/cm daN/mm kN/m kN/cm kN/mm lbf/in lbf/ft
Rot. spring constant	kgm/rad kgm/° Tm/rad Tm/° Nm/rad Nm/° daNm/rad daNm/° kNm/rad kNm/° lbf-in/rad lbf-in/° lbf-ft/rad lbf-ft/° kip-in/rad kip-in/° kip-ft/rad kip-ft/°
Factor	Enter a value using the arrow buttons.

Option	Description
Force	kg T N daN kN lbf kip
Distributed load	kg/m T/m N/m daN/m kN/m lbf/in lbf/ft kip/in kip/ft
Surface load	kg/m^2 T/m^2 N/m^2 daN/m^2 kN/m^2 psi psf ksi ksf
Moment	kgm Tm Nm daNm kNm lbf-in lbf-ft kip-in kip-ft
Distributed moment	kgm/m Tm/m Nm/m daNm/m kNm/m lbf-ft/ft kip-ft/ft
Temperature	^o**C**, ^o**F**, **K**

Option	Description
Deformation	mm cm m in (decimal) ft (decimal) ft-in
Section dimension	mm cm m in (decimal) ft (decimal) in ft-in
Angle	$^{\circ}$, **rad**
Area	mm^2 cm^2 m^2 in^2 ft^2
Section modulus	mm^3 cm^3 m^3 in^3 ft^3
Moment of inertia	**mm4**, **cm4**, **in4**
Radius of inertia	mm cm m in (decimal) ft (decimal) ft-in
Torsion constant	**mm4**, **cm4**, **in4**
Warping constant	**mm6**, **cm6**, **in6**
Cover area	m^2/m mm^2/m cm^2/m ft^2/ft in^2/ft in^2/in

Option	Description
Strength	kg/m² kg/cm² kg/mm² T/m² T/cm² T/mm² N/m² N/cm² N/mm² daN/m² daN/cm² daN/mm² kN/m² kN/cm² kN/mm² psi psf ksi ksf
Modulus	kg/m² kg/cm² kg/mm² T/m² T/cm² T/mm² N/m² N/cm² N/mm² daN/m² daN/cm² daN/mm² kN/m² kN/cm² kN/mm² psi psf ksi ksf
Density	kg/m³ T/m³ N/m³ kN/m³ lbf/ft³

Option	Description
Weight	kg T N lbf kip
Strain	**o/oo**, **%**
Thermal dilat. coeff.	**1/°C, 1/°F, 1/K**
Ratio	**o/oo**, **%**
Volume	mm³ cm³ m³ in³ ft³
Length	**mm, cm, m, in (decimal), ft (decimal), ft-in**
Angle	**°, rad**
Reinforcement area	mm² cm² m² in² ft²
Transverse reinforc.	m²/m mm²/m cm²/m ft²/ft in²/ft in²/in
Weight	kg T N lbf kip
Mass/Length	kg/m T/m N/m daN/m kN/m lbf/ft

Option	Description
Volume	mm^3 cm^3 m^3 in^3 ft^3
Force	kg T N daN kN lbf kip
Distributed load	kg/m T/m N/m daN/m kN/m lbf/in lbf/ft kip/in kip/ft
Surface load	kg/m^2 T/m^2 N/m^2 daN/m^2 kN/m^2 psi psf ksi ksf
Moment	kgm Tm Nm daNm kNm lbf-in lbf-ft kip-in kip-ft
Temperature	^{O}**C**, ^{O}**F**, **K**

Option	Description
Stress	kg/m² kg/cm² kg/mm² T/m² T/cm² T/mm² N/m² N/cm² N/mm² daN/m² daN/cm² daN/mm² kN/m² kN/cm² kN/mm² psi psf ksi ksf
Deformation	mm cm m in (decimal) ft (decimal) ft-in

See also

File storing options and advanced options (page 15)

Settings defined by advanced options

Advanced options can be user-, model-, system or role-specific:

- **User-specific advanced options** are saved in your local `options.bin` file, which is by default located in `C:\Users\<user>\AppData\Local\Tekla Structures\<version>\UserSettings`, and work in the specified way in all models that you have. The folder can be changed using the advanced option XS_USER_SETTINGS_DIRECTORY. In the **Advanced Options** dialog box, the type is **USER**. Some user-specific advanced options require restarting of Tekla Structures after changing the value.

- **Model-specific advanced options** work in the specified way only in the current model. They are saved to `options_model.db` and `options_drawings.db` under model folder. In the **Advanced Options** dialog box, the type is **MODEL** or **DRAWING**. Some special model-specific

options that are not visible in the **Advanced Options** dialog box can be changed from `options.ini` file under the model folder.

- **System-specific advanced options** are general to all sessions of Tekla Structures, and work in the specified way for all users and in all models. In the **Advanced Options** dialog box, the type is **SYSTEM**. A system-specific advanced option can be stored to `options.ini` under model folder by clicking **SYSTEM** next to the option and changing it to **MODEL(SYSTEM)**. Note that the changed value only works for the current model. A **MODEL(SYSTEM)** advanced option can be changed back to **SYSTEM** by changing it to **SYSTEM**, and in this case it will be removed from the `options.ini` file under model folder. Some system-specific advanced options require restarting of Tekla Structures after changing the value.

  The system-specific advanced options are read from environment `.ini` files:

  - **Global system settings** are read from common env_global_default.ini (page 11) in `..\ProgramData\Tekla Structures\<version> \environments\common\`. These settings are used in all environments.

  - **Environment-specific system settings** are read from env_<environment>.ini (page 11) in your environment folder. They override any settings that are defined on a global level in `env_global_default.ini`.

  - **Role-specific system settings** are read from role_<role>.ini (page 11) in environment folder. They override any settings that are defined on a global and environment level in `env_global_default.ini` and `env_<environment>.ini`.

  - **Company level system-specific system settings** override all other system-specific advanced options. You can save them in the firm or project folders by setting the folders for the advanced options XS_FIRM and XS_PROJECT .

- **SYSTEM(ROLE)** options are typically role specific. The settings are read from `.ini` files and are not saved to the databases. When changed or if the type is changed, the option will become model specific and be saved to the databases. **MODEL/DRAWING(ROLE)** options are **SYSTEM(ROLE)** options whose type and/or setting has been changed. The change would be used when you want the **SYSTEM(ROLE)** option to be saved with the model to `options_model.db` and `options_drawings.db` under model folder. These settings can be set back to **SYSTEM(ROLE)**, which will then take into use the default value.

See also

Typical initialization files (.ini files) and their reading order (page 6)

Change the advanced option values in the Advanced Options dialog box

Use advanced options to configure Tekla Structures to suit the way you work, or to comply with specific project requirements or industry standards. Change the advanced options only in the **Advanced Options** dialog box. The settings in the **Advanced Options** dialog override the settings in any other initialization file.

1. On the **File** menu, click **Settings** --> **Advanced options** to open the **Advanced Options** dialog box.

2. Browse the categories to find the advanced option you want to set.

   You can also enter a search term in the **Search** box. To search the search term in all categories, select **In all categories**. You can also use wildcards. For example, to find all advanced options that have the words `anchor` and `filter` and that have any characters between these two words, enter `anchor*filter`.

3. Set the advanced option to the desired value by entering the value or by selecting the value from the list.

   - You can change the type of the role-specific advanced options from **SYSTEM (ROLE)** to **MODEL (ROLE)** or **DRAWING(ROLE)** and vice versa from the list next to the option type. When you change the option type to **SYSTEM(ROLE)**, the value automatically changes to the default value. When you enter a value for a **SYSTEM (ROLE)** option, it changes to **MODEL (ROLE)** or **DRAWING(ROLE)**.

   - You can change the type of system-specific advanced options from **SYSTEM** to **MODEL(SYSTEM)**, in which case the value is saved in the `options.ini` file in the model folder. If you reset the advanced option back to **SYSTEM**, it will be removed from the `options.ini` file.

   - You can use switches with some advanced options, for example, to define the contents of marks: `%TPL:PROJECT.NUMBER%`.

   - If you need to enter a folder path, enter a backslash at the end of the folder path.

4. Click **Apply** or **OK**.

   TIP To create a complete list of advanced options in a text file, click **Write to file**. The list shows the name of the advanced option together with its current value and type.

See also

Settings defined by advanced options (page 33)

1.3 Input files (.inp files)

Tekla Structures uses input files to manage dialog boxes and for defining how components work. All input files have the extension `.inp`.

Input files that you can use, for example, for customizing Tekla Structures are listed below.

File	Description
`analysis_design_config.inp`	Contains settings for analysis and design.
`fltprops.inp`	Includes materials and dimensions of available flat bars (page 45).
`objects.inp`	Used to manage user-defined attributes (page 36).
`pop_mark_parts.inp`	Contains settings for pop-marking.
`privileges.inp`	Used to control access rights.
`profitab.inp`	Contains available parametric profiles.
`rebar_config.inp`	Contains settings for reinforcement marks.
`rebar_schedule_config.inp`	Contains internal bending types of reinforcing bars and their mapping to area specific bending codes. **Rebar Shape Manager** is a more versatile way to define reinforcing bar bending shapes.

See also

Environment database file (page 38)

User-defined attributes (UDAs) in the objects.inp file

Many dialog boxes contain user-defined attributes (UDAs) for various objects, including beams, columns, bolts and drawings. Tekla Structures displays these fields when you click **User-defined attributes** in a dialog box. You can use the values of user-defined attributes in reports and drawings.

When you define new user-defined attributes

The user-defined attributes are managed in the objects.inp (page 38) file. To define new user-defined attributes, create your own `objects.inp` file in the model, project or firm folder. After adding your own user-defined attributes, you need to run the **Diagnose and change attribute definitions** command to update the definitions (page 37) in the model.

When you define new user-defined attribute (page 41), make the definition of the user-defined attribute unique. This is because a user-defined attribute

cannot have different definitions for different object types, such as beams and columns.

The `object.inp` files are merged so that if there are user-defined attributes in any of the files, they are displayed in the user interface. Tekla Structures merges the files in a way that eliminates duplicate attributes. If Tekla Structures encounters the same attribute name in different `objects.inp` files, the attribute from the first read `objects.inp` file will be used.

WARNING Do not copy the `objects.inp` file in the `..\environments\common\inp\` folder. Copying the file creates unnecessary duplicates and later `objects.inp` updates by Tekla Structures can be lost.

Tekla Structures reads the `objects.inp` files from the following folders in the following order:

1. model folder
2. project folder
3. firm folder
4. system folder
5. `inp` folder

See also

Environment database file (page 38)

Update definitions of user-defined attributes (UDAs) in a model

When you have changed definitions of a user-defined attribute by modifying the `objects.inp` file, you need to update the definitions in the model.

1. Open the model.

2. On the **File** menu, click **Diagnose & repair** and in the **Utilities** area, click **Diagnose and change attribute definitions**.

   The **Diagnose & Change Attribute Definitions** dialog box opens.

3. Select an attribute from the list on left side to see the comparison of current definitions and `objects.inp` definitions.

4. Select the definitions you want to update in the **Object classes with Objects.inp differences compared to current settings** list.

5. Click **Change current settings to selected Objects.inp settings**.

See also

User-defined attributes (UDAs) in the objects.inp file (page 36)

Environment database file

To guarantee consistent model behavior when a model is used with different roles, the environment database file (`environment.db`) contains the definitions of the user-defined attributes (UDAs) used in the model.

When you create a new model, Tekla Structures merges the definitions from your objects.inp (page 38) files to the `environment.db` file. Later, when you add **new** user-defined attributes in the `objects.inp` file, the definitions are saved in `environment.db` as you open the model.

You can modify your user-defined attributes (page 36) in an `objects.inp` file but the **changed** definitions do not come into effect automatically. If there are conflicts, the definitions in `environment.db` win. You need to run the **Diagnose and change attribute definitions** command to see the conflicts between `environment.db` and `objects.inp`, and select the attribute definitions that you want to update.

See also

Properties of the objects.inp file

The example below shows the main properties of `objects.inp`.

```
attribute("MY_INFO_1", "My Info 1", string, "%s", no, none, "0.0", "0.0")
{
    value("", 0)
```

Property	In the example	Description
`attribute` or `unique_attribute`	`attribute`	`attribute` is a regular attribute, which is copied with other part properties. `unique_attribute` is a non-copyable attribute. The value of the attribute is never copied to another part. For

Property	In the example	Description
		example part checking status attributes usually cannot be copied.
attribute_name	MY_INFO_1	Attribute name, used to find the attribute value.
		Ensure that Tekla Structures does not already use the attribute name you use. Consider using a prefix that ensures the name is unique, for example, your initials, or an abbreviation of your company name.
		The attribute name is case-sensitive. Do not use spaces or reserved characters in attribute names. The maximum length of the name can be 19 characters.
		To include the attribute in a report or template, add the name of the attribute to your layout in the Template Editor. When you run a report or create a drawing, Tekla Structures displays the current value of the attribute.
label_text	My Info 1	Label that Tekla Structures displays in the dialog box.
		Some default attributes have prompts like `j_comment`, meaning that the prompt comes from the `joints.ail` message file.
value_type	string	`integer` or `float` for numbers
		`string` for text

Property	In the example	Description
		`string_not_modifiable` for text whose modification is prevented. A field with the `string_not_modifiable` property is always displayed as dimmed and it cannot be switched on or off. The value in the field is not saved when clicking the **Apply** button or modified when clicking the **Modify** button.
		`option` for lists
		`date` for date with small calendar
		`date_time_min` for date and time [12:00] with small calendar
		`date_time_sec` for date and time [12:00:00] with small calendar
field_format	`%s`	Definition of the field format in the dialog box • `%s` for strings • `%d` for numbers
special_flag	`no`	`no` or `yes` For parts: consider in numbering For drawings: display the attribute value in drawing list For other elements: no effect
check_switch	`none`	`none` This option is not used.
attribute_value_max	`0.0`	`0.0` This option is not used.

Property	In the example	Description
attribute_value_min	0.0	0.0 This option is not used.

Example: Create and update a user-defined attribute (UDA)

This example shows how to create your own user-defined attribute (UDA) and update the model to use the changed attribute definition.

Create a new user-defined attribute

1. Create a new model and save it.

   The user-defined attributes in the model are merged from objects.inp (page 36) files and Tekla Structures saves the attribute definitions in the environment.db (page 38) file in the model folder.

2. Close the model.

3. Create an input file called `objects.inp` in the model folder by using a standard text editor.

   a. Enter the following information in `objects.inp`.

   ```
   /
   ****************************************************
   ********************/

   /* Part attributes */

   /
   ****************************************************
   ********************/

   part(0,"Part")

   {

   /* User defined tab page */

   tab_page("My UDA tab")

   {

   /* User defined attribute */

   attribute("MY UDA", "My UDA", string,"%s", no, none,
   "0,0", "0,0")

   {

   value("", 0)

   }

   }
   ```

```
tab_page("My UDA tab", "My UDA tab", 19)

modify (1)

}

/

**********************************************************
*********************/

/* Column attributes */

/

**********************************************************
*********************/

column(0,"j_column")

{

/* Reference to the user defined tab page that is
defined above in */

/* the part() section: */

tab_page("My UDA tab", "My UDA tab", 19)

modify (1)
```

To see the example text file, click objects.inp - example 1.

NOTE If you want to create a user-defined attribute that also affects numbering, set the special_flag (page 38) property of the attribute to `yes` (it is `no` in the example above). Also, just like in the example above, the definition of the `tab_page` must be in the `part` section, and the `column` (`beam`, etc.) section must have only a reference to it.

---

4. Save `objects.inp`.

Test the user-defined attribute

1. Open the model.

2. Create a steel column.

3. Double-click the steel column to open its properties dialog box.

4. Click **User-defined attributes**.

5. Go to **My UDA tab**.

My UDA tab	General Design	Tekla Structural Designer
My UDA	☑	
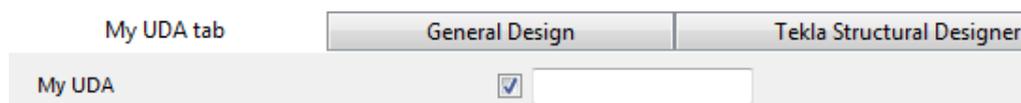
6. Enter a value in the **My UDA** box.

7. Click **Modify**.

8. Copy the steel column.

9. Check the **My UDA** box of the new steel column.

   The attribute value was also copied.

10. Close the model.

Modify the user-defined attribute to make it unique

1. Open the `objects.inp` file in the model folder by using a standard text editor.

2. Enter `unique_` before the user-defined attribute.

```
/
****************************************************
*****************/

/* User-defined attributes */

/
****************************************************
*****************/

part(0,"Part")

{

/* Common tab pages for part attributes */

tab_page("My UDA tab")

{

unique_attribute("MY UDA", "My UDA", string,"%s", no,
none, "0,0", "0,0")

{

value("", 0)

}

}

tab_page("My UDA tab", "My UDA tab", 19)

modify (1)

}

/
****************************************************
*****************/

/* Column attributes */

/
****************************************************
*****************/

column(0,"j_column")
```

```
{
tab_page("My UDA tab", "My UDA tab", 19)
modify (1)
}
```

This makes the user-defined attribute unique, meaning that the value of the user-defined attribute will not be copied to another part.

3.   Save `objects.inp`.

  To see the example text file, click objects.inp - example 2.

Test the unique user-defined attribute

1.   Open the model.

2.   Enter a value in the **My UDA** box for a steel column and click **Modify**.

3.   Copy the steel column.

4.   Check the **My UDA** box of the new column.

5.   The value was copied, so the user-defined attribute in the model is not unique. There is a conflict between the `environment.db` and `objects.inp` definitions.

Update the definitions of user-defined attributes

1.   On the **File** menu, click **Diagnose & repair** and in the **Utilities** area, click **Diagnose and change attribute definitions**.

  The **Diagnose & Change Attribute Definitions** dialog box opens.

2.   Select **My UDA** in the **Attribute** area on the left.

  You can see that **My UDA** is not unique in the current setting, but it is set to unique in `objects.inp`.

Object classes with Objects.inp differences compared to current settings		
Current settings	Object class names	Objects.inp settings
unique=no	part column	unique=yes

3.   Select the definition in the area on the right.

4.   Click **Change current settings to selected Objects.inp settings**.

  Now the definition of the user-defined attribute is updated in the model.

If you now copy a steel column that has a value for **My UDA**, the value is not copied to the new column.

See also

Update definitions of user-defined attributes (UDAs) in a model (page 37)

User-defined attributes (UDAs) in the objects.inp file (page 36)

Show plates as flat bars in drawings and reports

Tekla Structures can show plates as the equivalent flat bars for manufacturing. Tekla Structures displays the plates as flat bars in reports and drawings.

1. Set the advanced option XS_USE_FLAT_DESIGNATION to `TRUE`.

2. Indicate the prefix you want to use for flat bars using the advanced option XS_FLAT_PREFIX.

    For example, `XS_FLAT_PREFIX=FLAT`.

3. Set other platework-related advanced options as required.

4. Define materials, thickness, and width of available flat bars in the Fltprops.inp (page 45) file.

TIP · To prevent Tekla Structures from displaying the profile in metric units in the US Imperial version, add the flat bar prefix to the profitab.inp file as a parametric profile.

· See also page **Platework** in the **Advanced Options** dialog box for information about advanced options related to platework.

Define flat bar sizes with the Fltprops.inp file

Use the `Fltprops.inp` file, located in `..\ProgramData\TeklaStructures\<version>\environments\<environment>\profil`, to define flat bar thickness, width and material.

NOTE Copy the `Fltprops.inp` file to a model, project or firm folder and then modify the file in the new location as required.

The first row in the file contains flat bar material definitions (enclosed in quotes " ") followed by plate thicknesses. If you do not define a material, you can use all materials for all flat bars. The following rows define the widths of available flat bars.

The units are millimeters.

Example

`Fltprops.inp` contains the following data:

```
5,6,"S235",8,10,"S275J0",10,15
40,45
50,55
60,65
70,75
100,110
200,220
```

With the above data, Tekla Structures displays the following plates as flat bars:

Plate	Material
5x40, 5x45, 6x50, 6x55	All materials
8x60, 8x65, 10x70, 10x75	S235
10x100, 10x110, 15x200, 15x220	S275J0

The flat bars get the prefix that is set in the XS_FLAT_PREFIX advanced option.

See also

Show plates as flat bars in drawings and reports (page 45)

Define unfolding parameters

The unfolding parameters define the location of the neutral axis when a profile is unfolded. The neutral axis is a line which runs along the length of a profile where stress and strain are equal to zero. Tekla Structures uses these parameters to create NC files and to display unfolded profiles in single-part drawings.

To define unfolding parameters, modify the `unfold_corner_ratios.inp` file, located in `..\ProgramData\Tekla Structures\<version>\environments\common\system`, using a standard text editor. You can copy the `unfold_corner_ratios.inp` file to a model, project or firm folder and then modify the file in the new location as required. Tekla Structures searches for this file in the default search order.

NOTE   The settings in `unfold_corner_ratios.inp` have no effect if the advanced option XS_USE_OLD_POLYBEAM_LENGTH_CALCULATION is set.

Unfold parameter properties

See below for an example of unfolding parameters in the `unfold_corner_ratios.inp` file and the descriptions of the parameters.

`1 HE300A S235JR 0 180 2 0 1000 .7`

Property	In the example	Description
Type	1	`1` is polybeams
		`2` is plates modeled as polybeams (for example, PLT)
		`3` is for parts which are not unfolded and follow the old polybeam calculation (for example, the line `3 L* *` disables unfolding of L profiles)
Profile	HE300A	You can also use wildcards with profile, for example, `HE300*`.
Material	S235JR	You can also use wildcards with material, for example, `S235*`.
Rotation / thickness min	0	For polybeams: the minimum angle when the profile is rotated around its longitudinal axis
		For plates: the minimum thickness of plate
Rotation / thickness max	180	For polybeams: the maximum angle when the profile is rotated around its longitudinal axis
		For plates: the maximum thickness of plate
Flag	2	This property defines what kind of parts are affected by the next two properties.
		`1` is sharp folds. Only polybeams with straight chamfers are affected.
		`2` is curved bends. Only polybeams with curved chamfers are affected.

Property	In the example	Description
Angle / radius min	0	For sharp folds: the minimum angle
		For curved bends: the minimum radius
Angle / radius max	1000	For sharp folds: the maximum angle
		For curved bends: the maximum radius
Ratio	.7	Defines how much the profile stretches or shrinks when unfolded.
		Ratio = (1 - the relative location of the neutral axis).
		If only the inner surface of the profile shrinks, the ratio is 1. If only the outer surface of the profile stretches, the ratio is 0. By default, the ratio is 0.5 for length calculation and 0.0 for bending radius calculation.
		Tekla Structures applies the unfolding ratio if the profile properties are within the range indicated by the minimum and maximum values.

See also

Folder search order (page 85)

1.4 Data files (.dat files)

Data files contain information used by certain components, for example.

File	Description
`joints.dat`	Contains data used in **Handrailing (1024)** and **Stanchions (S76)** components. Used in the **Stanchion connection type** option.
`railings.dat`	Contains data used in **Handrailing (1024)**. Used in the **Stanchion connection type** option.
`steps.dat`	Contains the data for **Stairs (S82)** and **Stairs (S71)**. Used in the **Step profile** and **Catalogue step** options.
`std_flange_plates.dat`	Contains data for **Tapered column (S99)**. Used in the options: • **Outer flange profile** • **Inner flange profile** • **Top plate profile**
`std_stiffener_plates.dat`	Contains data used in **Tapered column (S99)**. Used in the **Horizontal stiffener profile** box.
`marketsize.dat`	Contains available market sizes for certain material grade. Can be used with `fMarketSize()` function in the custom component editor.
`import_macro_data_types.dat`	Contains the user-defined attributes that you can include in an input file in attribute import.

See also

Define flat bar sizes with the Fltprops.inp file (page 45)

1.5 Message files

Tekla Structures uses the information in the message files to display messages in the user interface. Message files include, for example, texts used in dialog boxes.

• Message files with the `.ail` extension are located in the folder `..\Tekla Structures\<version>\messages`.

• Message files with the `.xml` extension are located in the folder `..\Tekla Structures\<version>\messages\DotAppsStrings`.

The files include texts in languages in which the Tekla Structures user interface is available.

Customize message files

You can customize the messages that Tekla Structures displays in the user interface.

1. Do one of the following:

    - To modify an `.ail` message file, go to the `..\Tekla Structures \<version>\messages` folder.

    - To modify an `.xml` message file, go to the `..\Tekla Structures \<version>\messages\DotAppsStrings` folder.

2. Open the message file you want to customize using a standard text editor.

3. Modify the message as required.

4. Save the message file.

Example: customize a message file

In this example, you will modify a message that Tekla Structures uses for near side plates in drawings. You want Tekla Structures to display `(NS)` instead of `(N/S)`.

1. Go to the `..\Tekla Structures\<version>\messages` folder.

2. Open `by_number.ail` using a standard text editor.

    The `by_number.ail` file contains both prompts and default texts that Tekla Structures uses in drawings.

3. Browse to the following section:

    ```
    string by_number_msg_no_675

    {

    ...

    entry = ("enu", "(N/S)");

    };
    ```

4. Change `(N/S)` to `(NS)` in the entry row.

5. Save and close the file.

1.6 Standard files

Standard files are property files that Tekla Structures uses by default.

These properties are displayed in the dialog boxes of different objects such as beams, columns or plates, when you select the **standard** option in the list next to the **Load** button, and click the **Load** button.

Standard files are stored in the `..\TeklaStructuresModels \<model_name>\attributes` folder. They are named `standard.*` where the symbol * is the file name extension. For example, `standard.clm` file is used for column properties.

List of standard files saved with Save defaults command

You can save a set of standard files in the model folder. You can then copy the standard files to the project or firm folders for future use, to set up Tekla Structures to suit the way you work.

To save a set of standard files in the model folder, go to **Quick Launch**, start typing `save defaults` and select the **Save Defaults** command from the list. Tekla Structures saves a set of standard files in the `attributes` folder in the current model folder.

File	Dialog box
standard.cpl	Contour Plate Properties
standard.fpl	Folded Plate Properties
standard.prt	Beam Properties
standard.clm	Column Properties
standard.crs	Orthogonal Beam Properties
standard.dia	Twin Profile Properties
standard.scr	Bolt Properties
standard.wld	Weld Properties
standard.prf	Project properties
standard.ler	Layer Properties
standard.fms	Plotting Frames
standard.num	Numbering Setup
standard.mvi	Model View Properties

1.7 Properties files

Tekla Structures stores a number of files, all of which contain object properties, in the current model folder. Tekla Structures creates these properties files when you click **Save** or **Save as** in dialog boxes.

Example

You change the standard column properties to create a new type of column you call `custom1`. When you click **Save as**, Tekla Structures creates the file `custom1.clm` in the current model folder.

1.8 Catalog files

Tekla Structures uses ASCII and binary files to manage profile, material, reinforcing bar, bolt and bolt assembly catalogs.

Each environment has its own folder, where the files related to different catalogs are stored. For example, `..\environments\uk\profil\` contains the files for managing catalog files used in the United Kingdom.

The following table lists files and file types related to catalogs.

File type	File name	Used for	Located in
`.inp`	`profitab.inp`	Defines the names that you can use for parametric profiles.	`..\ProgramData\Tekla Structures\<version> \environments \<environment>\profil`
	`rebar_database. inp`	Contains details of the reinforcement used in concrete structures. Includes both the standard bending radii and the standard hook dimensions.	`..\ProgramData\Tekla Structures\<version> \environments \<environment>\profil`
	`mesh_database.i np`	Contains details of the reinforcement meshes used in concrete structures.	`..\ProgramData\Tekla Structures\<version> \environments \<environment>\profil`
`.cnv`	`matexp_<softwar e>.cnv`	Contains information to convert material names when	`..\ProgramData\Tekla Structures\<version> \environments \<environment>\profil`

File type	File name	Used for	Located in
		transferring model information using links. For example, converts S235JR to FE360B for DSTV.	
	`prfexp_<softwar e>.cnv`	Contains information to convert profile names when transferring model information using links. For example, converts converts HEA100 to HE100A for DSTV.	`..\ProgramData\Tekla Structures\<version> \environments \<environment>\profil`
`.clb`	For example, `RU_CF.clb`	Contains the definitions of parametric profiles used in `profitab.inp`.	`..\ProgramData\Tekla Structures\<version> \environments\common \inp`
`.lis`	You can define the file name while exporting.	Created when you export bolt, profile and material catalogs.	You can define the folder where to export the files.
`.db`	`assdb.db`	The bolt assembly catalog.	`..\ProgramData\Tekla Structures\<version> \environments \<environment>\profil`
	`screwdb.db`	The bolt catalog.	`..\ProgramData\Tekla Structures\<version> \environments \<environment>\profil`
`.bin`	`profdb.bin`	The profile catalog.	`..\ProgramData\Tekla Structures\<version> \environments \<environment>\profil`
	`matdb.bin`	The material catalog.	`..\ProgramData\Tekla Structures\<version> \environments \<environment>\profil`

See also

1.9 Font files

You can define the location of font files with the advanced option `DXK_FONTPATH` in the `teklastructures.ini` or your environment initialization file. For example, you can use fonts available in the folder `..\ProgramData\Tekla Structures\<version>\environments\common\fonts`.

This folder includes the following fonts:

Font	Font type
`fixfont.fon`	Tekla Structures graphic font
`romco.fon`	Tekla Structures graphic font
`romsim.fon`	Tekla Structures graphic font
`romsim8.fon`	Tekla Structures graphic font
`GOST 2.304-81 type A.ttf`	True Type font (Cyrillic)
`GOST 2.304-81 type B.ttf`	True Type font (Cyrillic)

Fonts are converted using font conversion files available in the same folder:

File	Description
`template_fonts.cnv`	Used to map Tekla Structures fonts to Windows fonts.
`dxf_fonts.cnv`	Used in exporting drawings.

See also

Initialization files (.ini files) (page 6)

1.10 Symbol files

Symbols are used for example in various places in drawings, for example, as separate objects, and in marks.

You can create symbols with Symbol Editor. In this case, the file name extension is `.sym`. You can also use symbols of `.dwg` format.

Tekla Structures symbol files are by default located in the folder `..\environments\common\symbols`.

See also

1.11 Files related to templates, reports and drawings

Tekla Structures has several files that relate to templates, reports, drawings and printing.

File or file type	Description	Location
`.rpt`	Report templates created with the Template Editor	`..\environments \<your_environment> \system\` and its role-specific sub-folders
`.tpl`	Drawing templates created with the Template Editor	`..\environments \<your_environment> \template`
`.lay`	Layout definitions created with the **Drawings & reports** --> **Drawing properties** --> **Drawing layout** command.	`..\environments \<your_environment> \system\` and its role-specific sub-folders
`plotdev.bin`	Printer device definitions created with the **Printer Catalog** printer instances.	`..\environments \<your_environment \system`
`xdproc`	**Master Drawing Catalog** rule set	`..\environments \<your_environment> \system\` and its role-specific sub-folders
`xdproc.master`	**Master Drawing Catalog** master drawing file	`..\environments \<your_environment> \system\` and its role-specific sub-folders
`xdproc.master.png`	**Master Drawing Catalog** sample (preview) image files	`..\environments \<your_environment> \system\` and its role-specific sub-folders
`xdproc.png`	**Master Drawing Catalog** thumbnail image files	`..\environments \<your_environment> \system\` and its role-specific sub-folders

1.12 Image files

Tekla Structures uses image files in several places:

- In templates in drawings
- In drawing snapshots
- In component dialog boxes and thumbnails
- In drawing line types
- In the surface treatment dialog box
- In the **Master Drawing Catalog** for thumbnails and sample images
- In profile properties dialog boxes

The following image file formats are supported in Tekla Structures:

- In templates: `bmp`, `gif`, `grd`, `jpg`, `ppm`, `pgm`, `rle`, `tiff` and `xkrl`
- In drawing snapshots, and int thumbnail and sample images for the **Master Drawing Catalog**: `png`
- Other situations: `bmp`

See also

Adding images in a template

Creating and viewing drawing snapshots

Adding sample and thumbnail images to master drawings

Defining customized line types

1.13 Log files

Tekla Structures writes information to log files when you, for example, number a model or save a model.

TIP   All log files are located in the current model folder.

File	Description
`analysis.log`	Tekla Structures stores information in this file when you run the analysis. The file also contains information on the errors that occurred during load distribution.
`check_database.log`	Tekla Structures stores information in this file when you run the **Repair** command in **File menu** --> **Diagnose & repair** --> **Model**.

File	Description
ClashCheck.log	Contains clashes found in the most recent clash check.
conflict.log	Contains conflicts that have occurred in the multi-user mode when more than a one user has modified an object.
drawing_cloning.log	Contains information on cloned drawings.
drawing_history.log	Contains information on drawing history. Use the advanced option XS_DRAWING_HISTORY_LOG_TYPE to define the contents of the file.
dstv_nc.log	Each time you create NC files, Tekla Structures stores information in this file about the processed assemblies.
filetranerror.log	Used only for cold rolled components, such as Albion, Ayrshire, and Hispan. If the **File Transfer** components do not work as expected, Tekla Structures stores error messages in this file.
numbering.history	Contains full details of each numbering session carried out on the model. Each session is in a different block of the file.
save_history.log	Tekla Structures stores information in this file each time you save a model.
TeklaStructures.log	Contains information on the entire Tekla Structures session from opening the model to closing it. The file contains, for example, errors and information on which catalogs were used.
wizard.log	Tekla Structures stores information in this file when you run a drawing rule set (wizard) file. The file contains, for example, errors and number of drawings created.

See also

View a log file

1. Open the model whose log history you want view.

2. On the **File** menu, click **Logs** and select a log file you want to see.

   - **Clash Check history log** (`ClashCheck.log`)

   - **Session history log** (`TeklaStructures.log`)

   - **Numbering history log** (`numbering.history`)

   - **Saving history log** (`save_history.log`)

   - **Drawing history log** (`drawing_history.log`)

   - **Analysis history log** (`analysis.log`)

TIP If you want to view the log files in a viewer that has been associated with the file type, for example, in Microsoft Notepad, on the **File** menu click **Logs** and select **View with the default application**.

See also

Log files (page 56)

Numbering.history log file (page 59)

View parts listed in a log file

The parts that are listed in a log file can be viewed in the model.

1. On the **File** menu, click **Logs**.

2. Select a log file you want to see.

3. In the log file, select a row which contains a part or an assembly.

   Parts and assemblies have the prefix `id`.

   Tekla Structures highlights the part in the model.

If there are several parts or assemblies on a row and you select that row, Tekla Structures highlights all the parts in the model. You can also select parts on different rows.

TIP You can access a part's or an assembly's pop-up menu from the log file by right-clicking a row that contains a part or an assembly. Tekla Structures displays the same pop-up menu as when you right-click a part or an assembly in the model.

See also

Log files (page 56)

Numbering.history log file

The `numbering.history` log file contains full details of each numbering session carried out on the model. Each numbering session is in a different block of the file.

NOTE If you remove or delete the `numbering.history` log file, Tekla Structures generates a new file with the same name next time when you run numbering. The new file does not contain a history of previous numbering sessions.

Example

Below is an example of the contents of a `numbering.history` log file.

```
① *** Numbering (haka): Thu Jun 14 13:08:08 2012
②   Modified numbering
③   Compare modified to old parts
    Compare new to old parts
④   Check for standard parts
    Use old numbers
⑤   Tolerance: 1.000000
    SteelTolerance: 1.000000
    ConcreteTolerance: 2.000000
    RebarTolerance: 2.000000
⑥ Part     guid: ID510F595D-0000-0017-3133-353939383237  series:Concrete_C-1/1  Concrete_C-1/0 -> Concrete_C-1/1
  Assembly guid: ID510F595D-0000-0016-3133-353939383237  series:C/1  C/0 -> C/1
  *** Operation finished Thu Jun 14 13:08:08 2012
```

1	User name, date and time of the numbering.
2	Numbering method. • `Modified numbering` is displayed when you run the **Number modified objects** command. • `Modified numbering for selected series` is displayed when you run the **Number series of selected objects** command. • `Diagnose & Repair Numbering: All` is displayed when you run the **Diagnose & repair numbering: All** command. • `Diagnose & Repair Numbering: Series of selected objects` is displayed when you run the **Diagnose & repair numbering: Series of selected objects** command. • `Renumber all` is displayed when you select the **Renumber all** option in the **Numbering Setup** dialog box.
3	Some **Compare** options set in the **Numbering Setup** dialog box are displayed in the `numbering.history` log file only if they are set differently than the default value: • `Compare modified to old parts` • `Compare new to old part` • `No holes comparing` • `No part name comparing`

	• `Beam orientation`
	• `Column orientation`
	Some **Compare** options are not displayed at all:
	• **Reinforcing bars**
	• **Embedded objects**
	• **Surface treatment**
4	Numbering options.
	• `Use old numbers` is displayed only when you have selected the **Re-use old numbers** option in the **Numbering Setup** dialog box.
	• `Check for standard parts` is displayed only when you have selected the **Check for standard parts** option in the **Numbering Setup** dialog box.
5	Tolerances are set in the **Numbering Setup** dialog box.
6	Changes in the position numbers and in the numbering series during one numbering session.
	In addition:
	If a numbering series overlaps another, the errors are written to the log file.

See also

Numbering series in the numbering.history log file

Tekla Structures lists information on the numbered parts and assemblies in the `numbering.history` log file.

Example 1

The `numbering.history` log after one concrete beam **B/20** has been created and numbered:
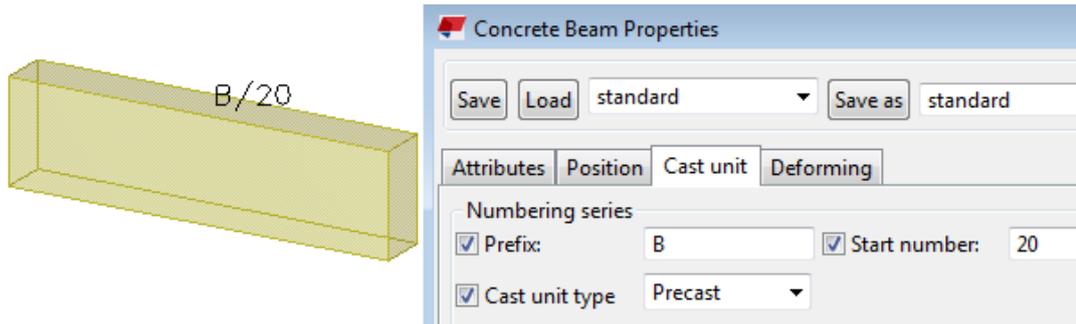
```
①  Part     guid: ID510F595D-0000-0030-3133-353939383335  series:Concrete_B-20/1  Concrete_B-20/0 -> Concrete_B-20/1
②  Assembly guid: ID510F595D-0000-002F-3133-353939383335  series:B/20  B/0 -> B/20
```

1	Part position number.
	• The part with the GUID `ID510F595D-0000-0030-3133-353939383335` is a part of the numbering series `Concrete_B-20/1`.
	• The part becomes the first part in the numbering series: `Concrete_B-20/0 -> Concrete_B-20/1`.
2	Assembly position number.
	• The assembly ID of the part is `ID510F595D-0000-002F-3133-353939383335`.
	• The part belongs to the `B/20` assembly numbering series, which is also the cast unit numbering series.
	• The part gets the assembly position number: `B/20: B/0 -> B/20`.

Example 2

The `numbering.history` log after another concrete beam **B/21** has been created and numbered:
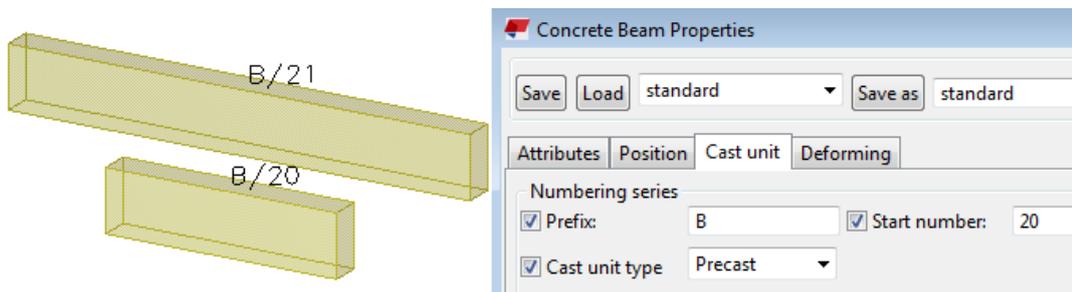

```
①  Part     guid: ID510F595D-0000-0030-3133-353939383335  series:Concrete_B-20/1  Concrete_B-20/0 -> Concrete_B-20/2
②  Assembly guid: ID510F595D-0000-002F-3133-353939383335  series:B/20  B/0 -> B/21
```

1	Part position number of the new part.
	• The part with the ID `ID510F595D-0000-0030-3133-353939383335` is part of the numbering series `Concrete_B-20/1`.
	• The part becomes the second part in the numbering series: `Concrete_B-20/0 -> Concrete_B-20/2`.
2	Assembly position number.
	• The assembly ID of the part is `ID510F595D-0000-002F-3133-353939383335`.
	• The part belongs to the `B/20` assembly numbering series, which is also the cast unit numbering series.
	• The part gets the assembly position number: `B/20 B/0 -> B/21`.

See also

1.14 Model folder files and file name extensions

The following table lists the folders, files and file name extensions of files located in a Tekla Structures model folder.

Files in the Tekla Structures model folder

File or file name extension	Description
`.db1`	Model database
`.db2`	Numbering database
`environment.db`	Database for user-defined attribute definitions
`xslib.db1`	Contains information on user-defined connections and details, and default component descriptions.
`.idrm`	Mapping file, which handles IDs. Do not modify.
`xslib.db2`	Contains numbering information.
`options_model.db` and `options_drawings.db`	Contain values for model-specific options from the **Options** dialog box and values for model-specific advanced options from the **Advanced**

File or file name extension	Description
	Options dialog box. When a model is created, Tekla Structures reads model-specific options and advanced options values from the `standard.opt` file and `.ini` files in the environment folders and saves them in these two databases.
`history.db`	Model history database for Tekla Model Sharing and multi-user models.
`xsdb.xs`	File used for displaying the name of the model in the **Open** dialog box.
`xs_user.<username>`	Contains interface settings specified by the user. Each time a model is saved, an `xs_user.<username>` file is created or updated. These settings are user specific. If the `xs_user.<username>` file is not found in the model folder when you open the model, Tekla Structures searches for the `xs_user.default` file in the following folder search order: model, `model\attributes`, project, firm, system. If this file is not found, Tekla Structures default settings will be used. This file contains settings for many of the options in the **Options** dialog box and the settings for the icons on the **Selecting** and **Snapping** toolbars.
`save_history.log`	Tekla Structures stores the information in this file each time the model is saved. The file includes the saving time, date and information on any conflicts during saving.
`notification_report.xsr`	File used for displaying a notification report of assignments when you open a model.
`TeklaStructuresModel.xml`	Contains information on the Tekla Structures session, for example on opening, closing and what catalogs are being used.

File or file name extension	Description
dotlog.txt	A log file that contains information on Tekla Open API application use.
.locked	A temporary file that locks the model folder files to prevent modifications while the model is in use.
.bak	A backup copy of the model database.
assert.txt	A log file that contains information on assertion errors.
ClashCheck.txt	A log file that contains information on clashes found in the most recent clash check and the date and time of the clash check.
ClashCheck.history	A file that contains information on all clashes found in all clash checks and the dates and times of the clash checks.
wizard.txt	Tekla Structures stores information in this file when you run a drawing rule set (wizard) file. The file contains, for example, errors, number of drawings created, and information on which commands were used.
.lis	Different catalogs can be exported from and imported to different Tekla Structures models as .lis files. These include profile, material and bolt catalogs.
.tsc	Shapes can be exported from and imported to different Tekla Structures models as .tsc files.
.This_is_multiuser_model	Contains information about the PC running the Tekla Structures multi-user server. Do not alter or delete this file in normal circumstances. If you move a model to a different server, you should delete this file. Tekla Structures generates a new file with the same name.
ComponentCatalog.xml	Contains the model level catalog definitions of the **Applications & components** catalog.

File or file name extension	Description
`<user>_ComponentCatalogUserSettings.xml`	Lists the recently used applications and components, and their location in the **Applications & components** catalog structure.
`Worktypes.xml`	Lists available task types. Created when you start **Task Manager**.
`WorkTypeProperties.xml`	Lists allowed property types and their units.
`.tmp`	A file used to store temporary data.
`.cnv`	A file used to map Tekla Structures profile and material names with names used in other software.
`.colorset`	Created when you export a color set from **Organizer**.

Files in the \Analysis folder

File or file name extension	Description
`.ifc`	The analysis model exported in IFC format.
`.stp`	The analysis model exported in CIS/2 format.
`.map`	A file used for debugging analysis models.
`analysis_results.db5`	Database for analysis load combination results.
`.db6`	Analysis model database.

Files in the \attributes folder

`.rop`	Reference object user-defined attribute properties
`.rop.more`	Reference object properties
`.m10000017`	FabTrol XML import properties
`.m10000015`	Import attribute properties
`.ncf`	NC file properties
`.ExportIFC.MainDialog`	IFC export properties
`.m440000004`	3D DWG/DXF export properties
`.m440000003`	3D DGN export properties
`.m1000004`	FEM export properties

`.m10000011`	CIS analysis model export properties
`.m10000026`	CIS manufacturing model export properties
`.m1000007`	CAD export properties
`.m10000016`	Cover sheet export properties
`.SObjGrp`	Object group selection filter properties
`.VObjGrp`	Object group view filter properties
`.OrgObjGrp`	Object group Organizer filter properties
`.PObjGrp`	Object group filter properties
`.grd`	Grid properties
`.grd.more`	Grid user-defined attribute properties
`.grdp`	Grid line properties
`.grdp.more`	Grid line user-defined attribute properties
`.mvi`	Model view properties that you have saved for the model. Default 3D, part, component, custom component, assembly, and cast unit view settings files need to be saved with names used in common environment: 3D view: basic_view 3D part view: part_basic_view Part front view: part_front_view Part top view: part_top_view Part end view: part_end_view Part perspective view: part_persp_view 3D component view: joint_basic_view Component front view: joint_front_view Component top view: joint_top_view Component end view: joint_end_view Component perspective view: joint_persp_view

	Custom component front view: custom_object_editor_front_view
	Custom component top view: custom_object_editor_top_view
	Custom component end view: custom_object_editor_end_view
	Custom component perspective view: custom_object_editor_perspective_view
	3D assembly or cast unit view: assembly_basic_view
	Assembly or cast unit front view: assembly_front_view
	Assembly or cast unit top view: assembly_top_view
	Assembly or cast unit end view: assembly_end_view
	Assembly or cast unit back view: assembly_back_view
	Assembly or cast unit bottom view: assembly_bottom_view
	Assembly or cast unit perspective view: assembly_persp_view
.gvi	Saved properties for creating views along grid lines
.rep	Object representation properties
.clm	Steel column properties
.clm.more	Steel column user-defined attribute properties
.prt	Steel beam properties
.prt.more	Steel beam user-defined attribute properties
.crs	Orthogonal beam properties
.crs.more	Orthogonal beam user-defined attribute properties
.dia	Twin profile properties
.dia.more	Twin profile user-defined attribute properties
.cpl	Contour plate properties

`.cpl.more`	Contour plate user-defined attribute properties
`.ips`	Item properties
`.ips.more`	Item user-defined attribute properties
`.cpf`	Pad footing properties
`.cpf.more`	Pad footing user-defined attribute properties
`.csf`	Strip footing properties
`.csf.more`	Strip footing user-defined attribute properties
`.ccl`	Concrete column properties
`.ccl.more`	Concrete column user-defined attribute properties
`..cbm`	Concrete beam or concrete polybeam properties
`.cbm.more`	Concrete beam or concrete polybeam user-defined attribute properties
`.csl`	Concrete slab properties
`.csl.more`	Concrete slab user-defined attribute properties
`.cpn`	Concrete panel properties
`.cpn.more`	Concrete panel user-defined attribute properties
`.ipc`	Concrete item properties
`.ipc.more`	Concrete item user-defined attribute properties
`.rbr`	Reinforcing bar properties
`.rbr.more`	Reinforcing bar user-defined attribute properties
`.rbg`	Reinforcing bar group properties
`.rbg.more`	Reinforcing bar group user-defined attribute properties
`.rcu`	Curved reinforcing bar group properties
`.rci`	Circular reinforcing bar group properties
`.rbm`	Reinforcement mesh properties
`.rbm.more`	Reinforcement mesh user-defined attribute properties

`.rbs`	Reinforcement strand pattern properties
`.rbs.more`	Reinforcement strand pattern user-defined attribute properties
`.rsp`	Reinforcement splice properties
`.rsp.more`	Reinforcement splice user-defined attribute properties
`.admodel`	Analysis model properties
`.admodel.more`	Analysis model user-defined attribute properties
`.lm1`	Point load properties
`.lm2`	Line load properties
`.lm3`	Area load properties
`.lm4`	Uniform load properties
`.m10000028`	Wind load properties
`.lm6`	Temperature load properties
`.lco`	Load combination properties
`.adnode`	Analysis node properties
`.adnode.more`	Analysis node user-defined attribute properties
`.prt_ad`, `.prt_design`	File types associated with steel beam analysis property settings. `.prt_ad` contains information associated with the analysis part properties and `.prt_design` contains information associated with the actual steel beam design.
`.crs_ad`, `.crs_design`	File types associated with orthogonal steel beam analysis property settings. `.crs_ad` contains information associated with the analysis part properties and `.crs_design` contains information associated with orthogonal steel beam design.
`.clm_ad`, `.clm_design`	File types associated with steel column analysis property settings. `.clm_ad` contains information associated with the analysis part properties and `.clm_design` contains

	information associated with the actual steel column design.
`.dia_ad`, `.dia_design`	File types associated with steel twin profile analysis property settings. `.dia_ad` contains information associated with the analysis part properties and `.dia_design` contains information associated with actual twin profile design.
`.cpl_ad`, `.cpl_design`	File types associated with contour plate analysis property settings. `.cpl_ad` contains information associated with the analysis part properties and `.cpl_design` contains information associated with actual contour plate design.
`.cpf_ad`, `.cpf_design`	File types associated with pad footing analysis property settings. `.cpf_ad` contains information associated with the analysis part properties and `.cpf_design` contains information associated with the actual pad footing design.
`.csf_ad`, `.csf_design`	File types associated with strip footing analysis property settings. `.csf_ad` contains information associated with the analysis part properties and `.csf_design` contains information associated with the actual strip footing design.
`.ccl_ad`, `.ccl_design`	File types associated with concrete column analysis property settings. `.ccl_ad` contains information associated with the analysis part properties and `.ccl_design` contains information associated with the actual concrete column design.
`.cbm_ad`, `.cbm_design`	File types associated with concrete beam analysis property settings. `.cbm_ad` contains information associated with the analysis part properties

	and `.cbm_design` contains information associated with the actual concrete beam design.
`.csl_ad`, `.csl_design`	File types associated with concrete slab analysis property settings. `.csl_ad` contains information associated with the analysis part properties and `.csl_design` contains information associated with the actual slab design.
`.cpn_ad`, `.cpn_design`	File types associated with concrete panel analysis property settings. `.cpl_ad` contains information associated with the analysis part properties and `.cpl_design` contains information associated with the actual concrete panel design.
`.srf`	Surface treatment properties
`.srf.more`	User-defined surface treatment attribute properties
`.srfo`	Surface properties
`.srfo.more`	User-defined surface attribute properties
`.cha`	Edge chamfer properties
`.cha.more`	User-defined edge chamfer attribute properties
`.scr`	Bolt properties
`.scr.more`	User-defined bolt attribute properties
`.wld`	Weld properties
`.wld.more`	User-defined weld attribute properties
`.m1000009`	Control number properties
`.m1000010`	Control number locking properties
`.num`	Numbering setup properties
`.rpr`	Report properties
`.4d`	Project status visualization properties
`standard.opt`	Settings are saved in `standard.opt` in the `\attributes` folder only when

| | you save your own settings in the **Options** dialog box using **Save**. |
| | There is a `standard.opt` file in the environment folder that gives the initial values to be loaded when a model is created. |

Component properties files in the \attributes folder

- Properties files for components available in the **Applications & components** catalog, for example `.j310000063` for **2L Splice (63)** component properties. These files are stored in the `attributes` folder under the model folder.

Object level drawing settings, saved in \attributes folder

File or file name extension	Description
`.dprt`	Object level part properties
`.dim`	Object level dimension properties
`.pm`	Object level part mark properties
`.jm`	Object level connection mark properties
`.sm`	Object level bolt mark properties
`.rm`	Object level reinforcement mark properties
`.mrms`	Object level merged reinforcement mark properties
`.pom`	Pour object mark properties
`.surfm`	Object level surface treatment mark properties
`.note`	Object level associative note properties
`.wls`	Object level weld mark properties
`.lev`	Object level level mark properties
`.rev`	Object level revision mark properties
`.drmsh`	Object level reinforcement mesh properties
`.drbr`	Object level reinforcement properties
`.po`	Object level pour object properties
`.sc`	Object level bolt properties
`.srf`	Object level surface treatment properties

File or file name extension	Description
`.dgr`	Object level grid properties
`.sbl`	Object level symbol properties
`.wls`	Object level weld mark properties
`.drtxt`	Object level text properties
`.gln`	Object level line properties
`.grt`	Object level rectangle properties
`.gci`	Object level circle properties
`.gar`	Object level arc properties
`.gpl`	Object level polyline properties
`.gpg`	Object level polygon and cloud properties

View level drawing settings, saved in \attributes folder

File or file name extension	Description
`.vi`	View level view properties
`.vi.copt`	View level detailed object level settings
`.vpm`	View level part mark properties
`.vsm`	View level bolt mark properties
`.vnpm`	View level neighbor part mark properties
`.vsurfm`	View level surface treatment mark properties
`.vjm`	View level connection mark properties
`.vrm`	View level reinforcement mark properties
`.vnrm`	View level neighbor reinforcement mark properties
`.vpom`	View level pour object mark properties
`.vp`	View level part properties
`.vs`	View level bolt properties
`.vnp`	View level neighbor part properties
`.vsurf`	View level surface treatment properties
`.vw`	View level welding properties
`.vr`	View level reinforcement properties

File or file name extension	Description
`.vnr`	View level neighbor reinforcement properties
`.vrmp`	View level reference object properties
`.vpo`	View level pour object properties
`.vg`	View level grid properties
`.vf`	View level filter properties
`.vnf`	View level neighbor part filter properties

Files related to single-part drawings, drawing level properties, saved in \attributes folder

File or file name extension	Description
`.wd`	Single-part drawing properties
`.wd.copt`	Single-part drawing detailed object level settings
`.wd.more`	Single-part drawing user-defined attributes
`.wdf`	Single-part drawing filter properties
`.wdnf`	Single-part drawing neighbor part filter properties
`.wdl`	Single-part drawing layout properties
`.wdl.more`	Single-part drawing user-defined layout attributes
`.wdv`	Single-part drawing view properties
`.wdv.more`	Single-part drawing user-defined view attributes
`.wdc`	Single-part drawing section view properties
`.wdc.more`	Single-part drawing user-defined section view attributes
`.wdd`	Single-part drawing dimension properties
`.wdd.more`	Single-part drawing user-defined dimension attributes
`.wdcd`	Single-part drawing dimensioning properties
`.wdcd more`	Single-part drawing user-defined dimensioning attributes
`.wpm`	Single-part drawing part mark properties

File or file name extension	Description
`.wsm`	Single-part drawing bolt mark properties
`.wnpm`	Single-part drawing neighbor part mark properties
`.wdsurfm`	Single-part drawing surface treatment mark properties
`.wdsurfm.more`	Single-part drawing user-defined surface treatment mark attributes
`.wjm`	Single-part drawing connection mark properties
`.wdp`	Single-part drawing part properties
`.wds`	Single-part drawing bolt properties
`.wds.more`	Single-part drawing user-defined bolt attributes
`.wdnp`	Single-part drawing neighbor part properties
`.wdnp.more`	Single-part drawing user-defined neighbor part attributes
`.wdsrf`	Single-part drawing surface treatment properties
`.wdsrf.more`	Single-part drawing user-defined surface treatment attributes
`.wdgr`	Single-part drawing grid properties
`.wdgr.more`	Single-part drawing user-defined grid attributes
`.wdr`	Single-part drawing protection properties
`.wdr.more`	Single-part drawing user-defined protection attributes

Files related to assembly drawings, drawing level properties, saved in \attributes folder

File or file name extension	Description
`.ad`	Assembly drawing properties
`.ad.more`	Assembly drawing user-defined attributes
`.adf`	Assembly drawing filter properties
`.adnf`	Assembly drawing neighbor part filter properties
`.adl`	Assembly drawing layout properties

File or file name extension	Description
`.adl.more`	Assembly drawing user-defined layout attributes
`.adv`	Assembly drawing view properties
`.adc`	Assembly drawing section view properties
`.add`	Assembly drawing dimension properties
`.add.more`	Assembly drawing user-defined dimension attributes
`.adcd`	Assembly drawing dimensioning properties
`.adcd.more`	Assembly drawing user-defined dimensioning attributes
`.apm`	Assembly drawing part mark properties
`.asm`	Assembly drawing bolt mark properties
`.anpm`	Assembly drawing neighbor part mark properties
`.adsurfm`	Assembly drawing surface treatment mark properties
`.adsurfm.more`	Assembly drawing user-defined surface treatment mark attributes
`.ajm`	Assembly drawing connection mark properties
`.adp`	Assembly drawing part properties
`.adp.more`	Assembly drawing user-defined part attributes
`.ads`	Assembly drawing bolt properties
`.adnp`	Assembly drawing neighbor part properties
`.adnp.more`	Assembly drawing user-defined neighbor part attributes
`.adsrf`	Assembly drawing surface treatment properties
`.adsrf.more`	Assembly drawing user-defined surface treatment attributes
`.adw`	Assembly drawing welding properties
`.adw.more`	Assembly drawing user-defined welding attributes

File or file name extension	Description
.adgr	Assembly drawing grid properties
.adgr.more	Assembly drawing user-defined grid attributes
.adr	Assembly drawing protection properties

Files related to cast unit drawings, drawing level properties, saved in \attributes folder

File or file name extension	Description
.cud	Cast unit drawing properties
.cud.copt	Cast unit drawing detailed object level settings
.cud.more	Cast unit drawing user-defined attributes
.cudl	Cast unit drawing layout properties
.cudl.more	Cast unit drawing user-defined layout attributes
.cudv	Cast unit drawing view properties
.cudv.more	Cast unit drawing user-defined view attributes
.cudc	Cast unit drawing section view properties
.cudc.more	Cast unit drawing user-defined section view attributes
.cudd	Cast unit drawing dimension properties
.cudd.more	Cast unit drawing user-defined dimension attributes
.cudcd	Cast unit drawing dimensioning properties
.cudcd.more	Cast unit drawing user-defined dimensioning properties
.cupm	Cast unit drawing part mark properties
.cusm	Cast unit drawing bolt mark properties
.cunpm	Cast unit drawing neighbor part mark properties
.cudsurfm	Cast unit drawing surface treatment mark properties

File or file name extension	Description
.cudsurfm.more	Cast unit drawing user-defined surface treatment mark attributes
.cudrm	Cast unit drawing reinforcement mark properties
.cudrm.more	Cast unit drawing user-defined reinforcement mark attributes
.cudp	Cast unit drawing part properties
.cudp.more	Cast unit drawing user-defined part attributes
.cuds	Cast unit drawing bolt properties
.cuds.more	Cast unit drawing user-defined bolt attributes
.cudnp	Cast unit drawing neighbor part properties
.cudnp.more	Cast unit drawing user-defined neighbor part attributes
.cudsrf	Cast unit drawing surface treatment properties
.cudsrf.more	Cast unit drawing user-defined surface treatment attributes
.cudr	Cast unit drawing reinforcement properties
.cudr.more	Cast unit drawing user-defined reinforcement attributes
.cudw	Cast unit drawing welding properties
.cudw.more	Cast unit drawing user-defined welding attributes
.cudgr	Cast unit drawing grid properties
.cudgr.more	Cast unit drawing user-defined grid attributes
.cudrp	Cast unit drawing protection properties
.cudrp.more	Cast unit drawing user-defined protection attributes
.cuf	Cast unit drawing filter properties
.cunf	Cast unit drawing neighbor part filter properties

Files related to general arrangement drawings, drawing level properties, saved in \attributes folder

File or file name extension	Description
`.gd`	General arrangement drawing properties
`.gd.copt`	General arrangement drawing detailed object level settings
`.gd.more`	General arrangement drawing user-defined properties
`.gdl`	General arrangement drawing layout properties
`.gdl.more`	General arrangement drawing user-defined layout attributes
`.gdv`	General arrangement drawing view properties
`.gdv.more`	General arrangement drawing user-defined view attributes
`.gdd`	General arrangement drawing dimension properties
`.gdd.more`	General arrangement drawing user-defined dimension attributes
`.gdcd`	General arrangement drawing dimensioning properties
`.gdcd.more`	General arrangement drawing user-defined dimensioning attributes
`.gpm`	General arrangement drawing part mark properties
`.gsm`	General arrangement drawing bolt mark properties
`.gnpm`	General arrangement drawing neighbor part mark properties
`.gdsurfm`	General arrangement drawing surface treatment mark properties
`.gdsurfm.more`	General arrangement drawing user-defined surface treatment mark attributes
`.gjm`	General arrangement drawing connection mark properties
`.gdrm`	General arrangement drawing reinforcement mark properties

File or file name extension	Description
`.gdrm.more`	General arrangement drawing user-defined reinforcement mark attributes
`.gnrm`	General arrangement drawing neighbor reinforcement mark properties
`.gpom`	General arrangement drawing pour object mark properties
`.gdp`	General arrangement drawing part properties
`.gdp.more`	General arrangement drawing user-defined part attributes
`.gds`	General arrangement drawing bolt properties
`.gds.more`	General arrangement drawing user-defined bolt attributes
`.gdnp`	General arrangement drawing neighbor part properties
`.gdnp.more`	General arrangement drawing user-defined neighbor part attributes
`.gdsrf`	General arrangement drawing surface treatment properties
`.gdw`	General arrangement drawing welding properties
`.gdw.more`	General arrangement drawing user-defined welding attributes
`.gdr`	General arrangement drawing reinforcement properties
`.gdr.more`	General arrangement drawing user-defined reinforcement attributes
`.gnr`	General arrangement drawing neighbor reinforcement properties
`.gpo`	General arrangement drawing pour object properties
`.gpbr`	General arrangement drawing pour break properties
`.gdrmp`	General arrangement drawing reference object properties
`.gdrmp.more`	General arrangement drawing user-defined reference model attributes

File or file name extension	Description
.gdgr	General arrangement drawing grid properties
.gdgr.more	General arrangement drawing user-defined grid attributes
.gdrp	General arrangement drawing protection properties
.gdrp.more	General arrangement drawing user-defined protection attributes
.gdf	General arrangement drawing filter properties
.gdnf	General arrangement drawing neighbor part filter properties

Files related to multidrawings, drawing level properties, saved in \attributes folder

File or file name extension	Description
.md	Multidrawing properties
.md.more	Multidrawing user-defined attributes
.mdl	Multidrawing layout properties
.mdl.more	Multidrawing user-defined layout attributes
.mdr	Multidrawing protection properties
.mdr.more	Multidrawing user-defined protection attributes

Files common to all drawings, and files in the \drawings folder

File or file name extension	Description
.dg	Drawing files
.ldb	Drawing export layer properties
.ldr	Drawing link properties
.cs	Section symbol properties
.detail	Detail symbol properties
.fas	Text file properties
.fhl	Hyperlink properties
.dsf	Drawing selection filter properties. This file is saved when you select the **Drawing** --> **Selection filter** check box in the **Filter** or **Selection Filter** properties.

File or file name extension	Description

`.GridsDimXml`
 	
`.ShapeDimXml`
 	
`.HolesDimXml`
 	
`.FilterDimXml`
 	
`.OverallDimXml`
 	
`.RecessesDimXml`
 	
`.SecPartsDimXml`
	Dimensioning rules

`.dg.DPM`	Drawing snapshot files created with the snapshot tool in `\snapshots` subfolder

Files related to IFC export in \IFC folder

File or file name extension	Description
`.ifc`	Exported IFC files

Files related to NC in the \DSTV_Profiles folder

File or file name extension	Description
`.nc1`	NC (numerical control) files

Files in the \ModelSharing folder

File or file name extension	Description
`ModelSharingService.key`	Key file that is needed to perform sharing in Tekla Model Sharing.
`FileSharing.ini`	File sharing settings in Tekla Model Sharing .
`FileSharing.xml`	File needed for file sharing in Tekla Model Sharing.

Files in the \ProjectOrganizer folder

File or file name extension	Description
`.db`	Created when **Organizer** is opened for the first time. Contains all property template and category information used in the model. The database name shows the version of the database, for example, `ProjOrg000020.db`.

File or file name extension	Description
.propertytemplate	Created when you export a property template from **Organizer**.
.category	Created when you export a category from **Organizer**.

Files related to reports in the \Reports folder

File or file name extension	Description
.xsr	Tekla Structures reports

Files in the \SessionFileRepository folder

File or file name extension	Description
Files in the SessionFileRepository folder	Backup copies of the files that are updated or deleted in Tekla Model Sharing read in.
SessionFile.db	Database for managing model folder files in Tekla Model Sharing .
.storage	Configuration file of SessionFile.db.

Files related to shapes in the \ShapeGeometries and \Shapes folders

File or file name extension	Description
.xml	Shape geometry descriptions in the \ShapeGeometries folder
.xml	Shape descriptions in the Shapes folder

Files in the \screenshots folder

File or file name extension	Description
.png	Screenshot taken in Tekla Structures.

Files related to Unitechnik export in the \UT_files folder

File or file name extension	Description
.uni	Exported Unitechnik files

Files related to Web Viewer in the \PublicWeb folder

File or file name extension	Description
Model.xml	Web Viewer model in XML format
index.html	Index file for the Web Viewer model

File or file name extension	Description
`Model.zsol`	Contains information on solid objects in the Web Viewer model
Files in the `css` folder	Contains Cascading Style Sheet (CSS) files for the Web Viewer Model
Files in the `dll` folder	Contains dynamic link libraries (DLL) files for the Web Viewer model
Files in the `help` folder	Contains Web Viewer help and css files.
Files in the `images` folder	Contains image files used in Web Viewer

1.15 Check and change Tekla Structures file and folder locations (Directory Browser)

Directory Browser is a tool that helps you to find and modify the location of the various Tekla Structures files and folders, and customize user settings.

NOTE Generally, only administrators should change these settings. If you change them yourself, and you are sharing the same model with other users, and your settings differ from those of the project, you will have problems. Also, adding or modifying files in some of these folders may require administrator rights.

To locate files and folders, and customize your Tekla Structures settings:

1. Click the **Applications & components** button in the side pane to open the **Applications & components** catalog.

2. Click the arrow next to **Applications** to open the applications list.

3. Double-click **DirectoryBrowser**.

    The **Directory Browser** dialog box opens. You can check the most common folder paths, and customize the settings in your `user.ini` file, or in the user-specific or model-specific `options.ini` file.

4. Check the folder paths and change them if necessary by clicking the buttons on the left of the **Basic** tab.

    If you click the **Project** or **Firm** button and you have not set your firm and project folder, Tekla Structures will prompt you to do so and add the folder path definition to your `user.ini` file.

5. Check the settings in the `user.ini` and `options.ini` files and change them if necessary by clicking the buttons on the right of the **Basic** tab.

6. Go to the **Advanced** tab and define the folder paths for additional folders that you may need to access, such as custom components and macros.

Example

To display the location of your own user settings, click **User Settings** on the left. If you want to check or change the content in one of your user settings files, click the **User Settings** (`user.ini`) or the **User Specific Settings** (`options.ini`) button to open the file.
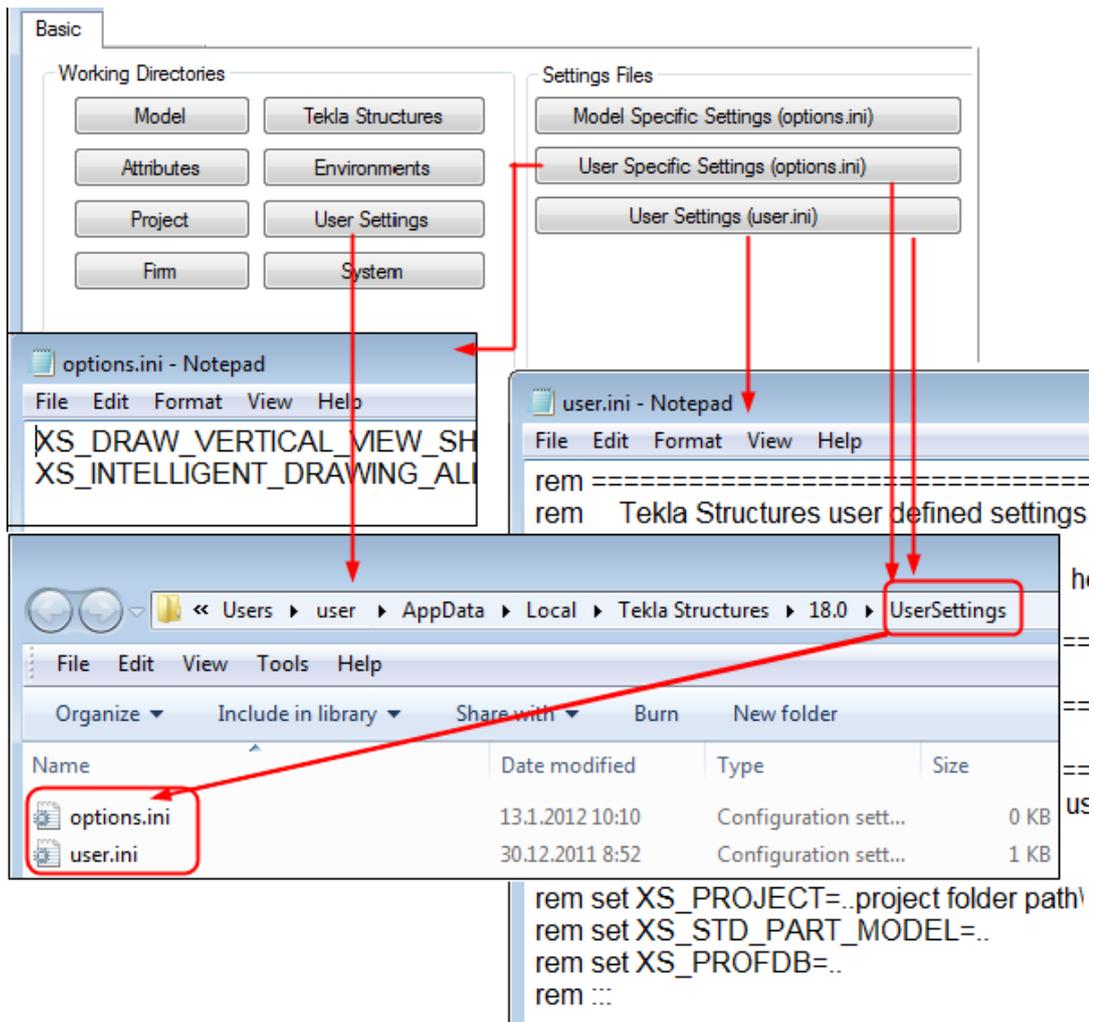
1.16 Folder search order

When you open a model, Tekla Structures searches for the associated files in specific folders in a set order.

It is important that you keep files in correct folders. Once Tekla Structures finds the associated files, it stops searching. This means that files that have the same name but are located lower down the search order are ignored.

The folder search order is:

Folder	Defined by
Current model	The open model
Project	Advanced option XS_PROJECT
Firm	Advanced option XS_FIRM
System	Advanced option XS_SYSTEM

Tekla Structures does not search for certain files in exactly this order. The exceptions are listed below.

The exceptions are:

File (type)	Search order
objects.inp (page 36)	• Model folder • Project folder (XS_PROJECT) • Firm folder (XS_FIRM) • System folder (XS_SYSTEM) • inp folder (XS_INP)
privileges.inp	• Model folder • Project folder (XS_PROJECT) • Firm folder (XS_FIRM) • System folder (XS_SYSTEM) • inp folder (XS_INP)
.dat files (page 48)	System folder (XS_SYSTEM)
Templates	• Folder containing your templates indicated by the advanced option XS_TEMPLATE_DIRECTORY • Model folder • Project folder (XS_PROJECT) • Firm folder (XS_FIRM) • Environment-specific system templates indicated by the advanced option XS_TEMPLATE_DIRECTORY_SYSTEM • System folder (XS_SYSTEM)

File (type)	Search order
Catalogs	Profile, bolt, material and reinforcing bar catalogs: • Model folder • Project folder (XS_PROJECT) • Firm folder (XS_FIRM) • Folder indicated by the advanced option XS_PROFDB Shape catalog: • Model folder • Project folder (XS_PROJECT) • Firm folder (XS_FIRM) • System folder (XS_SYSTEM) • Folder indicated by the advanced option XS_DEFAULT_BREP_PATH Printer catalog: • Model folder • Project folder (XS_PROJECT) • Firm folder (XS_FIRM) • Folder indicated by the advanced option XS_DRIVER

WARNING Do not use the system folder to store customized files. That way you will avoid having problems or doing a lot of unnecessary work when you upgrade to a newer version of the software.

1.17 Project and firm folders

You can create project and firm folders for customized files. This is a useful technique if you want to store the files for future use, or want to retain them when you install a new version of Tekla Structures.

The project folder is where you should store files you customize for a particular project. Use the firm folder to store files customized for a particular organization or company. Create firm and project folders manually and make

them available in all versions using the advanced options XS_PROJECT and XS_FIRM in **File menu** --> **Settings** --> **Advanced options** --> **File Locations** .

For example, you regularly work for a company that has specific drawing layout standards it expects you to use. Customize the drawing templates once for the company and save them in a sub-folder located under the firm folder. You can then use the customized drawing templates for all future projects for that company.

WARNING	Changing an advanced option value in `.ini` files located outside the model folder does not affect the existing models. You can only update advanced options in the **Advanced Options** dialog box or in the `options.ini` file located in model folder; not from an `options.ini` file located in folders defined for the advanced options XS_FIRM or XS_PROJECT. The `.ini` files are read also when you open an existing model, but only new advanced options that do not exist in `options_model.db` or `options_drawings.db` are inserted, for example, such options that are not yet in the **Advanced Options** dialog box but have been added in the software.

See also

1.18 Location of certain files in hidden folders

When Tekla Structures is installed in the `\Program Files` folder the following settings files are located in hidden folders. You can see hidden folders if you turn them visible in Windows **Folder Options**.

WARNING	You can always check the settings below. If you run into problems with the settings, ask your administrator or local support for assistance.

File	Location
`analysis_design_config.inp`	`..\ProgramData\Tekla Structures\<version> \environments\<environment> \system`
`contentattributes.lst`	`..\ProgramData\Tekla Structures\<version> \environments\<environment> \template\settings`

File	Location
`contentattributes_global.lst`	`..\Program Files\Tekla Structures\<version>\nt\TplEd\settings`
`contentattributes_userdefined.lst` (in USImperial and Metric environments: `contentattributes_customer.lst`)	`..\Program Files\Tekla Structures\<version>\nt\TplEd\settings`
`dimension_marks.sym`	`..\ProgramData\Tekla Structures\<version>\environments\common\symbols`
`InquiryTool.config`	`..\ProgramData\Tekla Structures\<version>\environments\common\macros\modeling\InquiryToolAttributes`
`objects.inp`	`..\ProgramData\Tekla Structures\<version>\environments\common\inp`
`options.bin`	`..\Users\<user>\AppData\Local\Tekla Structures\<version>\UserSettings`
`privileges.inp`	`..\ProgramData\Tekla Structures\<version>\environments\common\inp`
`product_finishes.dat`	`..\ProgramData\Tekla Structures\<version>\environments\common\system`
`rebar_config.inp`	`..\ProgramData\Tekla Structures\<version>\environments\<environment>\system`
`TeklaStructures.lin`	`..\ProgramData\Tekla Structures\<version>\environments\common\inp`
`teklastructures.minitoolbar.xml`	`..\Users\<user>\AppData\Local\Tekla Structures\<version>\UserSettings`
`TilePatternCatalog.dtd`	`..\ProgramData\Tekla Structures\<version>\environments\common\system`

File	Location
`TilePatternCatalog.xml`	`..\ProgramData\Tekla Structures\<version> \environments\<environment> \system`
`user.ini`	`..\Users\<username>\AppData \Local\Tekla Structures \<version>\UserSettings\`

2 Model dump

If you have fatal problems with the model, creating a model dump and reading the model dump to a new model is one way of saving your work. Model dump creates an ASCII file that contains the entire model including views and drawings.

You may need to use a model dump if you cannot save, or cannot delete ghost parts, for example. It is the last effort to repair a model after the **Diagnose and repair** commands have been performed without success.

Model dump process:

1. Make a backup copy of the entire model.
2. Create a model dump (page 91).
3. Create a new model.
4. Read the model dump to a new model (page 92).
5. Confirm that the model is working.
6. Copy some files from the original model folder to the new model folder.

NOTE If you are an advanced user, you can modify the dump file with a standard text editor.

For example, if you know the ID of a corrupted part, you can search for the ID in the file and delete the data related to the ID. For more information, see Using a model dump file.

2.1 Create a model dump

Creating a model dump creates an ASCII file of the model. You can then read the model dump to a new model. The model dump file contains the entire model, including views and drawings.

WARNING	Create a model dump in single-user mode.
	If you are working in a multi-user mode, ensure that all other users are out of the model. Then convert the model to a single-user model.

1. Open the model.

2. On the **File** menu, click **Diagnose & repair** and in the **Model dump** area, click **Create**.

   Tekla Structures creates the `model.dmp` file in the model folder. When the model dump file has been created, a status bar message is shown. Depending on the size and complexity of the model, and because of the amount of information the dump file holds, it can take several minutes to create the file. The model dump can also be of substantial size, often taking more disk space than the original model.

   Now you can create a new model and read the model dump to the new model (page 92).

2.2 Read a model dump to a new model

When you read a model dump, an ASCII file of a model is imported to an open model. You can only read a model dump to a newly-created model. After testing the model where you have read the model dump and after some manual adjustments, you need to copy some files from the original model folder to the new model folder.

A model dump can be read only once to one model. You can read the same model dump to several new models.

WARNING	Do not read model dumps to multi-user models.

WARNING	Do not save the new model until the dump information has been read, otherwise you will receive an error message and the dump information will not be read to the new model.

1. Create a new model.

2. In the new model, delete the 3d view that Tekla Structures creates by default.

   The model dump file has its own views, one of which is most likely named "3d". If you do not delete the 3d view from the new model, the 3d view in the model dump file will be treated as a duplicate view name and possibly not saved.

3. Browse to the original model folder and copy or move the `model.dmp` file to the current (new) model folder.

4. On the **File** menu, click **Diagnose & repair** and in the **Model dump** area, click **Read**.

   Once the model dump is read to the new model, the following message is displayed: `Model dump file read, but model is not usable until you save and reopen it.`

5. Save, close, and reopen the model.

   You must save and reopen the model for the model dump to work correctly. If this is not done the model is unusable.

6. Confirm that the model is working and the model dump succeeded.

7. Copy all the files from the original model folder to the new model folder **except** the following:

   • `\drawings` folder contents. However, if you have taken snapshots and you wish to keep them, copy the `..\<model>\drawings\Snapshots` folder.

   • `<model_name>.db1` and `<model_name>.db1.bak`

You may want to check the model for any remaining inconsistencies. On the **File** menu, click **Diagnose & repair** and in the **Model** area click **Diagnose**, and in the **Library database** area click **Diagnose**. Make a backup copy of the new, rebuilt model.

See also

Create a model dump (page 91)

3 Tekla Open API

Tekla Open API is a specialized Application Programming Interface (API) developed by Tekla that enables you to develop applications and additional functionality on the Tekla modeling platform and integrate it into your own environment. Tekla Open API is implemented using Microsoft .NET technology.

Applications that are developed with Tekla Open API to work in conjunction with Tekla Structures are called *extensions*.

With Tekla Open API you can:

- Record and run user interface actions

  By recording and running user interface actions you can automate routine tasks, such as creating daily reports.

- Create automation tools

  You can create automation tools for frequently needed objects. With automation tools you can, for example, create basic structures or add typical details to drawings.

- Integrate Tekla Structures to other software

  You can utilize the Tekla Open API and .NET in transferring information between Tekla Structures and other software, such as Analysis & Design software.

- Create new functionality

  With Tekla Open API, you can create tools that add new functionality to Tekla Structures.

For more information on Tekla Open API and extensions, see:

- `TeklaOpenAPI_Reference.chm` help in the `..\ProgramData\Tekla Structures\<version>\help\enu` folder

- Tekla Open API Startup Package in Tekla Warehouse product download service.

- Extensions in Tekla Warehouse.

- Extensions in Tekla User Assistance.

4 Contact Tekla Support

The **Contact Tekla Support** tool allows you to contact your local Tekla Structures support directly. With this tool you can collect the necessary models, files, and other information for your support case, and safely upload it to your local support.

The **Contact Support Tool**:

- Automatically identifies the open model and includes the entire model folder as an attachment to your message.

- Automatically gathers license and system information.

- Provides an easy-to-use interface where you can describe your issue, and fill in all necessary information.

- Uploads the message, attached model, other attached files, and all gathered information to your local Tekla Structures support.

NOTE **Confidentiality information**

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

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1. On the **File** menu, click **Help** --> **Contact Tekla support** .

2. Fill out the **Message** tab:
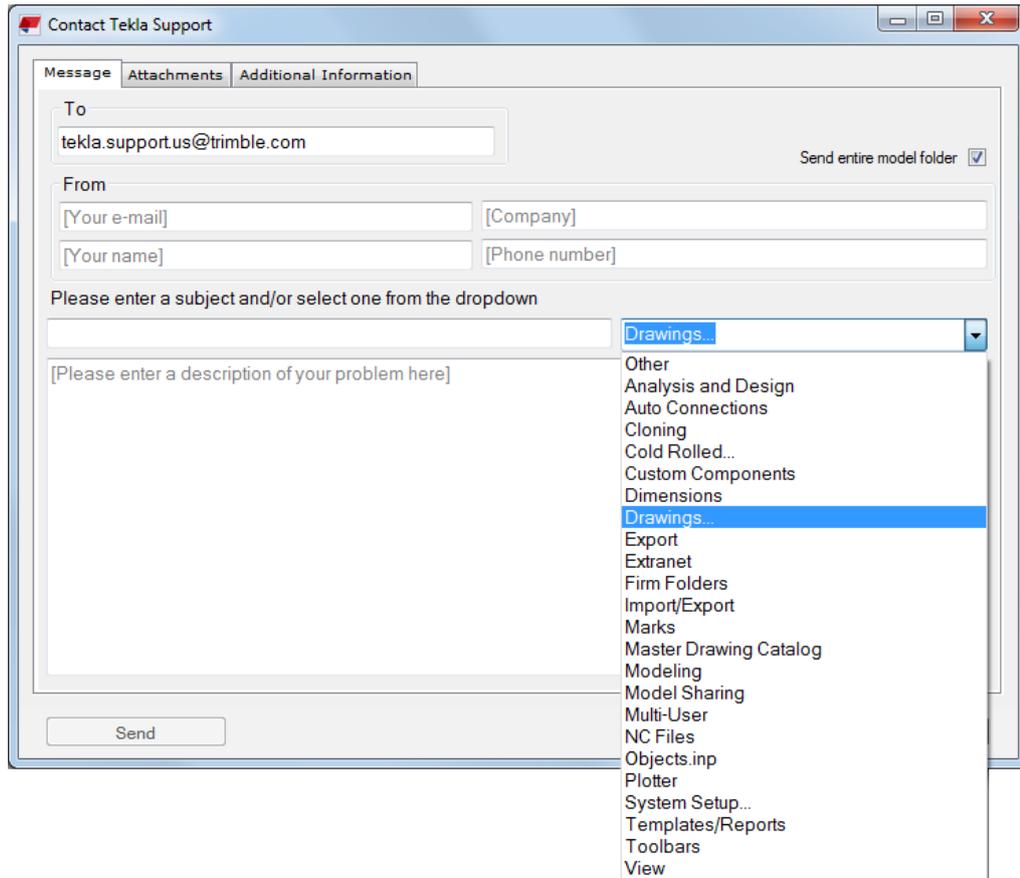
a. In the **To** box, enter the e-mail address of your local support.

Tekla Structures automatically fills out this information, but you can change the address if needed. The next time you open the **Contact Tekla Support** message form, the changed address will be displayed.

b. In the **From** boxes, enter your e-mail address, company name, your name, and your phone number.

c. Enter a subject or select a category from the list of predefined categories.

d. If you want to attach the whole model folder, select the **Send entire model folder** check box.

You can select this option on the **Attachments** tab as well. But if you know that you want to send the entire model folder, the quickest way to fill out the message form is to fill out only the **Message** tab and select **Send entire model folder**.

e. Enter a description of the problem in the free text area.

3. On the **Attachments** tab, select what you want to attach:

a. Select the **Send entire model folder** check box, or select specific files from the **Files** list.

b. If you want to include a screenshot of the model, click the **Screen snip** button.

c. If you want to send some other attachments than shown in the **Files** list, click the **Attach extra file** button and browse for the files.

d. If you want to send model crash dumps, click the **Attach crash dump** button and browse for the model dumps (page 91) you have created earlier.

The total file size of the selected files is displayed in the upper-right corner.

4. On the **Additional Information** tab, you can check the system and license information that the tool has automatically gathered from the session.

5. Click **Send** to send your message to the local Tekla Structures support.

When the data is being uploaded, Tekla Structures shows a message telling that the files are currently being uploaded to a support server, and that you may close the application. Uploading should not affect the performance of your computer. When the upload is complete, you will receive a notification at your e-mail address.

5 Join or leave the Automatic User Feedback program

Join the Automatic User Feedback program to help improve Tekla Structures. This is an easy way to influence the future development of Tekla Structures, because the program collects anonymous information on how you use the software.

The program 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 cannot be used to identify you, and your data is combined with other people's data to make statistical analysis.

1. On the **File** menu, click **Settings** and scroll down to the **Automatic User Feedback** area.

2. Select one of the options:
   - **Yes, I want to participate in the program:** you accept the collecting of anonymous information
   - **No, I would not like to participate:** you do not accept the collecting of information

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

   Tekla Structures displays the `UserFeedbackLog.txt` file.

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

6 Disclaimer

To see the third party licenses, go to Tekla Structures, click **File menu** --> **Help** --> **About Tekla Structures** and then click the **3rd party licenses** option.

The elements of the software described in this Manual are protected by several patents and possibly pending patent applications in the United States and/or other countries. For more information go to page http://www.tekla.com/tekla-patents.

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