



Tekla Structures 2016

Templates and reports

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Contents

| | | |
|----------|--|-----------|
| 1 | Templates..... | 3 |
| 1.1 | Create a template..... | 4 |
| 1.2 | Create a template in HTML format..... | 5 |
| 1.3 | Create a template for nested assemblies..... | 6 |
| 1.4 | Create a template for bending schedules or pull-out pictures | 10 |
| | Bending schedule attributes..... | 11 |
| 1.5 | Add images in a template..... | 12 |
| 1.6 | Content types..... | 15 |
| 1.7 | Template attribute files (contentattributes.lst)..... | 18 |
| 1.8 | User-defined template attributes..... | 19 |
| | Add user-defined template attributes to Template Editor..... | 21 |
| | Add comments to user-defined template attributes..... | 22 |
| | Add hierarchy to user-defined template attributes..... | 23 |
| 2 | Reports..... | 25 |
| 2.1 | Create a report..... | 26 |
| 2.2 | Create a report of selected drawings..... | 27 |
| 2.3 | Create a report of nested assemblies..... | 27 |
| 2.4 | Show a report | 28 |
| 2.5 | Define how reports are displayed..... | 28 |
| 2.6 | Add tabs to reports..... | 29 |
| 2.7 | Print a report | 30 |
| 2.8 | Report settings..... | 31 |
| 3 | Tips for templates and reports..... | 33 |
| 3.1 | Select objects to include in a report using GUIDs..... | 33 |
| 3.2 | Useful shortcuts in viewing logs and reports..... | 34 |
| 3.3 | Use text type attribute in calculations..... | 35 |
| 3.4 | Change value field content to use imperial units..... | 35 |
| 3.5 | Define customized date format..... | 36 |
| 3.6 | Assembly or cast unit drawing sheet number..... | 36 |
| 4 | Disclaimer..... | 38 |

1 Templates

Templates are descriptions of forms and tables that can be included in Tekla Structures. Templates are either graphical or textual. Graphical templates can be included in drawings as tables, text blocks, and drawing headers. Textual templates can be used as reports. The contents of the template fields are filled in by Tekla Structures at run time.

Tekla Structures includes a large number of standard templates you can use. Use Template Editor to modify existing templates, or create new ones to suit your needs. Graphical template definitions have the file name extension .tpl. Textual template definitions have the file name extension .rpt.

Example

| ASS_POS | PROFILE | MATER | NUM | LENGT | AREA | WEIGHT |
|---------------------------|-------------------|--------------|-----------|----------------------------|-----------------------|-------------|
| Mark | Main part profile | Grade | Qty. | Length(mm) | Area(m ²) | Weight(kg) |
| MATERIAL LIST FOR DRAWING | | | | | TOTALS: | AREA WEIGHT |
| BUILDER | | | | Company Corporation | | |
| PROJECT_ADDRESS | | | | | | |
| PROJECT_D | | | | | | |
| DRAWING TITLE | TITLE | | | | | |
| CONTRACT | PROJECT_NAME | | | | | |
| MODELLER BY | DESIGNER | ISSUED | ISSUE_DAT | | | |
| CONTRACT NO | PROJECT | SCALE | SCALE1 | SCALE2 | SCALE3 | |
| DRAWING No | BASE_NAME | REVISION No. | REV | | | |

For more information on using templates, see the Template Editor Help or the Template Editor User's Guide

To access Template Editor Help, open Template Editor and click **Help** --> **Contents** .

To open the guide in .pdf format, click [Template Editor User's Guide](#).

See also

[Create a template \(page 4\)](#)

1.1 Create a template

To create a template:

1. On the **File** menu, click **Editors --> Template Editor**.
2. In Template Editor, click **File > New**.
3. Select the template type and click **OK**. A new empty template is created.
4. Add new rows in the template.
 - a. Click **Insert --> Component --> Row** to add a new row.
 - b. Select a content type for the row and click **OK**.
 - c. Repeat steps a–b for each new row.
5. Add value fields to get the required data from your Tekla Structures database.
 - a. Click **Insert --> Value field**.
 - b. Click a point to define the location of the field within the row.

The **Select Attribute** dialog box appears prompting you to select an attribute for the value field.
 - c. Select an attribute and click **OK**.
 - d. Repeat steps a–c for each value field.
6. Save the template.
 - a. Click **File --> Save as**.
 - b. Browse to the template folder `..\environment\<your_environment>\template`.
 - c. In the **File name** field, enter a name for the template.
 - d. Click **OK**.

See also

[Templates \(page 3\)](#)

[Create a template in HTML format \(page 5\)](#)

[Create a template for nested assemblies \(page 6\)](#)

[Create a template for bending schedules or pull-out pictures \(page 10\)](#)

[Add images in a template \(page 12\)](#)

1.2 Create a template in HTML format

Templates in HTML format give you more possibilities for different layout, fonts, and images. Templates that generate output in HTML format are graphical and have the file name extension *.html.rpt.

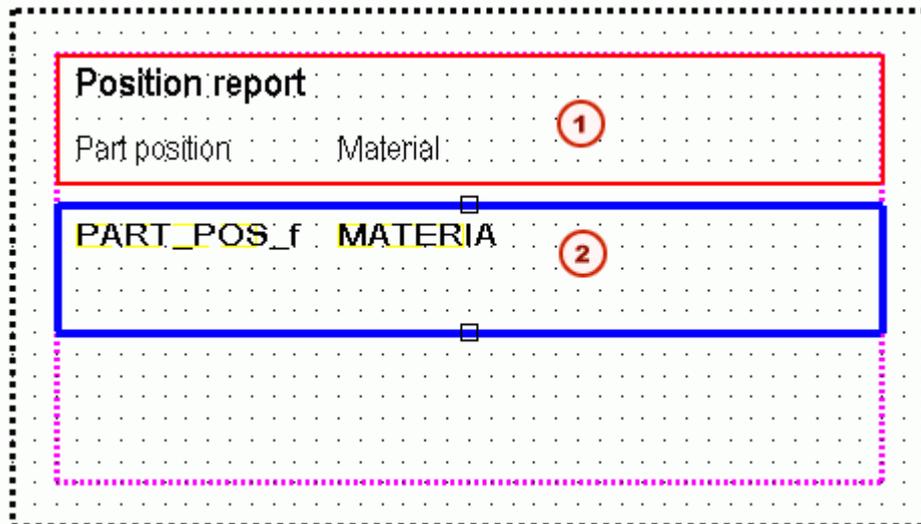
1. On the **File** menu, click **Editors --> Template Editor**.
2. In Template Editor, click **File > New**.
3. Select **Graphical template** and click **OK**.
4. Add new rows in the template.
 - a. Click **Insert --> Component --> Row** to add a new row.
 - b. Select a content type for the row and click **OK**.
 - c. Repeat steps a–b for each new row.
5. Add value fields to get the required data from your Tekla Structures database.
 - a. Click **Insert --> Value field**.
 - b. Click a point to define the location of the field within the row.

The **Select Attribute** dialog box appears prompting you to select an attribute for the value field.
 - c. Select an attribute and click **OK**.
 - d. Repeat steps a–c for each value field.
6. Add a header for each value field.
 - a. Click **Insert --> Component --> Header...**
 - b. Click **Insert --> Text...**
 - c. Enter a heading for the template, and then click **OK**.
 - d. Click a point to define the location of the heading in the header row.
 - e. Repeat steps a–d to create headings for all the value fields.
7. Save the template:
 - a. Click **File --> Save as**
 - b. Browse to the template folder `..\environment\<your_environment>\template`.
 - c. In the **File name** field, enter a name for the template.

Include the extension *.html.rpt in the file name. For example, `Part_list.html.rpt`.
 - d. Click **OK**.

NOTE If you add images in your HTML template, the images should be located in . . . \Program Files\Tekla Structures\<version>\nt\TplEd\bitmaps folder, otherwise they are not shown in the HTML output.

Example



1. Header that contains text fields
2. Row that contains two value fields

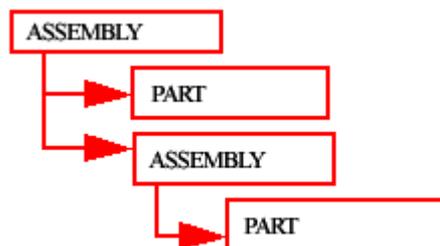
See also

[Templates \(page 3\)](#)

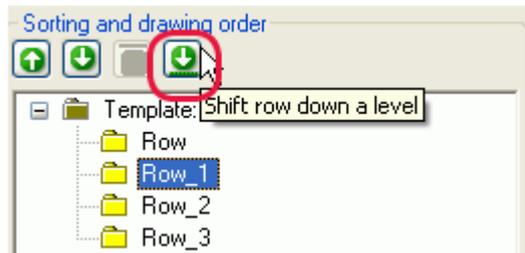
[Add images in a template \(page 12\)](#)

1.3 Create a template for nested assemblies

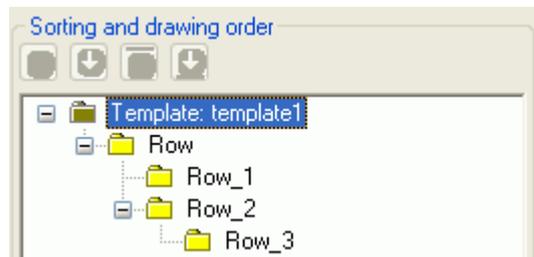
This example shows how to produce a template that displays the hierarchical structure of nested assemblies. You will create a nested assembly structure in a textual template similar to the one in the following picture:



1. On the **File** menu, click **Editors** --> **Template Editor**.
2. In Template Editor, click **File** > **New**.
3. Select **Textual template** and click **OK**.
4. Add four new rows in the template.
 - a. Click **Insert** --> **Component** --> **Row** to add a new row.
 - b. Select a content type for the row, and then click **OK**.
 For the first and third row, select the **ASSEMBLY** content type, and for the second and fourth row, select the **PART** content type.
 - c. Repeat steps a–b for each new row.
5. Use the arrow buttons under **Sorting and drawing order** to create a nested assembly structure for the template.
 - a. Move the second and third row down one level.
 - b. Move the fourth row down two levels.



The structure should now look like this:



6. Add value fields to get the required data from your Tekla Structures database.

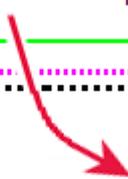
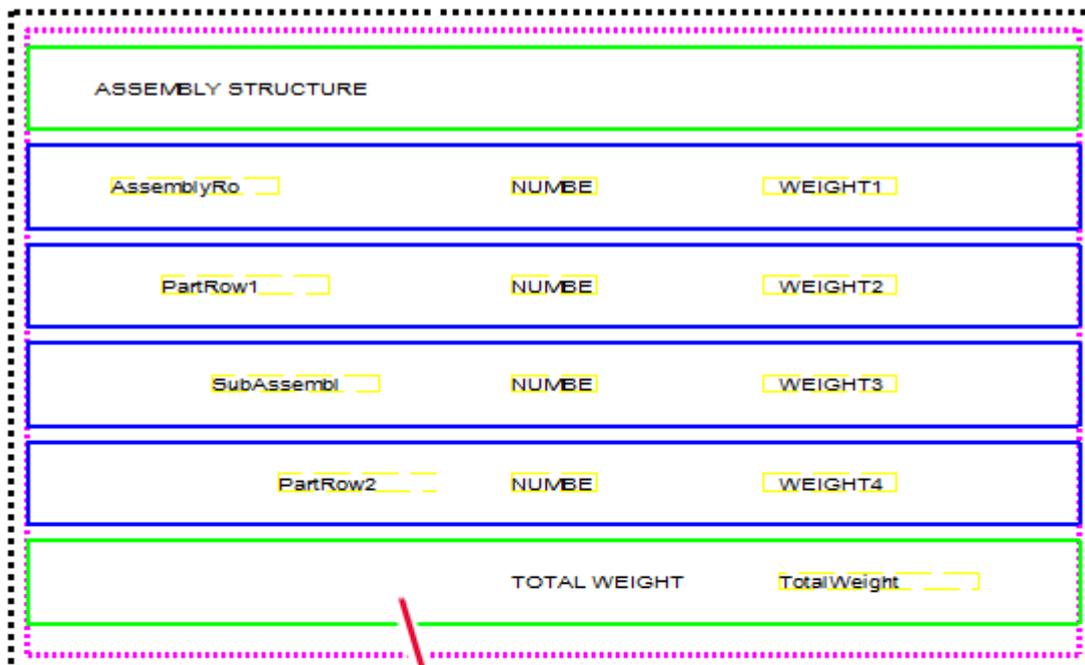
In this example, the added value fields are assembly or part position, number, and weight.

 - a. Click **Insert** --> **Value field** .
 - b. Click a point to define the location of the field within the row.
 The **Select Attribute** dialog box appears prompting you to select an attribute for the value field.
 - c. Select an attribute and click **OK**.
 - d. Repeat steps a–c for each value field.

7. Modify the layout of the template. For example:
 - a. Move objects to display the nested assembly structure in the printed report. To do this, select the object you want to move and drag it to the desired position.
 - b. Align objects. To do this, select all the objects you want to align, right-click and select the appropriate option from the pop-up menu, for example **Align --> Right** .
 - c. Add a header and a footer. To do this, click **Insert --> Component --> Page header** and **Page footer**. Add the required information to the header and footer.
8. Save the template.

Example

Below is an example textual template and a report that has been created using the template:



Assembly structure

| | | |
|--------------|---|-------|
| TOP/1 | 1 | 677.5 |
| SUBTRUSS/5 | 2 | 338.7 |
| 1001 | 2 | 3.6 |
| 1002 | 2 | 3.4 |
| T/2 | 2 | 10.3 |
| T/3 | 2 | 12.5 |
| T/4 | 2 | 14.8 |
| T/6 | 2 | 12.2 |
| T/7 | 2 | 14.5 |
| T/8 | 2 | 17.0 |
| T/9 | 2 | 16.3 |
| T/10 | 2 | 9.3 |
| T/11 | 2 | 11.9 |
| T/12 | 2 | 14.5 |
| T/15 | 2 | 73.1 |
| T/16 | 4 | 62.7 |
| Total weight | | 677.5 |

NOTE You can create graphical templates for nested assemblies in the same manner as textual templates. The difference between graphical and textual templates is that in a graphical template you can display project and company information and graphics, such as table outlines, pictures, or symbols.

See also

[Templates \(page 3\)](#)

1.4 Create a template for bending schedules or pull-out pictures

You can use Template Editor for creating bending schedules or pull-outs pictures on reinforcement bars and bent meshes, and control the type of information that is shown in the bending schedules.

1. On the **File** menu, click **Editors --> Template Editor**.
2. Click **File --> New** .
3. Select **Graphical template** and click **OK**.
4. Click **Insert --> Component --> Row** to add a new row.
5. Select **REBAR** or **MESH** as the content type for the row.
6. Add value fields to get the required data from your Tekla Structures database.
 - a. Click **Insert --> Value field** .
 - b. Click a point to define the location of the field within the row.

The **Select Attribute** dialog box appears prompting you to select an attribute for the value field.
 - c. Select an attribute and click **OK**.
 - d. Repeat steps a–c for each value field.
7. Insert a graphical field to your **REBAR** or **MESH** content type row.
 - a. Click **Insert --> Graphical Field...**
 - b. Click and drag with the mouse to draw a frame.
8. Double-click the graphical field to open the **Graphical Field Properties** dialog box.
9. Click **Free attributes** and go to the **User** tab.
10. Add the required bending diagram attributes.
11. Save the template.

Example

| Tekla Structures Rebar list | | Project number: 1 Project name: Tekla Corporation | | Date: 04.01.2007 | | | |
|--------------------------------|------|--|--------|------------------|-------------|------------|---|
| Position | Size | Quantity | Grade | Length (mm) | Weight (kg) | Weight/Tot | Pull-out picture |
| 1 | 12 | 1 | A500HW | 2310.0 | 2.1 | 2.1 |  |
| 3 | 12 | 1 | A500HW | 1030.0 | 0.9 | 0.9 |  |
| 4 | 12 | 1 | A500HW | 1150.0 | 1.0 | 1.0 |  |
| 7 | 12 | 1 | A500HW | 2540.0 | 2.3 | 2.3 |  |
| 8 | 12 | 1 | A500HW | 1570.0 | 1.4 | 1.4 |  |
| 9 | 12 | 1 | A500HW | 1700.0 | 1.5 | 1.5 |  |

See also

[Bending schedule attributes \(page 11\)](#)

Bending schedule attributes

The following table lists the attributes and values that can be used for bending schedules in templates.

| Attribute | Default value | Available values |
|-----------|---------------|--|
| FontName | romsim | Available template fonts |
| FontSize | 2.0 | Available font sizes |
| FontColor | 1 (black) | 1 = black 2 = red 3 = bright green 4 = blue 5 = cyan 6 = yellow 7 = magenta 8 = brown 9 = green 10 = dark blue 11 = forest green 12 = orange 13 = gray |

| Attribute | Default value | Available values |
|---------------|--|--|
| RotationAxis | 2 | 0 = by view 1 = by global Z 2 = by local axis |
| Exaggeration | 1 | 0 = no 1 = yes |
| EndMark | 1 | 1 = straight 2 = half arrow 3 = full arrow |
| Dimensions | 1 | 0 = no 1 = yes |
| BendingRadius | 0 | Shows the bending radius in form of diameter of the bending roll. 0 = no 1 = yes |
| BendingAngle | 1 | 0 = no 1 = yes |
| ImageWidth | Width of the graphical field multiplied by 4. | Number of pixels |
| ImageHeight | Height of the graphical field multiplied by 4. | Number of pixels |

See also

[Create a template for bending schedules or pull-out pictures \(page 10\)](#)

1.5 Add images in a template

You can add images in graphical templates. For example, you might want to include a company logo in your drawings. Tekla Structures supports the following image formats in graphical templates: .bmp, .jpg, .jpeg, .tif, .tiff and .png.

1. Open an existing graphical template or create a new graphical template in Template Editor.
2. Add a new row in the template:
 - a. Click **Insert** --> **Component** --> **Row** to add a new row.

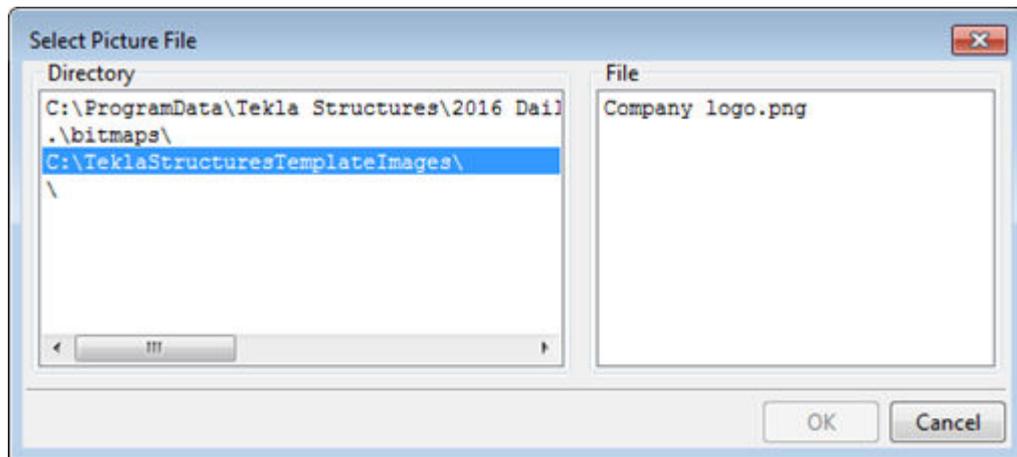
- b. Select a content type for the row and click **OK**.
3. Ensure that you have the row selected, and click **Insert > Picture** to open the **Select Picture File** dialog box.

If a local symbols folder exists, the contents of that folder are shown by default. You can browse for the contents of the `common\symbols` folder by selecting that folder. If a local symbols folder does not exist, Tekla Structures displays the contents of the `common\symbols` folder.

4. If you have images in other folders, you can display these folders in the **Select Picture File** dialog box:
 - a. In Template Editor, click **Options --> Preferences**.
 - b. Go to the **File Locations** tab and on the **Symbols, pictures** row, add a new folder separated by a semicolon (;), for example:

Symbols, pictures (*) \\.\.\.\common\symbols;\bitmaps;C:\TeklaStructuresTemplateImages\

The folder you defined is displayed in the **Directory** list:



5. Select an image from the **File** list and click **OK** and add the image. You can adjust the size by dragging from the image handles.

Things to remember when adding images in templates

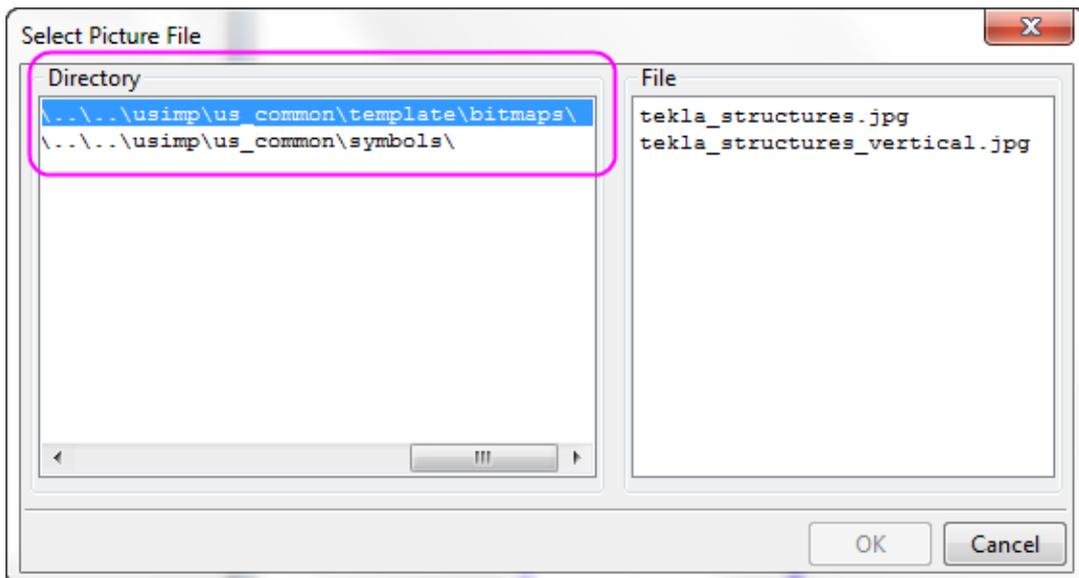
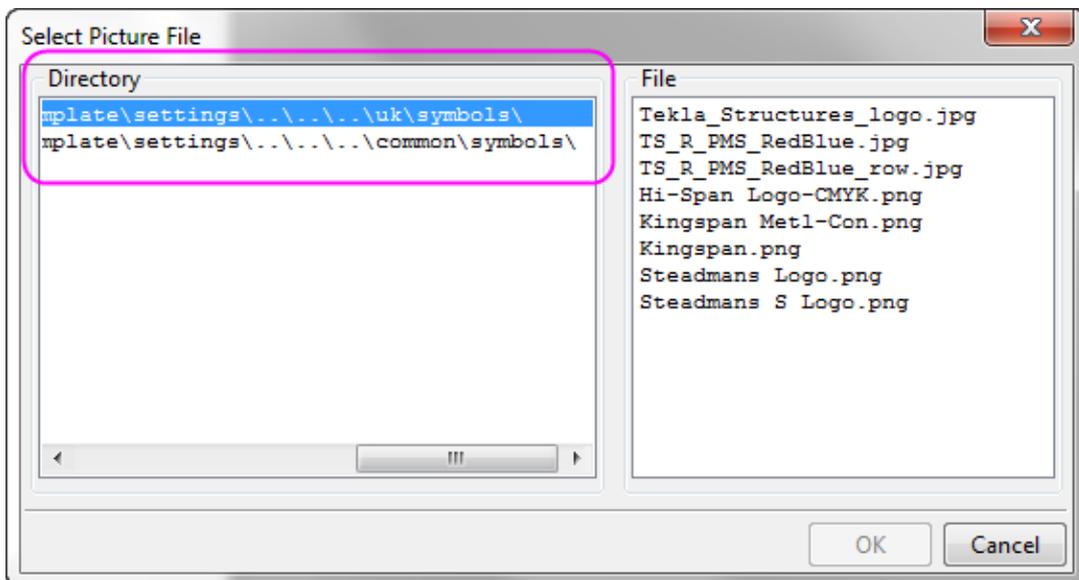
- Do not add very large images because they update very slowly.
- The image may look different in the image editor and in the printout or in the exported DWG file.
- When you export the drawing to DWG, Tekla Structures copies the images in the same folder as the DWG file. If the image for some reason is not in the same folder, only the name of the image is displayed together with an empty frame instead of the image in the DWG.
- If environments have local symbols, the local symbol folder is also included in the search path with the `common\symbols` folder. If the local symbols

folder contains files with the same name as `common\symbols` folder, then the local symbol file is used.

- When you open the drawing that contains images inserted in the template, Tekla Structures first looks for the images in the model folder and then in the `\symbols` folder in the current environment.
- You can define a folder where Tekla Structures always looks for images using the advanced option `DXK_SYMBOLPATH`. You can also define a firm folder for your images.

Example

Below are some examples of the **Select Picture File** dialog box showing folder structure in different environments.



In the following example, a company logo has been added in a template.

| No | REV MARK | REVISION DESCRIPTION | REV. DATE |
|---------------|----------|----------------------|---|
| | | |  |
| DRAWING TITLE | | GA-drawing | |
| CONTRACT | | Corporation | |
| MODELLED BY | | ISSUE DATE | |
| CONTRACT NO | | 1 | SCALE 1:50 |
| DRAWING No | | [1] | REVISION No. 0 |

See also

[Templates \(page 3\)](#)

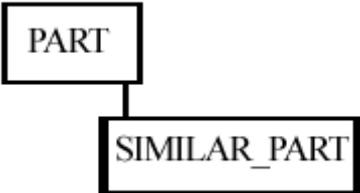
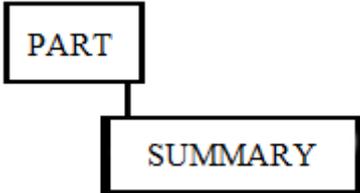
1.6 Content types

When you create a new row in the template, you must select a content type for the row. The content type determines which template attributes you can use in that row.

The available content types are:

| Content type | Description |
|-------------------|--|
| ANTIMATERIAL | |
| ASSEMBLY | Use to create lists of assemblies and single parts. Includes all assemblies containing the selected parts and bolts. |
| BOLT | Use to create screw and bolt lists. Includes all bolts connected to selected parts. |
| CAST_UNIT | Use to create lists of cast units. |
| CHAMFER | Use to create lists of the length of the chamfers. |
| COMMENT | Use to create empty rows or rows that only have textual data or lines anywhere on a template. |
| CONNECTION | Use to create lists of connections. |
| DRAWING | Use to create drawing lists without revision history information. Use for reports and included drawings. |
| HIERARCHIC_OBJECT | Use to create lists of various types of hierarchies. For example, lists hierarchical objects in Organizer. |

| Content type | Description |
|--------------------|--|
| HISTORY | <p>Use to retrieve history information of the model. You can use this content type with PART, REBAR, CONNECTION and DRAWING rows.</p> <p>The following template attributes can be used with this content type:</p> <ul style="list-style-type: none"> • TYPE: the type of the historical action, for example update or numbering. • USER: the user who made the change. • TIME: the time the change was made. • COMMENT: the comment which was entered upon clicking Save. • REVISION_CODE: the revision code which was entered upon clicking Save. |
| HOLE | Use to create lists of holes. |
| LOAD | Use to create lists of loads. |
| LOADGROUP | Use to create lists of load groups. |
| MESH | Use to create lists of meshes. |
| NUT | Use to create lists of nuts. Contains all nuts for bolts associated with the selected parts. |
| PART | Use to create lists of parts. |
| POUR_BREAK | Use to create lists of pour breaks. |
| POUR_OBJECT | Use to create lists of pour objects. |
| REBAR | Use to create lists of reinforcing bars. |
| REFERENCE_MODEL | Use to list the reference models. |
| REFERENCE_OBJECT | <p>Use to list the reference model objects in a reference model.</p> <p>Only reference model objects that have user-defined attributes are displayed in reports.</p> |
| REFERENCE_ASSEMBLY | Use to list the reference assemblies in a reference model. |
| REVISION | Use to create lists of revision marks. |
| SIMILAR_ASSEMBLY | Use to create lists of similar parts. |
| SIMILAR_CAST_UNIT | <p>To use this content type, you need to have an empty (hidden in output) ASSEMBLY, PART or CAST_UNIT row in the row hierarchy above the row with SIMILAR_* content type:</p> |
| SIMILAR_PART | |

| Content type | Description |
|---------------|--|
| |  <p>You cannot have any rows below <code>SIMILAR_*</code> row content type in the row hierarchy.</p> <p>Note: Used in drawings to collect similar object information from the model. All the other attribute information is collected from visible drawing objects.</p> |
| SINGLE_REBAR | <p>Use to create lists of individual bars in reinforcing bar groups.</p> <p>For example, use it to the get the lengths of the individual bars in tapered reinforcing bar groups.</p> |
| SINGLE_STRAND | <p>Use to create lists of individual prestressed strands.</p> |
| STRAND | <p>Use to create lists of prestressed strands.</p> |
| STUD | <p>Use to create lists of studs.</p> |
| SURFACE | <p>Use to create lists of surfaces.</p> |
| SURFACING | <p>Use to create lists of surface treatments.</p> |
| SUMMARY | <p>Use to summarize the contents of the row(s) that are above <code>SUMMARY</code> in the hierarchy.</p>  <p>For example, use <code>PART - SUMMARY</code> hierarchy to summarize the contents of the <code>PART</code> rows.</p> |
| TASK | <p>Use to create lists of tasks.</p> |
| WASHER | <p>Use to create lists of washers. Contains all washers for all bolts associated with the selected parts.</p> |
| WELD | <p>Use to create lists of welds.</p> |

See also

[Template attribute files \(contentattributes.lst\) \(page 18\)](#)

1.7 Template attribute files (contentattributes.lst)

Template attributes represent object properties. You can use template attributes in value fields, formulas, and row rules to get the required data from your Tekla Structures database.

When you output the template, Tekla Structures replaces the attribute with the actual value of the corresponding object property. For example, if you include the attribute `WEIGHT` in a report template, Tekla Structures displays the weight of the model object in the report.

Template attributes are defined in the following files:

| File name | Description |
|--|--|
| <code>contentattributes.lst</code> | <p>This is a container file listing all the files that contain the actual attribute definitions. The files are added with <code>INCLUDE</code> sentences. The order of the files included in <code>contentattributes.lst</code> defines the reading order of the files.</p> <p>This file is overwritten in the installation when you install a newer version of Tekla Structures. Ensure that you make a copy of this file before updating.</p> <p>Generally, there is no need to modify <code>contentattributes.lst</code>. Do not modify it if you are not an administrator.</p> |
| <code>contentattributes_global.lst</code> | <p>This file contains attributes that are hard-coded into the program. Do not edit this file.</p> |
| <code>contentattributes_userdefined.lst</code> | <p>This file contains user-defined attributes, the same as in the <code>objects.inp</code> file.</p> <p>This file is overwritten in the installation when you install a newer version of Tekla Structures. To use your own attributes in templates and reports, create a copy of this file and add the necessary attributes to that file.</p> |

By default, these files are located in `..\Program Files\Tekla Structures\<version>\nt\TplEd\settings`, but the location may be different in your environment.

The search order for the `contentattributes.lst` file is the following:

1. Model folder
2. Project folder defined by `XS_PROJECT`
3. Firm folder defined by `XS_FIRM`
4. Folder defined by `XS_TPLED_INI`
5. Folder defined by `XS_TEMPLATE_DIRECTORY/settings`

See also

[User-defined template attributes \(page 19\)](#)

1.8 User-defined template attributes

User-defined template attributes are defined in the `contentattributes_userdefined.lst` file. By default, this file includes most of the user-defined attributes that are visible in the part properties dialog boxes. To use your own attributes in templates and reports, you should make a copy of the file, rename it appropriately, and add the necessary attributes to that file.

The `contentattributes_userdefined.lst` file is divided into two sections:

- A list of attribute names and default settings:

```

..
// Name                               Datatype   Justify   Cacheable  Length
// XXXXX                               FLOAT      RIGHT    TRUE       8
// -----
axial1                                 FLOAT      RIGHT    TRUE       8
axial2                                 FLOAT      RIGHT    TRUE       8
BOLT_COMMENT                           CHARACTER  LEFT     TRUE       64
BOLT_USERFIELD_1                       CHARACTER  LEFT     TRUE       64
BOLT_USERFIELD_2                       CHARACTER  LEFT     TRUE       64
BOLT_USERFIELD_3                       CHARACTER  LEFT     TRUE       64
BOLT_USERFIELD_4                       CHARACTER  LEFT     TRUE       64
BOLT_USERFIELD_5                       CHARACTER  LEFT     TRUE       64
BOLT_USERFIELD_6                       CHARACTER  LEFT     TRUE       64
BOLT_USERFIELD_7                       CHARACTER  LEFT     TRUE       64
BOLT_USERFIELD_8                       CHARACTER  LEFT     TRUE       64
cambering                               CHARACTER  LEFT     TRUE       64
CHECKED_BY                              CHARACTER  LEFT     TRUE       20
CHECKED_DATE                            CHARACTER  LEFT     TRUE       20
comment                                 CHARACTER  LEFT     TRUE       30
CONN_CODE_END1                          CHARACTER  LEFT     TRUE       10
CONN_CODE_END2                          CHARACTER  LEFT     TRUE       10
DRAWING_USERFIELD_1                    CHARACTER  LEFT     TRUE       64
DRAWING_USERFIELD_2                    CHARACTER  LEFT     TRUE       64
DRAWING_USERFIELD_3                    CHARACTER  LEFT     TRUE       64
DRAWING_USERFIELD_4                    CHARACTER  LEFT     TRUE       64

```

- A list of attributes assigned to content types:

| | | | | | | | | |
|---|------|---|---|--------------------------------|---|--------------|---|---------------|
| 1 | PART | = | 2 | ASSEMBLY.MAINPART.USERDEFINED. | 3 | [Parameters] | 4 | comment |
| | PART | = | | ASSEMBLY.MAINPART.USERDEFINED. | | [Parameters] | | xs_shorten |
| | PART | = | | ASSEMBLY.MAINPART.USERDEFINED. | | [Parameters] | | cambering |
| | PART | = | | ASSEMBLY.MAINPART.USERDEFINED. | | [Parameters] | | PRELIM_MARK |
| | PART | = | | ASSEMBLY.MAINPART.USERDEFINED. | | [Parameters] | | OBJECT_LOCKED |
| | PART | = | | ASSEMBLY.MAINPART.USERDEFINED. | | [Parameters] | | fabricator |
| | PART | = | | ASSEMBLY.MAINPART.USERDEFINED. | | [Parameters] | | USER_FIELD_1 |
| | PART | = | | ASSEMBLY.MAINPART.USERDEFINED. | | [Parameters] | | USER_FIELD_2 |
| | PART | = | | ASSEMBLY.MAINPART.USERDEFINED. | | [Parameters] | | USER_FIELD_3 |
| | PART | = | | ASSEMBLY.MAINPART.USERDEFINED. | | [Parameters] | | USER_FIELD_4 |
| | PART | = | | ASSEMBLY.MAINPART.USERDEFINED. | | [Parameters] | | USER_PHASE |

1. The content type of the row in Template Editor
2. The attribute hierarchy in Template Editor
3. Customizable comments, such as the tab name in the user-defined attributes dialog box
4. The name of the user-defined attribute, must be the same as in the `objects.inp` file

See also

[Add user-defined template attributes to Template Editor \(page 21\)](#)

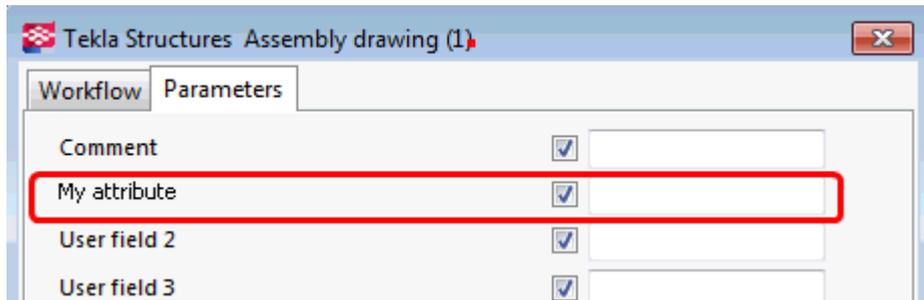
[Add comments to user-defined template attributes \(page 22\)](#)

[Add hierarchy to user-defined template attributes \(page 23\)](#)

Add user-defined template attributes to Template Editor

This example shows how to add your own user-defined attributes to the attribute tree in Template Editor.

Before you start, add your user-defined attribute to the `objects.inp` file. For example, you might add an attribute named `MY_ATTRIBUTE` to the user-defined properties of drawings.



1. Open the `contentattributes_userdefined.lst` file in a text editor.
2. Save the file with an appropriate name, for example `MY_contentattributes_userdefined.lst`, in the same folder.
3. Add `MY_ATTRIBUTE` to the list of attribute names and, define the settings as follows:

| | | | |
|----------------------------|------------------------|--------------------|-------------------|
| <code>MORTAR_WIDTH</code> | <code>FLOAT</code> | <code>RIGHT</code> | <code>TRUE</code> |
| <code>MY_ATTRIBUTE</code> | <code>CHARACTER</code> | <code>LEFT</code> | <code>TRUE</code> |
| <code>OBJECT_LOCKED</code> | <code>CHARACTER</code> | <code>LEFT</code> | <code>TRUE</code> |

4. Add `MY_ATTRIBUTE` to the list of attributes assigned to content types.

Select the content type according to which object the attribute is associated to in the `objects.inp` file. In this example, the content type is `DRAWING`. Add the attribute in the format `USERDEFINED.<ATTRIBUTE_NAME>`.

```
// =====  
//   Drawing attributes  
//   =====  
//   tab_page("DR_Parameters")  
//   =====
```

```
DRAWING           =           USERDEFINED.MY_ATTRIBUTE
```

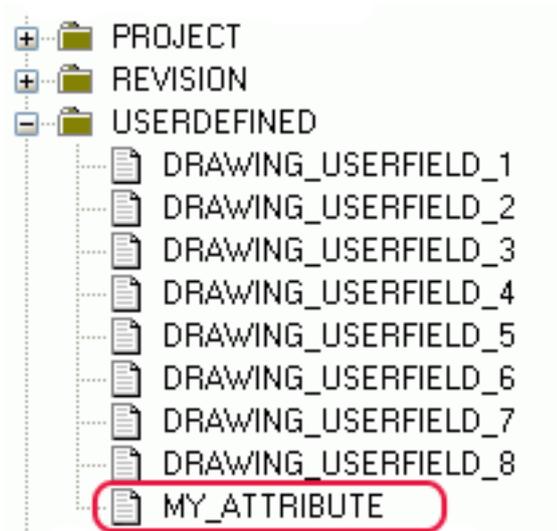
5. Save the changes.
6. Open the `contentattributes.lst` file.

7. Add the following line in the file:

```
[INCLUDE MY_contentattributes_userdefined.lst]
```

8. Save the changes.

The attribute is shown in the attribute tree in Template Editor, under DRAWING > USERDEFINED:



See also

[User-defined template attributes \(page 19\)](#)

Add comments to user-defined template attributes

You can add your own comments to the user-defined attributes in the Template Editor attribute tree.

1. Open your copy of the `contentattributes_userdefined.lst` file.

For example, `MY_contentattributes_userdefined.lst`. Do not modify the original `contentattributes_userdefined.lst` file.

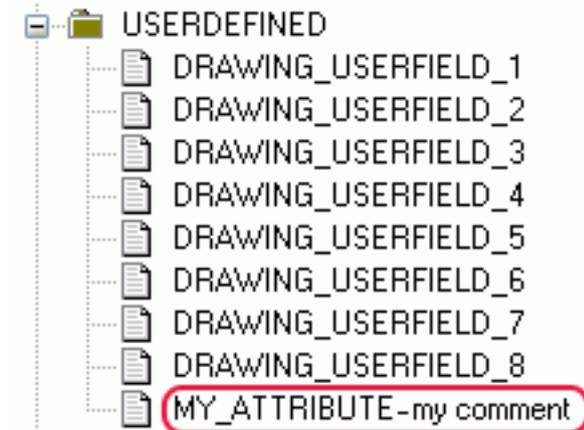
2. Scroll down to the list of attributes assigned to content types.
3. Add your comment inside quotation marks, after the attribute name.

For example:

```
DRAWING = USER-DEFINED.MY_ATTRIBUTE "my comment"
```

4. Save the changes.

The comment you added is displayed in the attribute tree in Template Editor:



See also

[User-defined template attributes \(page 19\)](#)

Add hierarchy to user-defined template attributes

You can add your own hierarchy to the Template Editor attribute tree.

1. Open your copy of the `contentattributes_userdefined.lst` file.
For example, `MY_contentattributes_userdefined.lst`. Do not modify the original `contentattributes_userdefined.lst` file.
2. Scroll down to the list of attributes assigned to content types.
3. Define the hierarchy in square brackets, between `USERDEFINED.` and the attribute name.

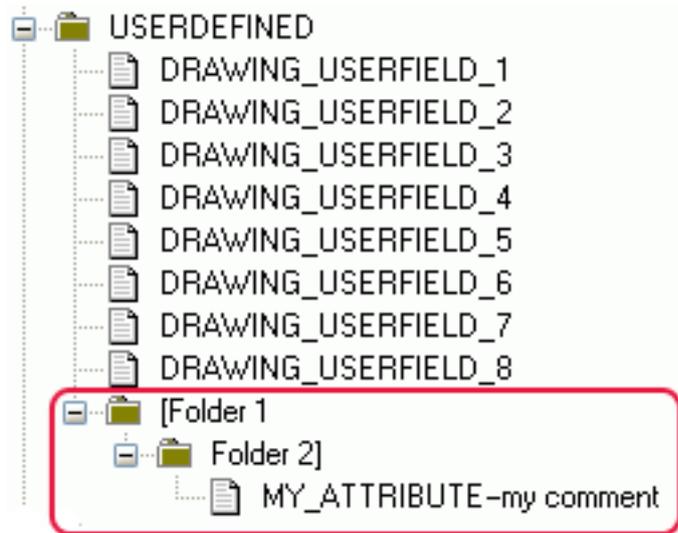
For example:

```
DRAWING = USERDEFINED.[Folder 1.Folder 2].MY_ATTRIBUTE "my comment"
```

NOTE Notice the periods after the brackets, and between the hierarchies.

4. Save the changes.

The new hierarchy is shown in the attribute tree:



WARNING User-defined attributes are case sensitive. Ensure that you enter the attribute name using the correct case for all characters.

See also

[User-defined template attributes \(page 19\)](#)

2 Reports

You can create reports of the information included in models. These could be lists of drawings, bolts, and parts, for example. Tekla Structures creates reports directly from the model, so the information is always accurate. Reports can contain information about selected parts or the entire model.

Tekla Structures includes a large number of standard report templates. Use Template Editor to modify the existing report templates, or create new ones to suit your needs. The report templates are located in the folder . . . \ProgramData\Tekla Structures\<>version>\environments \<environment>\system. Report templates have the file name extension .rpt.

Example

| PartPos | Profile | No. | Material | Length | Area(m2) | Weight(kg) |
|------------------------|--------------|-----|----------|--------|----------|------------|
| Concrete | 250*12000 | 2 | K30-2 | 12000 | 227.6 | 0.0 |
| Concrete | 250*12000 | 6 | K30-2 | 12000 | 250.2 | 0.0 |
| Concrete | 250*14997 | 18 | K30-2 | 12000 | 278.4 | 0.0 |
| Concrete | 250*14997 | 54 | K30-2 | 12000 | 301.0 | 0.0 |
| Concrete | 1500*1500 | 8 | K30-2 | 500 | 7.5 | 0.0 |
| Concrete | 500*1000 | 4 | K30-2 | 12000 | 37.0 | 0.0 |
| Concrete | 380*380 | 80 | K40-1 | 4000 | 6.4 | 0.0 |
| Concrete | 4000*300 | 80 | K30-2 | 12000 | 105.6 | 0.0 |
| Concrete | CHS323.9X7.1 | 80 | S275J0 | 4000 | 4.1 | 222.0 |
| Concrete | 800*400 | 80 | Concret | 8620 | 21.3 | 6620.2 |
| P/1 | IPE500 | 80 | S235JR | 12000 | 20.9 | 1092.7 |
| P/2 | IPE500 | 80 | S235JR | 13909 | 24.3 | 1266.6 |
| Total for 572 members: | | | | | 38030.7 | 736117.6 |

For more information on using templates, see the Template Editor Help or the Template Editor User's Guide

To access Template Editor Help, open Template Editor and click **Help** --> **Contents** .

To open the guide in .pdf format, click [Template Editor User's Guide](#).

See also

[Create a report \(page 26\)](#)

[Templates \(page 3\)](#)

2.1 Create a report

You can include in a report information related to an entire model or only the selected model objects. Tekla Structures automatically selects the related assemblies and other objects.

1. Open the model.
2. If needed, number the model.
You can create reports without numbering the model. This is useful when you need to produce draft reports from large multi-user models. Tekla Structures still warns you if numbering is not up to date.
3. On the **Drawings & reports** tab, click **Reports** .
4. Select a report template from the list.
5. Enter the report titles you want to use from the **Titles in reports** lists.
6. Enter a new name for the report file in the **Name** box.
7. Set the viewing options on the **Options** tab.
You can select whether to view the report in a dialog box or in a viewer, and also whether to show the report or not.
8. Unless you want to create a report of the entire model, select the objects you want to include in the report using appropriate selection switches and filters.
9. Do one of the following:
 - To run a report on the entire model, click **Create from all**.
 - To run a report on the selected model objects, click **Create from selected**.

Tekla Structures creates the report according the settings you defined.

See also

[Reports \(page 25\)](#)

[Report settings \(page 31\)](#)

[Create a report of selected drawings \(page 27\)](#)

[Create a report of nested assemblies \(page 27\)](#)

2.2 Create a report of selected drawings

You can create a report of several drawings that include the desired model objects.

1. Create drawings of the parts you want to include in the report.
2. Open the model.
3. On the **Drawings & reports** tab, click **Drawing list**.
4. In the **Drawing List**, select the drawings you want to include in the report.

TIP To select multiple drawings, hold down **Ctrl** and then click the drawings you want to select.

5. On the **Drawings & reports** tab, click **Reports**.
6. Select a drawing report template from the list.
For example, select **Drawing_List** or **Drawing_Revision_History**.
7. If needed, enter the report titles you want to use under **Titles** in reports.
8. If needed, enter a new name for the report file in the **Name** box.
9. If needed, set the report options on the **Options** tab.
10. Click **Create from selected**.

Tekla Structures automatically selects all the parts in the selected drawings and includes them in the report.

See also

[Report settings \(page 31\)](#)

2.3 Create a report of nested assemblies

You can produce a list of assemblies, or a report of the parts included in the assemblies. If the report template has a nested assembly structure, Tekla Structures displays the assembly hierarchy in the report when you view or print it.

1. Open the model.
2. Select the assemblies you want to include in the report.

3. On the **Drawings & reports** tab, click **Drawing list**.
4. Select an assembly report template from the list.
 - **Assembly_List**: Creates a list of the assemblies
 - **Assembly_Part_List**: Creates a report of the parts included in the assemblies
5. If needed, enter the report titles you want to use under **Titles in reports**.
6. If needed, enter a new name for the report file in the **Name** box.
7. If needed, set the report options on the **Options** tab.
8. Click **Create from selected**.

See also

[Report settings \(page 31\)](#)

2.4 Show a report

1. On the **Drawings & reports** tab, click **Drawing list**.
2. Click **Browse** to locate the report file you want to view.
3. Click **Show** to view the report.

See also

[Define how reports are displayed \(page 28\)](#)

2.5 Define how reports are displayed

You can define how reports are displayed. For example, you can have Tekla Structures open all HTML reports in a web browser. By default, all reports are displayed in a new dialog box within the Tekla Structures window.

1. On the **Drawings & reports** tab, click **Reports** and go to the **Options** tab.
2. Select the report template.
3. In the **Show report** list, select **With associated viewer**.
4. Click **Save** in the **Report** dialog box.

See also

[Show a report \(page 28\)](#)

2.6 Add tabs to reports

You can associate Tekla Structures to open reports of a certain type in Microsoft Excel. When you open such reports in Microsoft Excel, the report template rows might not be divided correctly into cells. To correct this, you can add tabs between the cells.

1. Open an existing report template.
2. Add \t between the text and value fields. For example:

```
Tekla Structures MATERIAL LIST
Project number:      \t Project_number
Project name:       \t Project_info_1
Project address:    \t Project_info_2
                   \t Project_info_3
                   \t Project_info_4
Date:               \t Report_Creation_date
Profile      \t Material \t NUM \t Length [mm] \t Length sum
Profile      \t Mater  \t NUM \t Length \t Length_su
```

3. Save the report.

The output in Microsoft Excel:

| | A | B | C | D | E | F | G | H |
|----|--------------------------------|------------|-----|-------------|------------|------------|------------|-----------|
| 1 | Tekla Structures MATERIAL LIST | | | | | | | |
| 2 | | | | | | | | |
| 3 | Project number: | | | | | | | |
| 4 | Project name: | | | | | | | |
| 5 | Project address: | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | Date: | 07.12.2009 | | | | | | |
| 9 | | | | | | | | |
| 10 | Profile | Material | NUM | Length [mm] | Length sum | Weight[kg] | Weight sum | Area [m2] |
| 11 | 175*600 | K40-1 | 2 | 6050 | 12100 | 0.0 | 0.0 | 9.59 |
| 12 | 175*9000 | K40-1 | 2 | 9000 | 18000 | 0.0 | 0.0 | 168.30 |
| 13 | 1800*1800 | K40-1 | 7 | 650 | 4550 | 0.0 | 0.0 | 11.16 |
| 14 | 2700*2700 | K40-1 | 17 | 850 | 14450 | 0.0 | 0.0 | 23.76 |
| 15 | D6400 | S355JR | 2 | 18000 | 36000 | 4543782.8 | 9087565.7 | 426.19 |
| 16 | D7000 | K40-1 | 2 | 800 | 1600 | 0.0 | 0.0 | 94.53 |
| 17 | HEA300 | S355JR | 72 | 13400 | 964800 | 1183.4 | 85203.9 | 23.01 |

The output in a text editor:

Material_list.Excel - Notepad

File Edit Format View Help

Tekla Structures MATERIAL LIST

Project number:
Project name:
Project address:

Date: 07.12.2009

| Profile | Material | NUM | Length [mm] | Length sum | weight[kg] |
|------------|----------|-----|-------------|------------|------------|
| 175*600 | K40-1 | 2 | 6050 | 12100 | 0.0 |
| 175*9000 | K40-1 | 2 | 9000 | 18000 | 0.0 |
| 1800*1800 | K40-1 | 7 | 650 | 4550 | 0.0 |
| 2700*2700 | K40-1 | 17 | 850 | 14450 | 0.0 |
| D6400 | S355JR | 2 | 18000 | 36000 | 4543782.8 |
| D7000 | K40-1 | 2 | 800 | 1600 | 0.0 |
| HEA300 | S355JR | 72 | 13400 | 964800 | 1183.4 |
| IPE600 | S355JR | 1 | 4150 | 4150 | 508.2 |
| IPE600 | S355JR | 8 | 5657 | 45255 | 692.7 |
| IPE600 | S355JR | 4 | 6000 | 24000 | 734.8 |
| IPE600 | S355JR | 2 | 9000 | 18000 | 1102.1 |
| IPE600 | S355JR | 26 | 13150 | 341900 | 1610.3 |
| P18(175x12 | K40-1 | 219 | 6159 | 1348801 | 0.0 |
| RHS150*150 | S355JR | 3 | 8415 | 25245 | 190.9 |
| RHS150*150 | S355JR | 3 | 8846 | 26538 | 200.7 |

TIP Alternatively, you can use a comma or semicolon as a delimiter between the text fields. However, the default delimiter may vary between users, and the output might not be readable in all text editors.

See also

[Show a report \(page 28\)](#)

2.7 Print a report

You can print a report from the **Reports** dialog box or through the **File** menu.

- Do one of the following:
 - On the **Drawings & reports** tab, click **Reports**, and then click **Print**
 - On the **File** menu, click **Printing** --> **Print reports** .

- Use the **Browse** button to display the **Select file** dialog box, where you can give the folder and file name of the report.

By default, Tekla Structures uses the **Report files (*.xsr)** filter to show Tekla Structures reports only.

- If needed, modify the print settings:
 - To change the report font and font style, click **Select**.

In this dialog box, you can only change the font and font style, the font size is fixed to 12. One way to change the font size is to open the created report in a text editor and change the font size there. The default font can be changed with the advanced option `XS_PRINT_REPORT_FONT`.

- To set printer-specific options such as paper size and orientation, click **Printer setup**
4. Click **Print**.

2.8 Report settings

Use the **Report** dialog box to check or change the report settings.

| Option | Description |
|----------------------------------|--|
| Report: Report templates | Lists all the available report templates. |
| Report: Titles in reports | Optional report titles. You can enter up to three report titles. All the titles are not used in every standard report. Title1 , for example, is used to show phase information in the Assembly_list report. |
| Report: Browse | Use to change the folder where the report will be stored. By default, reports are stored in the current model folder. |
| Show | Shows the selected report. |
| Print | Prints the selected report. |
| Create from all | Creates a report from all objects in the model using the selected template. |
| Create from selected | Creates a report from the objects you have selected using the selected template. |
| Options: Show report | Defines how Tekla Structures displays reports. On dialog displays the report in a new window. With associated viewer displays the report in the associated program. For example, you can have Tekla Structures open all HTML reports in a web browser. |

| Option | Description |
|-------------------------------------|---|
| Options: Show created report | Defines whether or not the report is automatically shown on the screen after it has been created. |

See also

[Reports \(page 25\)](#)

[Create a report \(page 26\)](#)

[Create a template \(page 4\)](#)

3 Tips for templates and reports

There are some things that you might consider to be able to use templates and create reports more efficiently.

Click the links below to find out more:

- [Select objects to include in a report using GUIDs \(page 33\)](#)
- [Useful shortcuts in viewing logs and reports \(page 34\)](#)
- [Use text type attribute in calculations \(page 35\)](#)
- [Change value field content to use imperial units \(page 35\)](#)
- [Define customized date format \(page 36\)](#)
- [Assembly or cast unit drawing sheet number \(page 36\)](#)

3.1 Select objects to include in a report using GUIDs

You can select objects to be included in reports by using their GUIDs (globally unique identifiers).

1. Create a template that is used for creating the report.
 - a. On the **File** menu, click **Editors** --> **Template Editor** .
 - b. In Template Editor, click **File** --> **New** .
 - c. Select **Textual template** and click **OK**.
 - d. Add a row for the GUID.
 - Click **Insert** --> **Component** --> **Row** .
Select a content type for the row and clicking **OK**.
 - Click **Insert** --> **Text** and enter the text `guid:, Guid: or GUID:.`
Click **OK**.
This enables the selecting of objects in the model.

- Click **Insert** --> **Value Field** . Click a point to define the location of the field within the row. The **Select Attribute** dialog box appears prompting you to select an attribute for the value field.
Select the attribute **GUID** and click **OK**.
 - e. Add the required amount of other rows in the template.
 - f. Click **File** --> **Save As** .
Enter a name for the template and browse the folder . .
\environment\
2. Create a report based on the report template you saved.
 - a. On the **Drawings & reports** tab, click **Reports**.
 - b. Select the report template you created from the list.
 - c. Click **Create from all**.
Tekla Structures displays the report.
 3. Click a row that contains an GUID number in the report.
Tekla Structures selects the corresponding object in the active model view.

See also

[Create a template \(page 4\)](#)

[Create a report \(page 26\)](#)

3.2 Useful shortcuts in viewing logs and reports

You can zoom to the objects you have selected in a report, and also fit the work area to the selected objects.

| To | Do this |
|--|---|
| Zoom to the objects selected in a report | <ol style="list-style-type: none"> 1. Hold down Z. 2. Click a row that contains an ID number. Tekla Structures zooms to the corresponding objects in the active model view. |
| Fit the work area to include only the objects selected in a report | <ol style="list-style-type: none"> 1. Hold down F. |

| To | Do this |
|----|---|
| | 2. Click a row that contains an ID number. Tekla Structures zooms to the corresponding objects in the active model view. |

See also

[Show a report \(page 28\)](#)

3.3 Use text type attribute in calculations

Change text to numeric format

```
double (GetValue ("ASSEMBLY_TOP_LEVEL"))
```

Change into correct format for calculation (double=decimals)

```
format (double (GetValue ("ASSEMBLY_TOP_LEVEL")), "Length", "mm", 1)
```

Add all above into calculation formula

```
format (double (GetValue ("ASSEMBLY_TOP_LEVEL")), "Length", "mm", 1)+15000
```

Another example of the same for part elevation

```
(double (GetValue ("TOP_LEVEL")) - (double (GetValue ("BOTTOM_LEVEL")))) * 1000
```

3.4 Change value field content to use imperial units

Advanced option to check if imperial units are in use:

```
GetValue ("ADVANCED_OPTION.XS_IMPERIAL")==1
```

Translated string call for multi lingual text:

```
GetValue ("TranslatedText ("albl_Diameter_"))
```

Formatting of units:

```
format (GetValue ("DIAMETER"), "Length", "inch-frac", 1/16)
```

```
format (GetValue ("DIAMETER"), "Length", "mm", 1)
```

Combine all above in a rule:

```
if GetValue ("ADVANCED_OPTION.XS_IMPERIAL")==1 then
```

```

GetValue("TranslatedText("albl_Diameter_"))+
format(GetValue("DIAMETER"),"Length","inch-frac", 1/16) + "
Inches"
else
GetValue("TranslatedText("albl_Diameter_"))+
format(GetValue("DIAMETER"),"Length","mm", 1)+" mm"
endif

```

3.5 Define customized date format

Use mid function to find year, month and day:

```
mid("", "", "") string, offset, n
```

year:

```
mid(format(GetValue("DATE"),"Date","dd.mm.yyyy", ), "6", "4")
```

month:

```
mid(format(GetValue("DATE"),"Date","dd.mm.yyyy", ), "3", "2")
```

days:

```
mid(format(GetValue("DATE"),"Date","dd.mm.yyyy", ), "0", "2")
```

Combine all above in rule:

```
mid(format(GetValue("DATE"),"Date","dd.mm.yyyy", ), "6", "4")
+"-"+
```

```
mid(format(GetValue("DATE"),"Date","dd.mm.yyyy", ), "3", "2")
+"-"+
```

```
mid(format(GetValue("DATE"),"Date","dd.mm.yyyy", ), "0", "2")
```

3.6 Assembly or cast unit drawing sheet number

Use match function to find "-" character

```
match(GetValue("NAME_BASE"), "*-*")
```

Use of mid function to return only characters after "-"

```
mid(GetValue("NAME_BASE"), (1+
(find(GetValue("NAME_BASE"), "-"))), 2)
```

Combine all above in rule

```
if (match(GetValue("NAME_BASE"), "*-*"))
```

```
then mid(GetValue("NAME_BASE"), (1+
(find(GetValue("NAME_BASE"), "-"))), 2)
else ""
endif
```

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Index

| | |
|--------------------------------|-------|
| A | |
| adding to Template Editor..... | 21 |
| assemblies | |
| in reports..... | 27 |
| in templates..... | 6 |
| attributes | |
| in bending schedules..... | 11 |
| in templates..... | 18 |
| B | |
| bending schedule..... | 10 |
| bending schedules | |
| attributes and values..... | 11 |
| C | |
| calculations..... | 35 |
| comments | |
| in templates..... | 22 |
| content types..... | 15 |
| creating | |
| reports..... | 26,27 |
| templates..... | 4,5 |
| D | |
| date | |
| format..... | 36 |
| drawings | |
| in reports..... | 27 |
| F | |
| fonts | |
| reports..... | 30 |
| free attributes..... | 10,11 |
| G | |
| graphical templates..... | 5,10 |
| H | |
| hierarchy | |
| in templates..... | 23 |
| HTML templates..... | 5 |
| html.rpt..... | 5 |
| I | |
| images | |
| in templates..... | 12 |
| imperial units..... | 35 |
| L | |
| log files | |
| viewing..... | 34 |
| P | |
| pictures | |
| in templates..... | 12 |
| printing | |
| reports..... | 30 |
| pull-out pictures..... | 10 |
| pullout pictures..... | 10 |
| R | |
| reports..... | 25 |
| adding tabs..... | 28 |
| creating..... | 26 |
| drafts..... | 26 |
| fonts..... | 30 |

| | |
|---------------------------|-------|
| of drawings..... | 27 |
| of nested assemblies..... | 27 |
| printing..... | 30 |
| settings..... | 31 |
| tips..... | 33 |
| titles..... | 31 |
| viewing..... | 28,34 |

S

| | |
|----------------------------------|----|
| saving | |
| templates..... | 4 |
| selecting | |
| objects included in reports..... | 33 |
| settings | |
| reports..... | 31 |
| sheet numbers..... | 36 |
| shortcuts | |
| in viewing logs and reports..... | 34 |

T

| | |
|------------------------------|-------------|
| tabs | |
| in reports..... | 28 |
| template attributes..... | 18 |
| Template Editor..... | 3,25 |
| templates..... | 3 |
| adding images..... | 12 |
| aligning objects..... | 6 |
| attributes..... | 18 |
| comments..... | 22 |
| content types..... | 15 |
| creating..... | 4 |
| free attributes..... | 10 |
| graphical templates..... | 5,10,12 |
| headers and footers..... | 5,6 |
| hierarchy..... | 23 |
| in HTML format..... | 5 |
| moving objects..... | 6 |
| of bending schedules..... | 10,11 |
| of nested assemblies..... | 6 |
| rows..... | 15 |
| saving..... | 4 |
| sorting order..... | 6 |
| textual templates..... | 6 |
| tips..... | 33 |
| user-defined attributes..... | 19,21,22,23 |

| | |
|--------------------------------------|----|
| text type attributes | |
| in calculations..... | 35 |
| textual templates..... | 6 |
| tips | |
| templates and reports..... | 33 |
| useful shortcuts in viewing logs and | |
| reports..... | 34 |
| titles in reports..... | 31 |

U

| | |
|-------------------------|-------------|
| user-defined attributes | |
| in templates..... | 19,21,22,23 |

V

| | |
|---------------------|----|
| value fields | |
| imperial units..... | 35 |
| viewing | |
| reports..... | 28 |