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You can use template fields in drawing and report templates. When you open a drawing or create a report, Tekla Structures uses the attributes and formulas to calculate and display information from the model database. This could, for example, include assembly weight or cover area.

Descriptions of template attributes are listed in alphabetical order. Expand the table of contents to browse the template attributes.

See also

1.1 A

ACN
Shows control numbers.
For more information on control numbers, see and .

ACTIVE_DESIGN_CODE
Shows the active design code of material.

ADDRESS
Shows the address entered in the Project properties dialog box.
ALIAS_NAME1 … 3
Alias name of the material.
Use for part and main part material attributes in ASSEMBLY and PART content types.

ANG_S, ANG_T, ANG_U, ANG_V
Show bending angles of reinforcing bars based on the mappings in the rebar_schedule_config.inp file, located in the ..\ProgramData\Tekla Structures\<version>\environments\<environment>\system folder. These mappings are environment-specific by default. You can modify them to suit your company or project needs.

See also  Creating a template for bending schedules or pull-outs
Hard-coded bending type identifiers in reinforcement shape recognition
ANG_U_MAX, ANG_U_MIN, ANG_V_MAX, ANG_V_MIN on page 12
DIM_A … DIM_G, DIM_H1, DIM_H2, DIM_I, DIM_J, DIM_K1, DIM_K2, DIM_L, DIM_O, DIM_R, DIM_R_ALL, DIM_TD, DIM_WEIGHT, DIM_X, DIM_Y on page 37

ANG_U_MAX, ANG_U_MIN, ANG_V_MAX, ANG_V_MIN
Shows the minimum and maximum bending angles of reinforcing bars or meshes in tapered cross sections. See the example below:

![Diagram](image)

APPROVED_BY
The Approved by information of the revision from the Revision Handling dialog box.
AREA

Shows the following information:

- For plate type catalog profiles, any parametric profiles and any catalog profiles with **Cover area** property not defined, shows the total net area of all surfaces.

- For other types of catalog profiles with **Cover area** property defined, shows the gross total surface area.

  The area is calculated using the extreme length and profile cover area per meter (value defined in the profile catalog). The cross area on profile ends, cuts and fittings are not taken into account.

**See also** [AREA_GROSS on page 13](#) [AREA_NET on page 14](#)

AREA_FORM_TOP, AREA_FORM_BOTTOM, AREA_FORM_SIDE

Shows the area of faces whose normal vector points to the following directions:

- **top of form** (AREA_FORM_TOP)
- **bottom of form** (AREA_FORM_BOTTOM)
- **form sides** (AREA_FORM_SIDE)

For assemblies, the main part local up direction dictates the form up/bottom/sides directions. Faces which are inclined less than 5 degrees are counted in the top and bottom areas. Faces which are skew => 85 degrees are counted in the side areas. Faces which are exactly 45 degrees against main global or local axes, are not counted to any direction.

\[
\text{AREA_FORM_TOP} = 42 \text{ sq.ft.}
\]

\[
\text{AREA_FORM_BOTTOM} = 42 \text{ sq.ft.}
\]

\[
\text{AREA_FORM_SIDE} = 2 \times (2 \times 7 + 3 \times 6) + 2 \times (2 \times 6 + 2 \times 6) = 64 + 48 = 112 \text{ sq.ft.}
\]
AREA_GROSS
For profiles this field shows the same result as **AREA on page 12**. For plates it shows the square area (extreme length multiplied by extreme width) needed to include the entire plate. For other objects it shows a zero.

AREA_NET
For parts this field shows the net surface area that forms the actual area of the fabricated part. For other objects it shows a zero.

AREA_PER_TONS
Shows **AREA/WEIGHT x 1000**.

AREA_PGX, AREA_NGX, AREA_PGY, AREA_NGY, AREA_PGZ, AREA_NGZ
Shows the area of faces whose normal vector points to the positive or negative direction of the following global axes:

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>AREA_PGX</td>
<td>Positive direction of global X-axis</td>
</tr>
<tr>
<td>AREA_NGX</td>
<td>Negative direction of global X-axis</td>
</tr>
<tr>
<td>AREA_PGY</td>
<td>Positive direction of global Y-axis</td>
</tr>
<tr>
<td>AREA_NGY</td>
<td>Negative direction of global Y-axis</td>
</tr>
<tr>
<td>AREA_PGZ</td>
<td>Positive direction of global Z-axis</td>
</tr>
<tr>
<td>AREA_NGZ</td>
<td>Negative direction of global Z-axis</td>
</tr>
</tbody>
</table>

Also faces whose normal vector is located in less than 45 degree angle to global axis are also included in the area. Faces exactly in 45 degree angle are not included in any global direction.

AREA_PLAN
For parts this field shows the total upper surface area (perpendicular to the global Z-axis).
ASSEMBLY content type
- Shows the total upper surface area (perpendicular to the global Z-axis) of the parts included in an assembly.
AREA_PROJECTION_GXY_GROSS, AREA_PROJECTION_GXZ_GROSS, AREA_PROJECTION_GYZ_GROSS

Shows the area of the "shadow" of a part, assembly, or cast unit at the following global planes:

- XY-plane
- XZ-plane
- YZ-plane

Restrictions

- Areas are calculated always in net areas (holes are taken into account) even when gross is requested.
- Overlapping faces are counted twice.

AREA_PROJECTION_GXY_NET, AREA_PROJECTION_GXZ_NET, AREA_PROJECTION_GYZ_NET

Shows the net area of the "shadow" of a part, assembly, or cast unit at the following global planes:

- XY-plane
- XZ-plane
- YZ-plane

AREA_PROJECTION_XY_GROSS, AREA_PROJECTION_XZ_GROSS, AREA_PROJECTION_YZ_GROSS

Shows the area of the "shadow" of a part, assembly, or cast unit at its local planes:

- XY-plane
- XZ-plane
- YZ-plane

AREA_PROJECTION_XY_NET, AREA_PROJECTION_XZ_NET, AREA_PROJECTION_YZ_NET

Shows the net area of the "shadow" of a part, assembly, or cast unit at its local planes:

- XY-plane
- XZ-plane
• YZ-plane

**AREA_PX, AREA_NX, AREA_PY, AREA_NY, AREA_PZ, AREA_NZ**

Shows the area of faces whose normal vector points to the positive or negative direction of the following local axes:

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>AREA_PX</td>
<td>Positive direction of local X-axis</td>
</tr>
<tr>
<td>AREA_NX</td>
<td>Negative direction of local X-axis</td>
</tr>
<tr>
<td>AREA_PY</td>
<td>Positive direction of local Y-axis</td>
</tr>
<tr>
<td>AREA_NY</td>
<td>Negative direction of local Y-axis</td>
</tr>
<tr>
<td>AREA_PZ</td>
<td>Positive direction of local Z-axis</td>
</tr>
<tr>
<td>AREA_NZ</td>
<td>Negative direction of local Z-axis</td>
</tr>
</tbody>
</table>

**ASSEMBLY_BOTTOM_LEVEL**

Shows the bottom level of the main part of an assembly.

Bottom level takes the unit and accuracy from the `MarkDimensionFormat.dim` file.

You can use this attribute as a user-defined attribute also in part marks and associative notes.

This attribute returns the value as text, so you cannot use formulae with this attribute. Use `ASSEMBLY_BOTTOM_LEVEL_UNFORMATTED` on page 17 instead.

**See also**

**ASSEMBLY_BOTTOM_LEVEL_GLOBAL**

Shows the bottom level of the main part of an assembly by global axis. The bottom level takes the unit and accuracy from the `MarkDimensionFormat.dim` file.

You can use this attribute as a user-defined attribute in part marks and associative notes, and also in reports and templates.

**See also**
ASSEMBLY_BOTTOM_LEVEL_GLOBAL_UNFORMATTED

Shows the bottom level of an assembly by global axis. Unformatted level returns the bottom levels as a length in mm so you can format them and include them into formulas in templates.

You can use this attribute as a user-defined attribute also in part marks and associative notes.

ASSEMBLY_BOTTOM_LEVEL_UNFORMATTED

Shows the unformatted bottom level of the main part of an assembly. Unformatted level returns the top levels as a length in mm so you can format them and include them into formulas in templates.

You can use this attribute as a user-defined attribute also in part marks and associative notes.

Unlike the BOTTOM_LEVEL attribute, the BOTTOM_LEVEL_UNFORMATTED attribute cannot be formatted through the MarkDimensionFormat.dim file.

See also

ASSEMBLY_DEFAULT_PREFIX

Shows the default value for the assembly prefix defined in the part properties dialog box.

ASSEMBLY_PLWEIGHT

Shows the weight of plates attached to an assembly. For other objects it shows a zero.

ASSEMBLY_POS

Shows the assembly position number. For parts it shows the assembly position number of the assembly that contains the part. For bolts the field is blank.
ASSEMBLY_POSITION_CODE

Shows the assembly position code. The code identifies the grid position.

<table>
<thead>
<tr>
<th>Assembly</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/1</td>
<td>&lt;A/2</td>
</tr>
<tr>
<td>A/2</td>
<td>A–B/1</td>
</tr>
<tr>
<td>A/3</td>
<td>&lt;A–B/1–2</td>
</tr>
<tr>
<td>A/4</td>
<td>A/2</td>
</tr>
<tr>
<td>A/6</td>
<td>A–B/1–2</td>
</tr>
<tr>
<td>A/7</td>
<td>B/2</td>
</tr>
</tbody>
</table>

1 TOLERANCE LINE

The position code consists of gridline labels in the x and y directions (alternatively in the z direction). If an assembly begins or ends outside the first or last grid line, a < or > character is included in the position code. For example, if an assembly begins outside the A grid line, this field shows:

<A/2
If an assembly is completely within a tolerance distance (by default 500 mm) of grid line A, the position code is the label of that grid line: A.

If the assembly is partially or entirely outside the tolerance distance, the code is a combination of grid labels: A–B.

To change the default tolerance distance, set the advanced option `XS_ASSEMBLY_POSITION_CODE_TOLERANCE=750` (for example).

To include the Z orientation in the code, set the advanced option `XS_ASSEMBLY_POSITION_CODE_3D` to TRUE. The code would be similar to: `<A-B/1-2/1-1000`

Tekla Structures selects the grid to use as follows:

1. Tekla Structures checks the location of the assembly.
2. If it is located inside several grids, Tekla Structures checks whether the assembly is parallel to grid lines or the plane.
3. If there are several parallel grids, Tekla Structures selects the smallest.

**ASSEMBLY_PREFIX**

Shows the assembly prefix, defined in the part properties dialog box.

**ASSEMBLY_SERIAL_NUMBER**

Shows the assembly number without prefix and separator.

**ASSEMBLY_START_NUMBER**

Shows the assembly start number.

See also

**ASSEMBLY_TOP_LEVEL**

Shows the top level of an assembly.

Top level takes the unit and accuracy from the `MarkDimensionFormat.dim` file.

You can use this attribute as a user-defined attribute also in part marks and associative notes.
This attribute returns the value as text, so you cannot use formulae with this attribute. Use ASSEMBLY_TOP_LEVEL_UNFORMATTED on page 20 instead.

See also

**ASSEMBLY_TOP_LEVEL_GLOBAL**

Shows the top level of an assembly by global axis. The top level takes the unit and accuracy from the MarkDimensionFormat.dim file.

You can use this attribute as a user-defined attribute in part marks and associative notes, and also in reports and templates.

See also

**ASSEMBLY_TOP_LEVEL_GLOBAL_UNFORMATTED**

Shows the top level of an assembly by global axis. Unformatted level returns the top levels as a length in mm so you can format them and include them into formulas in templates.

You can use this attribute as a user-defined attribute also in part marks and associative notes.

**ASSEMBLY_TOP_LEVEL_UNFORMATTED**

Shows the unformatted top level of the main part of an assembly. Unformatted level returns the top levels as a length in mm so you can format them and include them into formulas in templates.

You can use this attribute as a user-defined attribute also in part marks and associative notes.

Unlike the ASSEMBLY_TOP_LEVEL attribute, the ASSEMBLY_TOP_LEVEL_UNFORMATTED attribute cannot be formatted through the MarkDimensionFormat.dim file.
axial1, axial2

Shows the values entered in the Tension, T box on the End codes tab in the user-defined attributes dialog box of the part. axial1 shows the value in the Start box and axial2 in the End box.

1.2 B

BOLT_EDGE_DISTANCE

Shows the edge distance of a bolt.

BOLT_EDGE_DISTANCE_MIN

Shows the edge distance multiplied by the coefficient set in the modeling preferences using the command Tools --> Options --> Options... --> Components.
**BOLT_FULL_NAME**

Shows the name of a bolt defined in the bolt catalog, without the standard.

For example, in the case of the bolt highlighted in the above dialog box, the BOLT_FULL_NAME field will show “BOLT20x130-2063”.

For objects other than bolts, the field shows a blank.

See also **BOLT_SHORT_NAME on page 22**

**BOLT_MATERIAL_LENGTH**

For bolts this field shows the total thickness of the connected material.

**BOLT_NPARTS**

For bolts this field shows the number of connected parts.
BOLT_SHORT_NAME
Shows the name of the washer, bolt, nut or screw in a short format.

See also  BOLT_FULL_NAME on page 21

BOLT_STANDARD
As for TYPE on page 77.

BOTTOM_LEVEL
Shows the bottom level of a single part, cast unit, assembly, part of a connection or a pour object.
Bottom level takes the unit and accuracy from the MarkDimensionFormat.dim file.
You can use this attribute as a user-defined attribute also in part marks and associative notes.

This attribute returns the value as text, so you cannot use formulae with this attribute. Use BOTTOM_LEVEL_UNFORMATTED on page 24 instead.

BOTTOM_LEVEL_GLOBAL
Shows the bottom level of a single part, cast unit, assembly, part of a connection or a pour object by global axis. BOTTOM_LEVEL_GLOBAL takes the unit and accuracy from MarkDimensionFormat.dim.
You can use this attribute as a user-defined attribute in part marks and associative notes, and also in reports and templates.

BOTTOM_LEVEL_GLOBAL_UNFORMATTED
Shows the bottom level of a single part, cast unit, assembly, part of a connection or a pour object. BOTTOM_LEVEL_GLOBAL_UNFORMATTED returns the bottom levels as a length
in mm so you can format them and include them into formulas in templates. This attribute gives level information by the global axis.

You can use this attribute as a user-defined attribute also in part marks and associative notes.

**BOTTOM_LEVEL_UNFORMATTED**

Shows the unformatted bottom level of a single part, cast unit, assembly, part of a connection or a pour object. **BOTTOM_LEVEL_UNFORMATTED** returns the bottom levels as a length in mm so you can format them and include them into formulas in templates.

You can use this attribute as a user-defined attribute also in part marks and associative notes.

Unlike the **BOTTOM_LEVEL** attribute, the **BOTTOM_LEVEL_UNFORMATTED** attribute cannot be formatted through the MarkDimensionFormat.dim file.

**BOUNDING_BOX_xxx**

The following template attributes give the bounding box of the objects as X, Y or Z minimum or maximum distances from the absolute zero (0,0,0):

- **BOUNDING_BOX_MIN_X**
- **BOUNDING_BOX_MAX_X**
- **BOUNDING_BOX_MIN_Y**
- **BOUNDING_BOX_MAX_Y**
- **BOUNDING_BOX_MIN_Z**
- **BOUNDING_BOX_MAX_Z**

These attributes are available for parts, assemblies, cast units, reference models and reference objects.

**BUILDER**

Shows the builder’s name defined in the **Project properties** dialog box.
1.3 C

cambering

Shows the value entered in the Camber box on the Parameters tab in the user-defined attributes dialog box of the part.

See also

CANTILEVER

Shows the length of a protruding part of a profile. Below is an example of a welded box profile:

See also  PROFILE on page 61

CAST_UNIT_BOTTOM_LEVEL

Shows the bottom level of a cast unit.

You can use this attribute as a user-defined attribute also in part marks and associative notes.

CAST_UNIT_HEIGHT_ONLY_CONCRETE_PARTS

Shows the height of a cast unit including all concrete parts.

See also

CAST_UNIT_HEIGHT_ONLY_PARTS

Shows the height of a cast unit, including all concrete parts, steel parts and parts made of miscellaneous material.

See also
CAST_UNIT_HEIGHT_TOTAL

Shows the total height of a cast unit, including all concrete parts, steel parts and parts made of miscellaneous material, reinforcing bars, surface treatments and bolts.

See also

CAST_UNIT_LENGTH_ONLY_CONCRETE_PARTS

Shows the length of a cast unit including all concrete parts.

See also

CAST_UNIT_LENGTH_ONLY_PARTS

Shows the total length of a cast unit, including all concrete parts, steel parts and parts made of miscellaneous material.

See also

CAST_UNIT_LENGTH_TOTAL

Shows the total length of a cast unit, including all concrete parts, steel parts and parts made of miscellaneous material, reinforcing bars, surface treatments and bolts.

See also

CAST_UNIT_POS

Shows the position of a cast unit. The position consists of a prefix and a number.

CAST_UNIT_POSITION_CODE

Shows the position code of a cast unit. The code identifies the grid position. For more information, see ASSEMBLY_POSITION_CODE on page 17.

CAST_UNIT_PREFIX

Shows the cast unit prefix, defined in the part properties dialog box.
CAST_UNIT_REBAR_WEIGHT
Shows the weight of reinforcing bars in a cast unit.

CAST_UNIT_SERIAL_NUMBER
Shows the cast unit number without prefix and separator.

CAST_UNIT_TOP_LEVEL
Shows the top level of a cast unit.
You can use this attribute as a user-defined attribute also in part marks and associative notes.

CAST_UNIT_TYPE
Returns the type of the cast unit as text (Precast or Cast in place).
For more information on cast unit types, see .

CAST_UNIT_VERTICAL_POSITION_CODE
Outputs the grid level height of a cast unit, for example +7200. The center of gravity point is used to determine the grid level for the cast unit. If the center of gravity is more than 100 mm away from the grid level, then two grid levels will be output separated with dash: the lower and higher grid levels, for example, +3600→+7200.

See also  ASSEMBLY_POSITION_CODE on page 17

CAST_UNIT_WIDTH_ONLY_CONCRETE_PARTS
Shows the width of a cast unit including all concrete parts.

See also
CAST_UNIT_WIDTHONLY_PARTS

Shows the total width of a cast unit, including all concrete parts, steel parts and parts made of miscellaneous material.

See also

CAST_UNIT_WIDTH_TOTAL

Shows the total width of a cast unit, including all concrete parts, steel parts and parts made of miscellaneous material, reinforcing bars, surface treatments and bolts.

See also

CATALOG_NAME

Shows the name of a mesh catalog.

CC

Shows the center-to-center spacing of evenly-distributed reinforcing bars or a mesh.

CC_CROSS

Shows the center-to-center spacing of crossing bars in a reinforcement mesh.

CC_EXACT

Shows the center-to-center spacing of a reinforcing bar group or a mesh.

CC_EXACT_CROSS

Shows all center-to-center spacings of crossing bars in a reinforcement mesh.

CC_EXACT_LONG

Shows all center-to-center spacings of longitudinal bars in a reinforcement mesh.
**CC_LONG**
Shows the center-to-center spacing of longitudinal bars in a reinforcement mesh.

**CC_MAX**
Shows the largest center-to-center spacing in reinforcing bar groups or meshes with varied spacing.

**CC_MAX_CROSS**
Shows the largest center-to-center spacing of crossing bars in reinforcement meshes with varied spacing.

**CC_MAX_LONG**
Shows the largest center-to-center spacing of longitudinal bars in reinforcement meshes with varied spacing.

**CC_MIN**
Shows the smallest center-to-center spacing in reinforcing bar groups or meshes with varied spacing.

**CC_MIN_CROSS**
Shows the smallest center-to-center spacing of crossing bars in reinforcement meshes with varied spacing.

**CC_MIN_LONG**
Shows the smallest center-to-center spacing of longitudinal bars in reinforcement meshes with varied spacing.
CHECKED_BY

This attribute gets the value entered in the Checked By box on the Status tab in the user-defined attributes dialog box of the part or in the assembly properties dialog box. Also shows the value that you have entered in the Checked By field in the Revision Handling dialog box.

CHECKED_DATE

Shows the value entered in the Date Checked box on the Status tab in the user-defined attributes dialog box of the part or in the assembly properties dialog box.

CLASS

Only use to set rules in the Template Editor. It shows the string ASSEMBLY for assemblies, PART for parts, and BOLT for bolts, holes, nuts etc. For drawings it shows DRAWING, and for revisions it shows REVISION.

CLASS_ATTR

Shows the attribute class of parts and bolts. For assemblies it shows the attribute class of the assembly main part.

CODE

Shows the abbreviation code of a surface treatment, for example, TS1 for Tile surface 1.

Surface treatment codes and names are defined in the product_finishes.dat file.

See also SURFACING_NAME on page 74

COG_X, COG_Y, COG_Z

Shows the coordinates of the center of gravity of assemblies, parts, or welds. Cannot be used in headers or footers.
**comment**

User-defined attribute **Comment**, defined in the object’s user-defined attributes dialog box. For more information on the user-defined attributes in templates and reports, see .

**CONN_CODE_END1, CONN_CODE_END2**

Shows the values entered in the **Connection code** box on the **End codes** tab in the user-defined attributes dialog box of the part. **CONN_CODE_END1** shows the value in the **Start** box and **CONN_CODE_END2** in the **End** box.

**See also**

**CONNECTED_ASSEMBLIES**

For bolts this field shows a string containing the position numbers of assemblies of connected parts (e.g. A17 A18 A23). In **ASSEMBLY_BOLT** lists Tekla Structures does not show the position number of the current assembly. Only use this field as an inquiry command for single bolts. For objects other than bolts the field is blank.

**CONNECTED_PARTS**

Shows a string containing the position numbers of connected parts (e.g. P102 -> P17 P18 P23) for bolts. If the list type is **ASSEMBLY_BOLT**, the first position number is a member of the current assembly. Only use as an inquiry command for single bolts. For objects other than bolts the field is blank.

**CONNECTION_CODE**

Shows the connection code defined in the connection properties dialog box. Only for use in connection lists.

**CONNECTION_DSTV**

Shows the DSTV code of the connection in connection lists. This field blank if the connection is not a DSTV connection. Only for use in connection lists.
**CONNECTION_ERROR**

Shows the error flag of a connection in connection lists. Only for use in connection lists.

The values returned are:

- 1=green connection symbol
- 2=yellow connection symbol
- 3=red connection symbol
- 4=connection did not pass design check

**CONNECTION_GROUP**

Shows the class of the component, available on the **General** tab in the component dialog box. Only for use in connection lists.

**CONNECTION_NUMBER**

Shows the number of a connection.

**CONNECTION_RUNNING_NUMBER**

Shows the running number of a connection. All connections are automatically numbered with a running number.

**CONTENTTYPE**

Shows the content type of the current row.

See also

**COVER_AREA**

Shows the total cover area of the part profile, or of the main part profile in the assembly or cast unit.

See also  PROFILE on page 61
CREATED_BY

This attribute gets the name of the revision creator.

CROSS_SECTION_AREA

Shows the area (mm$^2$) of a cross section.

See also PROFILE on page 61

CURRENT_PHASE

Shows the current active phase. Used for filtering parts. You can also use selection filters.

CURVED_SEGMENTS

Returns the number of segments of a curved beam.

See also

CUSTOM.HC_xxx

The following part-specific opening and area calculations are available for Hollowcore slabs. The calculations can be output with custom reports.

The report property names are:

- CUSTOM.HC_GROSS_AREA
- CUSTOM.HC_INSUL_CUT_L
- CUSTOM.HC_NET_AREA
- CUSTOM.HC_OPENINGS_L
- CUSTOM.HC_RECESSES_L
- CUSTOM.HC_SAWINGS_END_L
- CUSTOM.HC_SAWINGS_END_N
- CUSTOM.HC_SAWINGS_SIDE

These attributes are available for parts and cast units. In Template Editor they are located in the CUSTOM subfolder in the Attribute dialog box.
CUSTOM.WALL_xxx

The following part-specific opening and area calculations are available for Sandwich wall. The calculations can be output with custom reports.

- CUSTOM.WALL_CORNER_AREA
- CUSTOM.WALL_GROSS_AREA
- CUSTOM.WALL_NET_AREA
- CUSTOM.WALL_OPENINGS_AREA
- CUSTOM.WALL_OPENINGS_N

These attributes are available for parts and cast units. In Template Editor they are located in the CUSTOM subfolder in the Attribute dialog box.

1.4 D

DATE
Used to be DATE. Shows the current date. If the advanced option is set, the date format is mm/dd/yyyy. Otherwise the format is dd.mm.yyyy.

REVISION content type:
In drawing templates this field shows the last revision date. In DRAWING_REV lists it also shows the revision history.

DATE_APPROVED
In templates shows the approval date of the drawing entered in the Revision Handling dialog box.

DATE_CHECKED
This attribute shows the date when a drawing was checked. This attribute can be included in templates. The attribute field is located in the Revision Handling dialog box.
DATE_CREATE
Shows the creation date of the drawing. If the advanced option is set, the format of the date is mm/dd/yyyy. Otherwise the format is dd.mm.yyyy.
In drawing templates this field shows the last revision date. In DRAWING_REV lists it also shows the revision history.

DATE_END
Shows the completion date of a project from the Project properties dialog box.

DATE_ISSUE
Shows the issue date of the drawing. Use with DRAWING content type.

DATE_LAST
In drawing templates this field shows the date of the last revision. In DRAWING_REV lists it also shows the entire revision history.

DATE_MODIFY
Shows the date of the last changes to the drawing. If the advanced option is set, the date format is mm/dd/yyyy. Otherwise the format is dd.mm.yyyy.
Use in part, cast unit and assembly lists.

DATE_PLOT
Shows the date the drawing was last printed. If the advanced option is set, the date format is mm/dd/yyyy. Otherwise the format is dd.mm.yyyy.
Use in drawing tables and drawing reports. You can also use this template attribute in part, assembly and cast unit lists with DRAWING.DATE_PLOT value field formula.

If you have set the advanced option to TRUE, the drawing plot date is not stored to the database. When you set it to FALSE, the drawing plot date is stored.
DATE_START
Shows the starting date of the project entered in the Project properties dialog box.

DELIVERY
This attribute shows the value entered in the Delivery box in the Revision Handling dialog box.

DESCRIPTION
Shows the value entered in the Description box in the user-defined attributes dialog box of the project (File --> Project Properties... --> User-defined Attributes...).
Shows the revision Description entered in the Revision Handling dialog box for a drawing.

See also

DESIGNER
Shows the name of the designer in the Project properties dialog box.

DesignGroup
Shows the values entered in the Design Group (optimisation) box on the Analysis tab in the user-defined attributes dialog box of the part.

See also

DIAMETER
Shows the bolt, nut, screw, washer, stud shank, hole or part profile diameter, depending on the content type you use.

WASHER content type:
• The inner diameter of the washer.

NUT content type:
• The inner diameter of the nut.

SCREW content type:
• The screw diameter.

STUD content type:
• The diameter of the stud shank.

See also  PROFILE on page 61

DIAMETER_1, DIAMETER_2
Shows the diameters of a tapered profile. Below diameters of parametric profile PD:

![Diagram of tapered profile with diameters d1 and d2]

See also  PROFILE on page 61

DIAMETER_X
Shows the length of the slotted hole in the X direction (hole size + tolerance + LONG_HOLE_X).

Use with BOLT, HOLE, NUT and WASHER content types.

DIAMETER_Y
Shows the length of the slotted hole in the Y direction (hole size + tolerance + LONG_HOLE_Y).

Use with BOLT, HOLE, NUT and WASHER content types.

DIM_A ... DIM_G, DIM_H1, DIM_H2, DIM_I, DIM_J, DIM_K1, DIM_K2, DIM_L, DIM_O, DIM_R, DIM_R_ALL, DIM_TD, DIM_WEIGHT, DIM_X, DIM_Y
Show dimensions of bent reinforcing bars based on the mappings in the rebar_schedule_config.inp file, located in the ..\ProgramData\Tekla Structures\<version>\environments\<environment>\system folder. These mappings are environment-specific by default. You can modify them to suit your company or project needs.

DIM_TD shows the diameter of the bending cylinder, DIM_R shows the radius.
DIM_R_ALL shows multiple radiuses.
When you use `DIM_R_ALL` in a value field, use `Text` as `Datatype` and `DistanceList` as `Meaning`.

**See also**

Reinforcement in templates

Hard-coded bending type identifiers in reinforcement shape recognition

`ANG_S`, `ANG_T`, `ANG_U`, `ANG_V` on page 12

`DIM_A_MAX` ... `DIM_G_MAX`, `DIM_H1_MAX`, `DIM_H2_MAX`, `DIM_I_MAX`, `DIM_J_MAX`, `DIM_K1_MAX`, `DIM_K2_MAX`, `DIM_O_MAX`, `DIM_R_MAX`, `DIM_TD_MAX`, `DIM_X_MAX`, `DIM_Y_MAX`

Shows the maximum dimensions of bent reinforcing bars in tapered cross sections. For more information, see Hard-coded bending type identifiers in reinforcement shape recognition.

`DIM_A_MIN` ... `DIM_G_MIN`, `DIM_H1_MIN`, `DIM_H2_MIN`, `DIM_I_MIN`, `DIM_J_MIN`, `DIM_K1_MIN`, `DIM_K2_MIN`, `DIM_O_MIN`, `DIM_R_MIN`, `DIM_TD_MIN`, `DIM_X_MIN`, `DIM_Y_MIN`

Shows the minimum dimensions of bent reinforcing bars in tapered cross sections. For more information, see Hard-coded bending type identifiers in reinforcement shape recognition.

`DRAWING_USERFIELD_1` ... `_8`

Shows the value of the user-defined attribute of the drawing that you can define in the `User field 1`, `User field 2`, and so on, boxes on the `Parameters` tab in the user-defined attributes dialog box of the drawing.

**DR_DEFAULT_HOLE_SIZE**

Shows the default hole size.

The default bolt hole size in the bolt mark properties defines the default size of bolt holes. Default sized bolt holes do not have bolt marks in drawings.
**DR_DEFAULT_WELD_SIZE**
Shows the default weld size in the drawing properties.

The default weld size in weld properties defines the minimum size of welds to show in drawings.

**DR_PART_POS**
Shows the position number of the drawing main part. Can be used in drawing templates and drawing reports.

**DR_PART_POS** returns attribute **PART_POS** in all other drawing types, except for the assembly and cast unit drawings, where it returns **ASSEMBLY_POS** attribute value.

1.5  E

**ECCENTRICITY_X, ECCENTRICITY_Y**
Shows the eccentricity dimensions of a profile. Below the eccentricity x dimension of the RCXX profile:

![Eccentricity X Dimension](image)

See also  PROFILE on page 61

**EDGE_FOLD, EDGE_FOLD_1, EDGE_FOLD_2**
Shows the edge fold dimensions of a profile. Edge fold dimension 1 and 2 concern unsymmetrical profiles. See the example of a CC profile below:

![Edge Fold Dimensions](image)
END_X, END_Y, END_Z
Shows the coordinates of the end points used to create a part.

END1_ANGLE_Z
Shows the end angle of the first end of a profile in the local z-direction, for parts with cross-section profiles.

END1_ANGLE_Y
Shows the end angle of the first end of a profile in the local y-direction, for parts with cross-section profiles.

END2_ANGLE_Z
Shows the end angle of the second end of a profile in the local z-direction, for parts with cross-section profiles.

END2_ANGLE_Y
Shows the end angle of the second end of the profile in the local y-direction, for parts with cross-section profiles.

END1_CODE, END2_CODE
Shows the shape information of the first and second ends of a profile, for parts with cross-section profiles. The options are:
- 0 = no operation
- 1 = fitting

See also PROFILE on page 61
• 2 = cut
• 3 = fitting and cut

**END1_SKEW, END2_SKEW**
Shows 1 (INTEGER) if the corresponding end of a part has a skewed cut or fitting and 0 if the end is straight.

**ERECTIONSTATUS**
Shows the value selected in the Erection Status list on the Status tab in the user-defined attributes dialog box of the part.

**EXTRA_LENGTH**
Shows the bolt extra length.

### 1.6 F

**fabricator**
Shows the value entered in the Fabricator name box on the Parameters tab in the user-defined attributes dialog box of the part.

**FATHER_ID**
Shows the ID of the part that a reinforcement mesh belongs to.

**FINISH**
Shows the final properties of a part defined in the properties dialog box (for example, in the beam properties dialog box). For all other objects the field is blank.
**FLANGE_LENGTH_B**
Shows the total length of the lower flange of an I profile. Use when you need to show welded profiles as plates.

**FLANGE_LENGTH_U**
Shows the total length of the upper flange of an I profile. Use when you need to show welded profiles as plates.

**FLANGE_SLOPE_RATIO**
Shows the slope ratio of a flange.

See also [PROFILE on page 61](#)

**FLANGE_THICKNESS**
Shows the thickness of a flange.

See also [PROFILE on page 61](#)

**FLANGE_THICKNESS_1, FLANGE_THICKNESS_2**
Shows the flange thicknesses of unsymmetrical profiles, such as in unsymmetrical RCDL profile:

![Diagram of unsymmetrical profile with flange thicknesses t1 and t2](image)

See also [PROFILE on page 61](#)

**FLANGE_THICKNESS_B**
Shows the thickness of the lower flange of an I profile. Use when you need to show welded profiles as plates.

See also [PROFILE on page 61](#)
**FLANGE_THICKNESS_U**
Shows the thickness of the upper flange of an I profile. Use when you need to show welded profiles as plates.

See also  PROFILE on page 61

**FLANGE_WIDTH**
Shows the width of a flange.

See also  PROFILE on page 61

**FLANGE_WIDTH_1, FLANGE_WIDTH_2**
Shows the flange widths of unsymmetrical profiles.

See also  PROFILE on page 61

**FLANGE_WIDTH_B**
Shows the width of the lower flange of an I profile. Use when you need to show welded profiles as plates.

See also  PROFILE on page 61

**FLANGE_WIDTH_U**
Shows the width of the upper flange of an I profile. Use when you need to show welded profiles as plates.

See also  PROFILE on page 61

**FOLD_ANGLE**
Shows the fold angle of a profile.

See also  PROFILE on page 61
1.7 G

GRADE
Shows the grade of the object. Use with BOLT, NUT, MESH, REBAR, and STUD content types.

GROUP_TYPE
Shows the group type of a reinforcing bar:
• Normal = 0
• Tapered = 1
• Tapered 2 = 2
• Tapered curved = 3
• Tapered N = 4
• Spiral = 5

GUID
Shows GUID, which is a globally unique identifier.

1.8 H

HAS_CONNECTIONS
Use to check whether a part contains connections. The attribute returns 1 if the part contains connections, otherwise it returns 0.

HAS HOLES
Use to check whether a part contains holes. The attribute returns 1 if the part contains holes, otherwise it returns 0.
**HEAD_DIAMETER**

Shows the diameter of the stud head.

**HEAD_THICKNESS**

Shows the thickness (height) of the stud head.

**HEIGHT**

Shows the height of an object.

**DRAWING** content type:

- The height of the drawing.

**ASSEMBLY** content type:

- The height of the assembly main part for assemblies, parts, and bolts.

**PART** content type:

- The height of single-part or assembly drawings. Use in part and assembly lists.

See also [PROFILE on page 61](#)

**HEIGHT_1 ... 4**

Shows the height dimensions of unsymmetrical profiles, such as in RCDX profile below:

```
\[ h_1 \]
\[ h_2 \]
\[ h_3 \]
\[ h_4 \]
```

See also [PROFILE on page 61](#)

**HIERARCHY_LEVEL**

Shows the hierarchical level of an assembly. The possible values are:

- 0: The assembly is on the highest level of the hierarchy.
- 1: The assembly is on the highest level in a nested assembly.
• 2: The assembly does not have any nested assemblies within it.
• Any other number: The assembly is a nested assembly within another assembly. The number defines the level of the assembly in the assembly hierarchy.

**HISTORY**

Use to retrieve information on the model history in multi-user models. You can use this template attribute with content types **PART**, **SURFACING**, **REBAR**, **CONNECTION** and **DRAWING**.

The following attributes can be used with the **HISTORY** attribute:

• **CREATED**
• **CREATED_BY**
• **MODIFIED**
• **MODIFIED_BY**
• **MODIFIED_ACTION**
• **TOUCHEd**
• **TOUCHEd_BY**
• **TOUCHEd_ACTION**
• **OWNER**

**Example**

To find out which user has created an object in the model, use the combination **HISTORY.CREATED_BY**.

**Limitations**

• This template attribute works only in multi-user models.
• You need to turn on the collection of model history.
• Information cannot be retrieved for deleted objects.
• Changes in user-defined attributes do not affect this template attribute.

**See also**

**HOLE_TOLERANCE**

Only use in bolt lists. Shows the bolt tolerance. Shows a zero in all other lists.
HOOK_START, HOOK_END
Shows 1 if there is a hook at the start or end of a reinforcing bar, and 0 if there is no hook.

HOOK_START_ANGLE, HOOK_END_ANGLE
Shows the angle of the hook at the start or end of a reinforcing bar.

HOOK_START_LENGTH, HOOK_END_LENGTH
Shows the length of the straight part of the hook at the start or end of a reinforcing bar.

HOOK_START_RADIUS, HOOK_END_RADIUS
Shows the internal bending radius of the hook at the start or end of a reinforcing bar.

1.9 I

ID
Shows the identification number of an object. Use with all content types.

IFC_BUILDING
Shows the value entered in the IFC building name box on the IFC export tab in the user-defined attributes dialog box of the part.

See also

IFC_BUILDING_STOREY
Shows the value entered in the IFC building storey name box on the IFC export tab in the user-defined attributes dialog box of the part.

See also
**IFC_ENTITY**

Shows the value selected in the IFC entity list on the IFC export tab in the user-defined attributes dialog box of the part.

See also

**IFC_SITE**

Shows the value entered in the IFC site name box on the IFC export tab in the user-defined attributes dialog box of the part.

See also

**INFO1, INFO2**

Shows the corresponding values in the Project properties dialog box.

Shows the Info 1 and Info 2 texts of the revision entered in the Revision Handling dialog box.

**INNER_DIAMETER**

Shows the inner diameter of an object in the bolt catalog, for example, washers or nuts.

Use with BOLT, HOLE, NUT, and WASHER content types.

**INSTALL_ACTUAL**

Shows the value selected in the Erection Actual field on the Status tab in the user-defined attributes dialog box of the part or in the assembly properties dialog box.

**INSTALL_PLAN**

Shows the value selected in the Erection Scheduled field on the Status tab in the user-defined attributes dialog box of the part or in the assembly properties dialog box.
**IS_CONCEPTUAL**

Use to check whether reinforcement is conceptual. The attribute returns `TRUE` if the reinforcement is conceptual, otherwise it returns `FALSE`.

**IS_ITEM**

Use to check whether an object is an item. The attribute returns `1` if the object is an item, otherwise it returns `0`.

**IS_POLYBEAM**

Use to check whether a part is a polybeam. The attribute returns `1` if the part is a polybeam, otherwise it returns `0`.

**IS_POUR_BREAK_VALID**

Use to check whether a pour break is valid, and to find invalid pour breaks. An invalid pour break does not split a pour object completely into two. The attribute returns the value `1` if the pour break is valid and `0` if the pour break is invalid.

1.10  L

**LAST**

The last revision number of a drawing (as an integer).

**LAST APPROVED BY**

The `Approved by` information of the latest delivery of a drawing from the `Revision Handling` dialog box.
LAST_CHECKED_BY

The Checked by information of the latest revision from the Revision Handling dialog box.

LAST_CREATED_BY

The Created by information of the latest revision from the Revision Handling dialog box.

LAST_DATE_APPROVED

The approval Date of the latest revision of a drawing from the Revision Handling dialog box.

LAST_DATE_CHECKED

The Checked by Date of the latest revision of a drawing from the Revision Handling dialog box.

LAST_DATE_CREATE

In drawing templates this field shows the date of the last revision. In DRAWING_REV lists it also shows the entire revision history.

LAST_DELIVERY

The Delivery information of the latest revision from the Revision Handling dialog box.

LAST_DESCRIPTION

The Description of the latest revision from the Revision Handling dialog box.

LAST_INFO1

The Info 1 text of the latest revision of the drawing from the Revision Handling dialog box.
**LAST_INFO2**

The Info 1 text of the latest revision of the drawing from the Revision Handling dialog box.

**LAST_MARK**

In drawing templates this field shows the last revision mark. In DRAWING_REV lists, it also shows the entire revision history.

**LAST_TEXT1...3**

In drawing templates this field shows the text for the last revision. In DRAWING_REV lists it also shows the revision history.

**LENGTH**

Shows the length of assemblies, parts, and bolts including cuts and fittings.

**LENGTH_GROSS**

Shows the length of assemblies, parts, and bolts before cuts are made.

**LENGTH_MAX**

Shows the maximum length of a reinforcing bar in a reinforcing bar group.

**LENGTH_MIN**

Shows the minimum length of a reinforcing bar in a reinforcing bar group.

**LONG_HOLE_X**

Shows the value from the Slotted hole X field in the Bolt properties dialog box. See also DIAMETER_X on page 37.
LONG_HOLE_Y
Shows the value from the Slotted hole Y field in the Bolt properties dialog box. See also DIAMETER_Y on page 37.

LOT_NUMBER
Shows the lot number to which the assembly belongs.

LOT_NAME
Shows the name of the lot to which the assembly belongs.

1.11 M

MAIN_PART
Shows 1 to indicate the main parts of assemblies and 0 for all other objects. Can be used for sorting.

To show a main part of an assembly on top of part lists:
1. In the Template Editor, add value field MAIN_PART to PART row.
2. Set the Order to Descending and (if needed) hide the field in output, in the Value Field Properties dialog box.
3. Drag the MAIN_PART field to be first in sort order in the Content browser.

MAJOR_AXIS_LENGTH_1 ... 2
Shows the major axis length dimensions of a tapered profile. Below d1 is the major axis length 1 and d2 is the major axis length 2 in parametric profile EPD.

See also PROFILE on page 61
MARK
In drawing templates this field shows the last revision mark. In the DRAWING_REV lists it also shows the revision history. The revision mark of the revision entered in the Revision Handling dialog box.

MATERIAL
Shows the material name for parts. Shows the material of the assembly main part for assemblies. Shows the grade entered in the Bolt assembly catalog dialog box for bolts.

MATERIAL_TYPE
Shows the material type (STEEL, CONCRETE, etc) of assemblies or parts.

MESH_POS
Shows the position (prefix and running number) of a mesh.

MINOR_AXIS_LENGTH_1 ... 2
Shows the minor axis length dimensions of a tapered profile. Below r1 is the minor axis length 1 and r2 is the minor axis length 2 in parametric profile EPD.

See also  PROFILE on page 61

MODEL
Shows the name of the model.
**MODEL_TOTAL**
Shows the number of similar objects in a model (i.e. those with the same position number).

**MODULUS_OF_ELASTICITY**
Shows the modulus of elasticity of a material from the material catalog.

**MOMENT_OF_INERTIA_X**
Shows the moment of inertia around the x-x reference axis of a cross section. Moment of inertia is also known as the second moment of area.

*See also*  PROFILE on page 61

**MOMENT_OF_INERTIA_Y**
Shows the moment of inertia around the y-y reference axis of a cross section. Moment of inertia is also known as the second moment of area.

*See also*  PROFILE on page 61

**moment1, moment2**
Shows the values entered in the Moment, M box on the End codes tab in the user-defined attributes dialog box of the part. moment1 shows the value in the Start box and moment2 in the End box.

**MORTAR_VOLUME**
Shows the mortar volume used in surface treatment.

**1.12 N**
# NAME

The name of the object. If the object does not have a name, it is searched from the next level. Depending on the content type, shows:

<table>
<thead>
<tr>
<th>Content type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASSEMBLY</td>
<td>The assembly mainpart, project, phase or drawing name.</td>
</tr>
<tr>
<td>BOLT</td>
<td>Bolt name from the bolt catalog. Nut, washer, phase, or project name.</td>
</tr>
<tr>
<td>CAST UNIT</td>
<td>Project, mainpart, phase or drawing name</td>
</tr>
<tr>
<td>CONNECTION</td>
<td>The connection name that appears in the title bar of the corresponding connection properties dialog box. Project name.</td>
</tr>
<tr>
<td>DRAWING</td>
<td>The entire drawing name, including the drawing type (A, W, C, G, M). Project name.</td>
</tr>
<tr>
<td>HOLE</td>
<td>Bolt, nut, washer, phase, or project name.</td>
</tr>
<tr>
<td>MESH</td>
<td>The mesh name, or project name.</td>
</tr>
<tr>
<td>NUT</td>
<td>The nut name, or bolt, washer, project or phase name.</td>
</tr>
<tr>
<td>PART</td>
<td>Name entered in the part properties dialog box for parts. Phase, assembly main part, drawing or project name.</td>
</tr>
<tr>
<td>REBAR</td>
<td>The reinforcing bar name. Phase or project name.</td>
</tr>
<tr>
<td>STUD</td>
<td>The stud name. Project or phase name.</td>
</tr>
<tr>
<td>SURFACING</td>
<td>Surface treatment name defined in the product_finishes.dat file Project name.</td>
</tr>
<tr>
<td>WASHER</td>
<td>The washer name from the bolt catalog. Bolt, nut, project or phase name.</td>
</tr>
</tbody>
</table>
NAME_BASE
Shows the drawing name.

NEUTRAL_AXIS_LOCATION_ELASTIC_X
Shows the location of elastic neutral axis.
See also PROFILE on page 61

NEUTRAL_AXIS_LOCATION_ELASTIC_Y
Shows the location of elastic neutral axis.
See also PROFILE on page 61

NEUTRAL_AXIS_LOCATION_PLASTIC_X
Shows the location of plastic neutral axis.
See also PROFILE on page 61

NEUTRAL_AXIS_LOCATION_PLASTIC_Y
Shows the location of plastic neutral axis.
See also PROFILE on page 61

NORMALIZED_WARPING_CONSTANT
Shows the warping constant of a profile.
See also PROFILE on page 61
NUMBER, NUMBER#1, NUMBER #2

NUMBER shows the revision number in Rev. No box in the Revision Handling dialog box.

NUMBER#1 shows the total number of objects on a list. Shows the total number of parts and bolts for one assembly for list types ASSEMBLY, ASSEMBLY_BOLT, ASSEMBLY_PART and ASSEMBLY_ALL, if the object is part of an assembly on the list.

NUMBER#2 shows the project number as text.

NUMBER_IN_PHASE(X)

Returns the quantity of assemblies in phase X. The result is the same as the NUMBER template attribute but by phase.

You can also use the template attribute PHASE and the function GetValue instead of a number in the template attribute.

Example: GetValue("NUMBER_IN_PHASE(GetValue("PHASE"))")

NUMBER_OF_TILE_TYPES

Returns the number of tiles in a tile pattern. For example, the Basketweave pattern is made up of eight tiles, so the template attribute returns 8 for a tile surface treatment whose pattern type is Basketweave.

See also

NUMBER_VISIBLE

When added in the reinforcing bar group mark, shows the number of visible reinforcing bars in the view. This is a context-specific template attribute.

1.13  O

OBJECT

The object field in the Project properties dialog box.
OBJECT_DESCRIPTION
Shows the object type and ID. Below examples:

- PART 780*380 Id: 227
- ASSEMBLY Id: 144
- MESH Id: 946

OBJECT_LOCKED
Shows the status of the user-defined attribute Locked.
For more information on this attribute, see .

ORIGIN_X, ORIGIN_Y, ORIGIN_Z
It is possible to inquire the global coordinates of a connection’s origin through templates. The fields are named ORIGIN_X, ORIGIN_Y and ORIGIN_Z.
**OBJECT_TYPE**

The type of object. The message files contain the translations of these strings (numbers 576 - 587).

The object types are:
- POINT
- PART
- JOINT
- FITTING
- SCREW
- ANTI-MATERIAL
- CUT
- WELDING
- ASSEMBLY
- DRAWING
- PROJECT
- OBJECT

**OWNER**

Shows the object owner in format domain/user.

1.14  P

**PAGE**

The current page number.

**PART_POS**

The position number of parts. Shows a blank cell for all other objects.

Shows the mark of assembly main part for assemblies, parts, and bolts. For all other objects the field is blank.
PART_PREFIX
Shows the part prefix, defined in the part properties dialog box.
For more information on numbering series, see .

PART_SERIAL_NUMBER
Shows the part number without the prefix and separator.

PART_START_NUMBER
Shows the part start number.

See also

PCS
Shows the number of bars in a reinforcing bar group.

PHASE
The number of the phase to which the object belongs.
To show the phase name, use the PHASE.NAME field.

PLASTIC_MODULUS_X
Shows the plastic modulus of x-x reference axis of a cross section. Also known as the first moment of area.
See also  PROFILE on page 61

PLASTIC_MODULUS_Y
Shows the plastic modulus of y-y reference axis of a cross section. Also known as the first moment of area.
See also  PROFILE on page 61
**PLATE_DENSITY**
Shows the material density of a plate (kg/m3).

**PLATE_THICKNESS**
Shows the thickness of a plate (mm).

*See also*  PROFILE on page 61

**PLOTFILE**
Shows the name of the drawing plot file. Only for use in drawing tables and drawing reports.

*See also*

**POISSONS_RATIO**
Shows the Poisson's ratio (analysis property) of material.

**POLAR_RADIUS_OF_GYRATION**
Shows the polar radius of gyration (analysis property) of a profile.

*See also*  PROFILE on page 61

**PRELIM_MARK**
Shows the user-defined attribute Prelim mark.
For more information on preliminary marks, see.
PROFILE

Shows the part profile name, or the main part profile name in an assembly or cast unit. You can also show profile attributes in templates and reports:

In the Template editor, open the **Select attribute** dialog box and select PROFILE.* attributes for the selected content type:

For example, MAINPART.PROFILE.HEIGHT with ASSEMBLY content type, shows the height of the main part profile in the assembly.

PROFILE_DENSITY

Shows the profile density of material (kg/m3).
PROFILE_TYPE

The profile type of the part. The default types in Tekla Structures conform to DSTV-NC documentation. They are defined (message numbers 588 - 599) in the message file by_number.ail in the folder ..\Tekla Structures\<version>\messages. The table below shows the relationship between messages, profiles in Tekla Structures, and the DSTV-NC profile types defined in messages.

<table>
<thead>
<tr>
<th>Tekla Structures profiles</th>
<th>Message number</th>
<th>Shows DSTV-NC profile type</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-profiles</td>
<td>588</td>
<td>I</td>
</tr>
<tr>
<td>L-profiles</td>
<td>589</td>
<td>L</td>
</tr>
<tr>
<td>U-profiles</td>
<td>591</td>
<td>U</td>
</tr>
<tr>
<td>Plates</td>
<td>592</td>
<td>B</td>
</tr>
<tr>
<td>Round tubes</td>
<td>593</td>
<td>RO</td>
</tr>
<tr>
<td>Round bars</td>
<td>594</td>
<td>RU</td>
</tr>
<tr>
<td>Rectangular tubes</td>
<td>595</td>
<td>M</td>
</tr>
<tr>
<td>CC-profiles</td>
<td>596</td>
<td>C</td>
</tr>
<tr>
<td>T-profiles</td>
<td>597</td>
<td>T</td>
</tr>
<tr>
<td>Polygon plates</td>
<td>598</td>
<td>B</td>
</tr>
<tr>
<td>Bent plates</td>
<td>599</td>
<td>B</td>
</tr>
<tr>
<td>Z-profiles and all the other types of profile</td>
<td>590</td>
<td>Z</td>
</tr>
</tbody>
</table>

PROFILE_WEIGHT

The weight of a part. For profiles Tekla Structures calculates the weight using the weight per unit length and weight/m values in the profile catalog. If the weight/m is not defined in the profile catalog, this field works in the same way as WEIGHT_NET on page 81, but uses the plate density value (Property weight for plates) from the material catalog instead of profile density.

PROFILE_WEIGHT_NET

The net weight of a part. For profiles Tekla Structures calculates the weight using the length and weight/m values in the profile catalog. Line cuts do not affect the length value, which is calculated using the fitted centerline. For all other objects this field works in the same way as WEIGHT_NET on page 81.
PROJECT_COMMENT

Shows the value entered in the Project Comment box in the user-defined attributes dialog box of the project (File --> Project Properties... --> User-defined Attributes...).

See also

PROJECT_USERFIELD_1 ... 8

Shows the value of the user-defined attribute of the project that you can define in the User field 1, User field 2 and so on boxes on the Parameters tab in the user-defined attributes dialog box of the project (File --> Project Properties... --> User-defined Attributes...).

See also

1.15  R

RADIUS

The Radius value of a curved beam.

RADIUS_OF_GYRATION_X

Shows the radius of gyration x (analysis property) of a profile.

See also  PROFILE on page 61

RADIUS_OF_GYRATION_Y

Shows the radius of gyration y (analysis property) of a profile.

See also  PROFILE on page 61

REBAR_MESH_LEFT_OVERHANG_CROSS

Shows the extensions of the crossing bars over the outermost longitudinal bars on the left.

See also  Creating a customized reinforcement mesh
**REBAR_MESH_LEFT_OVERHANG_LONG**

Shows the extensions of the longitudinal bars over the outermost crossing bars on the left.

*See also*  Creating a customized reinforcement mesh

**REBAR_MESH_RIGHT_OVERHANG_CROSS**

Shows the extensions of the crossing bars over the outermost longitudinal bars on the left.

*See also*  Creating a customized reinforcement mesh

**REBAR_MESH_RIGHT_OVERHANG_LONG**

Shows the extensions of the longitudinal bars over the outermost crossing bars on the right.

*See also*  Creating a customized reinforcement mesh

**REBAR_POS**

Shows the position (prefix and the running number) of reinforcing bars.

**REFERENCE_ASSEMBLY**

Lists assembly level information on reference models in reports and templates.

The following attributes are bound to the content type in `contentattributes_global.lst:`
The following user-defined attributes are bound to the content type in
contentattributes_userdefined.lst:
REFERENCE ASSEMBLY = USERDEFINED.subref_description
REFERENCE ASSEMBLY = USERDEFINED.OBJECT.Locked
REFERENCE ASSEMBLY = USERDEFINED.subref_info_string
REFERENCE ASSEMBLY = USERDEFINED.subref_logical_name
REFERENCE ASSEMBLY = USERDEFINED.[workflow].DESIGN_CHECKED_BY
REFERENCE ASSEMBLY = USERDEFINED.[workflow].DESIGN_COMMENT
REFERENCE ASSEMBLY = USERDEFINED.[workflow].DESIGN_ASSIGNED_TO
REFERENCE ASSEMBLY = USERDEFINED.[workflow].DESIGN_CODE
REFERENCE ASSEMBLY = USERDEFINED.[workflow].PLANS_STATUS
REFERENCE ASSEMBLY = USERDEFINED.[workflow].DESIGN_CHECK_DATE
REFERENCE ASSEMBLY = USERDEFINED.[workflow].PLANNED_START_D
REFERENCE ASSEMBLY = USERDEFINED.[workflow].PLANNED_END_D
REFERENCE ASSEMBLY = USERDEFINED.[workflow].ACTUAL_START_D
REFERENCE ASSEMBLY = USERDEFINED.[workflow].ACTUAL_END_D
REFERENCE ASSEMBLY = USERDEFINED.[workflow].FABRICATION_CODE
REFERENCE ASSEMBLY = USERDEFINED.[workflow].DELIVERY_NUMBER
REFERENCE ASSEMBLY = USERDEFINED.[workflow].PACKAGE_NUMBER
REFERENCE ASSEMBLY = USERDEFINED.[workflow].SHIPMENT_NUMBER
REFERENCE ASSEMBLY = USERDEFINED.[workflow].FABRICATION_STATUS
REFERENCE ASSEMBLY = USERDEFINED.[workflow].PLANNED_START_F
REFERENCE ASSEMBLY = USERDEFINED.[workflow].PLANNED_END_F
REFERENCE ASSEMBLY = USERDEFINED.[workflow].ACTUAL_START_F
REFERENCE ASSEMBLY = USERDEFINED.[workflow].ACTUAL_END_F
REFERENCE ASSEMBLY = USERDEFINED.[workflow].ERECT_CODE
REFERENCE ASSEMBLY = USERDEFINED.[workflow].ERECT_COMMENT
REFERENCE ASSEMBLY = USERDEFINED.[workflow].ERECT_STATUS
REFERENCE ASSEMBLY = USERDEFINED.[workflow].CIP_STATUS
REFERENCE ASSEMBLY = USERDEFINED.[workflow].PLANNED_START_E
REFERENCE ASSEMBLY = USERDEFINED.[workflow].PLANNED_END_E
REFERENCE ASSEMBLY = USERDEFINED.[workflow].ACTUAL_START_E
REFERENCE ASSEMBLY = USERDEFINED.[workflow].ACTUAL_END_E

See also

REFERENCE_MODEL

Lists reference models in reports.

See also

REFERENCE_MODEL_OBJECT

Lists reference models objects in reports.

See also
ROUNDING_RADIUS, ROUNDING_RADIUS_1 ... 2

Shows different rounding radii of profiles. Below as an example rounding radius 1 and 2 for a specific I profile:

See also PROFILE on page 61

ROW_IN_PAGE

Produces an incremental number starting from 1 at the beginning of each new page. Use in reports and templates.

Example Can be used together with the PAGE field to include page or row information in the drawing template. Set Type to Text and enter the following field definition in the Text field properties:

=\%PAGE\% / / \%ROW_IN_PAGE\%

1.16 S

SCALE1...5

Use these fields to show the different scales of drawing views. Decimal values are rounded to the nearest integer. Only for use in drawing tables.

SCHED_FAB_DATE

Shows the value selected in the Fabrication Scheduled field on the Status tab in the user-defined attributes dialog box of the part.

SCREW_HOLE_DIAMETER_X

Shows the length of a screw hole in the x direction (hole diameter + LONG_HOLE_X on page 51).
**SCREW_HOLE_DIAMETER_Y**

Shows the length of a screw hole in the y direction (hole diameter + LONG_HOLE_Y on page 52).

**SECTION_MODULUS_X, SECTION_MODULUS_Y**

Shows section modulus (analysis property) of a profile.

See also  PROFILE on page 61

**SHAPE**

Shows the environment-specific bending type of a reinforcing bar.

**SHAPE_INTERNAL**

Shows the internal bending type of Tekla Structures for a reinforcing bar, for example, 2_1.

See also

**SHEAR_CENTER_LOCATION**

Shows the shear center location (analysis property) of a profile.

See also  PROFILE on page 61

**shear1**, **shear2**

Shows the values entered in the Shear, V box on the End codes tab in the user-defined attributes dialog box of the part. shear1 shows the value in the Start box and shear2 in the End box.

**SHOP_ISSUE**

Shows the value selected in the Plans Actual field on the Status tab in the user-defined attributes dialog box of the part or in the assembly properties dialog box.
SHOPSTATUS

Shows the value selected in the Fabrication Status list on the Status tab in the user-defined attributes dialog box of the part or in the assembly properties dialog box.

SIMILAR_TO_MAIN_PART

Returns 1 if the position number of the given part is the same as the position number of the main part in the assembly.

To show a main part of an assembly on top of part lists:

1. In the Template Editor, add value field SIMILAR_TO_MAIN_PART to PART row.
2. Set the Order to Descending and (if needed) hide the field in output, in the Value Field Properties dialog box.
3. Drag the SIMILAR_TO_MAIN_PART field to be first in sort order in the Content browser.

SITE_WORKSHOP

For bolts this field shows the assembly type information in a string (Site or Shop). The message files (466 and 467) contain translations of these strings.

For studs this field shows the assembly type information in a string (Site or Shop).

SIZE

Shows the size of the drawing (e.g. 210x297). Only for use in drawing templates and drawing reports.

SORT_OF_E_x_Cw_PER_G_x_J

Shows sqrt(ECw/GJ) analysis property of a profile.

See also PROFILE on page 61
SUPPLEMENT_PART_WEIGHT
Shows the weight of supplementary parts. SUPPLEMENT_PART_WEIGHT = the weight of the whole assembly less the weight of the main part.
See also WEIGHT on page 80.

START_X
Shows the coordinates of the creation points of parts.

START_Y
See START_X on page 71.

START_Z
See START_X on page 71.

STATICAL_MOMENT_Qf
Shows the statiscal moment of the flange.
See also PROFILE on page 61

STATICAL_MOMENT_Qw
Shows the statiscal moment of the web.
See also PROFILE on page 61

STIFFENER_DIMENSION
Shows the stiffener dimension of a profile.
See also STIFFENER_DIMENSION_1 ... 3 on page 72
PROFILE on page 61
STIFFENER_DIMENSION_1 ... 3

Shows the stiffener dimensions of a profile. Below f1 is stiffener dimension 1, f2 is stiffener dimension 2, and f3 is stiffener dimension 3 in parametric profile EZ.

See also PROFILE on page 61

STRAND_DEBONDED_STRANDS_1...5

Shows a list of debonded strands. Strand numbers are separated by spaces.

STRAND_DEBONDED_STRANDS_1 corresponds to row 1 on the Debonding tab in the Strand Pattern Properties dialog box, STRAND_DEBONDED_STRANDS_2 to row 2, and so on.

STRAND_DEBOND_LEN_FROM_END_1...5

Shows the debonding length from the end of the strands.

STRAND_DEBOND_LEN_FROM_END_1 corresponds to row 1 on the Debonding tab in the Strand Pattern Properties dialog box, STRAND_DEBOND_LEN_FROM_END_2 to row 2, and so on.

STRAND_DEBOND_LEN_FROM_START_1...5

Shows the debonding length from the start of the strands.

STRAND_DEBOND_LEN_FROM_START_1 corresponds to row 1 on the Debonding tab in the Strand Pattern Properties dialog box, STRAND_DEBOND_LEN_FROM_START_2 to row 2, and so on.
**STRAND_DEBOND_LEN_MIDDLE_TO_END_1...5**

Shows the debonding length from the middle to the end of the strands.

*STRAND_DEBOND_LEN_MIDDLE_TO_END_1* corresponds to row 1 on the **Debonding** tab in the **Strand Pattern Properties** dialog box,
*STRAND_DEBOND_LEN_MIDDLE_TO_END_2* to row 2, and so on.

**STRAND_DEBOND_LEN_MIDDLE_TO_START_1...5**

Shows the debonding length from the middle to the start of the strands.

*STRAND_DEBOND_LEN_MIDDLE_TO_START_1* corresponds to row 1 on the **Debonding** tab in the **Strand Pattern Properties** dialog box,
*STRAND_DEBOND_LEN_MIDDLE_TO_START_2* to row 2, and so on.

**STRAND_N_PATTERN**

Shows the number of different cross-sections in a strand pattern.

**STRAND_N_STRAND**

Shows the number of strands.

**STRAND_POS**

Shows the position (prefix and running number) of a strand.

**STRAND_PULL_FORCE**

Shows the pull force of a strand.

**STRAND_UNBONDED**

Shows the sequence numbers of debonded strands, separated by spaces or commas.
**SUBTYPE**
Shows the subtype of a profile.

See also PROFILE on page 61

**SURFACING_NAME**
Shows the name of a surface treatment, for example, Tile surface 1.
Surface treatment codes and names are defined in the product_finishes.dat file.

See also CODE on page 30

**1.17 T**

**TANGENT_OF_PRINCIPAL_AXIS_ANGLE**
Shows the tangent of principal axis angle (analysis property) of a profile.

See also PROFILE on page 61

**TEXT1...3**
In drawing templates this field shows the text for the last revision. In DRAWING_REV lists it also shows the revision history.

**THERMAL_DILATATION**
Shows the thermal dilatation coefficient of material.

**THICKNESS**
Shows the thickness of a tile in a tile pattern.

See also
THREAD_IN_MATERIAL
Shows 1 if the thread of the screw can be inside the material to be connected and 0 if not.

TILE_NUMBER
Shows the number of tiles used in surface treatment (approximate value).

TILE_VOLUME
Shows the volume of tiles used in surface treatment, without the mortar volume. See also MORTAR_VOLUME on page 54.

TIME
Shows the current time (hh:mm:ss).

TITLE
Shows the user-defined drawing name. Can also be used for parts and assemblies. For example, you could create a report of assemblies listing which assembly drawings had been created.

TITLE1...3
In reports this field shows the user-defined titles entered in the Report dialog box. In drawing templates this field shows the drawing attributes.

TOP_LEVEL
Shows the top level of a single part, cast unit, assembly, part of a connection or a pour object.
Top level takes the unit and accuracy from MarkDimensionFormat.dim.
You can use this attribute as a user-defined attribute also in part marks and associative notes.
This attribute returns the value as text, so you cannot use formulae with this attribute. Use TOP_LEVEL_UNFORMATTED on page 76 instead.

**TOP_LEVEL_GLOBAL**

Shows the top level of a single part, cast unit, assembly, part of a connection or a pour object by global axis. TOP_LEVEL_GLOBAL takes the unit and accuracy from MarkDimensionFormat.dim.

You can use this attribute as a user-defined attribute in part marks and associative notes, and also in reports and templates.

**TOP_LEVEL_GLOBAL_UNFORMATTED**

Shows the top level of a single part, cast unit, assembly, part of a connection or a pour object. TOP_LEVEL_GLOBAL_UNFORMATTED returns the top levels as a length in mm so you can format them and include them into formulas in templates. This attribute gives level information by the global axis.

You can use this attribute as a user-defined attribute also in part marks and associative notes.

**TOP_LEVEL_UNFORMATTED**

Shows the top level of a single part, cast unit, assembly, part of a connection or a pour object. TOP_LEVEL_UNFORMATTED returns the top levels as a length in mm so you can format them and include them into formulas in templates.

You can use this attribute as a user-defined attribute also in part marks and associative notes.

Unlike the TOP_LEVEL attribute, the TOP_LEVEL_UNFORMATTED attribute cannot be formatted through the MarkDimensionFormat.dim file.
**TORSIONAL_CONSTANT**

Shows the torsional constant (analysis property) of a profile.

See also  PROFILE on page 61

**TYPE**

Shows the object type or standard:

<table>
<thead>
<tr>
<th>Content type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOLT</td>
<td>Shows the bolts standard as it appears in the Bolt assembly catalog dialog box (for example, 7968). For all other objects the field is blank.</td>
</tr>
<tr>
<td>DRAWING</td>
<td>Shows the drawing type: A, W, C, G or M.</td>
</tr>
<tr>
<td>MESH</td>
<td>Shows the mesh standard.</td>
</tr>
<tr>
<td>NUT</td>
<td>Shows the nut standard.</td>
</tr>
<tr>
<td>SURFACING</td>
<td>Surface treatment type in the Surface Treatment Properties dialog box.</td>
</tr>
<tr>
<td>WASHER</td>
<td>Shows the standard of the washer.</td>
</tr>
</tbody>
</table>

**TYPE1**

For bolts this field shows the bolt type as the type of each possible bolt part that appears in the Bolt assembly catalog dialog box (e.g. 7968/2041/2041/2041/2067/2067). For objects other than bolts the field is blank.

**TYPE2**

For bolts this field shows the bolt type as the numbers of existing bolt parts (e.g. 10021). For objects other than bolts the field is blank.

**TYPE3**

The same as BOLT_TYPE2, but shows X for existing and o for nonexistent bolt parts (for example, XooXX). For objects other than bolts the field shows a blank.
**TYPE4**
The same as BOLT_TYPE1 but only the existing components are shown in the string.

### 1.18 U

**USER_PHASE**
Shows the value entered in the User Phase box on the Parameters tab in the user-defined attributes dialog box of the part.

**USERFIELD_1 ... _8**
Shows the value of the user-defined attribute User field 1, User field 2 etc.

See also  For more information on the user-defined attributes in templates and reports, see .
For more information on user-defined attributes, see .

### 1.19 V

**VOLUME**
Shows the object volume, for example, the volume of an assembly or of a cast unit. Takes holes and cuts into account.

**VOLUME_GROSS**
Shows the object gross volume. Does not take into account holes and cuts.

**VOLUME_NET**
Shows the object volume taking into account holes and cuts.
VOLUME_NET_ONLY_CONCRETE_PARTS

Shows the volume by the solid of concrete parts in the cast unit. If a part uses a profile where cross section area is defined manually, it is ignored in calculation (cf. VOLUME_ONLY_CONCRETE_PARTS)

VOLUME_ONLY_CONCRETE_PARTS

This attribute gets cast unit volume values only for concrete parts.

1.20 W

WARPING_CONSTANT

Shows the warping constant (analysis property) of a profile.

See also PROFILE on page 61

WARPING_STATICAL_MOMENT

Shows the warping statical moment (analysis property) of a profile.

See also PROFILE on page 61

WEB_HEIGHT

See WEB_WIDTH on page 80.

WEB_LENGTH

The gross length of the web of an I profile. Use to show welded profiles as plates.
WEB_THICKNESS
The thickness of the web of an I profile. Use to show welded profiles as plates.

See also  PROFILE on page 61

WEB_THICKNESS_1, WEB_THICKNESS_2
The additional thickness values of the web of a profile.

See also  PROFILE on page 61

WEB_WIDTH
The width of the web of an I profile. Use to show welded profiles as plates.

WEIGHT
Shows the weight of the object. The calculation formula depends on the object type:

- For parts with cross-sections defined in the profile catalog, the weight is calculated from the cross section area in the profile catalog (on the list of Properties on the Analysis tab), length [LENGTH] and density of material (property weight for profiles in the material catalog). The result is the same as calculating WEIGHT_GROSS.

- For other profiles with no cross sections defined (typically parametric profiles), shows the net weight calculated using the profile volume and density of material. Fittings, cuts, weld preparations, and part adds affect volume calculation.

- For assemblies, shows the sum of the part weights for each assembly.

- For bolts, shows the weight of the bolt part in the corresponding content type rows:
  - BOLT: shows the weight of the bolt.
  - NUT: shows the weight of the nut.
  - WASHER: shows the weight of the washer.
**WEIGHT_GROSS**

Shows the gross weight, which is the total weight of material needed to fabricate the part. The calculation formula depends on the part:

- If the part has cross-sections defined in the profile catalog, the weight is calculated from part length (LENGTH), the cross section area in the profile catalog, and the density of material.
- If the part is a folded or contour plate without a cross section area, the weight is calculated from plate overall height, overall length and density of material (property weight for plates in the material catalog).
- For other profiles without cross sections (typically parametric profiles), the gross weight is calculated the same way as the WEIGHT_NET, but cuts are not taken into account and the plate density value is used instead of profile density.
- For assemblies, shows the combined gross weight of parts included in an assembly. For bolts it shows the bolt weight.

**WEIGHT_M**

Shows the property weight of a profile (defined in the material catalog). For parametric profiles, shows the weight of the profile divided by the length. For standard profiles, shows the Weight per unit length from the Analysis properties in the profile catalog.

**WEIGHT_MAX**

Shows the maximum weight of a single reinforcing bar or strand in a reinforcing bar group.

**WEIGHT_MIN**

Shows the minimum weight of a single reinforcing bar or strand in a reinforcing bar group.

**WEIGHT_NET**

Shows the weight of the fabricated part, assembly or cast unit. The calculation formula depends on the object:

- For parts, returns the net weight, which is the actual weight of the fabricated part. Rounding of the profile corners are not taken into account.
- For bolts, returns the bolt weight, and for other objects a zero.
- For assemblies, returns the sum of part weights.
The calculation is based on part volume and density of material. The density value used in the calculation depends on the profile cross-sections:

- If cross-sections are defined in the profile catalog, density is the Property weight of profiles in the material catalog.
- If there are no cross-sections, density is the Property weight of plates in the material catalog.

For parts, the net weight is not the actual weight of the fabricated parts. The profile cross section is calculated using straight angles, so the roundings in the corners are not taken into account (unless you are using the advanced option XS_SOLID_USE_HIGHER_ACCURACY). This causes significant difference between the calculated and the actual weight especially when big cross sections are used.

**WEIGHT_NET_ONLY_CONCRETE_PARTS**

Shows the weight of a cast unit. It calculates the weight by the solid of the concrete parts in the cast unit. If a part uses a profile where cross section area is defined manually, it is ignored in calculation (cf. WEIGHT_ONLY_CONCRETE_PARTS).

**WEIGHT_ONLY_CONCRETE_PARTS**

This attribute gets the cast unit weight only for concrete parts only.

**WEIGHT_PER_UNIT_LENGTH**

Shows the weight per unit length (analysis property) of a profile.

See also  PROFILE on page 61
**WEIGHT_TOTAL**
Shows the total weight of all reinforcing bars or of all strands in a reinforcing bar group.

**WELD_ACTUAL_LENGTH1, WELD_ACTUAL_LENGTH2**
Shows the actual weld length in the model, or the sum of actual weld lengths, for welds above and below line.
The actual weld length is the distance between the weld seam start point and end point along the weld seam.
*See also*  WELD_LENGTH1 ... 2 on page 85

**WELD_ANGLE1, WELD_ANGLE2**
Shows weld angle for welds above and below line.

**WELD_ASSEMBLYTYPE**
Shows the assembly type of a weld (Site or Shop). Only use in welding lists.

**WELD_DEFAULT**
Shows the default weld size according to the drawing attributes. Only use in drawing tables.

**WELD_CROSSSECTION_AREA1, WELD_CROSSSECTION_AREA2**
Shows the theoretical cross section area for welds above and below line. For unsupported weld types, shows 0.00.
WELD_EDGE_AROUND

Returns the value selected in the Edge/Around list in the Weld Properties dialog box: Edge if only one edge of a face is welded and Around if the entire perimeter is welded.

See also

WELD_EFFECTIVE_THROAT, WELD_EFFECTIVE_THROAT2

Returns the value entered in the Effective throat box in the Weld Properties dialog box. WELD_EFFECTIVE_THROAT shows the value entered in the Above line section, and WELD_EFFECTIVE_THROAT2 in the Below line section.

See also

WELD_ELECTRODE_CLASSIFICATION

Shows the weld electrode classification, selected in the Electrode classification list in the Weld properties dialog box.

See also

WELD_ELECTRODE_COEFFICIENT

Shows the value entered in the Electrode coefficient box in the Weld properties dialog box.

See also

WELD_ELECTRODE_STRENGTH

Shows the value entered in the Electrode strength box in the Weld properties dialog box.

See also

WELD_ERRORLIST

Shows error codes for a weld if there are issues related to the weld.

The error codes are:

<table>
<thead>
<tr>
<th>Error code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>Weld is not in the correct location.</td>
</tr>
<tr>
<td>E2</td>
<td>Welded parts are not touching each other.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>E3</td>
<td>Weld is not on the edge of a part.</td>
</tr>
<tr>
<td>E4</td>
<td>Weld has a cross section type that is not supported.</td>
</tr>
<tr>
<td>E5</td>
<td>Weld properties are incorrect.</td>
</tr>
<tr>
<td>E6</td>
<td>There are issues related to the weld preparation of parts.</td>
</tr>
</tbody>
</table>

**WELD_FATHER_CODE**

Shows the connection running number of the connection where the weld is located. The field is blank if the weld is not next to a connection. Use only in welding lists.

**WELD_FATHER_NUMBER**

Shows the connection number of the connection where the weld is located. The field is blank if the weld is not next to a connection. Use only in welding lists.

**WELD_FILLTYPE1, WELD_FILLTYPE2**

Shows the weld contour (None, Flush, Convex, Concave) for welds above and below line.

**WELD_FINISH1, WELD_FINISH2**

Shows the weld finish for welds above and below line.

**WELD_INCREMENT_AMOUNT1, WELD_INCREMENT_AMOUNT2**

Shows the amount of increments for intermittent welds above and below line.

See also

**WELD_INTERMITTENT_TYPE**

Shows the shape of a weld (Continuous, Chain intermittent, or Staggered intermittent).

See also
WELD_LENGTH1 ... 2

Shows the weld length value entered in the Length box in the Weld Properties dialog box. WELD_LENGTH1 shows the length of the weld above the line and WELD_LENGTH2 below the line.

See also

WELD_ACTUAL_LENGTH1, WELD_ACTUAL_LENGTH2 on page 83

WELD_NDT_INSPECTION

Shows the non-destructive testing and inspection level of a weld, selected in the NDT inspection level list in the Weld properties dialog box.

See also

WELD_NUMBER

Shows the weld number.

See also

WELD_PERIOD1 ... 2

Returns the value entered in the Pitch box in the Weld Properties dialog box. WELD_PERIOD1 returns the value entered in the Above line section, and WELD_PERIOD2 in the Below line section.

See also

WELD_POSITION

Returns the weld position, selected in the Position list in the Weld Properties dialog box.

See also

WELD_POSITION_X

Shows the position of the weld in the x axis.

See also
**WELD_POSITION_Y**

Shows the position of the weld in the y axis.

*See also*

**WELD_POSITION_Z**

Shows the position of the weld in the z axis.

*See also*

**WELD_PROCESS_TYPE**

Shows the welding process type of a weld, selected in the *Welding process type* list in the *Weld properties* dialog box.

*See also*

**WELD_ROOT_FACE_THICKNESS, WELD_ROOT_FACE_THICKNESS2**

Shows the root face thickness of a weld above or below line and is used only in welding lists.

**WELD_ROOT_OPENING, WELD_ROOT_OPENING2**

Shows the root opening (space between the welded parts) for welds above and below line.

*See also*

**WELD_SIZE1, WELD_SIZE2**

Shows weld size for welds above and below line.

**WELD_SIZE_PREFIX_ABOVE**

Returns the weld size prefix, entered in the *Prefix* box in the *Above line* section in the *Weld Properties* dialog box.

*See also*
**WELD_SIZE_PREFIX BELOW**

Returns the weld size prefix, entered in the Prefix box in the Below line section in the Weld Properties dialog box.

*See also*

**WELD_TEXT**

Shows the reference text of a weld.

**WELD_TYPE1, WELD_TYPE2**

Shows weld type for above and below line. See the .

**WELD_VOLUME**

Shows the volume of a solid weld object. If the solid weld object fails, shows 0.00. For unsupported weld types, shows 0.00.

**WIDTH**

The width of a part or assembly.

For drawings, shows the width of the drawing.

*See also*  **PROFILE on page 61**

**WIDTH_1, WIDTH_2**

Shows special width values of some profiles. Below parametric profile rectangular hollow section with subtype h1*b1-h2*b2*t, where b1 is width 1 and b2 is width 2.

*See also*  **PROFILE on page 61**
xs_shorten

Shows the value entered in the Shorten box on the Parameters tab in the user-defined attributes dialog box of the part.
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