Tekla Structures 2016

Open API Release Notes

March 2016

Contents

1 Tekla Structures 2016 Open API Release Notes

This document explains new features, fixes and improvements in Tekla Open API 2016. For more examples and information, see `TeklaOpenAPI_Reference.chm` included in the Tekla Open API StartUp Package.

Tekla.Structures 2016.0.0.0 Assembly

Solid faces

- Solid faces now have information about the object ID responsible for creating the face. For example, a face created by a part cut has the ID of the cutting object (that is, the anti-material object created by the part cut command). In Tekla Open API, the functionality is available as `Tekla.Structures.Solid.Face.OriginPartId`.

  TT110602

XS_EXTENSION_DIRECTORY

- The `XS_EXTENSION_DIRECTORY` advanced option can be used for defining additional loading paths for model and drawing plug-ins.

  TT116046

Tekla.Structures.Dialog 2016.0.0.0 Assembly

Rebar shape catalog

- `ReinforcementSelectionForm` now selects the usage node on double-click and closes the **Select reinforcing bar** dialog box when the grade size is selected in **Rebar shape catalog**.

  TT73880

Reinforcing bar catalog

- The reinforcing bar catalog (`ReinforcementSelectionForm`) now opens faster than before when launched from an Open API based extension dialog box.

  TT83885

Plug-in dialog box size and location

- .NET plug-in dialog box size and location are now stored under the Tekla Structures version in the registry.

  TT113277

Tekla.Structures.Model 2016.0.0.0 Assembly

New ModelHandler class

- A new class, `ModelHandler`, has been added to the **Tekla.Structures.Model** assembly for saving, opening and creating new single and multi-user models.

  Old `Open()` methods in the `Operations` class have been marked as obsolete.

  TT74854

Slotted hole values in IFC export

- Slotted hole values are now always zero in the .NET interface if there are no slotted holes in the bolt, or if the bolt is a stud.

  TT107194

Tekla.Structures.Model.UI namespace

- An additional argument `Showdimensions` has been added to the `Select()` method in the `ModelObjectSelector` class. The default value is `TRUE`. If the value is set to `FALSE`, the dimensions are not drawn to the user interface when the part is selected.

  TT109432

- A new class, `ModelObjectVisualization`, has been added to Open API for model object visualization. The class can be used for setting temporary color and transparency values for a model object in the view.

  TT111489

Changes in surface object API

- When setting the polymesh for surface creation, the normal of the polymesh must point to the outside of a part or pour. This improves the performance of surface creation and optimizes the database size.

The following changes have been made in the surface object API in `Structures/DotNetInterface/Tekla.Structures.Model/Surface/SurfaceObject.cs`:

- Public boolean `SetParent(ModelObject obj)` is called only before calling public override boolean `Insert()`. Calling `SetParent()` after `Insert()` may cause unexpected behavior.
- `FacetedBrep` polymesh's normal should be pointing out from the material to optimize the performance and minimize the database size. Note that Tekla Structures uses the right-hand rule to determine the polymesh point order and polymesh normal.

  TT116047, TT115959

NC files

- There is now a new function in Tekla Open API, `GetDSTVCoordinateSystem()`, which returns the coordinate system that is used to export the part.

  TT119066

Dynamic strings for model objects

- It is now possible to set and get dynamic strings for model objects using the following methods:
  - public boolean `SetDynamicStringProperty` (string name, string value);
  - public boolean `GetDynamicStringProperty` (string name, string value);

  TT111961

Tekla.Structures.Drawings 2016.0.0.0 Assembly

Drawing text objects

- The maximum number of characters allowed in drawing text objects is now 8192 both in the drawing and in Tekla Open API.

  TT86903

Dual dimension units

- Previously, dual dimension units were not working when accessed through the .NET interface, now they are.

  A dual dimension is a special text written on the **Tags** tab in the dimension properties dialog box.

  If you write the text `DIMENSION` for one of the tags, the dimension length value is placed for that tag in its place.

  When accessed through the .NET interface, using one of the tags `ContainerElements`, it will contain a `TextElement` with the text value of `DIMENSION` if a dual dimension value is found.

Note that if dual dimensions are wanted in a tag, only one element can exist in the tag and it has to be the `TextElement` containing `DIMENSION`.

TT98038

Setting arrow head type

- When modifying marks through the drawings .NET interface, the arrow head type could not be set, now it can be set.

  Note that the width and height of mark arrow heads can still not be set, as those values are defined in advanced options only, see `XS_MARK_LEADER_LINE_ARROW_HEIGHT` and `XS_MARK_LEADER_LINE_ARROW_LENGTH`.

  TT113294

Weld marks

- It is now possible to modify the weld mark insertion point and leader line through Tekla Open API.

  TT115332

Layout attributes

- Previously, `Layout` and `Table Layout` values were not applied correctly through `Drawing.Modify` after calling `LoadAttributes` for `LayoutAttributes`, now they are.

  TT115445

2 Disclaimer

This Software Manual has been developed for use with the referenced Software. Use of the Software, and use of this Software Manual are governed by a License Agreement. Among other provisions, the License Agreement sets certain warranties for the Software and this Manual, disclaims other warranties, limits recoverable damages, defines permitted uses of the Software, and determines whether you are an authorized user of the Software. All information set forth in this manual is provided with the warranty set forth in the License Agreement. Please refer to the License Agreement for important obligations and applicable limitations and restrictions on your rights. Trimble does not guarantee that the text is free of technical inaccuracies or typographical errors. Trimble reserves the right to make changes and additions to this manual due to changes in the software or otherwise.

In addition, this Software Manual is protected by copyright law and by international treaties. Unauthorized reproduction, display, modification, or distribution of this Manual, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the full extent permitted by law.

Tekla, Tekla Structures, Tekla BIMsight, BIMsight, Tekla Civil, Tedds, Solve, Fastrak and Orion are either registered trademarks or trademarks of Trimble Solutions Corporation in the European Union, the United States, and/or other countries. More about Trimble Solutions trademarks: http://www.tekla.com/tekla-trademarks. Trimble is a registered trademark or trademark of Trimble Navigation Limited in the European Union, in the United States and/or other countries. More about Trimble trademarks: http://www.trimble.com/trademarks.aspx. Other product and company names mentioned in this Manual are or may be trademarks of their respective owners. By referring to a third-party product or brand, Trimble does not intend to suggest an affiliation with or endorsement by such third party and disclaims any such affiliation or endorsement, except where otherwise expressly stated.

Portions of this software:

D-Cubed 2D DCM © 2010 Siemens Industry Software Limited. All rights reserved.