StruSoft
Structural Design Software

Tekla StruXML Import

User's Guide to FEM-Design - Tekla Structures Integration

StruSoft AB www.strusoft.com Version: September 25th, 2018

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The Tekla StruXML Import is a tool that enables a link between FEM-Design and Tekla Structures. Substantial amount of time and effort have gone into development and testing Tekla StruXML Import tool. We did our best to ensure the reliability of the software and the accuracy of this document. However, the user must accept that no warranty is given by the developers concerning accuracy of this software or information found in this document.

Anyone that has doubts concerning the accuracy of the Tekla StruXML Import, or has suggestions regarding development of the Tekla StruXML Import, is welcome to contact us at: iwona.budny@strusoft.com.

For support, please use: support.femdesign@strusoft.com. When sending support question, please remember to always attach an original Tekla Structures model, FEM-Design model and a struxml file.

Current link versions

- Tekla StruXML Import 1.0.006

Compatibility

- Tekla Structures: version 18-21.1, 2016, 2016i, 2017, 2017i, 2018, 2018i

Download

- FEM-Design Download Center
- StruSoft Installer

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NEW FEATURES AND CHANGES COMPARED TO TEKLA STRUXML IMPORT 1.0.005

ADDED:

1. Compatibility with Tekla Structures 2018i.

NEW FEATURES AND CHANGES COMPARED TO TEKLA STRUXML IMPORT 1.0.004

ADDED:

1. Compatibility with Tekla Structures 2018.
2. Automatic material and section mapping.

   It is now possible to use automatic mapping database for materials and sections. Read more in Chapter 2.3.2.

NEW FEATURES AND CHANGES COMPARED TO TEKLA STRUXML IMPORT 1.0.003

ADDED:

1. Compatibility with Tekla Structures 2017i.
2. Possibility to convert axes and storeys

   It is possible to convert struxml axes and storeys to Tekla grid system. Read more in Chapter 2.3.6 B.

FIXED:

3. It is now much faster to switch options on and off (e.g. check / uncheck Type and Status options) at models containing large number of elements.

NEW FEATURES AND CHANGES COMPARED TO TEKLA STRUXML IMPORT 1.0.002

ADDED:

1. Compatibility with Tekla Structures 2017.
2. New user-defined input parameters are available in the Options tab.

   It is possible to define Prefix input parameters for imported elements. More in Chapter 0.

3. Possibility to save the Options tab settings as Default.

   It is possible to save the setting in Options tab as default, and load those settings for a new project, More in Chapter 0.

CHANGED:

4. User-defined input parameters can be defined separately for concrete and steel objects. More in Chapter 0.

1. Introduction

1.1. Manual scope

This document describes the concept behind the link between FEM-Design and Tekla Structures, and explains how to exchange data between those two programs using the Tekla StruXML Import tool.

1.2. Installation

Download the latest version of Tekla StruXML Import from StruSoft Installer or from FEM-Design Download Center and run the installation file.

When the installation process is completed, Tekla StruXML Import tool will appear under StruSoft folder in the Start menu, as shown in Figure 1-1.

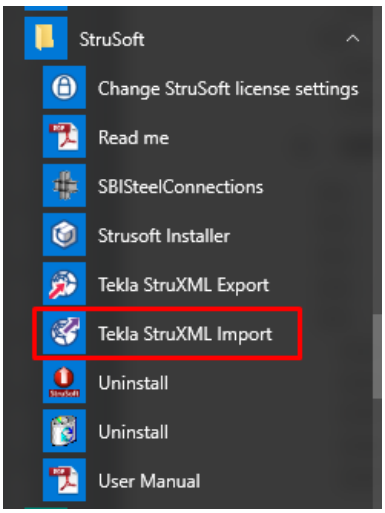


Figure 1-1

1.3. Concept

Tekla StruXML Import Tool enables direct communication between FEM-Design and Tekla Structures. The direct data transfer is based on conversion of FEM-Design analysis model transfer into Tekla Structures native objects. FEM-Design analysis model is saved as struxml file type and converted to Tekla native objects in the Tekla StruXML Import tool. The proper sections and materials are assigned to Tekla native objects in the mapping process.

1.4. Functionality

The Tekla StruXML Import Tool has the following functionality (Figure 1-2):

- importing FEM-Design model to create a new Tekla Structures model,
- updating Tekla Structures model with changes made in FEM-Design model after the initial import.

One can import / update:

- selected element(s),
- group of elements (e.g. all beams, columns, etc.),
- all elements.

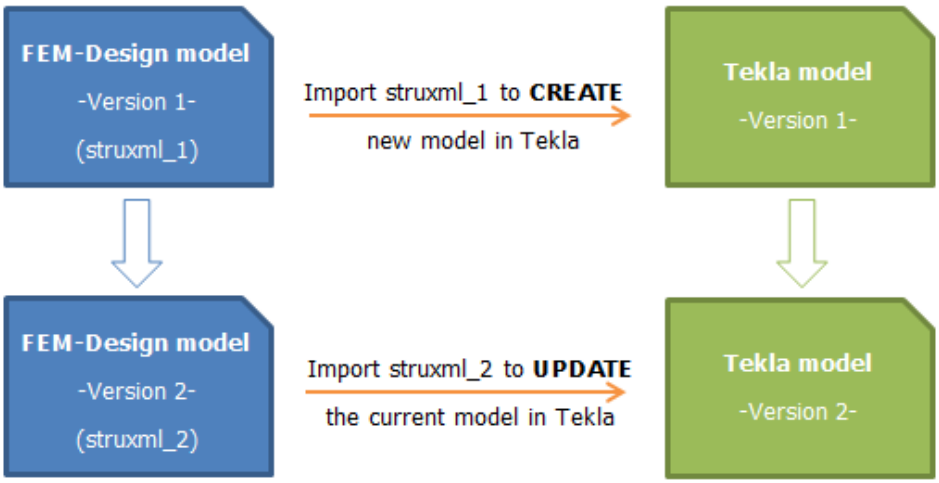


Figure 1-2

When updating the Tekla model, changes (in comparison to the initially imported objects) are recognized on both FEM-Design (struxml) and Tekla side. Following changes can be recognized:

- new element (only in struxml),
- modification of an element (in struxml and in Tekla),
  - section / thickness
  - material
  - geometry
  - ID (only in struxml)
- deletion of element (in struxml and in Tekla).

If certain object is changed, it is assigned to one of the status categories: New, Modified, Deleted or Conflicted. Also, a certain type of change is reflected in the object name (Figure 1-3):

- object type is bolded when geometry changed,
- section name is bolded when it changed,
- material name is bolded when it changed,
- ID is bolded when it changed,
- object name is strikethrough if it was deleted.

The same rule applies if an object is changed in Tekla. Certain part of the Tekla name is bolded or strikethrough to reflect the change type.

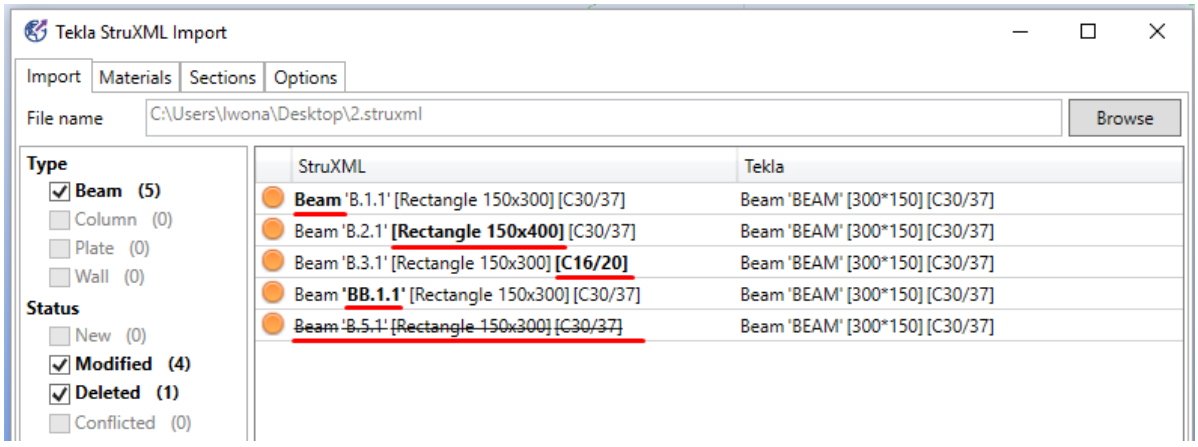
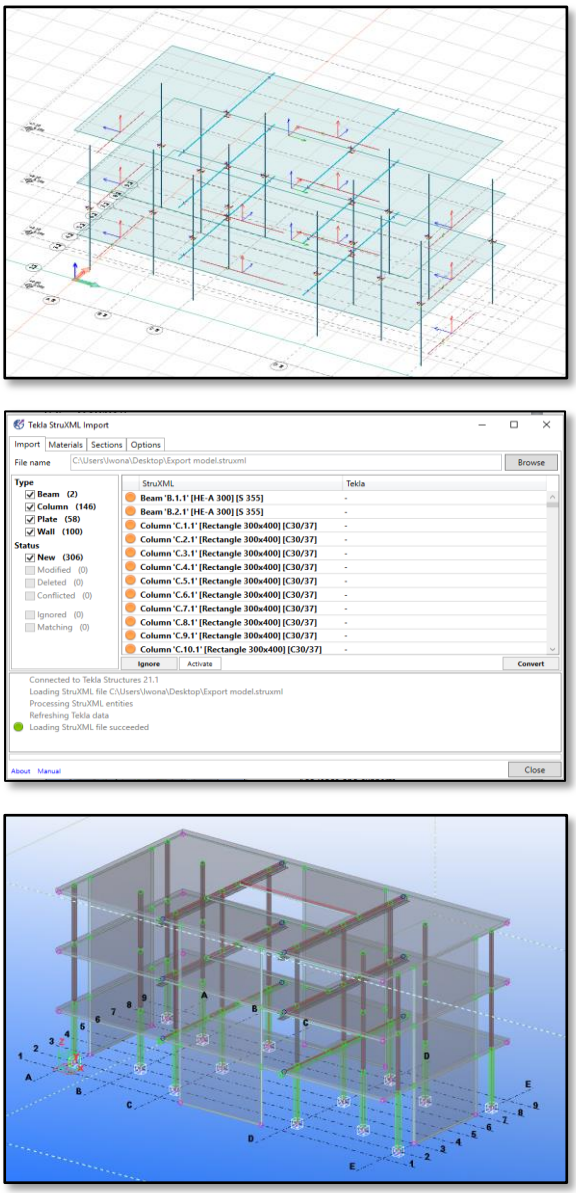


Figure 1-3

One can accept a certain change (and update the Tekla object), or deny (ignore) it. Each object can be treated individually.

1.5. Designed workflow

The workflow to import a FEM-Design model into Tekla Structures is shown in the Figure 1-4:



Open an existing FEM-Design model

- Save the model as struxml file type.

Start the Tekla StruXml Import tool

- Load the struxml file.
- Map the materials and sections.
- Set additional options.
- Import the model to Tekla Structures.

Model is created in Tekla Structures

Figure 1-4

1.6. Transferred data

The list of transferred and converted data is as follows:

- geometry of FEM-Design analysis model (beams, trusses, columns, plane walls, plane plates),
- mapped cross-section of linear members (beams, trusses, columns),
- thickness of plane walls and plane plates,
- mapped material,
- analytical element ID of an object (optional).

2. Tekla StruXML Import

This chapter explains the detailed workflow of the integration between FEM-Design and Tekla Structures, as well as the functionality of the Tekla StruXML Import tool. In the table below, a detailed workflow is described.

IMPORT FEM-DESIGN MODEL TO TEKLA	In FEM-Design:	Save FEM-Design model as .struxml file type (Chapter 2.1).
	In Tekla:	Start Tekla Structures and open an existing model, or create a new model (Chapter 2.2).
	In Tekla StruXML Import:	Start **Tekla StruXML Import** tool (Chapter 2.3).
		In the **Import** tab load the struxml file (Chapter 2.3.1).
		Go to **Materials** tab and map all the materials used in the model (Chapter 2.3.2).
		Go to **Sections** tab and map all the sections used in the model (Chapter 2.3.4).
		Go to **Options** tab and decide upon the optional settings (Chapter 0).
		Go back to **Import** tab, select an element / elements to convert to Tekla model and press **Convert** (Chapter **Error! Reference source not found.**).
		Close the **Tekla StruXML Import** tool.
	In Tekla:	Continue working with the imported model and when finished, **Save** the model (with the original name).
UPDATE TEKLA MODEL	In FEM-Design:	Save the new version of the earlier imported FEM-Design model as .struxml file type.
	In Tekla:	Open the previously imported model.
	In Tekla StruXML Import:	Start **Tekla StruXML Import** tool.
		In the **Import** tab load the new struxml file (Chapter 2.3.1)..
		If necessary, go to **Materials** tab and map all the new materials used in the model (Chapter 2.3.2).
		If necessary, go to **Sections** tab and map all the new sections used in the model (Chapter 2.3.4).
		If necessary, go to **Options** tab and decide upon the optional settings (Chapter 0).
		Go back to **Import** tab, and verify the status of elements (Chapter 0). - Select an element / elements and press **Convert** if you wish to update the Tekla element to the struxml version. - Select an element / elements and press **Ignore** if you wish to ignore the element and do not update the Tekla element to the struxml version.
		Close the **Tekla StruXML Import** tool.
	In Tekla:	Continue working with the imported model and when finished, **Save** the model (with the original name).

2.1. Saving FEM-Design model

In FEM-Design go to **File** -> **Save as** and save your model as .struxml file type. Struxml file type is an alternative FEM-Design format that among other things, is used as data exchange format between FEM-Design and other programs such Tekla Structures and Revit.

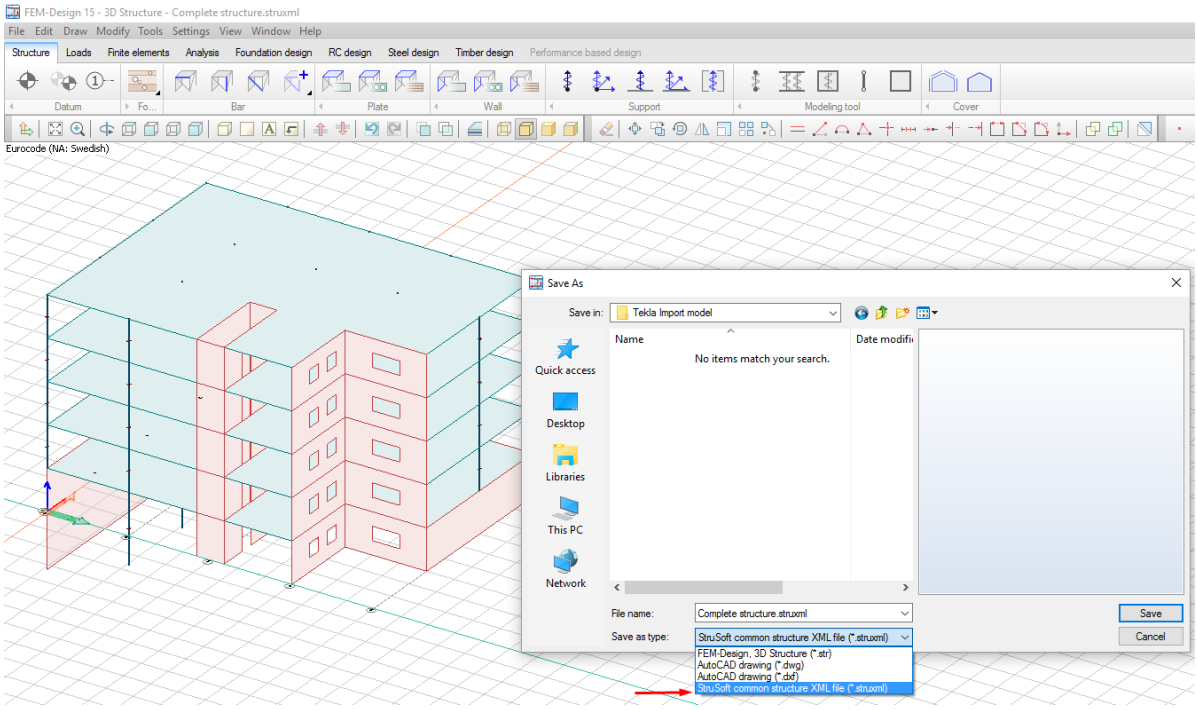


Figure 2-1

2.2. Creating Tekla model

Start Tekla Structures and open an existing model, or create a new model.

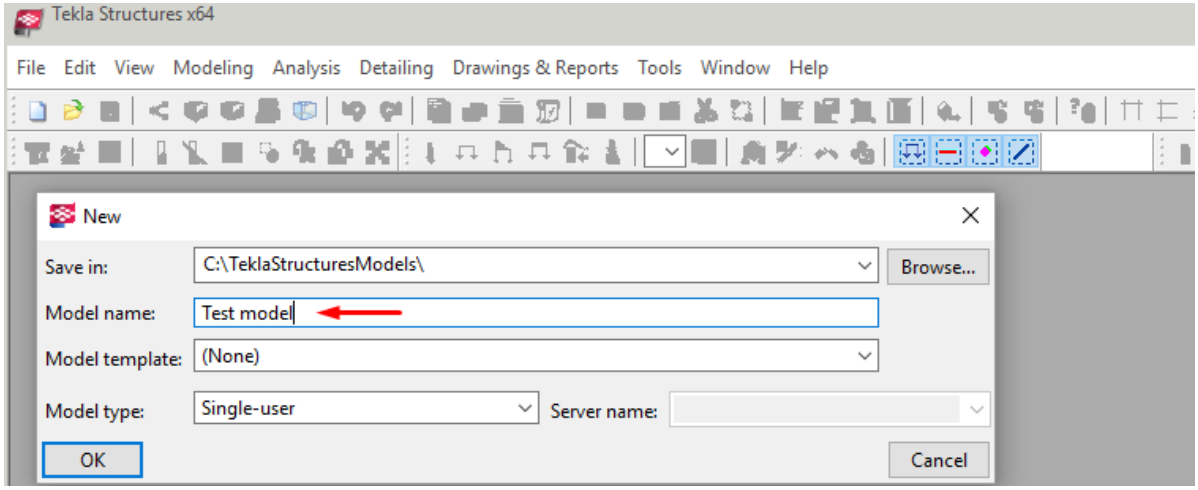


Figure 2-2

If you consider updating your Tekla model later, **you must keep the same name of the Tekla model**. If you save your initially imported model with a different name, all the identifiers will be changed and there will not be possibility to update the model later.

2.3. Tekla StruXML Import tool

Start the Tekla StruXML Import tool. **Remember that Tekla Structures has to be opened in the background**. The tool will first establish connection to the Tekla Structures.

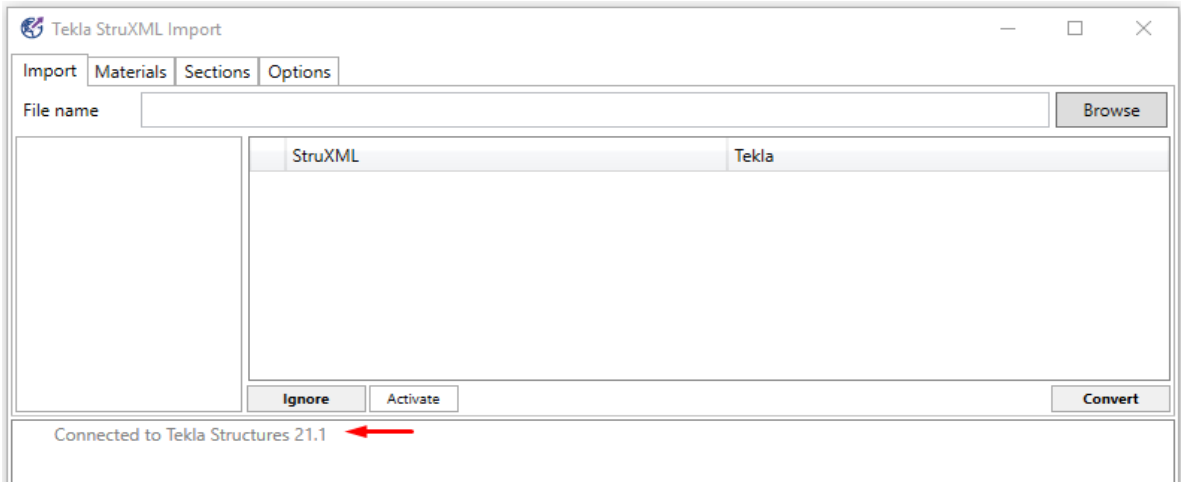


Figure 2-3

2.3.1. Import tab

Press **Browse** and locate the struxml file containing the FEM-Design model that you wish to import to Tekla. Upon loading the file the dialogs in the Import tab become active just as shown in the example in Figure 2-4.

There are four main dialogs in the Import tab:

- Filter window
- Objects list
- Actions window
- Log area

2.3.1.1. Filter window

Elements in the struxml file are filtered by two parameters: Type and Status.

Following **Type** of element is recognized:

Beam:	Beams and truss members in struxml
Column:	Columns in struxml
Plate:	Plane plates in struxml
Wall:	Plane walls in struxml

Following **Status** of an element is recognized:

New:	New element in struxml (not existing in Tekla model before)
Modified:	Element has been modified in struxml or in Tekla after the initial import
Deleted:	Element has been deleted in struxml or in Tekla after the initial import
Conflicted:	Element is modified both in struxml and in Tekla after the initial import
Ignored:	User ignored the element and did not convert it to Tekla
Matching:	Element has a matching status between struxml and Tekla

Following rules apply:

- If an element of a specific type and status exist in the loaded struxml file, the corresponding category will be bolded and selected by default.
- The value in parenthesis shows the total number of elements belonging to certain category.
- Elements belonging to selected categories in the Filter dialog are visible in the Object list.

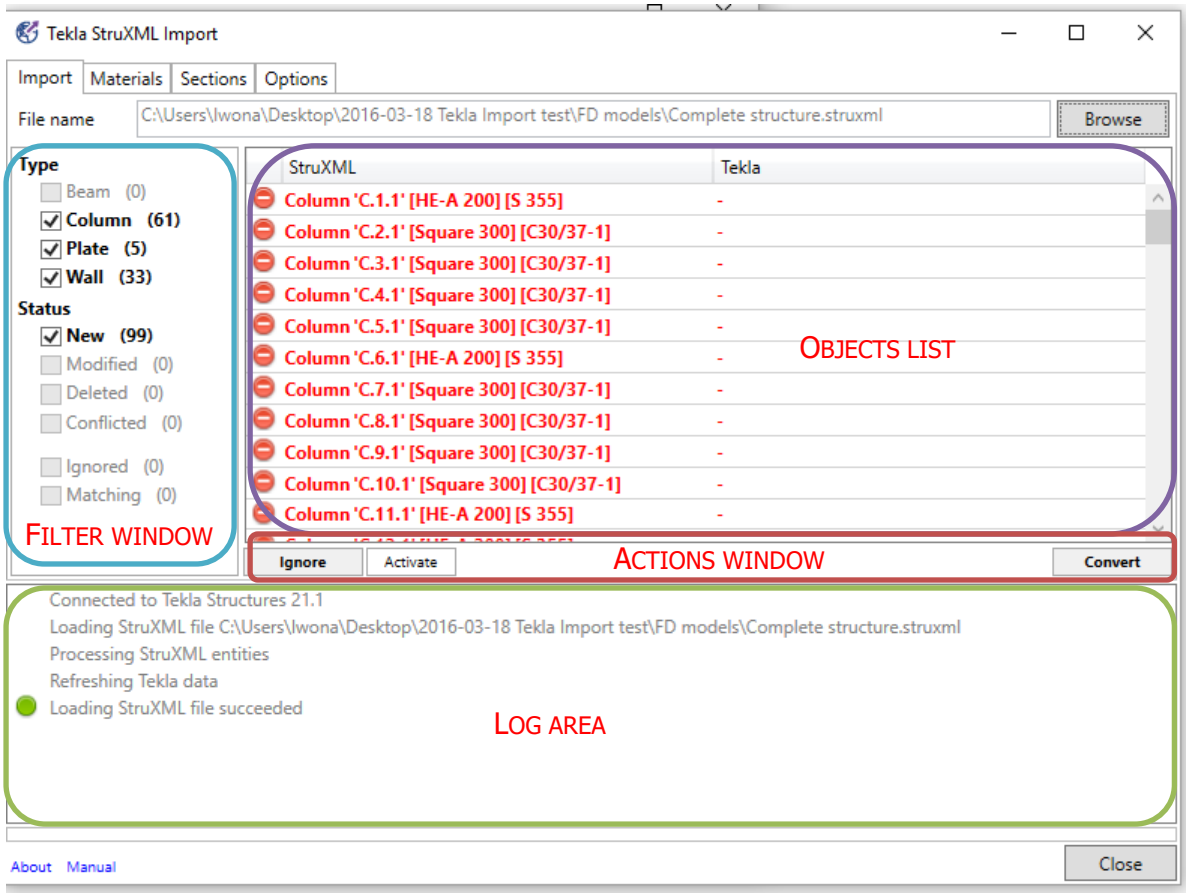


Figure 2-4

2.3.1.2. Objects list

This dialog is divided into two parts: StruXML and Tekla (Figure 2-7):

- In StruXML column, one can see a list of all elements from the struxml file (according to selected type or status filter).
- In Tekla column, one can see a list of corresponding objects that have been converted to Tekla (before the elements are converted, the Tekla column will be empty - Figure 2-5).

The naming convention is following:

StruXML	Tekla
Type 'ID' [Sections or Thickness][Material]	Type 'Name' [Sections or Thickness][Material]

This is how the dialog looks like just after loading a struxml file. All objects in StruXML side are red because the mapping was not perform yet (a tooltip is shown if you hover a mouse over any object). The Tekla column is empty because no elements were converted to Tekla yet.

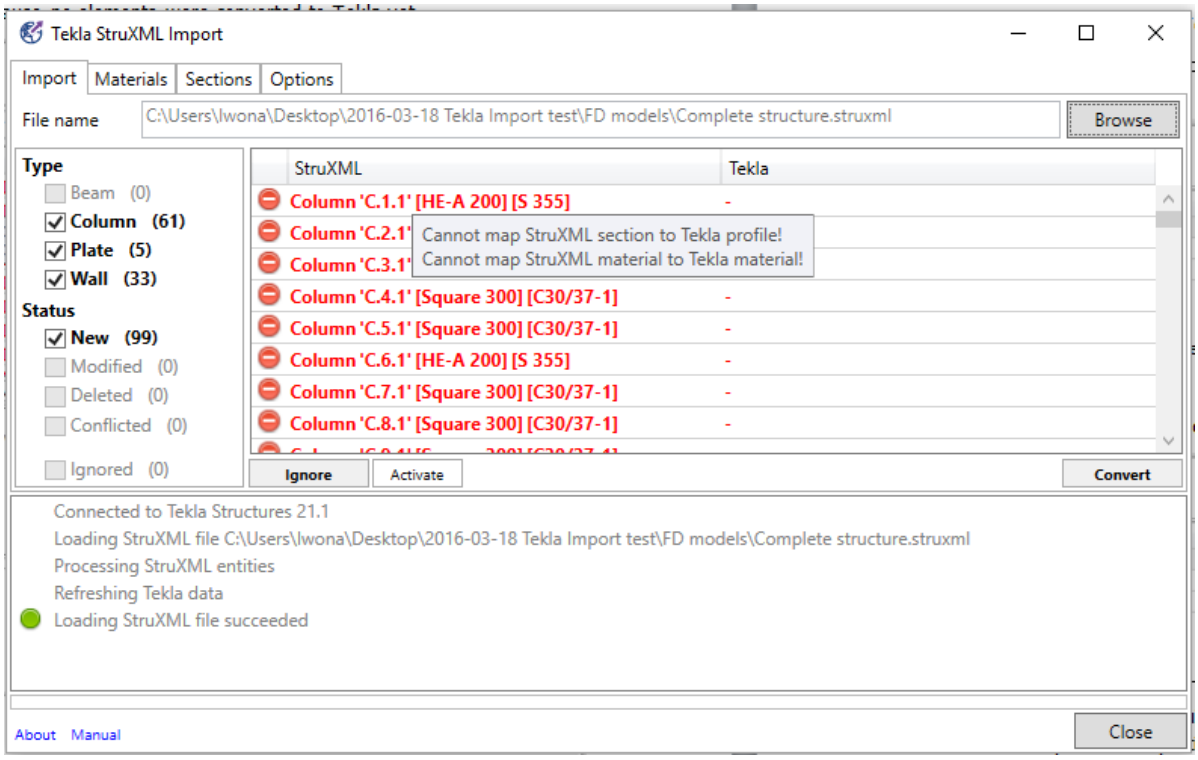


Figure 2-5

This is how the same dialog looks like after completing the mapping (all objects are now in black):

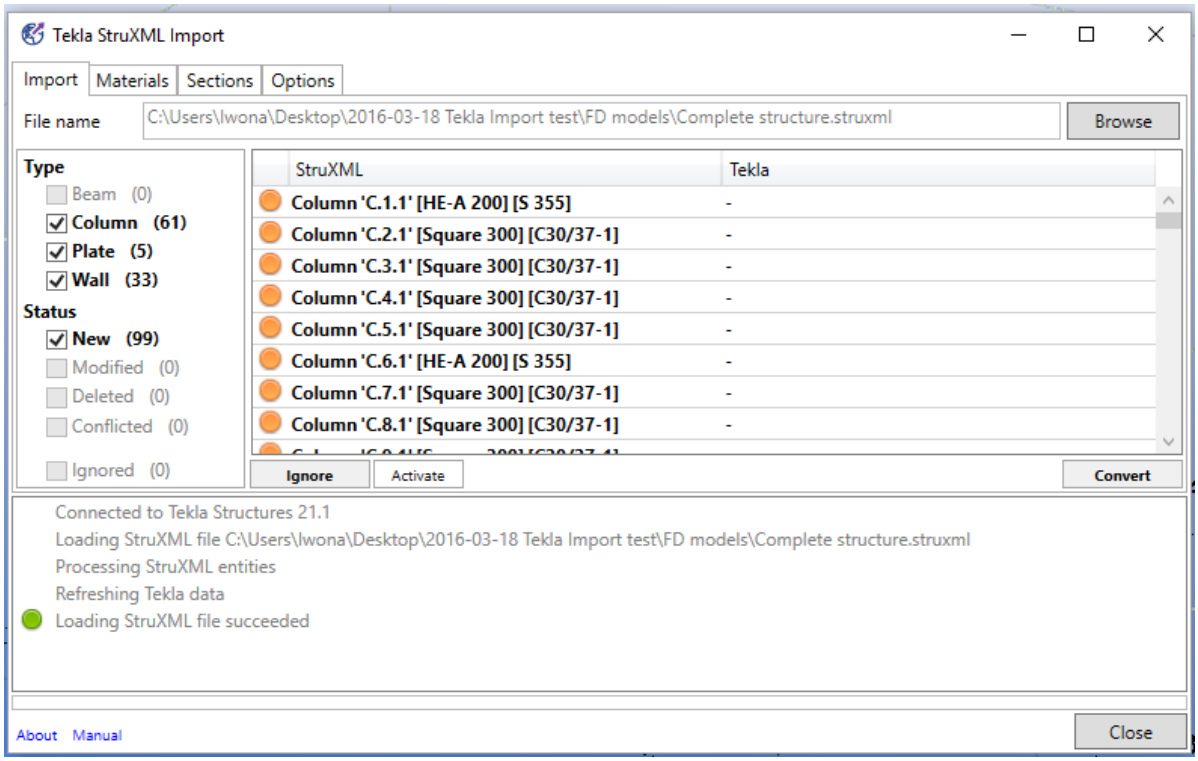


Figure 2-6

And this is how the same dialog looks like after converting all objects to Tekla:

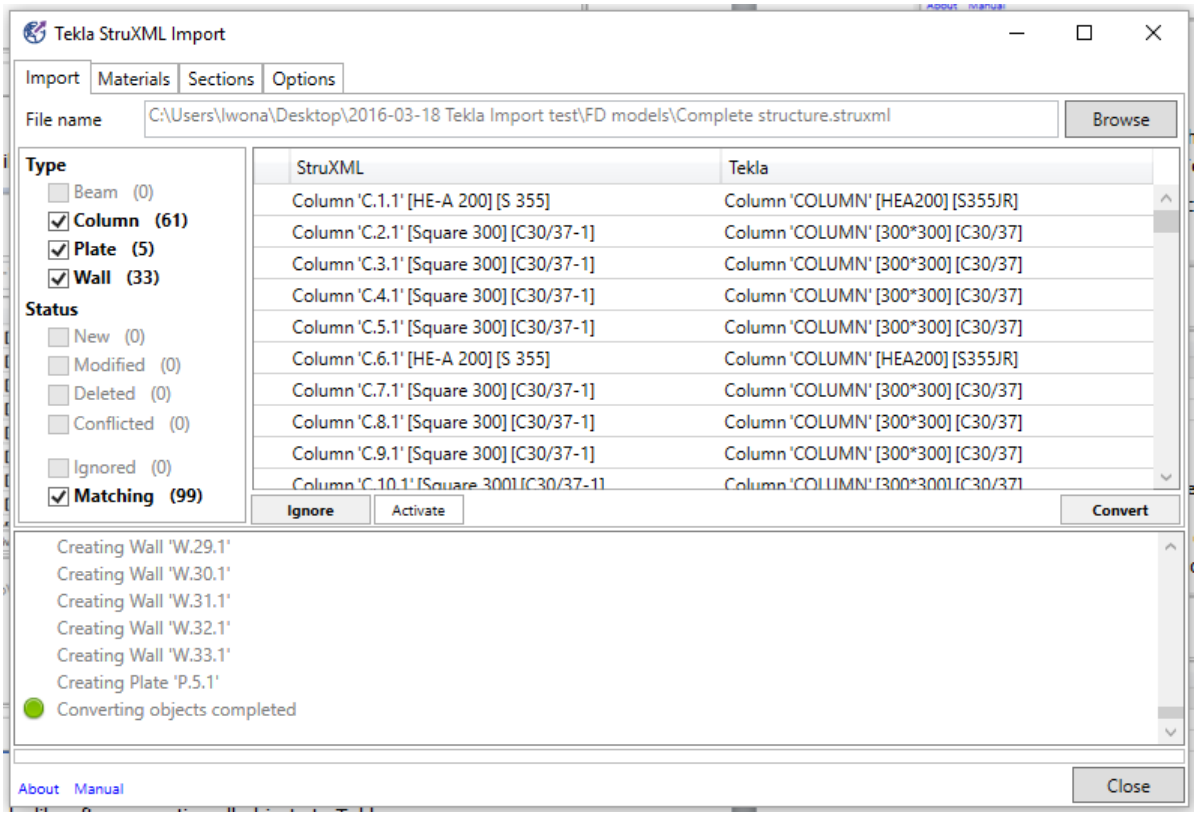


Figure 2-7

2.3.1.3. Actions window

Here is where the user decides what to do about a selected object(s). One can press **Convert**, in order to convert (import or update) selected object(s) to Tekla.

One can press **Ignore**, in order not to convert (import or update) selected object(s) to Tekla. One can press **Activate**, in order to activate back an ignored object.

2.3.1.4. Log area

Here is where the user can see all the log messages that the tool sends when processing the model. When importing / updating the model, each action type is reflected in certain message (Figure 2-7), e.g.:

- Creating *Beam/Column/Plate/Wall ID*
- Modifying *Beam/Column/Plate/Wall ID*
- Deleting *Beam/Column/Plate/Wall ID*

In case of some recognized problem (e.g. unsupported contour of plate), a warning message will be displayed below the processed object.

2.3.2. Mapping

The idea behind the materials and sections mapping is the same. An explanation to the mapping procedures is given in this chapter.

2.3.2.1. Databases

There are two databases that one can use for mapping materials or sections in the model. These are: **DatabaseForAutoMapping** and **TeklaModelDatabase.**

- **DatabaseForAutoMapping**: the database that contains the user defined material pairs. This database will be used for automapping. This database is created when the import tool starts at first and it contains the copy of the predefined material pairs (FactoryDefaultDatabase). After that the user can modify and save it. (See: Edit the user defined DatabaseForAutoMapping database.) The folder containing this database:
  `c:\Users\[user]\AppData\Roaming\Strusoft\TeklaStruXML\Import\MaterialMap\TeklaMatMap`

- **TeklaModelDatabase**: the database that the user applied for the model. This database is created when the user start editing the mapped material pairs at first. The user can edit this database and it is automatically saved like in the previous versions of the tool. (See: Edit and the TeklaModelDatabase database. The folder containing this database:
  `c:\TeklaStructuresModels\New model 17\StruXmlImport\MaterialMap`

- **FactoryDefaultDatabase**: the database that contains the predefined material pairs suggested by StruSoft. This database is created when the Import Tool is first installed. The folder containing this database:
  `:\ProgramData\Strusoft\TeklaStruXML\Import\MaterialMap\TeklaMatMap.`
  This database contains the factory default and cannot be modified.

2.3.2.2. Using the databases at import

In the Tekla import tool radio buttons were added on the Materials and Sections tab. By checking one of the radio buttons "Use pre-defined materials" and "Use user defined materials", one can control, which database will be used for material and sections mapping during converting the objects.

If the "**Use pre-defined materials**" radio button is checked, the tool uses the DatabaseForAutoMapping database for model mapping. In this case the paired Tekla name cannot be edited.

If the "**Use user defined materials**" radio button is checked, the tool uses the TeklaModelDatabase database for model mapping. In this case the user can edit the Tekla material name (by simple typing the name like in previous versions of the tool) add optionally can add it to the DatabaseForAutoMapping database (see: Edit and save the TeklaModelDatabase database).

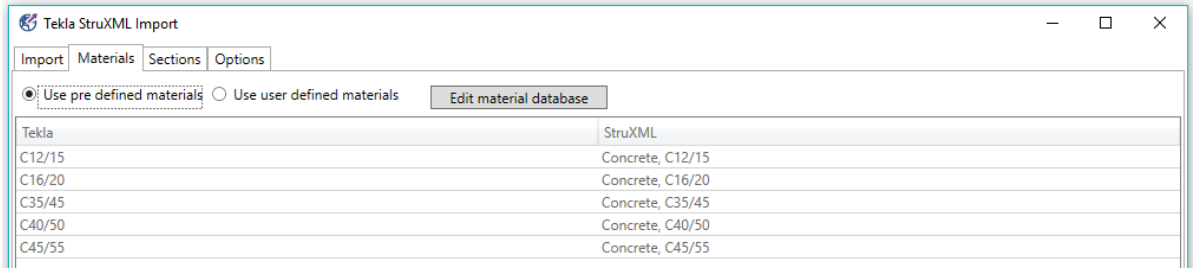


Figure 2-8

2.3.2.3. Edit the user defined (DatabaseForAutoMapping) database

The user can edit the DatabaseForAutoMapping database in the Material or Section mapping database window by clicking the "Edit material database" button. On the **right side** on the mapping

database window the **FEM-Design material database** can be seen. Another material database exported from FEM-Design can be loaded by clicking the "Load material library" button just as in previous versions of the tool.

On the **left side** in the window the **DatabaseForAutoMapping** pairs can be seen.

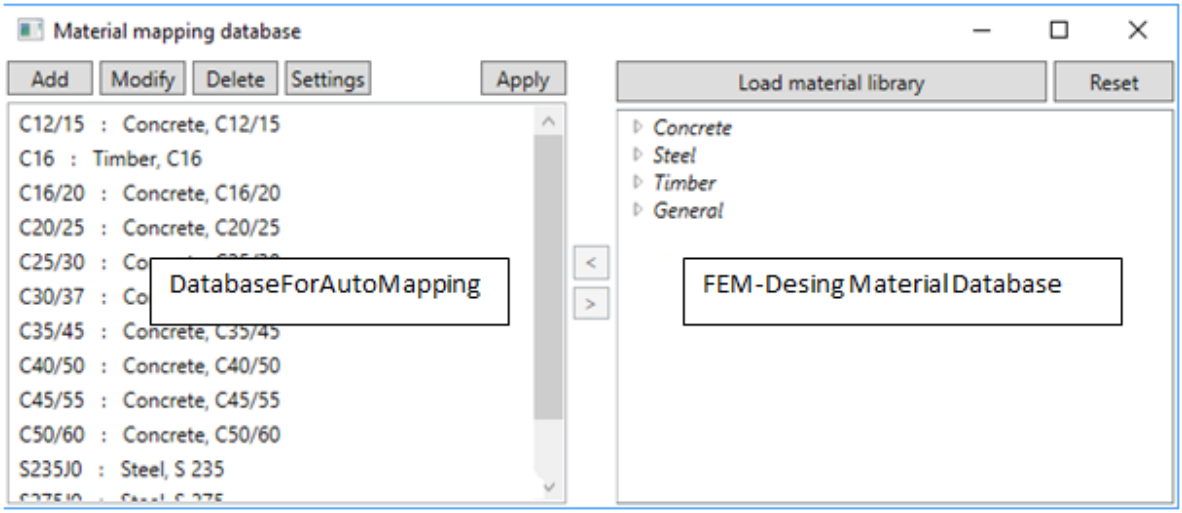


Figure 2-9

There is a naming convention that one has to follow. FEM-Design material names starts with the material type name followed by comma, one space and then the material name. For example: [`Concrete, C25/30`].

A mapped material can be modified, deleted or a new mapped material can be defined. The material pairs can be saved to or loaded from a file.

- **Add**: Add new material window appears. If there is no selected material on the material database tree the Tekla and FEM-Design fields will be empty. If a material is selected in the FEM-Design material database tree, the FEM-Design field will be filled with the FEM-Design material type and name by default. Edit the names and click on OK.

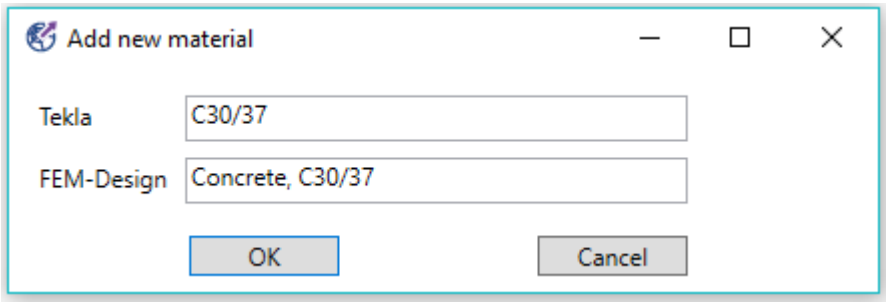


Figure 2-10

- **Modify:** Select one mapped material, or double click on it. Modify the names and click on OK button. If the material name does not fit the name pattern, or it cannot be found in the material database it will be marked in red. In the following example the space character is missing between the material type and name.

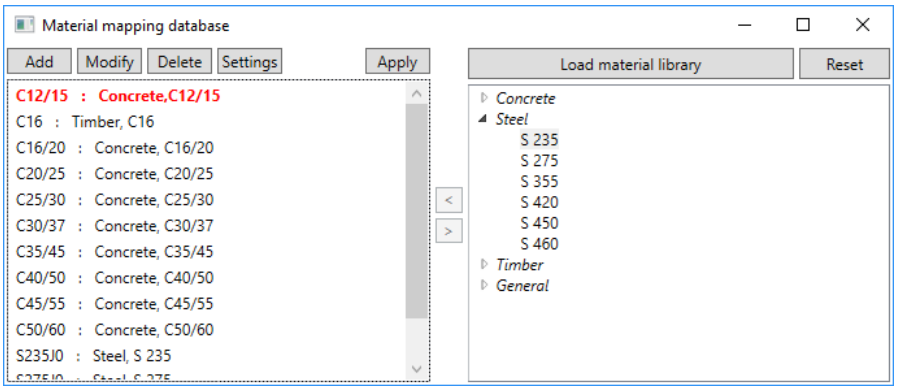


Figure 2-11

- **Delete**: Select one mapped material and click on Delete button.
  Settings:
  - Export mapping to a file: The mapped material pairs can be saved to a file, so they can be used for importing another model.
  - Import mapping from a file: The previously saved material pairs can be loaded from a file.
  - Load default mapping: The factory default mapped pairs will be loaded.
- **Apply**: Save the material pairs to DatabaseForAutoMapping. If it would not be saved a warning message appears.

2.3.2.4. Edit and save the TeklaModelDatabase database

A new material can be added to the DatabaseForAutoMapping database from this window. Select the "Use user defined materials" option, click on the Tekla name field, type the Tekla material name and press enter.

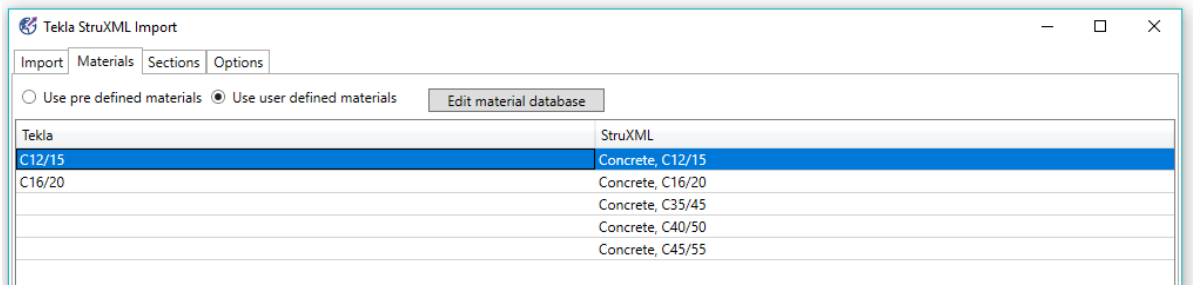


Figure 2-12

Select the newly added Tekla name and right click on it again. A new dialog "Add new material" appears. Click Ok to add the material pair to the database or click Cancel. It is possible to add more than one pair, just multi select the rows and then right click on the selection.

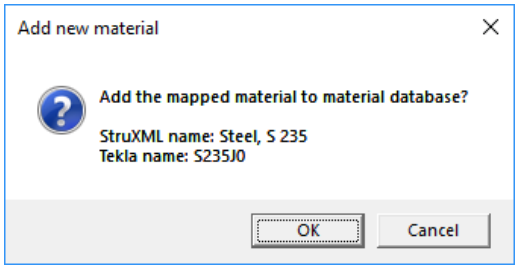


Figure 2-13

2.3.3. Materials tab

In the Materials tab one should map all the materials used in the FEM-Design model into corresponding materials from Tekla Material Catalog.

In the right part of the dialog called StruXML, one can find list of all materials used in the FEM-Design model, just as shown in Figure 2-14.

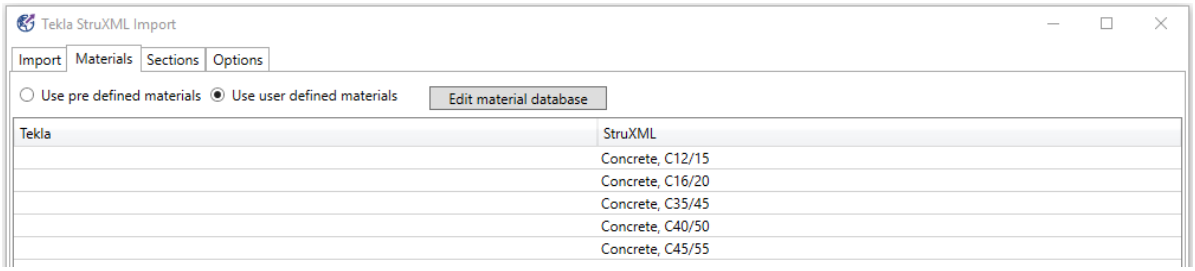


Figure 2-14

Use one of the mapping methods described in chapter 2.3.2.

2.3.4. Sections tab

In the Sections tab one should map all the sections used in the FEM-Design model into corresponding sections from Tekla Profile Catalog.

In the right part of the dialog called StruXML, one can find list of all sections used in the FEM-Design model, just as shown in Figure 2-15.

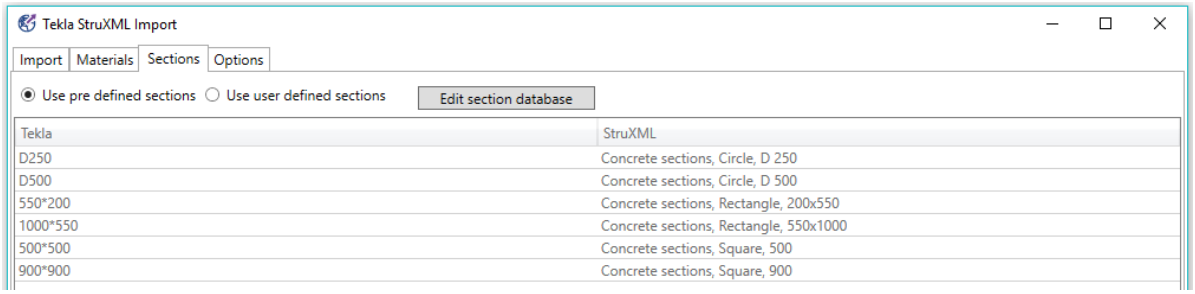


Figure 2-15

Use one of the mapping methods described in chapter 2.3.2.

Hint:

In order to find the name of Tekla section, one can open Tekla Profile Catalog (it can be open simultaneously with Tekla StruXML Import tool) and browse through the library. Certain section name can be copied to the particular cell in the Sections tab.

Pay attention when mapping e.g. rectangular concrete sections. There is a different naming convention of the concrete sections between FEM-Design and Tekla.

In FEM-Design, a naming convention for a default concrete rectangular section is following: **bxh**, where b is the width of a section, and h is the height of the section e.g.: 150x300 (Figure 2-16).

In Tekla, naming convention for a default concrete rectangular section can be following: **h*b,** where b is the width of a section, and h is the height of the section e.g.: 300*150 (Figure 2-17).

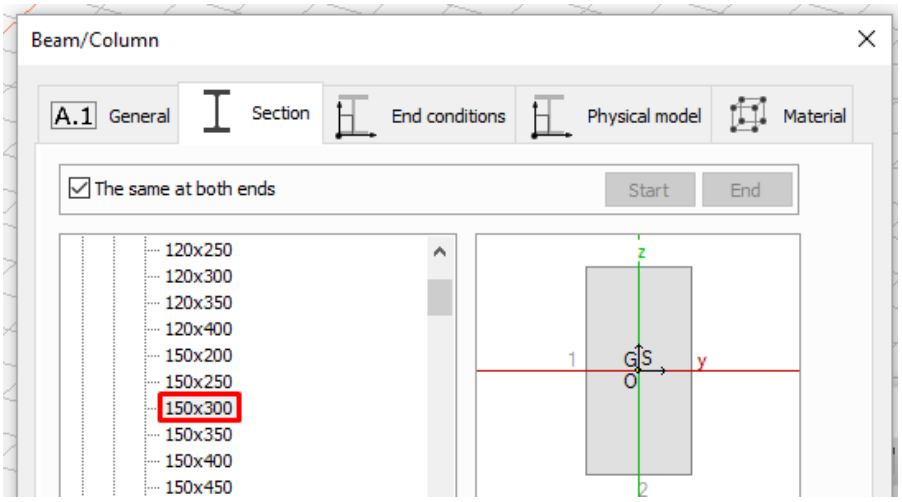


Figure 2-16

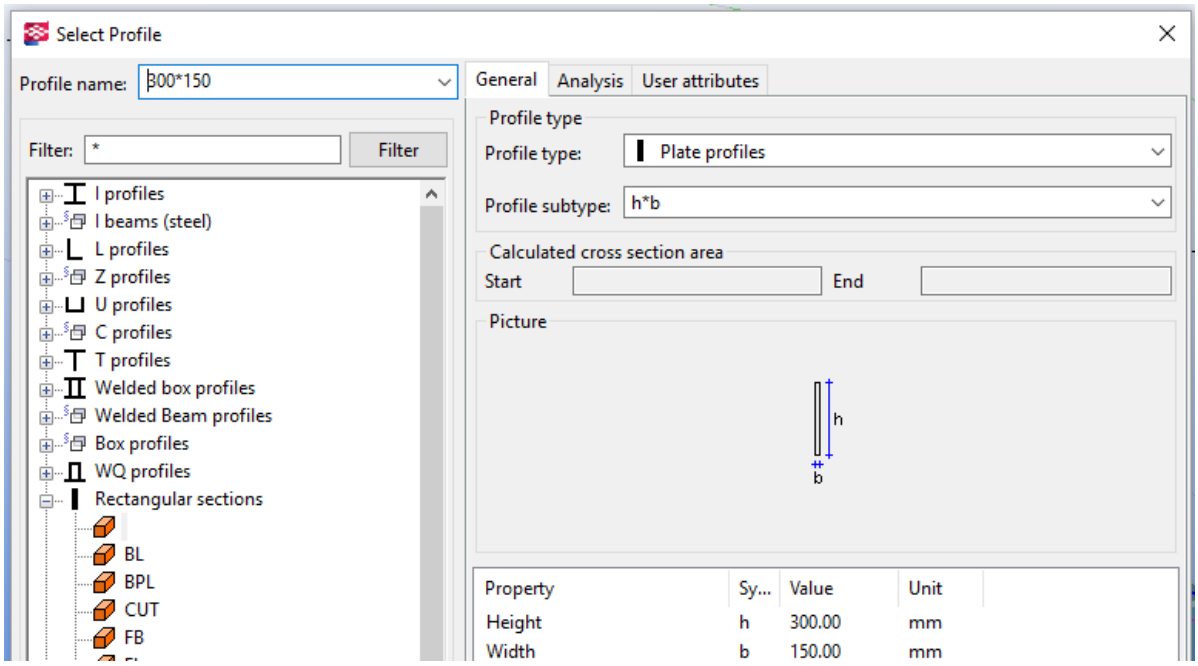


Figure 2-17

2.3.5. Options tab

In the Options tab, one can decide about optional settings regarding the imported data (Figure 2-18).

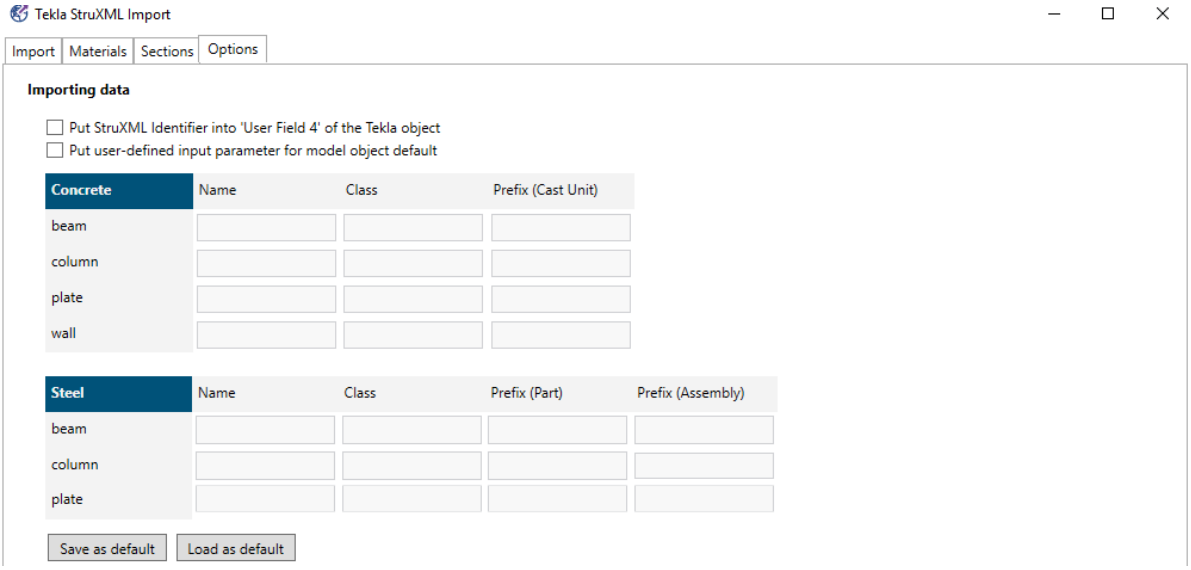


Figure 2-18

There are two options:

- Put StruXML identifier into "User Field 4" of the Tekla object

  If this is option is checked, the analytical ID of FEM-Design object (Figure 2-19) will be imported along with its geometry, and placed in the User-defined attributes of the Tekla object, in User field 4 (Figure 2-20).

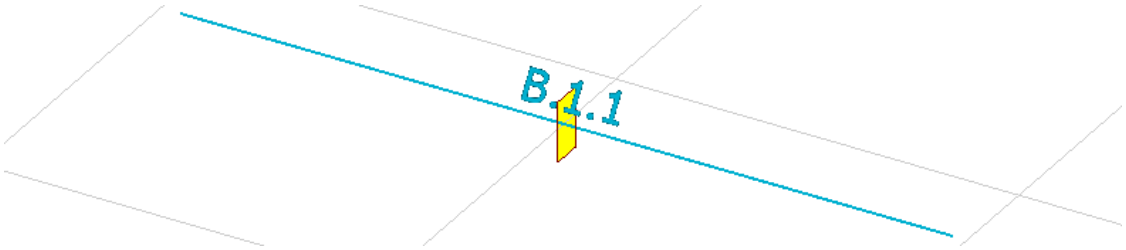


Figure 2-19

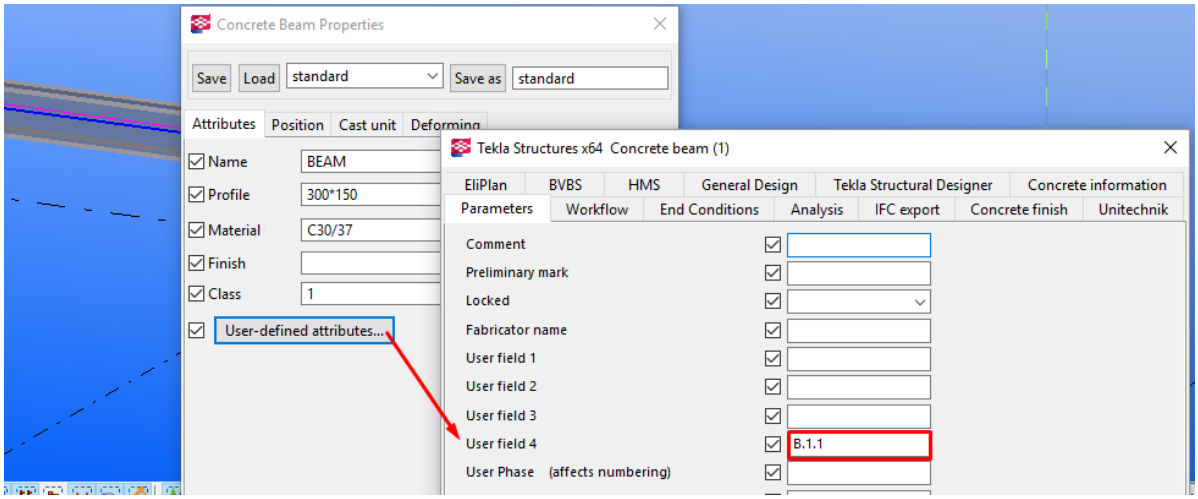


Figure 2-20

- Put user-defined input parameter for model object default

If this option is checked, the fields below become active and one can define the Name, Class and Prefix parameters for each type of imported objects, separately for concrete and steel elements, as shown in Figure 2-21. If this option is not checked, all objects will receive default parameters.

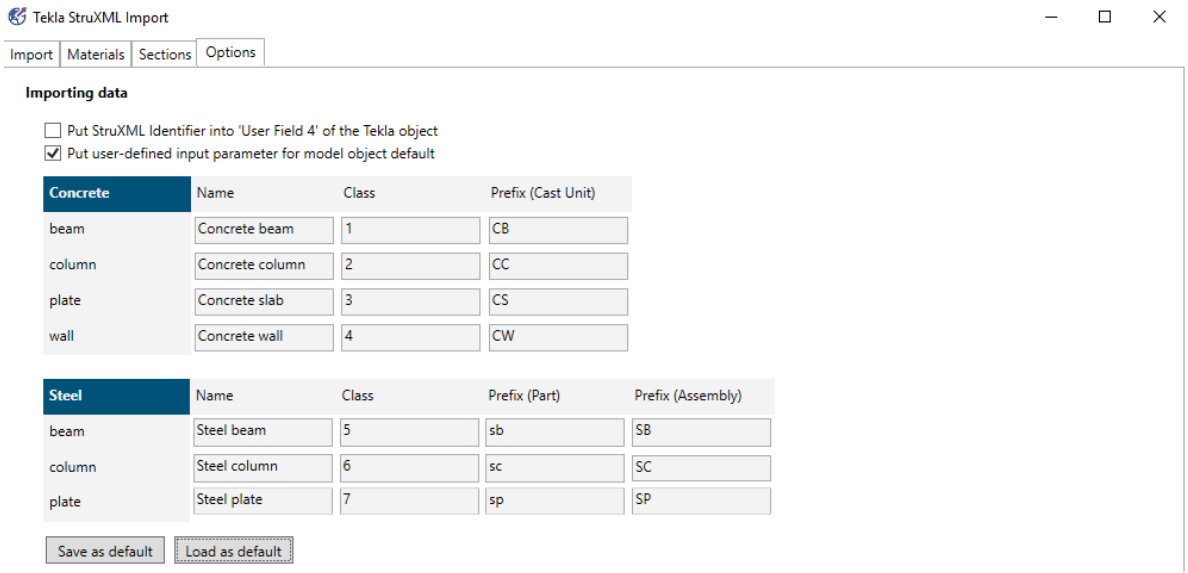


Figure 2-21

If this option is checked, the user-defined input parameters will replace the default parameters for the particular element, as shown in Figure 2-22.

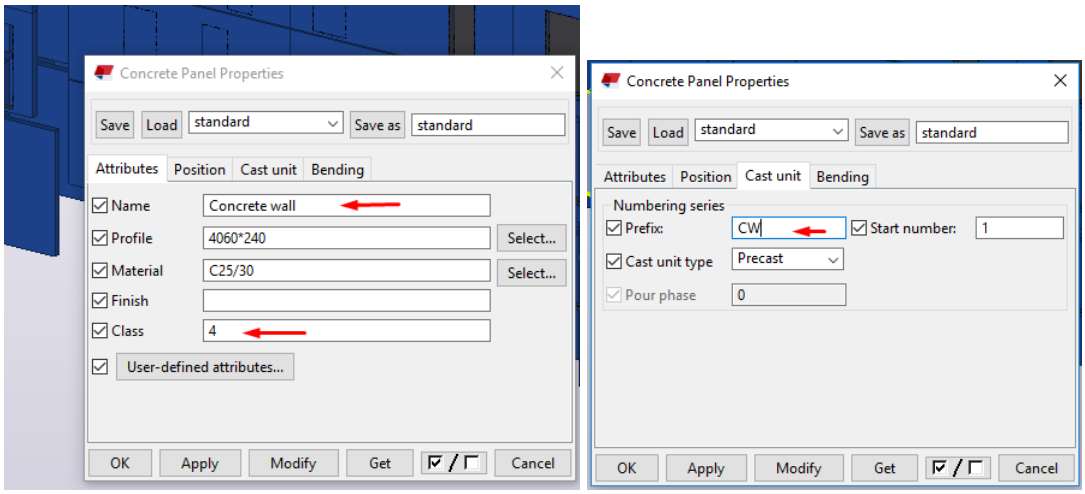


Figure 2-22

One can save the Options using 'Save as default button'. When starting new project, use 'Load as default' in order to import default options.

2.3.6. Import (convert)

A. Convert structural elements

Follow this example to understand the simple import mechanism.

After loading a struxml file and completing sections and materials mapping (and choosing optional setting) the Import dialog looks like on Figure 2-23.

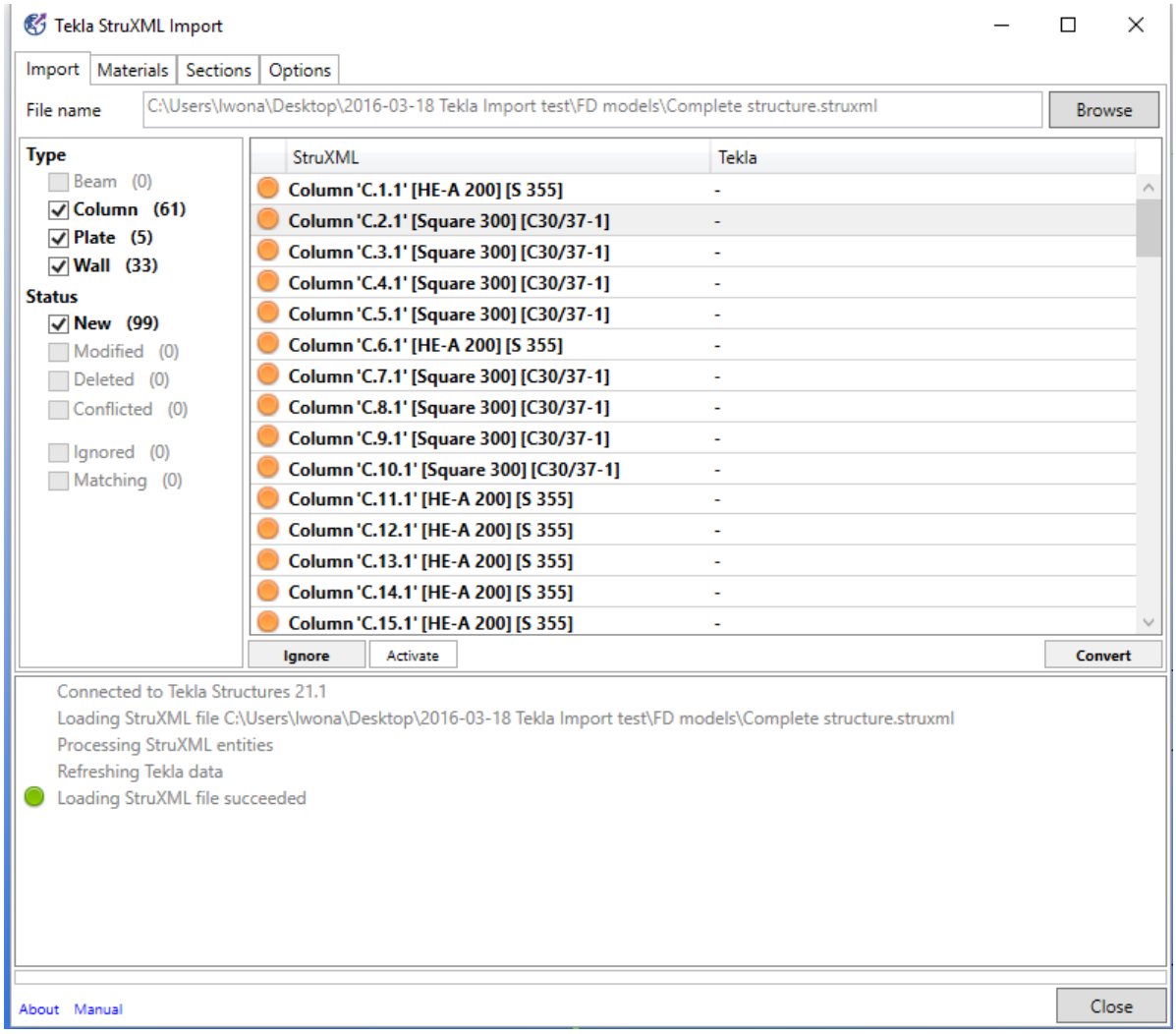


Figure 2-23

In order to convert (import) object to Tekla:

- select a certain object (it will highlight in blue) or,
- select a group of objects (click on several objects with Ctrl button pressed) or,
- select one random object and press Ctrl+A in order to select all objects (Figure 2-24)

and press **Convert***.

*Since version 1.1.004, the **Convert** button is called **Convert objects**.

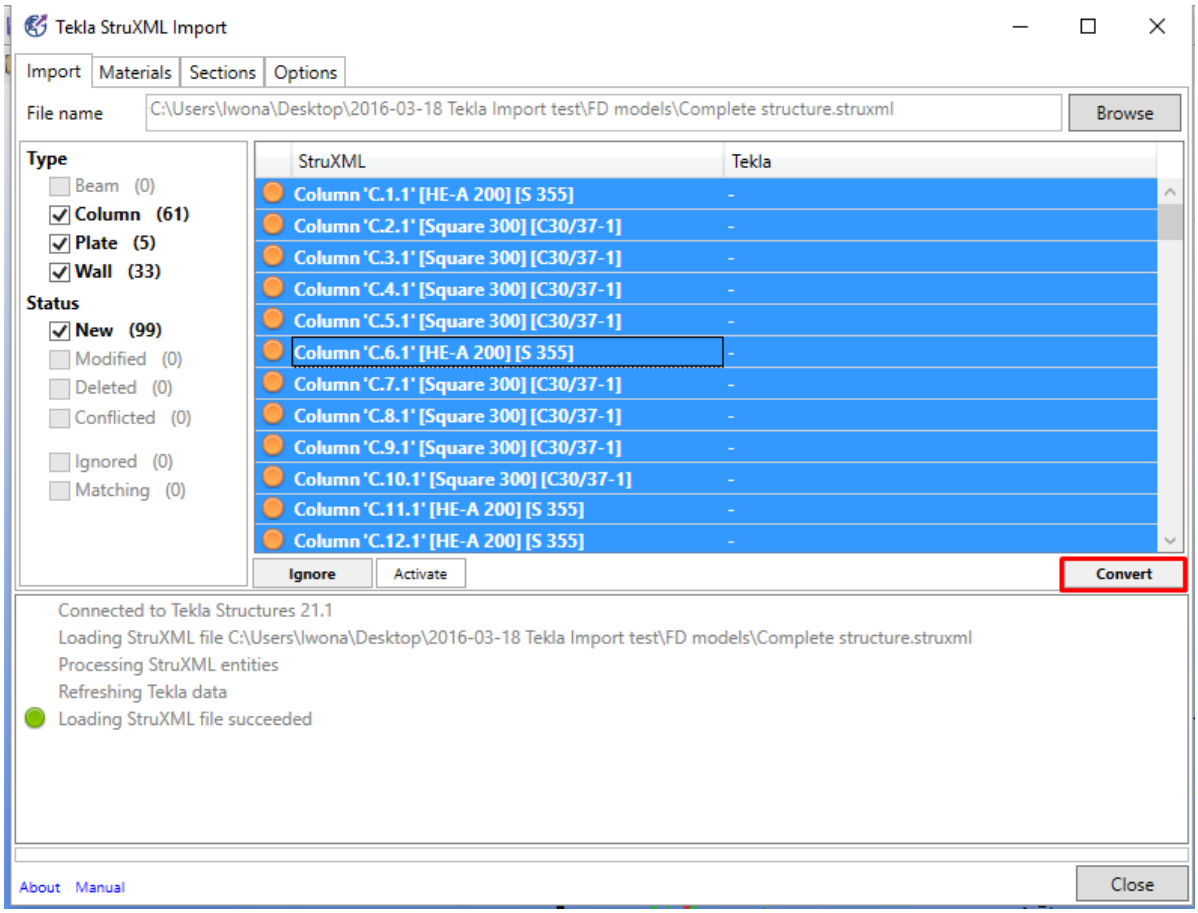


Figure 2-24

When selected objects are converted, they appear in the Tekla model (Figure 2-25) and their status in the Tekla StruXML Import will change to Matching (Figure 2-26).

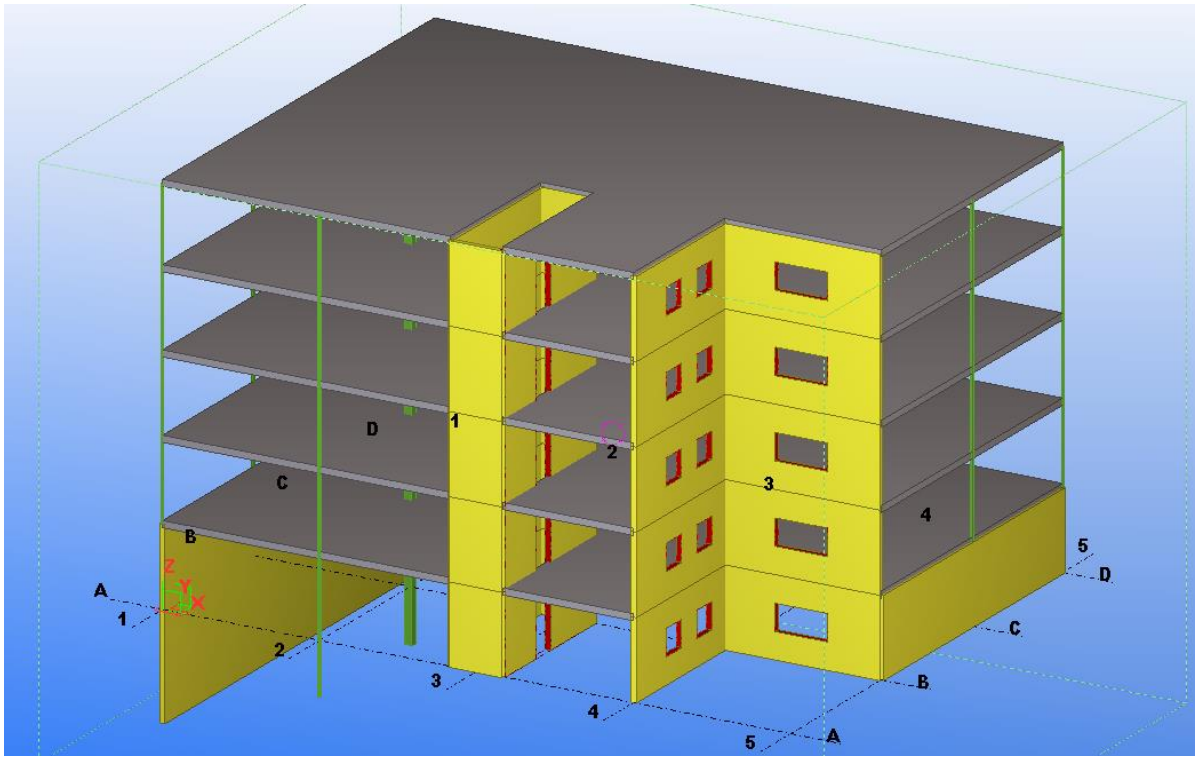


Figure 2-25

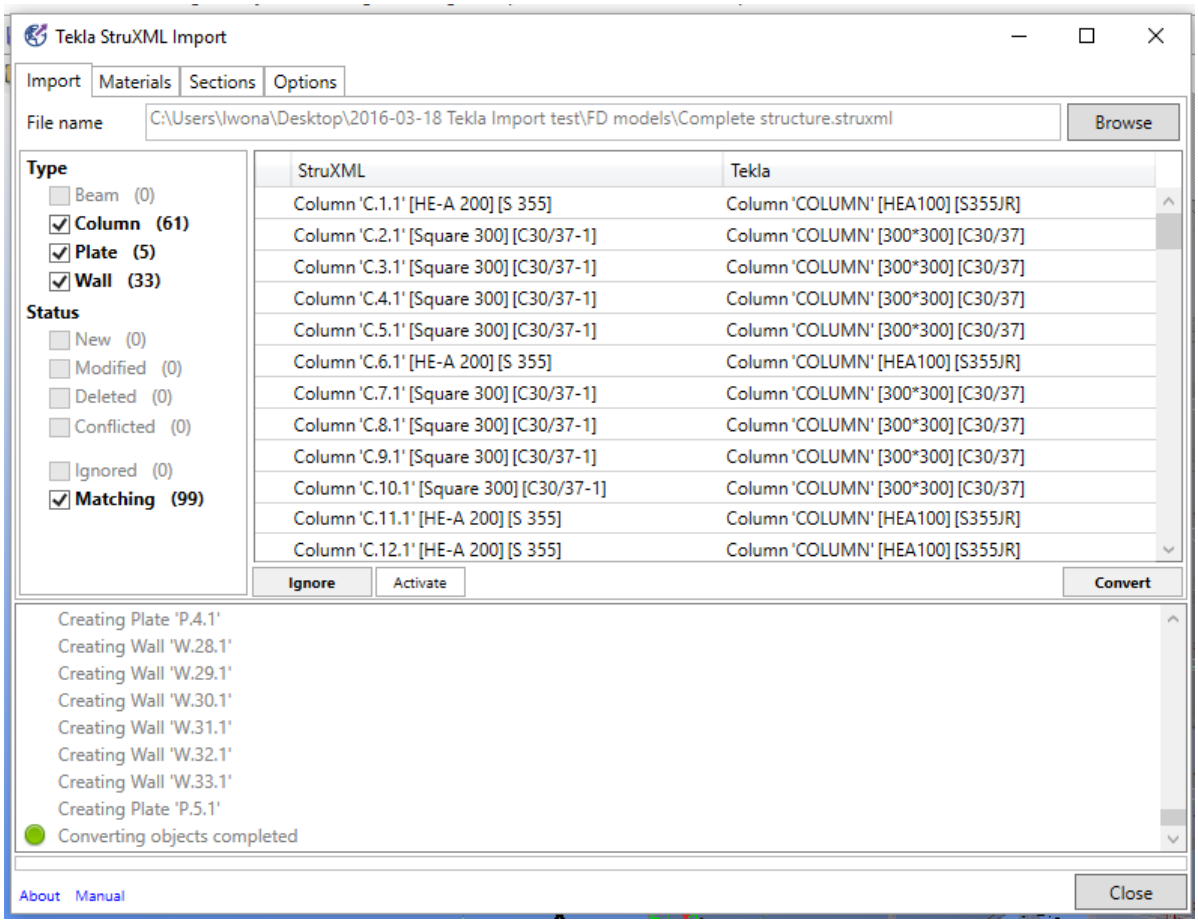


Figure 2-26

B. Convert axes and storeys

Since version 1.1.004, it is possible to convert struxml axes and storeys to Tekla grid system.

To convert FEM-Design axes and storeys, press the **Convert axes/storeys** button (Figure 2-27). This function works independently from the **Convert objects**.

The axes and storeys are converted according to following rules:

- Each axis is created as separate grid line in Tekla, and is placed on each converted level (storey).
- If a file contains axes, but no storeys, the original Tekla grid will be deleted and a new grid system will be inserted on the base (+0) level.
- If a file contains both axes and storeys, the original Tekla grid system will be deleted and a new grid system will be inserted on every level (storey).
- If a file contains storeys, but no axes, The Tekla grid system will be modified, and the original Tekla grid will be inserted on every level (storey).

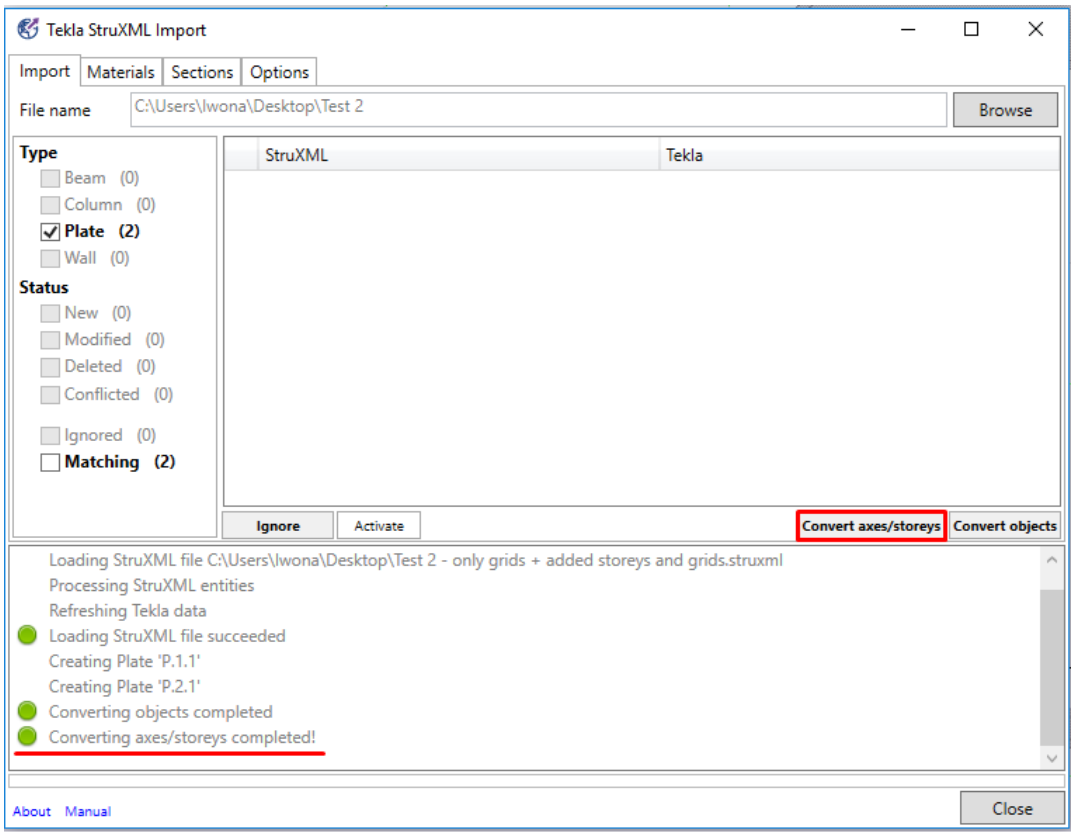


Figure 2-27

C. Press **Close** to close the Tekla StruXML Import Tool.

If you do not see your model in Tekla, or you see only part of it:

- double click in the drawing area and adjust the **View depth**
- right click in the drawing area and select **Fit work area to Entire Model**

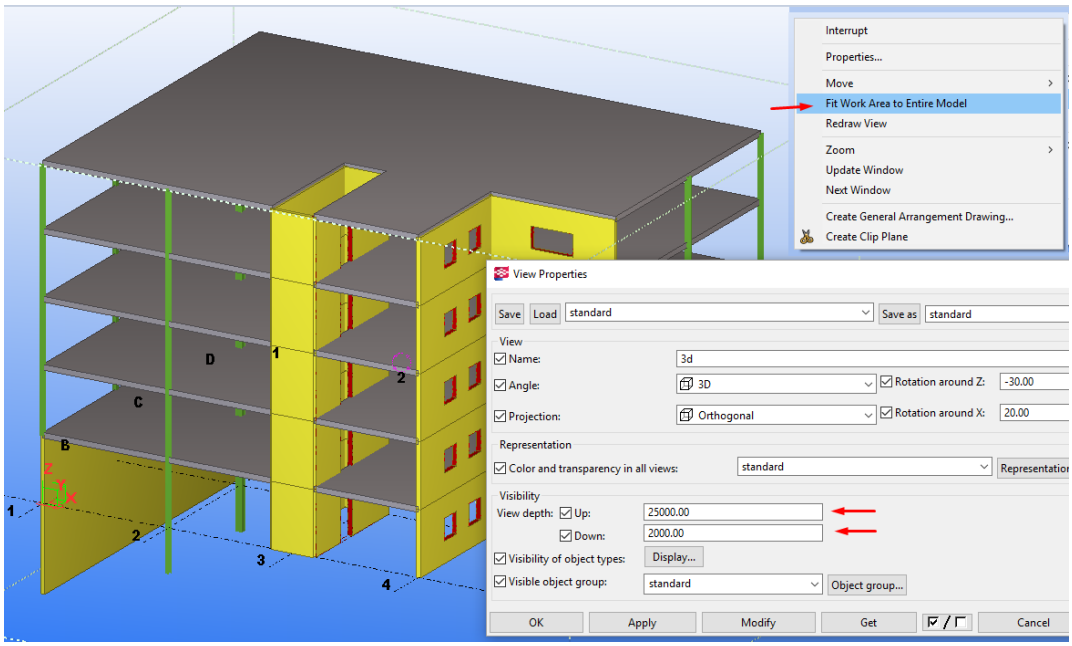


Figure 2-28

2.3.7. Update

If you continue working on the (previously imported to Tekla) model in FEM-Design, you can use the new version of that model to update the current version of Tekla model. The current version of the model can include some changes applied after the previous struxml model was imported. A brief workflow is shown in Figure 2-29

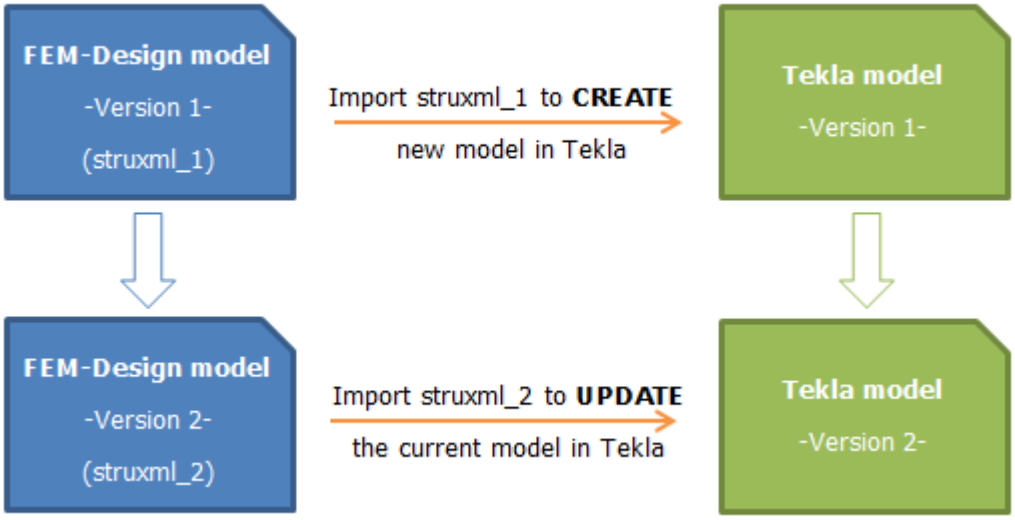


Figure 2-29

When importing another version of the same FEM-Design model, changes are recognized in comparison to the previously imported version and to the current version of Tekla model. Following changes are recognized:

In StruXML model:

- New object
- Modified objects
    - Geometry
    - Section
    - Material
    - ID
- Deleted objects

In Tekla model:

- Modified objects
    - Geometry
    - Section
    - Material
- Deleted objects

When updating Tekla object to the FEM-Design version, the previous object in Tekla is deleted, and a new object that matches FEM-Design properties, is created in its place. It is not possible to update any Tekla object on parameter level.

Please follow the next example, to understand the idea of the update mechanism.

Example:

A certain FEM-Design model was first imported to Tekla. Afterwards the model was further developed in FEM-Design, and some changes have been made also in Tekla.

a. Model modifications in FEM-Design

Following changes have been applied (Figure 2-30):

- two columns has changed the section,
- one plate has changed the material,
- one wall was deleted,
- one new column was created.

The model was saved as a new struxml file with new name. This modified FEM-Design model is what we call 'FEM-Design Model - Version 2' on Figure 2-29.

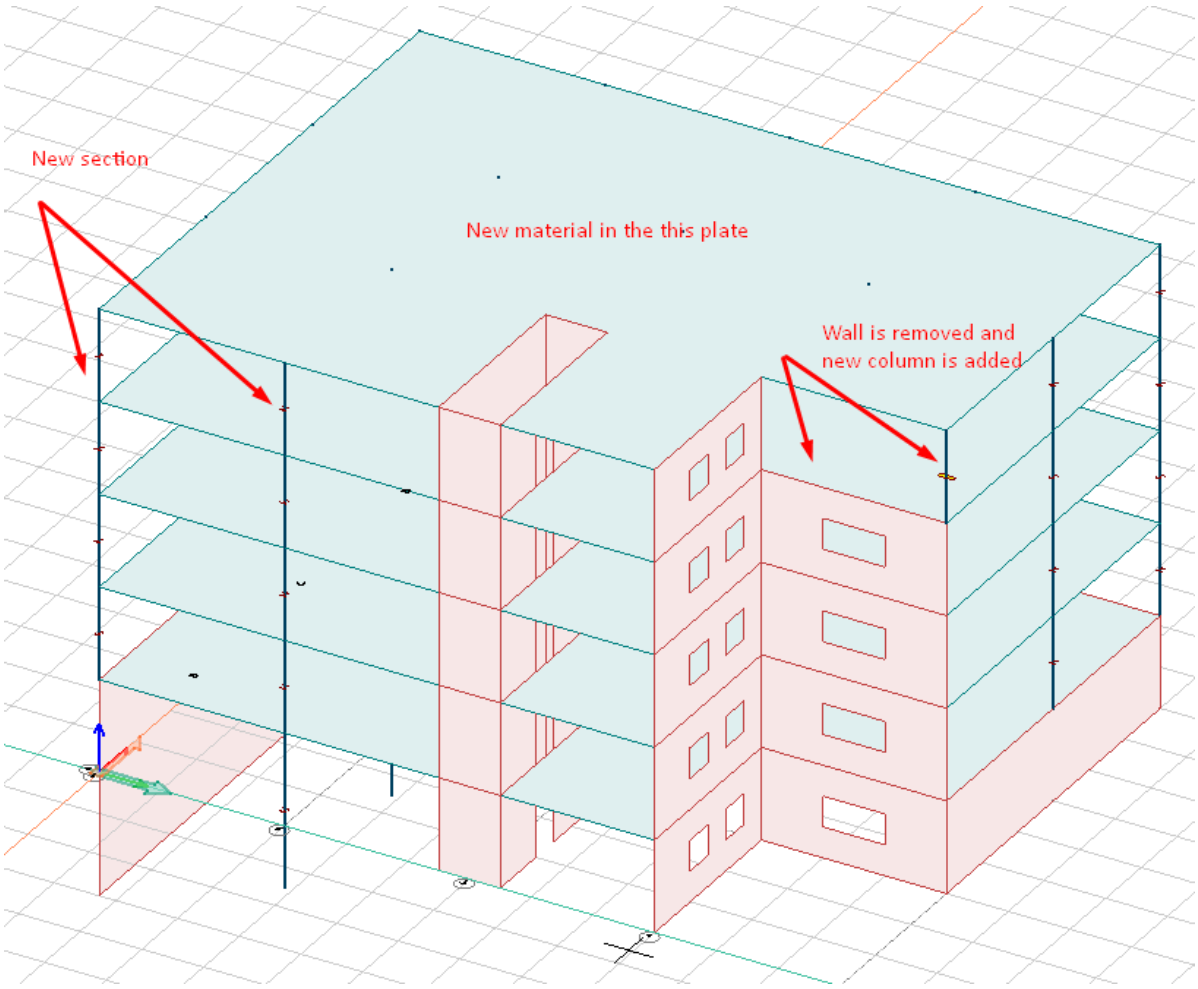


Figure 2-30

b. Model modifications in Tekla

Following changes have been applied (Figure 2-31):

- wall's geometry has been modified (openings were modified).

This modified Tekla model is what we call 'Tekla Model - Version 2' on Figure 2-29.

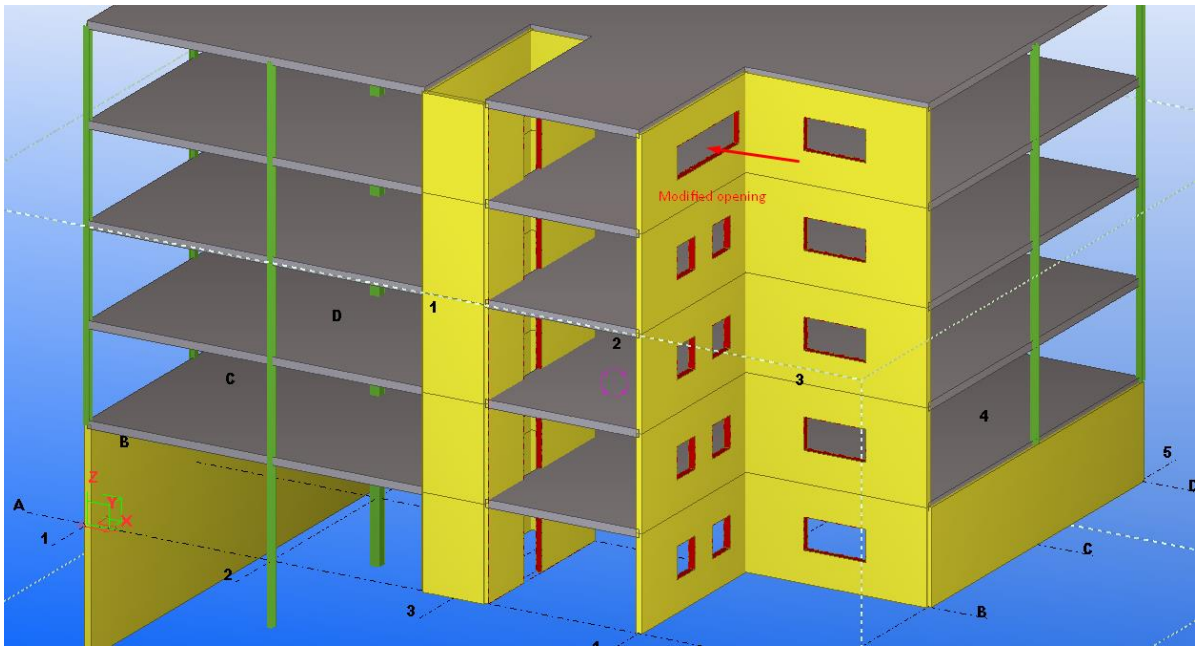


Figure 2-31

c. Update

In order to update the current version of the Tekla model, start the Tekla StruXML Import tool, and browse for the new version of the FEM-Design model.

Upon loading the file, one can see a list of all changes (Figure 2-32). If some objects are marked in red, it means that some additional mapping is required. In such case, perform the missing material and sections mapping first.

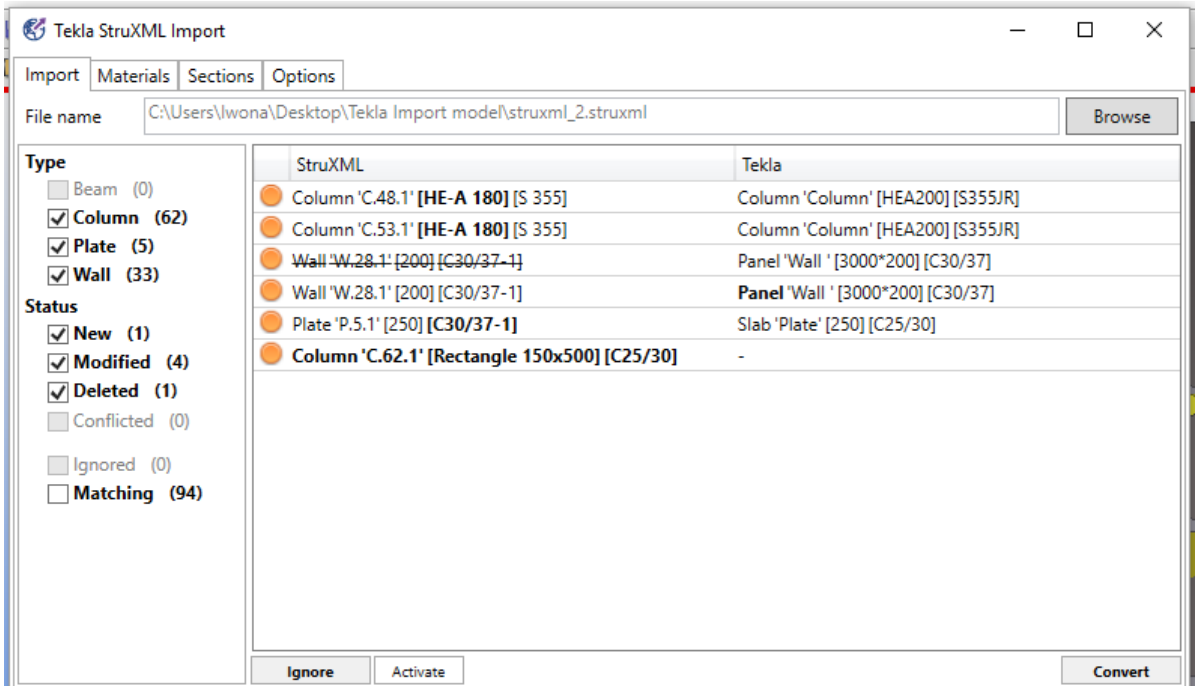


Figure 2-32

By default, only the changes are checked to be visible. In this example there is 1 new object, 4 objects are modified, and 1 object is deleted. The remaining 94 objects are matching (matching objects are not displayed by default).

In order to have better overview of the model changes, one can decide to display only one type of modification at a time, e.g. display only New, or only Modified, etc.

New objects

Display only new objects (Figure 2-33). There is one new column added in FEM-Design (struxml) model. In order to add it to Tekla model, select the cell and press **Convert**.

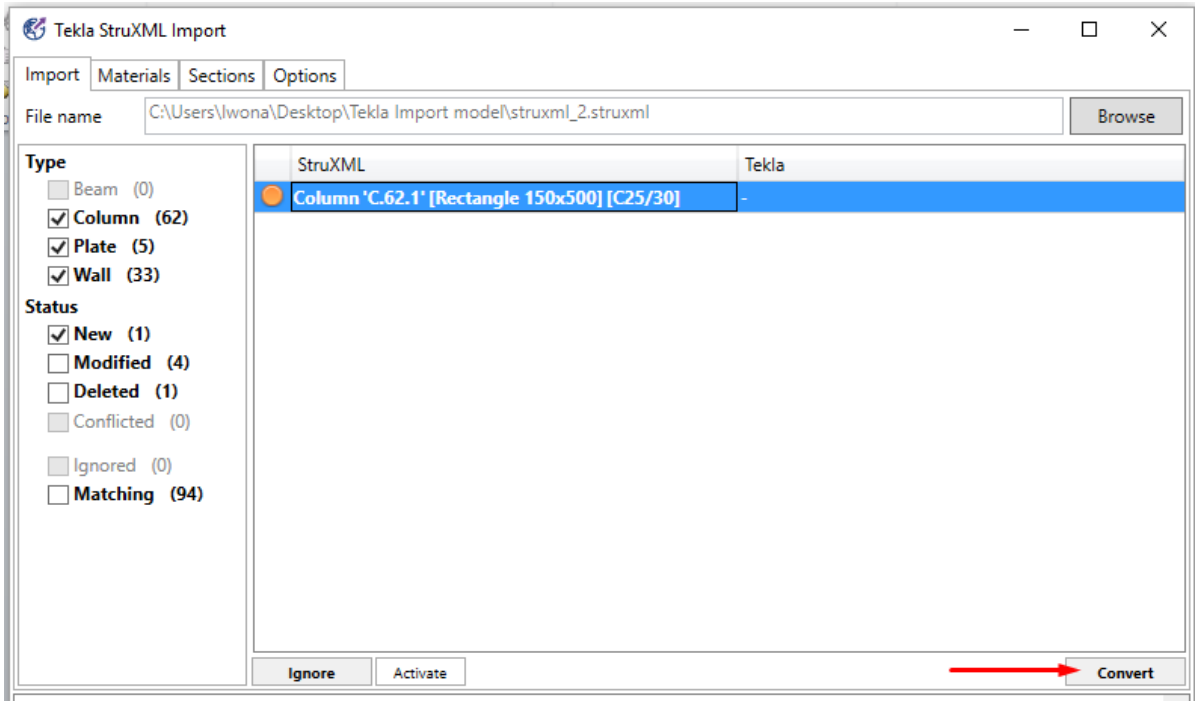


Figure 2-33

New column is added into Tekla model, and its status will change to Matching.

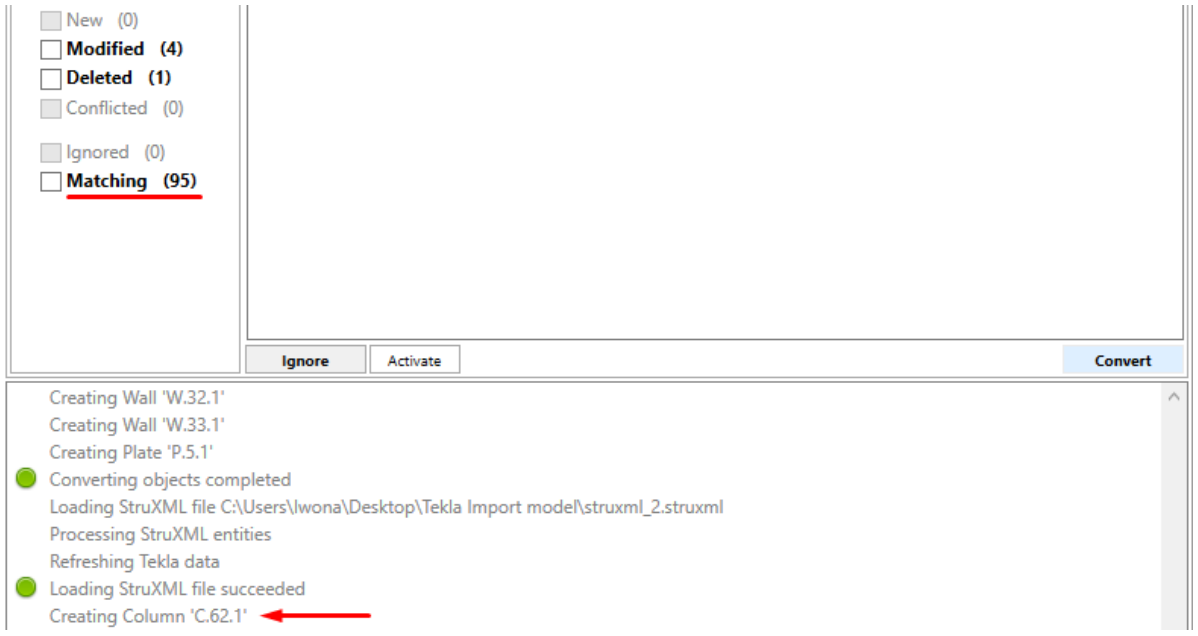


Figure 2-34

Modified objects

Now, let's look at modified objects (Figure 2-35).

- Two columns in FEM-Design (struxml) changed their sections from HEA200 to HEA180 (therefore the section name **[HE-A 180]** is bolded). When looking at the corresponding object in Tekla, one can see what the original section was [HEA 200].
- One panel (wall) changed its geometry in Tekla model (therefore, the **Panel** word is bolded).
- One slab changed its material in FEM-Design from C25/30 to C30/37 (therefore, the material name **[C30/37-1]** s bolded).

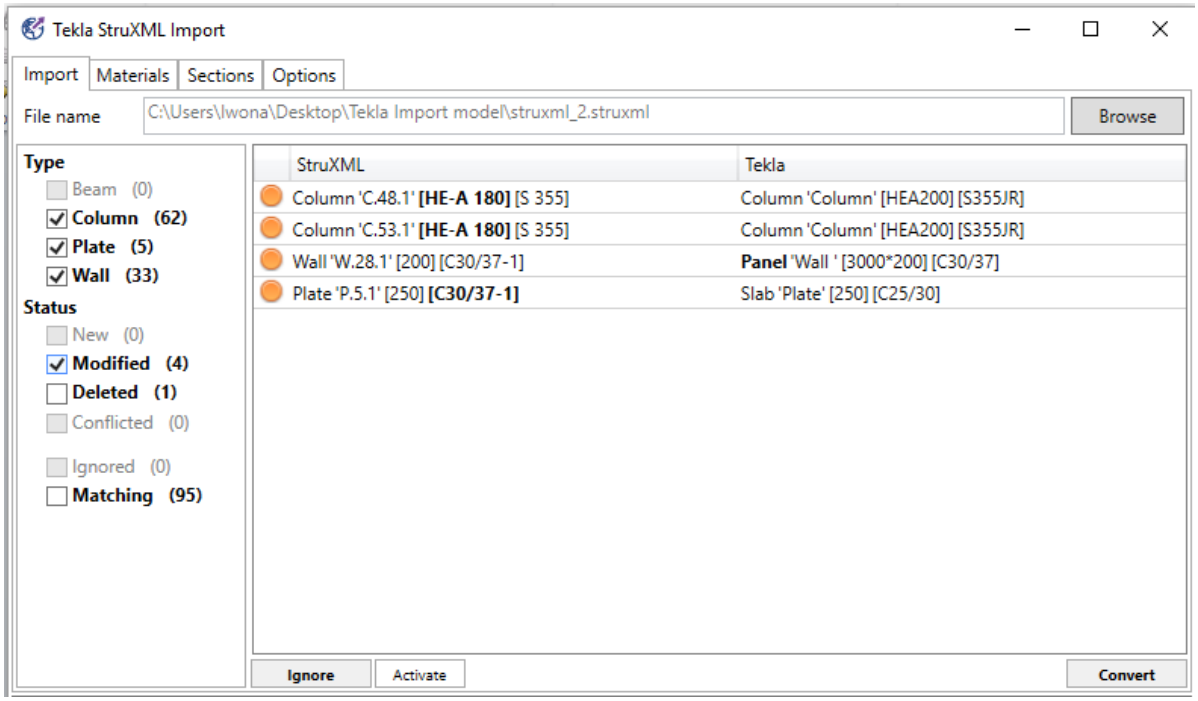


Figure 2-35

In order to apply the three changes made in FEM-Design to the Tekla model, select the three objects and press **Convert** (Figure 2-36).

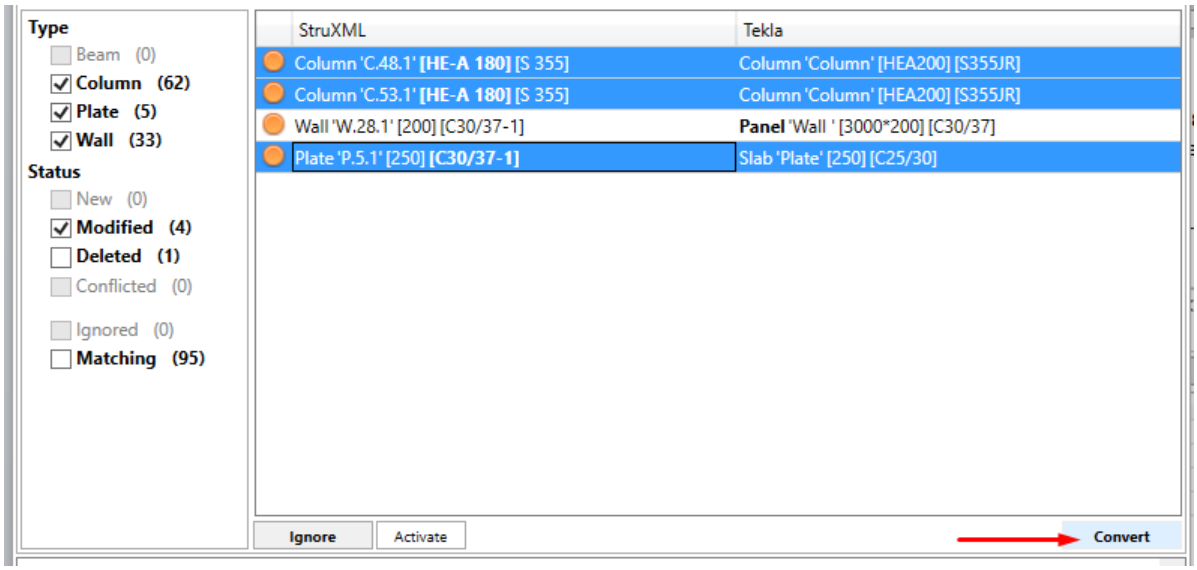


Figure 2-36

The two columns have a new profile in Tekla now, and the slab changed the material to C30/37. All three objects changed their status to Matching.

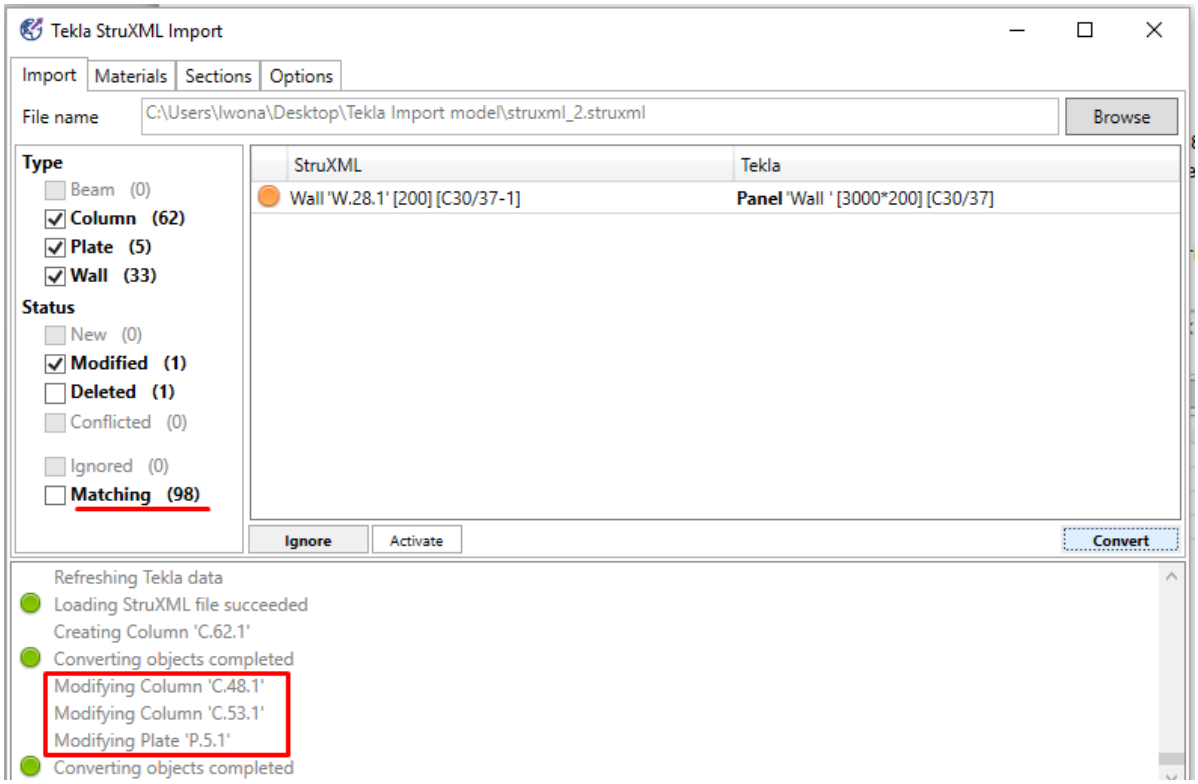


Figure 2-37

Ignored objects

The last object that is left in Modified category is the wall W.28.1 that was modified in Tekla. Here, if you want to bring the original version of the wall that exist in the FEM-Design (struxml) model, select it and press **Convert**. The wall in Tekla will be modified to the previous version.

But if you want to keep the current modified version of the wall in Tekla, just select the object and press **Ignore**.

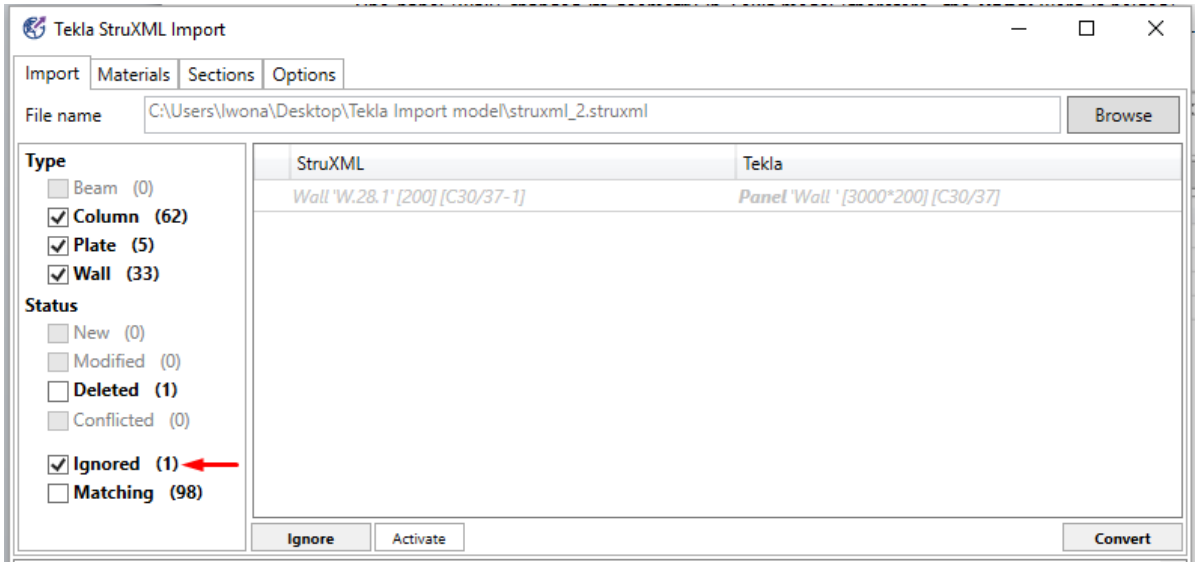


Figure 2-38

No modification will be done to Tekla wall, and its status will change to Ignored (Figure 2-38). In Ignored, you will be able to see the list of all objects that were not automatically converted to Tekla model.

If you want to activate an ignored object, select it and press **Activate.** This way, the object will be move to its original category.

Ignore can also be used if, for some reason, you do not want to automatically update the Tekla objects with FEM-Design change (maybe you prefer to do it manually).

To summarize: **Ignore** can be used in two situations:

- When an object was changed (modified / deleted) only in Tekla and you want to keep this state, and do not update the object to the previous version from FEM-Design (struxml).
- When an object was changed (modified / deleted) only in FEM-Design and you do not want to automatically update the Tekla model with this change.

Deleted objects

Display only deleted objects (Figure 2-39). There is one wall that was deleted in FEM-Design model (struxml).

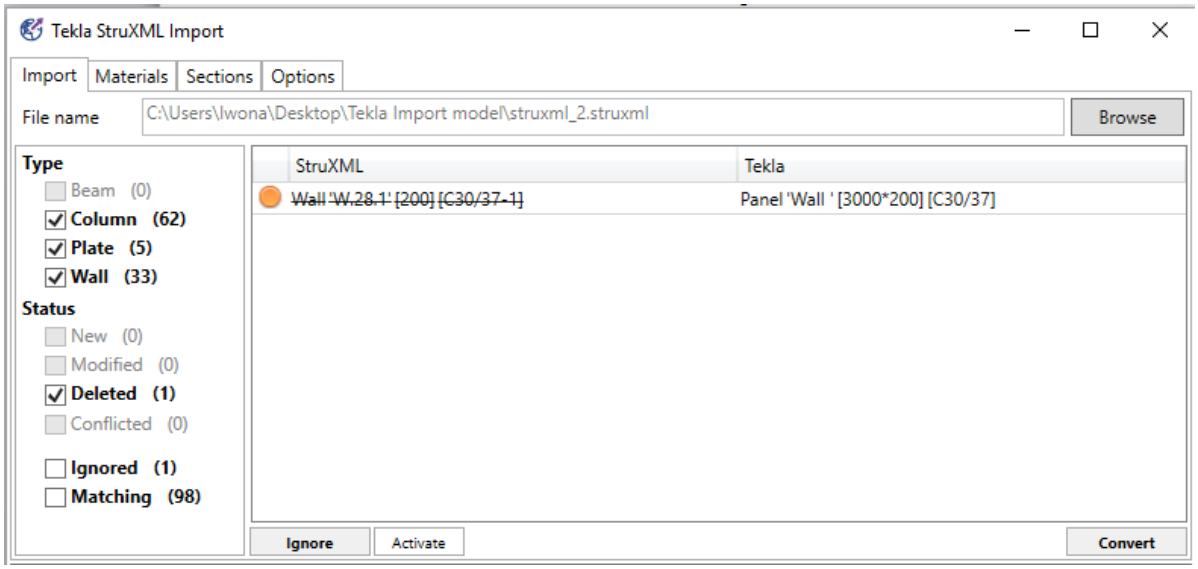


Figure 2-39

If you wish to update the Tekla model (delete that wall), just select the object and press **Convert**. The wall will be deleted from Tekla and its status will change to Matching.

Figure 2-40

(If you do not want to delete that wall in Tekla, select the object and press **Ignore)**.

Conflict

In case any object was modified in both places, i.e. in FEM-Design and in Tekla, one has to decide which version of the object to accept (it is not possible to keep the state of Tekla object and update it only with the change from FEM-Design).

To demonstrate an example of a conflict, let's assume that in the next round, a slab was modified in FEM-Design (opening was added), and the same slab was also modified in Tekla (slab boundaries were extended).

Upon loading the struxml file containing another version of the FEM-Design model, a conflict is recognized (Figure 2-41). Both changes were made to the slab's geometry therefore the name of the objects are bolded in both sides.

In order to accept the version of the plate from FEM-Design (struxml), one should select the object and press **Convert**. The slab in Tekla will be updated to the current version from FEM-Design (but the change applied in Tekla to that slab will be lost).

In order to keep the version of the slab in Tekla, and do not automatically update it to FEM-Design version, one should select the object and press **Ignore**. This way we can keep the Tekla modification (and perhaps apply the other modification manually in Tekla).

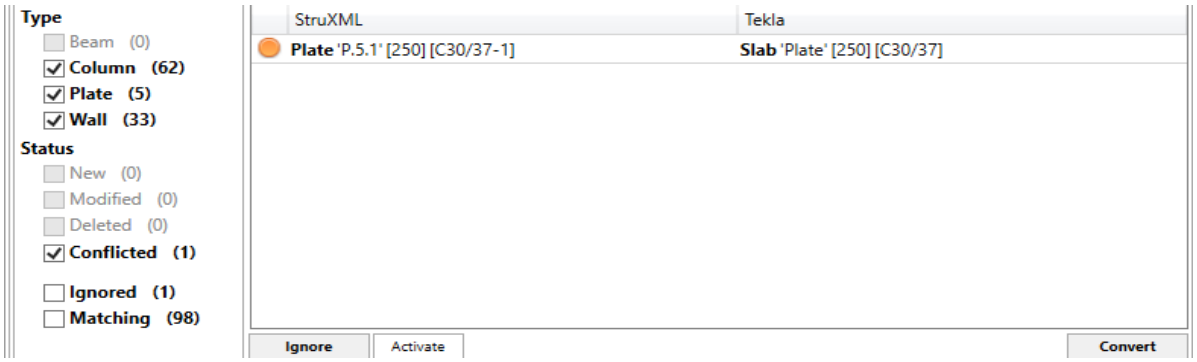


Figure 2-41

2.4. Limitations and future development

Tekla StruXML Import 1.00.000 is the first release of the tool and has certain limitations. Development of this tool will continue and one can expect many improvements in the next versions.

Recognized limitations:

- The original name of the Tekla model cannot be changed if one wants to update that model later.
- Contour of the slab / wall including arc is not supported and such slab /wall will not be imported to Tekla.
- Openings in the slab / wall including arc are not supported and such openings will not be created in Tekla (slab / wall will be imported).

Future development:

- *Import axes and storeys as grid system to Tekla* ← done in version 1.0.004
- Import profiled panels to Tekla.
- *Improvements in mapping (saving mapping, introducing Tekla material and section catalogs into the tool).* ← done in version 1.0.005
- *Improvements in the user input (more categories for Name and Class)* ← done in version 1.0.003