



# Mapping Database Editor

Scia Engineer

Tutorial

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# What is it?

Mapping Database Editor is a tool for definition of conversion tables for cross-sections and materials during an import and an export from and to other applications. The conversion table is saved in XML file format.

The reason of creation of this tool was the fact that not all other applications use the same name of cross-sections and materials, not all contain all of them and some allow you to name it with a user name. Then it is necessary to allow users to define a link with Scia Engineer database profile or material.

Each file with the conversion table has defined the application for which it should be used. The purpose of this tutorial is to introduce this tool and explain how to work with it.

#### Imports and exports which need the mapping tables

- Export to Tekla Structures Needs cross-section and material mapping tables
- Export to ETABS
   Needs only a cross-section table
- Import from ETABS
   Needs only a cross-section
- Import of SDNF file
   Needs cross-section and material mapping tables

# Work with Editor

You can run the Editor from import and export dialogs or from menu Start. If you run it from the Start menu a basic window is opened. Otherwise a file with the defined mapping table is opened.

# **Basic window**

🔛 Map	oping D	atabas	e Editor						- D X
File	Edit	Data	Tools	Windows	Help				
Filters	Filtr by	y		•		<ul> <li>Apply</li> </ul>	Clear		
Ready									.::

## File

New – creates a new empty file for database Open – opens an Open dialog where you can select a file Save – saves the file Save as – saves the file under different name Close – closes the opened file Exit – closes the Editor

#### Data

Add - Material – adds a new line for a material definition - Cross-section – adds a new line for a cross-section definition

#### Windows

- Shows all opened windows and allows you to switch between them.

#### Help

About - shows basic information about the tool

## **Filters**

Toolbar Filters is very important. It allows you to find a defined profile(s) or material in the table. Available filters depend on the type of opened file, i.e. a table for material or profile, for which application, etc.

Common filter for all applications:

- Id
- sciaName
- sciaCatalogItem
- sciaSectionName

Other filters are by application.

🛃 Мар	🔜 Mapping Database Editor							
File	Edit	Data	Tools	N	/indows		Help	
Filters	Filtr by				T			
🖳 Cro	ssSecti	id sciaNar teklaMt	ne trlNam	e	45			
Applic:	Applici			em ame e	b	ase	2	
Mi	Applic	ation Na	ame	Tekla	Structu	res		
	М	lajor vers	sion	12,1				
Basic	M	liner ver	vian [	12			_	_

In the first combo box you say which filter you want to use if any and in the second one you type what you are searching for. You can type the profile name or a part of profile name or a part of profile name with an asterisk.

E.g. HE3\*A means you are searching for profile HEA which has at first position of number the digit 3.

🔜 Mapping Databa	ase Editor			
File Edit Data	Tools	Windows	Help	
Filters Filtr by scia	SectionNam	e •	HE3*A	
CrossSection D	atabase			
Application Name Major version Minor version	ETABS 9,2 9,2			<b>•</b>
Basic Grid Materials ⊡ Cross-Sections … 662: HE30 … 666: HE32 … 669: HE34 … 672: HE36	0A 0A 0A 0A 0A			a Engineer

If nothing changes in the tree, use button **[Apply]** on the filter toolbar. If you want to cancel the filter use button **[Clear]**.

# **Database window**

Fill in the information about the mapping file. Application Name – selects Name of application for which the mapping database is being created Major version – version of application Minor version – version of application Database Name – name of database Version – version of database Type – type Master – default one, User

Note: If you change the Application type, only the defined settings from Scia Engineer are preserved.

### **Basic tab**

In the left side there is a window with a tree with defined profiles or materials. In the middle of the dialog there is all the information about the profile or material from Scia Engineer. In the right side there is the information/name about the profile from the other application.

Basic Grid				
: Materials	Scia Engineer		ETABS	
G47: HE200A G50: HE220A	Id 647	DA	Profile	HE200A
653: HE240A 656: HE260A 659: HE280A	Catalog type I section	on 💌		

#### **Cross-section definition**

#### Scia Engineer

Id - is automatically generated after adding a new profile. If two or more items with the same Id exist, the one with the lower number has a priority.

Cross-section – the name is filled in by the user. The name must be from Scia Engineer database. Catalogue type - must be defined.

#### Other application

Profile – name of cross-section is filled in by the user. It has to be in accordance with profile names of that application.

#### **Material definition**

#### Scia Engineer

Id - is automatically generated after adding a new material. If two or more items with the same Id exist, the one with lower number has a priority.

Material – the name is filled in by the user. The name must be from Scia Engineer database.

#### Other application

Material – name of material is filled in by the user. It has to be in accordance with material names of that application.

В	asic	Grid			
Γ		aterials	- Scia Engineer		Tekla Structures
l		1: S 235 2: S 235	ld	1	
l		3: S 235 4: S 235	Material	S 235	Material S235J0
l		5: S 235			

# **Grid tab**

It is another definition than in the Basic tab. Both types of definition can be mixed. On the Grid tab there are two sub tabs – Cross-section and Material, which can be switched on the right side.

Basic	Grid			
				Cross-section Material
	id	sciaCatalogItem	sciaSectionName	etabsName
Þ	647	1	HE200A	HE200A
	650	1	HE220A	HE220A
	653	1	HE240A	HE240A
	656	1	HE260A	HE260A
	659	1	HE280A	HE280A
*				

It has the same items as the Basic tab only in a different arrangement. The Catalogue type is filled as a number where:

- 1 I profile
- 2 hollow section
- 3 tube section
- 4 L section
- 5 channel section
- 6 T section
- 7 full rectangular section
- 11 full circular section
- 101 asymmetric I section
- 102 rolled Z section
- 111 cold formed angle section
- 150 rail type KA section
- 1002 minus L section

■ Note: Both cross-section and material mapping table can be defined in the same file.

# **Examples of procedure**

#### Define a new mapping table

- 1. Launch the tool from Start > Programs > Scia Engineer 2010.1 > BIM tools > Mapping Database Editor.
- 2. Run File > New.
- 3. Define **Application Name** e.g. Tekla Structures. You can also fill in the other information about the file.
- 4. Add a material by means of
  - menu Data > Add > Material

– or a right mouse button click in the window in the left side of the dialogue. Then click on Add > Material.

🛃 Default			
Application Name Major version	Tekla Structures		Databas
Minor version	1		
Basic Grid			
Materials Cross-Section	s	- Scia Engineer	
	Add 🕨	Material	
	Delete	CrossSection	

5. Define Id (e.g. as 1), Material in Scia Engineer (e.g. as S 450) and Material in Tekla Structures (e.g. as S237).

Basic Grid			
⊡. Materials	Scia Engineer		Tekla Structures
I: S 450 Cross-Sections	ld	1	
	Material	S 450	Material S237
			,

- 6. Switch from Basic to Grid tab with Material subtab. You can see the first defined material.
- 7. Click into the second line and again define Id (e.g. as 2), sciaName material (e.g. as S 335) and teklaName material (e.g. as S275).

Ē	lasic G	and		
				Cross-section Material
I		id	sciaName	teklaName
I		1	S 450	S237
I		2	S 335	\$27F
	▶*	0		

That means materials S 450 and S 335 from Scia Engineer will be substitute in Tekla Structures with S237 and S275.

 Save it with File > Save as and define a name of the table. You can try to export a simple structure from Scia Engineer with materials S450 and S335 and check up if it is correctly imported to Tekla Structures.

#### Edit an existing mapping table

- 1. Launch the tool from Start > Programs > Scia Engineer 2010.1 > BIM tools > Mapping Database Editor.
- 2. Run **File** > **Open** and select e.g. SdnfCss.xml in Addons directory.
- 3. Set Filter by sciaSectionName and input a key HEA.



4. Select one of profiles in the left side window – e.g. id 1721 and remove it with a right mouse button click – **Delete**.

Basic Grid			
Materials			-
1721: HEAT	Add	۰.	
- 1722: HEAT	Delete	~	
- 1724: HEAT 100		13	

Or in the Grid tab using Delete key on your keyboard.

 Select next one in either Basic or Grid tab and change the profile name in Scia Engineer column e.g. from HEAT100 to HEA100 and Catalogue type from T section to I section in the Basic tab or from 6 to 1 in the Grid tab. It means the T profile T-HE100A/.5/ from SDNF file will be imported to Scia Engineer as I profile HEA100.

Basic Grid				
- Materials	Scia Engineer -		SDNF	
Cross-Sections		1770		
1722: HEAT100	ld	1/22	Profile	T-HE100A/.5/
1723: HEAT100	Cross-section	HEA100		
1724: HEAT100	Cross-section	ILEXIO0		
1725: HEAT100	Catalog type	section 💌		
1726: HEAT100				
1739: HEAT120				

E	asic	Grid				
					Cross-section	Material
		id	sciaCatalogItem	sciaSectionName	sdnfName	
	Þ	1722	1	HEA100	T-HE100A/.5/	
		1723	6	HEAT100	T-HE100A/.6/	

- 6. Add new one by means of
  - right mouse button click Add > CrossSection
  - or menu Data > Add > CrossSection

🔜 Mapping Database Editor							
File Edit	Data	Tools	Windows	Help			
Filters   Filtr b	Filters Filtr b Add		Material			▼ Appl	
CrossSec	CrossSection Database			ssSection			
Application Name SDNF					~	Dat	

- or start to write in the last line in the Grid tab.

E	Basic	Grid					
					Cross	section	Material
		id	sciaCatalogItem	sciaSectionName	sdnfName		<b></b>
		4330	6	HEAT320	HEAT320		
		4331	6	HEAT340	HEAT340		
		4332	6	HEAT360	HEAT360		
		4333	6	HEAT400	HEAT400		
		4334	6	HEAT450	HEAT450		
		4335	6	HEAT500	HEAT500		
		4336	6	HEAT550	HEAT550		
		4337	6	HEAT600	HEAT600		
		4338	6	HEAT650	HEAT650		
		4339	6	HEAT700	HEAT700		
		4340	6	HEAT800	HEAT800		
		4341	6	HEAT900	HEAT900		
	*						
							-
		4341	6	HEAT900	HEAT900		
	Ø	4342	1	HEA100	HEA100		
÷	ŧ						

7. After all changes save it using **File > Save** or **Save as**.