



Trimble.

TRANSFORMING THE WAY THE WORLD WORKS

Filters.

Filters are an important concept and tool to get your heads around early on in the use of Tekla Structures.

Filters allow you to create logic rules which need to be met in order to achieve the desired results.

You can find more detailed information on how filters work and are used in the system in Tekla User Assistance.

Here are some useful links:

https://teklastructures.support.tekla.com/2020/en/gen_filter_objects https://teklastructures.support.tekla.com/2020/en/gen_example_filters

They are used by most facets of the software and for many different uses.

- In the model view area to visualise required objects.
- To hide objects from the view in order to set up drawing content.
- By selection in order to generate reports
- As rules for object representation to visually portray information easily
- In Drawings to create line representation, mark type and style etc.

There are many different types of filters which can be created which are specific to the area in which they can be used. Bear in mind that some of these do cross over.

÷.	Ob	jec	t Group -	View Filter						×
4	Ĵ.	Ob	ject Gro	up - Representatio	on					×
s	S	ņ	Object	Group - Organize	r					×
OŁ	-	Г	👥 Obje	ect Group - Selecti	ion Filter					×
- C		0	Save/Lo standar	oad d		✓ Save		standard	Save as	>>
		-	Objects v	with matching pro	perties can be selected					
(Ъþ		- (Category Part	Property Name	Condition Equals	Value)	And/	Add row
	-									Delete row
										Move up
										Move down
		Ľ								New filter
<										
			ОК	Apply						Cancel

For example - When you create a Selection filter in the model area it will also be available to select in the Organiser and in Drawings.

You are also able to create a filter in one Filter type and at the point of saving select to save it as other filter types. Using the >> to open a save type checkbox area.

Save/Lo	oad							
standar	rd		✓ Save	[standard		Save as	<<
Filter ty	pe: Model	Drawing	Drawing					
	View filter	All drav	wing types	Organizer				
	Selection filter	Curren	t drawing type					
	Object representation	n 🗌 Selectio	Selection filter					
Objects v	with matching properties ca	n be selected						
- (Category Pro	perty	Condition	Value)	And/	Add row
Π-	Part Na	ne	Equals			· · ·		Delete row

Creating the Filter

Once again, depending on your environment, you will have many pre-set filters which are available to you to use. These may be enough in order to continue on so we will check them first.

We will also be using the Naming and Numbering conventions checklist which we created in the preceding tutorial. This is where we will fill out the Filters column of the table. Note: you do not have to use the spreadsheet but it is recommended for traceability that you have something in place for this.

Object Type	Name	Part Prefix	Part Start Number	Assembl y/Cast Unit Prefix	Assembl y/Cast Unit Start Number	Filter	Drawing Object Setting
Steel Beam	Beam	Μ	1	В	1	Add used filter here	(used in later tutorial)
Steel Column	Column	Μ	1	С	1		
Steel Rafter	Rafter	Μ	1	R	1		
Steel Purlin	Purlin	Μ	1	PN	1		
Concrete Beam	Beam	-	-	СВ	1		
Concrete Column	Column	-	-	СС	1		
Concrete Pile	Pile	-	-	СР	1		
Concrete Ledge Beam*	Ledge Beam	-	-	LB	1		

* This entry was added from the previous tutorial and will be used in this section to create a filter. Note: Always keep your Drawing Office Standards up to date.

In this section, we will be focusing on the use of filters to create the drawings style. This will lead to the final stage of the setup tutorial.

We will do this using the Selection filter and test them working in the model area. Then save them to the Firm folder.

The most efficient way to do this is to modify an existing filter which currently works for a standard pre-defined object. Such as a Beam or Column. All we have to do in this situation is to change the relevant property from Beam to the desired property.

Tutorial.

Step 1.

Open Tekla Structures using your role.

Tekla Structures		×
	Channel Table Standard and a	
	Choose your Tekia Structures setup	
	Environment	
	UK	
	Role	
	Engineer T	
	Select Role	
Talda	Bridge Designer	
Текіа	Cast In Situ Detailer	
Structuros	Concrete Contractor	
Structures	Contractor	
	Engineer	
	Engineer Incl.Cold Rolled	
Strimble.	Engineer MyCompany	OK Cancel
	Precast Detailer	······

Create a new model.

7	Tel	kla Struc	ctures	2020	
Recent	All models	Shared models	l New		
New model 42					Create
Place in:					
C:\TeklaStructuresMode	els\			•	Browse

Note: The model name is not important.

Select the Concrete Beam tool.



In the Concrete Beam properties load dropdown, select the Ledge Beam setting created and saved in the previous stage.

O Cor	ncrete beam (1 selected)	0 X
•	Ledge Beam	· 🗎
	standard	
	Beam	=
	Double Ledge Beam	
▼ Ge	Downstand Beam	
Name	Groundbeam	
-	Hollowcore	
Eleme	Ledge Beam	
Eleme	Precase 2	-
Drafil	Ring Beam	
PTOTIN	Solid Slab	
Mater	Upstand Beam	
	0.00	
Class		

Model in the beam.



Step 2.

Open the select filter on the select toolbar at the bottom of the Tekla Structures screen.

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Tip: selee	Use ction	the se swite	electior ches.	filter	tog	ether	with the	

TObje	ct Group - Select	ion Filter				×
Save/Lo	d d		✓ Save	standard	Save as	>>
Objects v	vith matching pro	operties can be selected				
- (□ -	Category Part	Property Name	Condition Equals	Value) And/	Add row Delete row
						Move up Move down
						New filter
OK	Apply					Cancel

Select the load dropdown and select Concrete Beam filter (UK) or equivalent for your environment.

Save/Load	
SIC Beam	~
Object type - Pour	^
Object type - Pour Object	
Object type - Pour Unit	
Object type - Reference object	
Object type - Reinforcement	
Object type - Surface treatment	
Object type - Weld	
POUR7+REBAR	
Pour 1 + Foundation	
SAMPLE-Beam-Concrete	
SAMPLE-Beam-Steel	
SAMPLE-Column-Concrete	
SAMPLE-Column-Steel	
SIC Beam	
SIC Column	
SIC Foundation	
SIC Pile	
SIC Pile Cap	

SIC Bea	im		✓ Save	SIC Beam		Save as	>>
Objects v	with matching pro	perties can be selected					
- (Category	Property	Condition	Value)	And/	Add row
☑ -	Template	MATERIAL_TYPE	Contains	CONCRETE	-	And	Delete rou
☑ (Object	Object type	Equals	Part	-	And	Derece Tow
- 1	Part	Name	Equals	BEAM)	Or	
☑ (Object	Object type	Equals	Assembly	-	And	Move up
☑ -	Assembly	Name	Equals	BEAM)		Move dow
							New filt

Change the value for the Property "Name" to the desired value "LEDGE BEAM" and Save as required.

Save/L	oad						-
SIC Be	am		✓ Save	SIC Ledge Beam	1	>>	
Objecte	with matching pro	mortion can be colorted		2.2.			
- (Category	Property	Condition	Value)	And/	Add row
2	Template	MATERIAL TYPE	Contains	CONCRETE	-	And	DI
	Object	Object type	Equals	Part		And	Delete row
- 1	Part	Name	Equals	"LEDGE BEAM")	Or	
☑ (Object	Object type	Equals	Assembly	-	And	Move up
- 🗹	Assembly	Name	Equals	"LEDGE BEAM")		har a star
0							IVIOVE DOWN
							New filter

If there is not an existing filter in your country's environment then you are able to follow these simple steps to create a new filter from the beginning.

-	(Category	Property	Condition	Value)	And/Or
~	-	Template	MATERIAL_ TYPE	Contains	CONCRE TE	-	And
~	(Object	Object Type	Equals	Part	-	And
~	-	Part	Name	Equals	"LEDGE BEAM")	Or
~	(Object	Object Type	Equals	Assembly	-	And
~	-	Assembly	Name	Equals	"LEDGE BEAM")	

Note: LEDGE BEAM is in " " as the naming convention given has a space between the words and is, therefore, the string "LEDGE BEAM".

The purpose of this filter is to select only objects that are Concrete. The 2nd and 4th rows are setting the conditions to pick up either parts or assemblies in the model and the 3rd and 5th set the respective object types name designation to be Ledge Beam.

Step 3.

Once the properties of the filter are set, select the >> button. This opens the additional filter type area.

Save/Load						
SIC Beam		✓ Save	[SIC Ledge Beam	Save as	<<
Filter type:	Model	Drawing				
	View filter	All drawing types	Organizer			
	Selection filter	Current drawing type				
	Object representation	Selection filter				

Model - Selection filter will be selected as default. Also select - Drawing - Selection filter. Click Save as.

🛃 Object Group - Selection Filter			×
Save/Load			
SIC Beam	∽ Save	SIC Ledge Beam Save as	<<
Filter type: Model	Drawing		
View filter	All drawing types	🗌 Organizer	
Selection filter	Current drawing type		
Object representation	Selection filter		

Step 4.

In the Naming and Numbering conventions sheet add this filter name and any others you are going to use or have created.

Note: You do not need to create again from the beginning, just select one you have already set up and change the Name in the Value column as in Step 1 and 2 and then Save with an appropriate name.

Object Type	Name	Part Prefix	Part Start Number	Assembl y/Cast Unit Prefix	Assembl y/Cast Unit Start Number	Filter	Drawing Object Setting
Steel Beam	Beam	Μ	1	В	1	SS Beam	(used in later tutorial)
Steel Column	Column	М	1	С	1	SS Column	

Steel Rafter	Rafter	М	1	R	1	SS Rafter	
Steel Purlin	Purlin	М	1	PN	1	SS Purlin	
Concrete Beam	Beam	-	-	СВ	1	SIC Beam	
Concrete Column	Column	-	-	СС	1	SIC Column	
Concrete Pile	Pile	-	-	CP	1	SIC Pile	
Concrete Ledge Beam*	Ledge Beam	-	-	LB	1	SIC Ledge Beam	

Step 5.

Once complete, add the information to the Naming and Numbering conventions spreadsheet and then move the file from the model/attributes folder to your firm folder.

Open the model folder.



Open the attributes folder and sort by date modified. Select the ALL the created filter files.

Image: Image	ew			
\leftarrow \rightarrow \checkmark \uparrow \square \Rightarrow This PC \Rightarrow	→ System (C:) → TeklaStructuresModels → New mode	I 42 → attributes →		
UK	▲ Name	Date modified	Туре	Size
OneDrive	SIC Ledge Beam.dsf	21/01/2021 20:51	DSF File	2 KB
71.00	🗹 📄 SIC Ledge Beam.SObjGrp	21/01/2021 20:51	SOBJGRP File	2 KB
This PC	📓 swjo_PdfPrintOptions.xml	21/01/2021 19:21	XML File	4 KB
3D Objects	UserDefinedWeldCrossSections.udwcs	21/01/2021 19:21	UDWCS File	0 KB
Apple iDad	Calaba and Transad Darras Clab	31 /01 /2021 10.21	F314	- D - D - D - D - D - D - D - D - D - D

Note: Depending on the types of filters you selected to Save as there could be many to select. Look for all those which share the correct file names.

You can find more information on file types and extensions in Tekla User Assistance. <u>https://teklastructures.support.tekla.com/2021/en/sys_files_and_file_extensions?da=GUID-F</u> <u>9C1DB0A-D734-402C-9E65-99E2CE25F864</u>

Cut these files from the folder and add them to your firm folder in the Filter_Settings folder.



These files will now be available for all models.