

Shared Parameters

Guide for Users, by a User!



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Summary

1. What they are
2. Why they are important
3. How they are created and managed
4. How they are applied
5. Limitations/challenges
6. Recommendations



Types of Parameters

Parameters come in many shapes, forms and types in Revit!

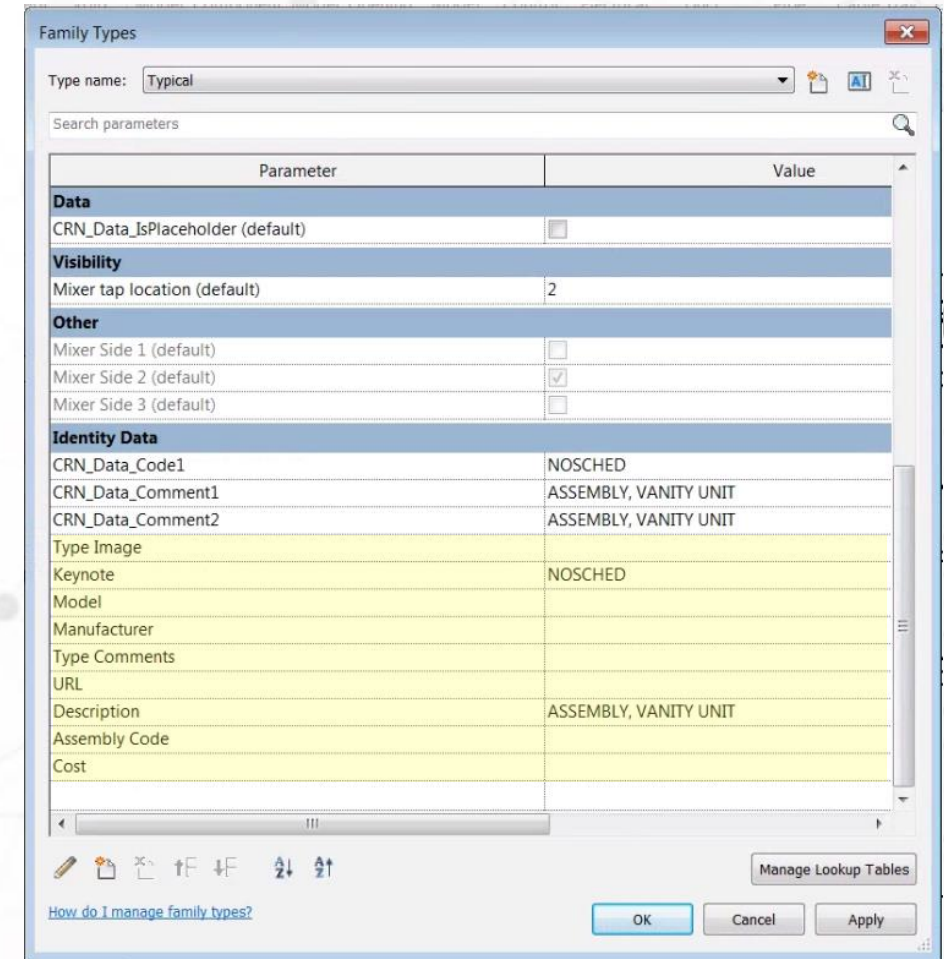


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Built-In Parameters

Default, come with the standard Revit templates

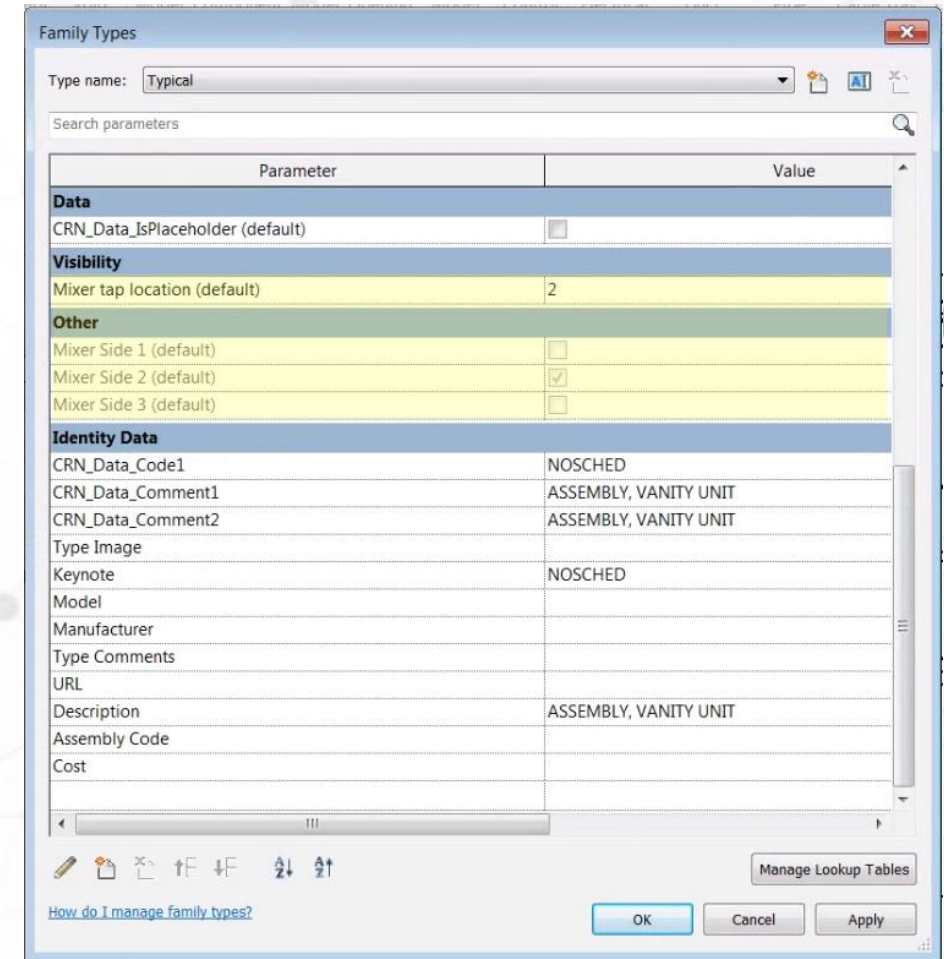
Typically **cannot be removed** from models or families



Family Parameters

User defined, but only relevant within the family they are created within

Typically used for controls and fields not required for scheduling/tagging



The screenshot shows the 'Family Types' dialog box with the 'Type name' set to 'Typical'. The dialog contains a table of parameters categorized into Data, Visibility, Other, and Identity Data.

Parameter	Value
Data	
CRN_Data_IsPlaceholder (default)	<input type="checkbox"/>
Visibility	
Mixer tap location (default)	2
Other	
Mixer Side 1 (default)	<input type="checkbox"/>
Mixer Side 2 (default)	<input checked="" type="checkbox"/>
Mixer Side 3 (default)	<input type="checkbox"/>
Identity Data	
CRN_Data_Code1	NOSCHED
CRN_Data_Comment1	ASSEMBLY, VANITY UNIT
CRN_Data_Comment2	ASSEMBLY, VANITY UNIT
Type Image	
Keynote	NOSCHED
Model	
Manufacturer	
Type Comments	
URL	
Description	ASSEMBLY, VANITY UNIT
Assembly Code	
Cost	

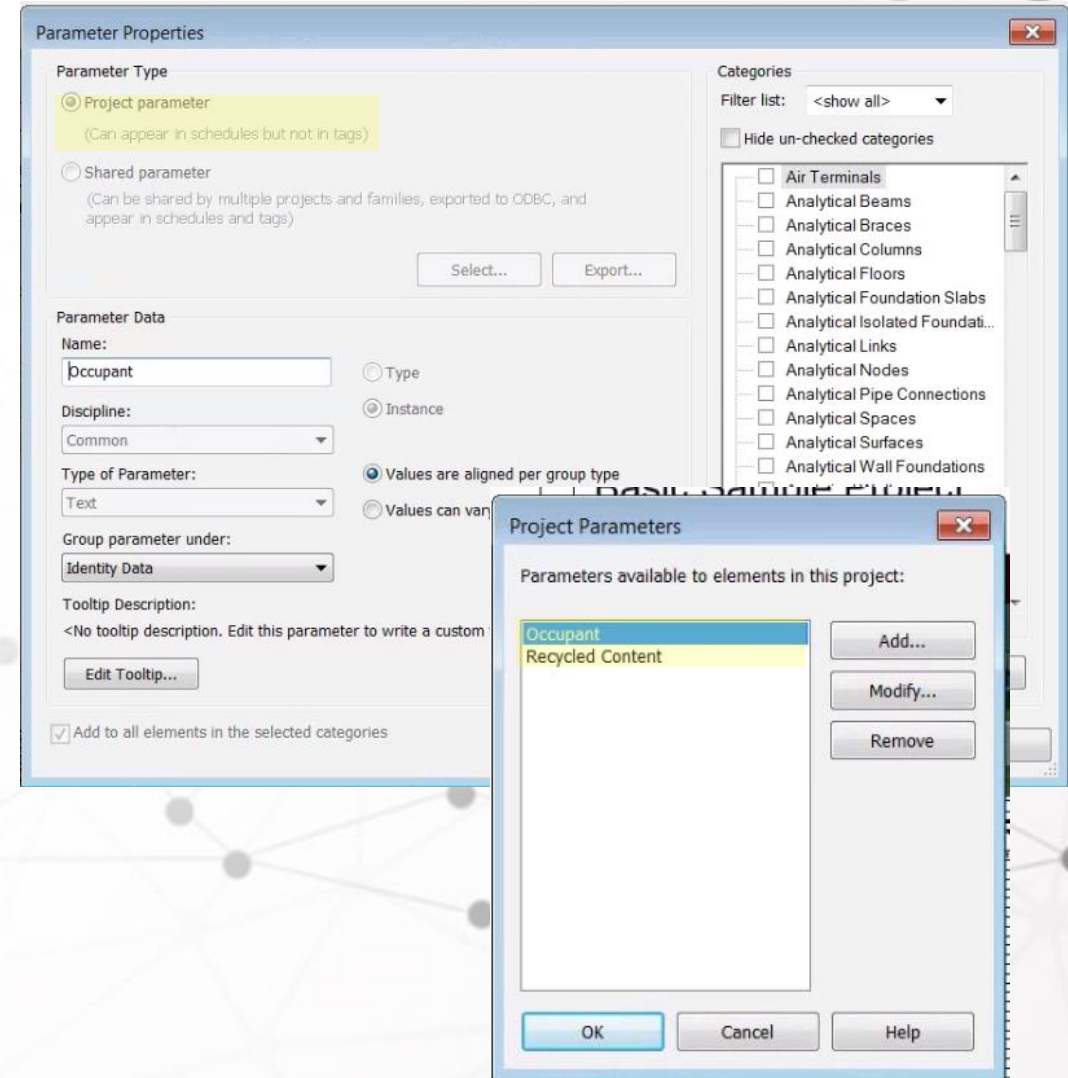
At the bottom of the dialog, there are icons for editing, a 'Manage Lookup Tables' button, and 'OK', 'Cancel', and 'Apply' buttons. A link 'How do I manage family types?' is also present.



Project Parameters

User defined, but only relevant within the project they are created within

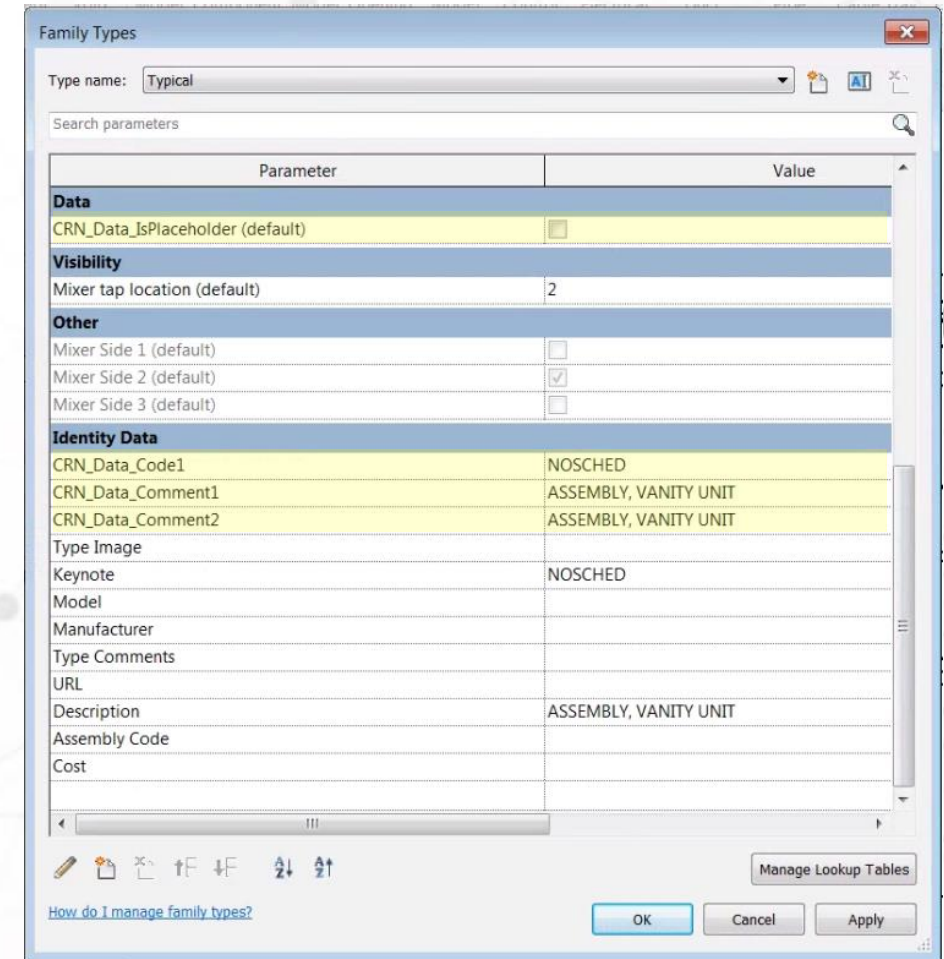
Typically used for **isolated, project centric** systems such as unique coding ID's



Shared Parameters

User defined, relevant across multiple files and families

Enable shared data between linked models, loadable families and other programs



The screenshot shows the 'Family Types' dialog box in Revit. The 'Type name' is set to 'Typical'. Below the search bar, there is a table with two columns: 'Parameter' and 'Value'. The table is organized into sections: Data, Visibility, Other, and Identity Data. The 'Data' section contains 'CRN_Data_IsPlaceholder (default)' with a checkbox. The 'Visibility' section contains 'Mixer tap location (default)' with a value of '2'. The 'Other' section contains 'Mixer Side 1 (default)', 'Mixer Side 2 (default)', and 'Mixer Side 3 (default)' with checkboxes. The 'Identity Data' section contains 'CRN_Data_Code1' (NOSCHED), 'CRN_Data_Comment1' (ASSEMBLY, VANITY UNIT), 'CRN_Data_Comment2' (ASSEMBLY, VANITY UNIT), 'Type Image', 'Keynote' (NOSCHED), 'Model', 'Manufacturer', 'Type Comments', 'URL', 'Description' (ASSEMBLY, VANITY UNIT), 'Assembly Code', and 'Cost'. At the bottom, there are buttons for 'OK', 'Cancel', and 'Apply', along with a 'Manage Lookup Tables' button and a link to 'How do I manage family types?'.

Parameter	Value
Data	
CRN_Data_IsPlaceholder (default)	<input type="checkbox"/>
Visibility	
Mixer tap location (default)	2
Other	
Mixer Side 1 (default)	<input type="checkbox"/>
Mixer Side 2 (default)	<input checked="" type="checkbox"/>
Mixer Side 3 (default)	<input type="checkbox"/>
Identity Data	
CRN_Data_Code1	NOSCHED
CRN_Data_Comment1	ASSEMBLY, VANITY UNIT
CRN_Data_Comment2	ASSEMBLY, VANITY UNIT
Type Image	
Keynote	NOSCHED
Model	
Manufacturer	
Type Comments	
URL	
Description	ASSEMBLY, VANITY UNIT
Assembly Code	
Cost	



Types of Parameters

Quick demonstration

Shared parameters vs. family vs. project parameters



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Why they are important

So many reasons!

But one main reason...



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Data Uniformity

Shared Parameters allow elements to share such common fields such as;

Codes

Descriptions

Dimensions

Materials

Etc...



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Family Types

Type name: Typical

Search parameters

Parameter	Value
Constraints	
Default Elevation	1219.2
Construction	
CRN_Data_IsPlaceholder (default)	<input type="checkbox"/>
Text	
CRN_Auth_AuthorCompany1	Crone
CRN_Auth_AuthorUser1	Gavin Crump
CRN_Auth_DateCreated1	9.04.2019
CRN_Auth_DateModified1	9.04.2019
CRN_Auth_Origin1	Crone Library
CRN_Auth_RevitVersion1	2019
CRN_Auth_Version1	1
Dimensions	
CRN_Dim_Depth1 (default)	1500.0
CRN_Dim_Width1 (default)	850.0
Shower Door Width (default)	600.0
Shower Partition Height (default)	2400.0
Shower Width (default)	850.0
Riser depth (default)	150.0
Shower Waste Depth	150.0
Visibility	
Other	

Manage Lookup Tables

[How do I manage family types?](#)

OK Cancel Apply

Family Types

Type name: Typical

Search parameters

Parameter	Value
Constraints	
Default Elevation	1219.2
Text	
CRN_Auth_AuthorCompany1	Crone
CRN_Auth_AuthorUser1	Gavin Crump
CRN_Auth_DateCreated1	9.04.2019
CRN_Auth_DateModified1	9.04.2019
CRN_Auth_Origin1	Crone Library
CRN_Auth_RevitVersion1	2019
CRN_Auth_Version1	1
Materials and Finishes	
Plumbing	
Dimensions	
CRN_Dim_MountingHeight1 (default)	1000.0
CRN_Dim_Depth1	262.0
CRN_Dim_Height1	1000.0
CRN_Dim_Width1	196.0
Mechanical	
Identity Data	
CRN_Data_Code1	TBC
CRN_Data_Comment1	SHOWER KIT WITH RAIL
CRN_Data_Comment2	SHOWER KIT WITH RAIL

Manage Lookup Tables

[How do I manage family types?](#)

OK Cancel Apply

Family Types

Type name: Typical

Search parameters

Parameter	Value
Constraints	
Default Elevation	0.0
Text	
CRN_Auth_AuthorCompany1	Crone
CRN_Auth_RevitVersion1	2019
CRN_Auth_AuthorUser1	Gavin Crump
CRN_Auth_DateCreated1	21/02/19
CRN_Auth_DateModified1	21/02/19
CRN_Auth_Version1	1
Materials and Finishes	
Plumbing	
Dimensions	
CRN_Dim_Width1 (default)	1350.0
CRN_Dim_Height1 (default)	2400.0
Door width (default)	600.0
Door height (default)	2100.0
CRN_Dim_Depth1	50.0
Mechanical	
Visibility	
Other	
Identity Data	

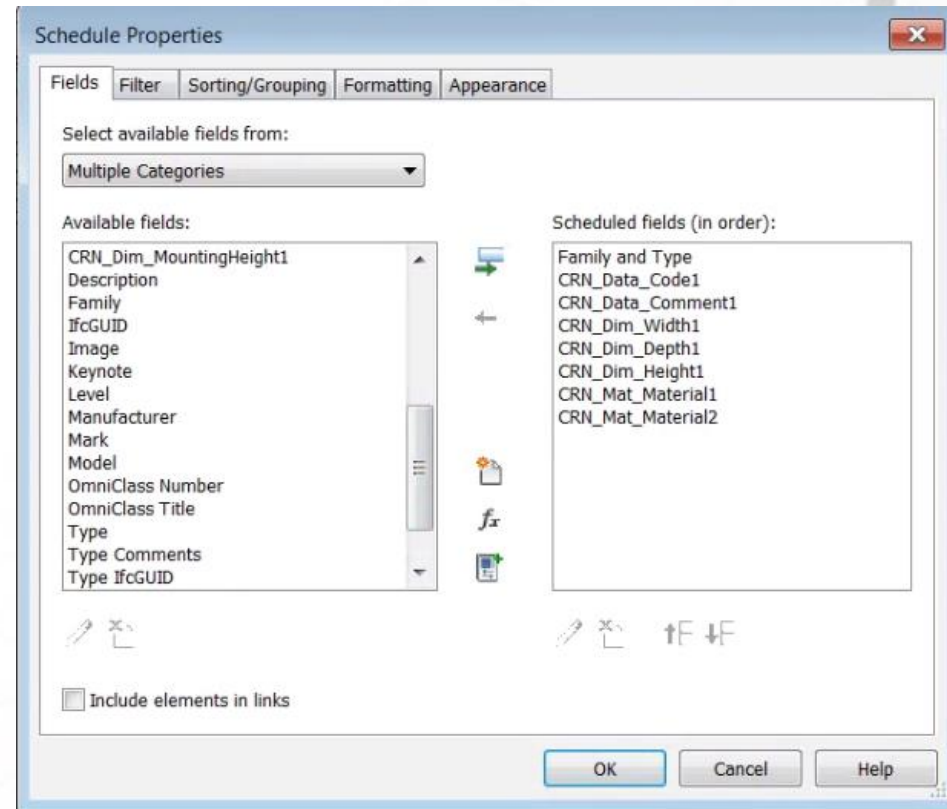
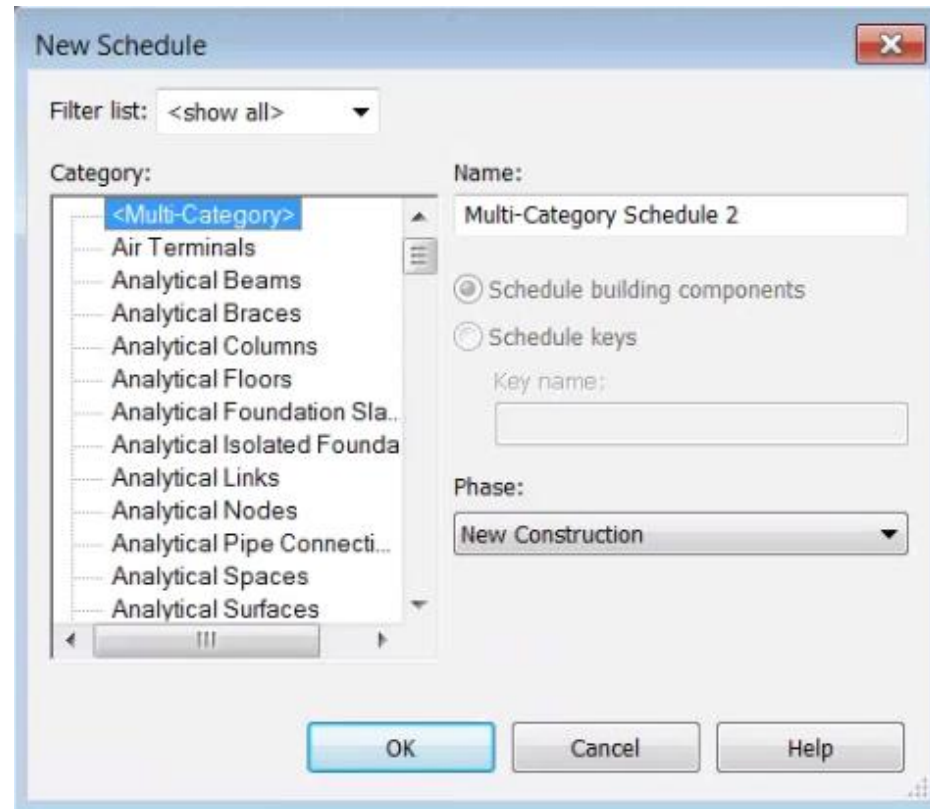
Manage Lookup Tables

[How do I manage family types?](#)

OK Cancel Apply



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<Multi-Category Schedule>

A	B	C	D	E	F	G	H
CRN_Auth_AuthorC	CRN_Auth_AuthorU	CRN_Auth_DateCre	CRN_Auth_DateMo	CRN_Auth_Origin1	CRN_Auth_RevitVer	CRN_Auth_Version	Family and Type
Crone	Gavin Crump	9.04.2019	9.04.2019	Crone Library	2019	1	CRN_GEN_Assembly-Shower-Residential-Type1: Ty
Crone	Gavin Crump	09/04/19	09/04/19		2019	1	CRN_PLM_FloorDrain-Generic-Type1: Shower, 150D
Crone	Gavin Crump	09/04/19	09/04/19		2019	1	CRN_PLM_FloorFalls-Square-Type2: Typical
Crone	Gavin Crump	9.04.2019	9.04.2019	Crone Library	2019	1	CRN_PLM_Shower-Generic-Hosekit-Type1: Typical
Crone	Gavin Crump	21/02/19	21/02/19		2019	1	CRN_PLM_Shower-Partition-Type1: Typical
Crone	Gavin Crump	21/02/19	21/02/19		2019	1	CRN_PLM_Tap-Shower-Caroma-Urbane: Typical

Grand total: 6

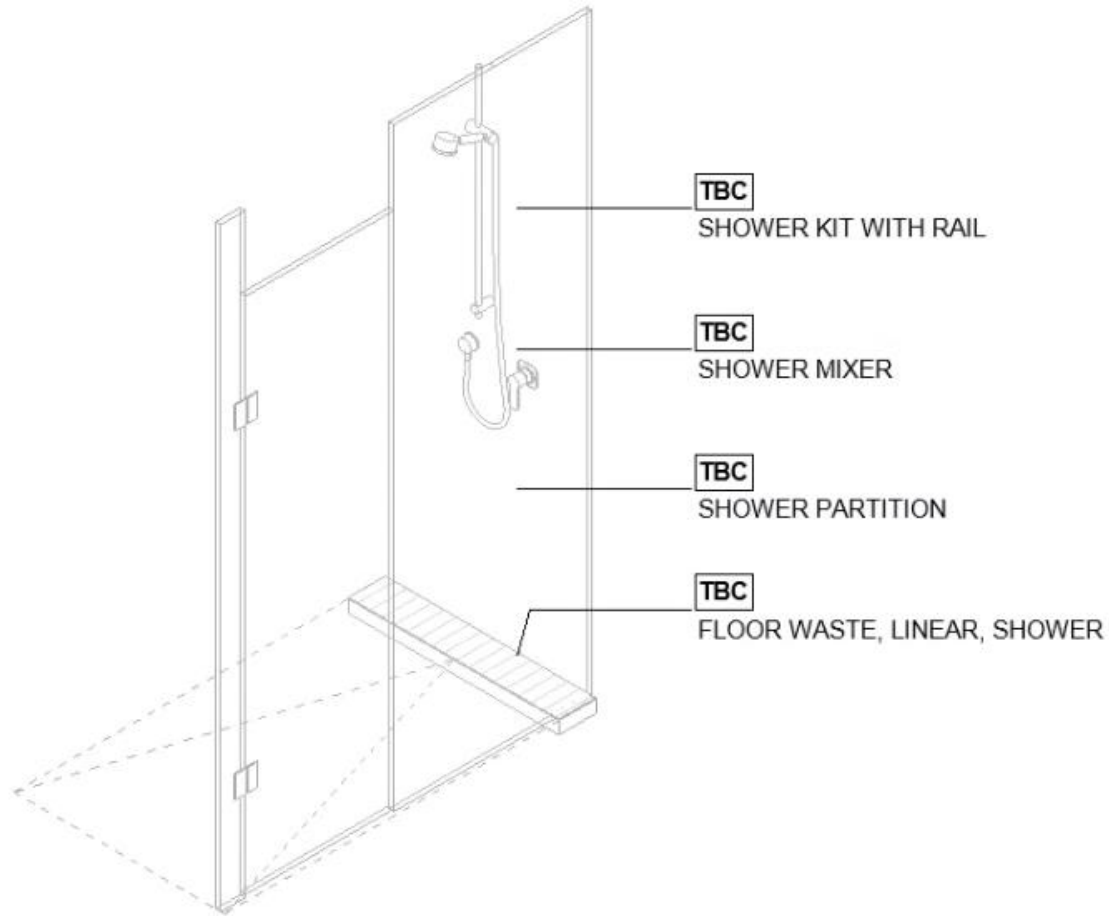
<Multi-Category Schedule>

A	B	C	D	E	F	G	H
Family and Type	CRN_Data_Code1	CRN_Data_Comme	CRN_Dim_Width1	CRN_Dim_Depth1	CRN_Dim_Height1	CRN_Mat_Material1	CRN_Mat_Material2
CRN_GEN_Assemb	NOSCHED	ASSEMBLY, SHO	850	1500			
CRN_PLM_FloorDra	TBC	FLOOR WASTE, LI	850	150	5	CRN_Metal-FloorDrain-Type1-XXX	
CRN_PLM_FloorFal	TBC	FLOOR FALLS, SQ	850	1350		CRN_Metal-Chrome-Polished-XXX	
CRN_PLM_Shower-	TBC	SHOWER KIT WIT	196	262	1000	CRN_Metal-StainlessSteel-Satin-XXX	
CRN_PLM_Shower-	TBC	SHOWER PARTITI	1500	50	2400	CRN_Glass-ClearLaminated_GLL-01	CRN_Metal-Chrome-Polished-XXX
CRN_PLM_Tap-Sho	TBC	SHOWER MIXER	75	58	75	CRN_Metal-Chrome-Polished-XXX	

Grand total: 6



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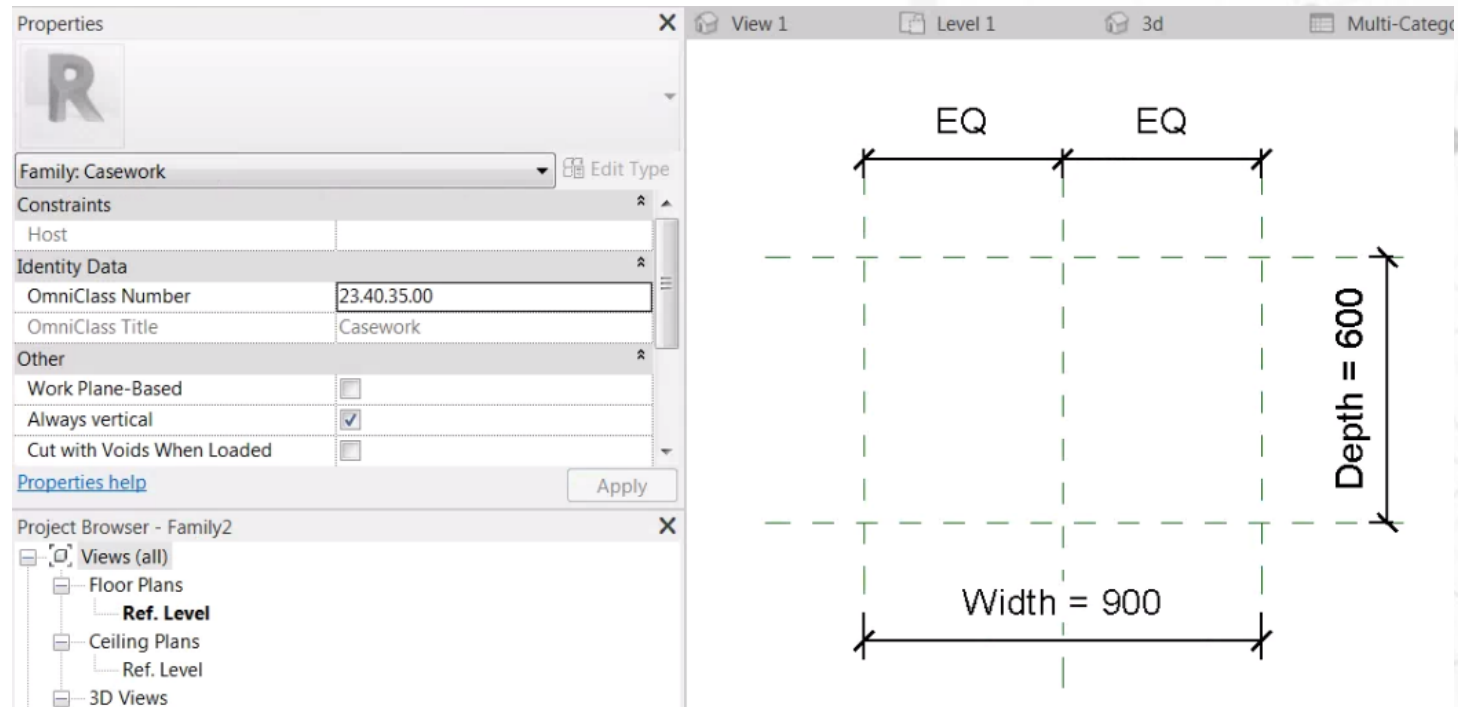
Multi-category schedules
Multi-category tagging
Company data uniformity!



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Other reasons

Category discrepancies



Other reasons

Keynoting Limitations

Edit Label

Select parameters to add to the label. Parameters will be combined into a single label.
Enter sample values to represent this label in the family environment.

☐ Wrap between parameters only

Category Parameters
Select available fields from:
Keynote Tags

Key Value
Keynote Text

Label Parameters

Parameter Name	Spaces	Prefix	Sample Value	Suffix	Break

OK Cancel Apply



Other reasons

Schedulability Limitations

Door Grille?
Sub-coding?
Undercut?
Sealing?
Acoustic rating?

Select available fields from:

Doors

Available fields:

- Assembly Code
- Assembly Description
- Assembly Name
- Comments
- Construction Type
- Cost
- Count
- Description
- Family
- Family and Type
- Finish
- Fire Rating
- Frame Material
- Frame Type
- Function
- Head Height
- Heat Transfer Coefficient (U)
- Height
- IfcGUID
- Image
- Keynote
- Level
- Manufacturer
- Mark
- Model
- OmniClass Number
- OmniClass Title
- Operation
- Phase Created
- Phase Demolished
- Rough Height
- Rough Width
- Sill Height
- Solar Heat Gain Coefficient
- Thermal Resistance (R)
- Thickness
- Type
- Type Comments
- Type IfcGUID
- Type Image
- Type Mark
- URL
- Visual Light Transmittance
- Width

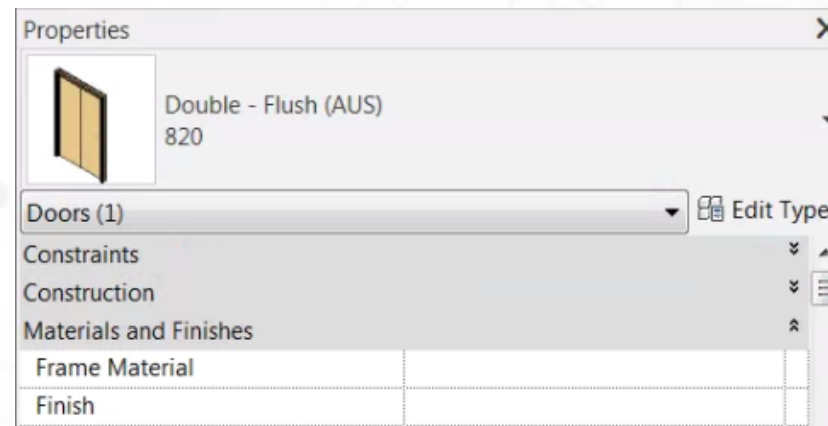
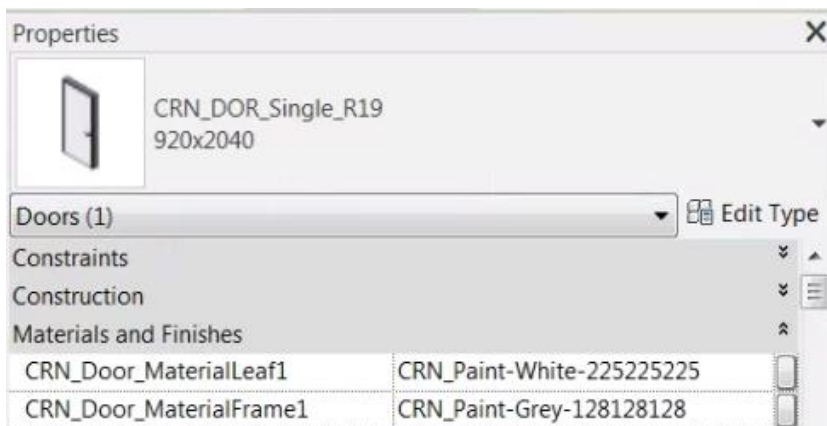
Hardware set?
Door Protection?
Leaf finishes?
Vision panels?
Leaf 1/2/3 etc.



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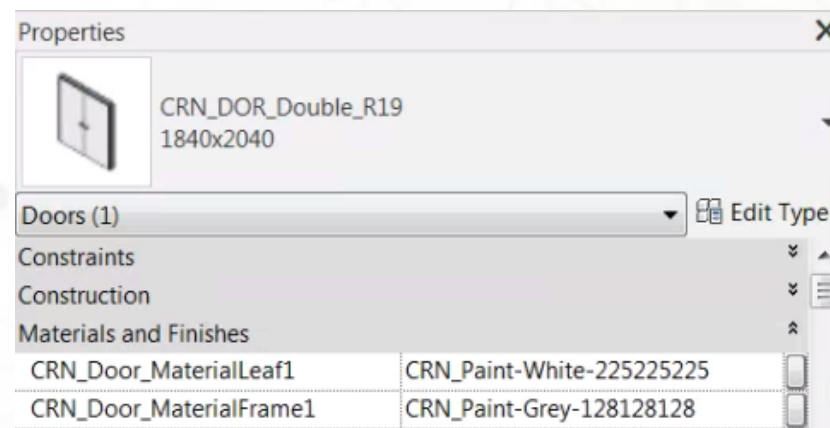
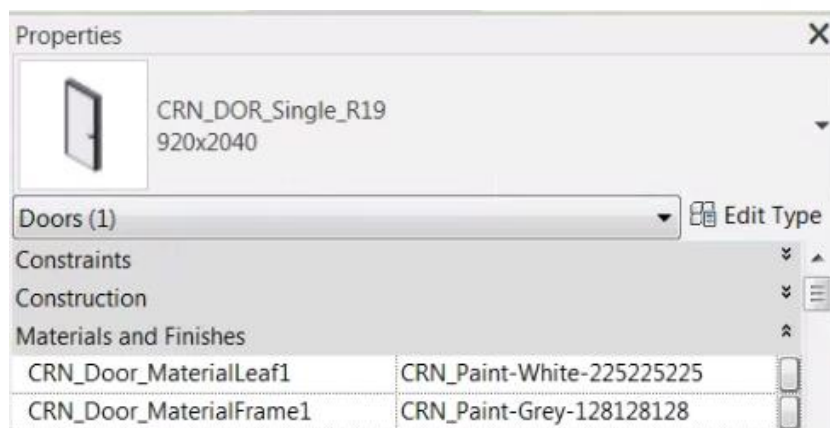
Other reasons

Information retainment



Other reasons

Information retainment



How are they Managed?

In principle;

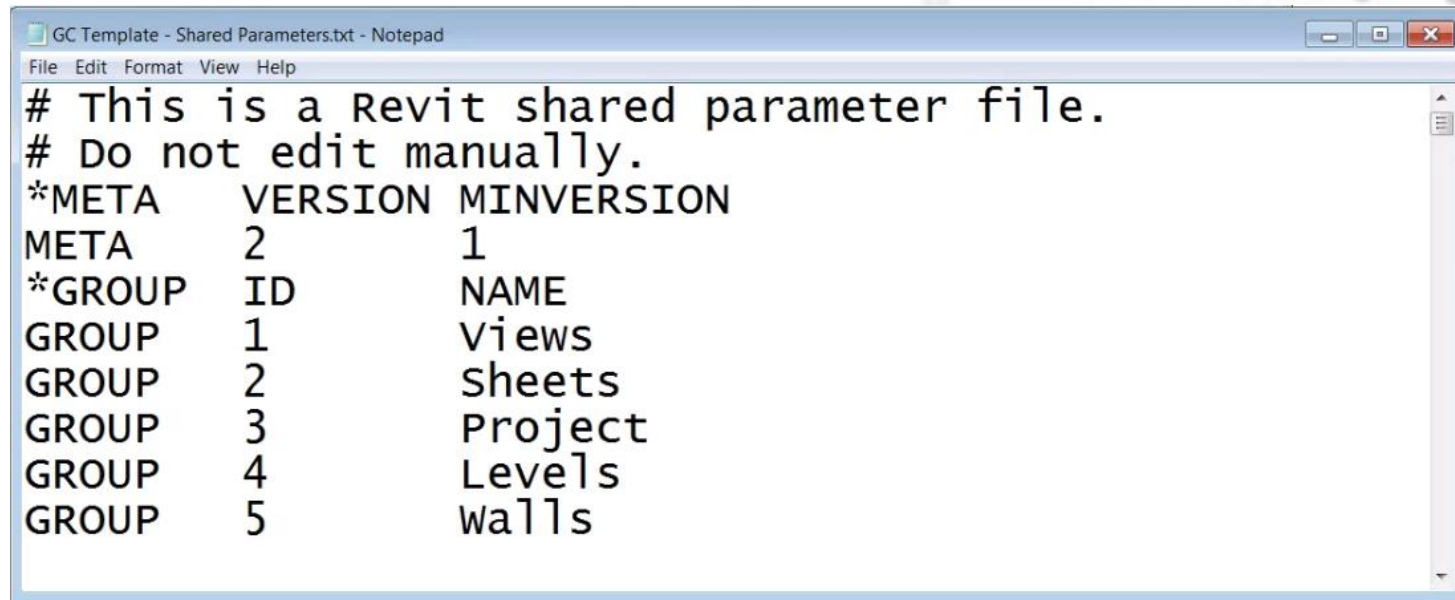
Shared Parameters Files



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How are they Managed?

SP Files are typically .txt files, but must not be edited in Notepad!

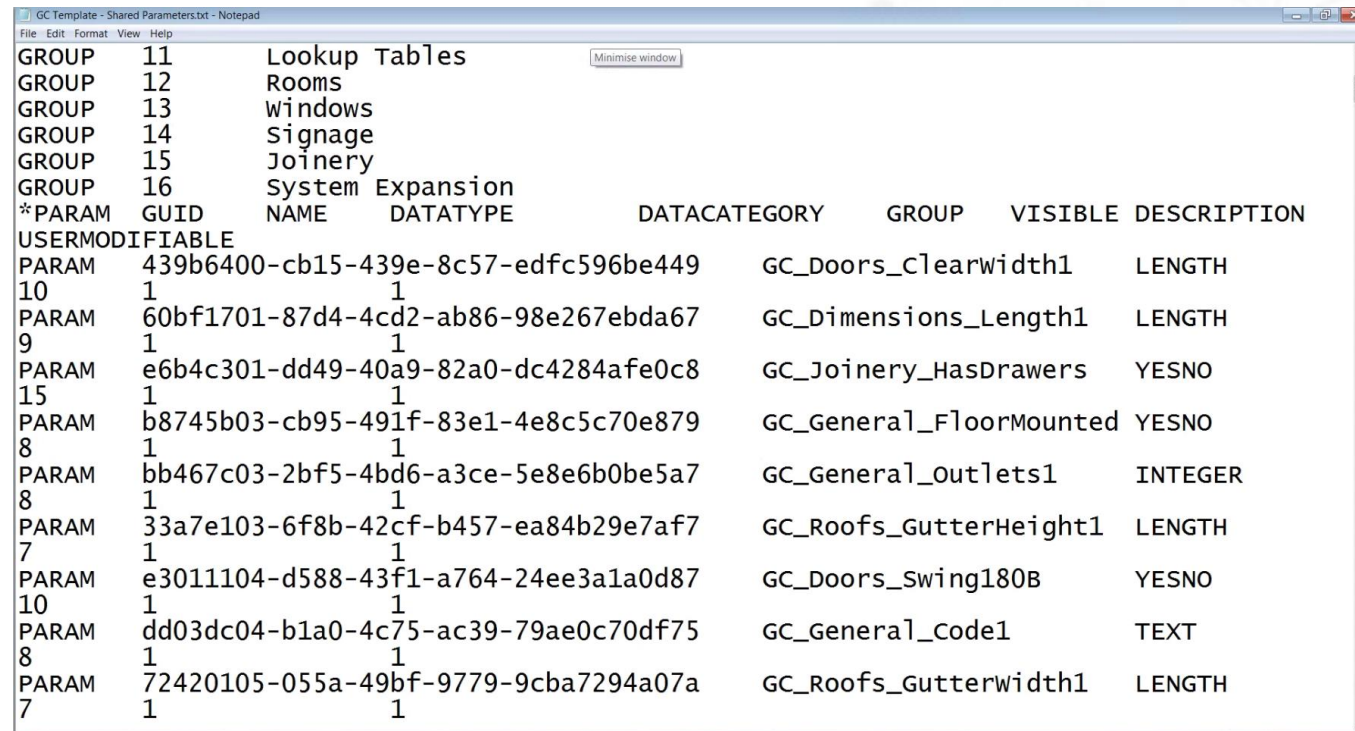


```
GC Template - Shared Parameters.txt - Notepad
File Edit Format View Help
# This is a Revit shared parameter file.
# Do not edit manually.
*META    VERSION MINVERSION
META     2        1
*GROUP   ID        NAME
GROUP    1        Views
GROUP    2        Sheets
GROUP    3        Project
GROUP    4        Levels
GROUP    5        walls
```



How are they Managed?

Summary of Parts



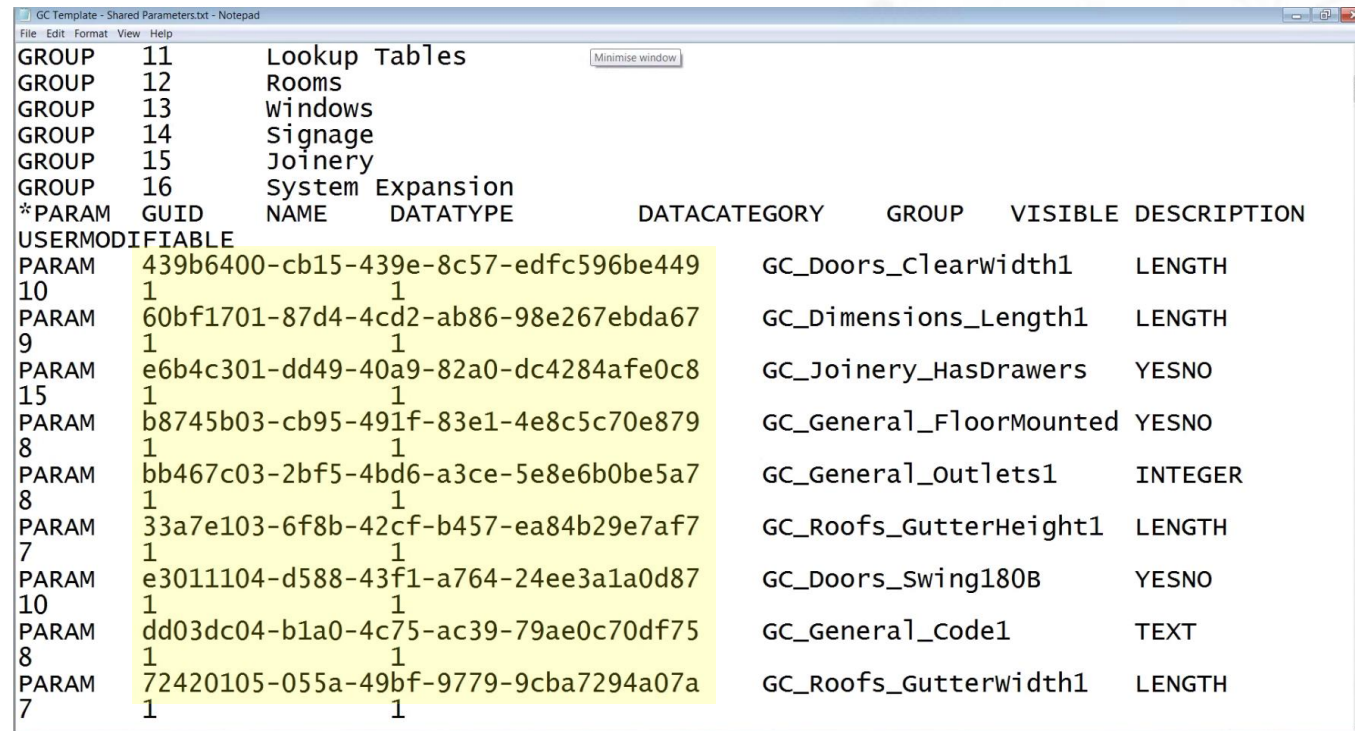
GC Template - Shared Parameters.txt - Notepad

GROUP	11	Lookup Tables					
GROUP	12	Rooms					
GROUP	13	windows					
GROUP	14	Signage					
GROUP	15	Joinery					
GROUP	16	System Expansion					
*PARAM	GUID	NAME	DATATYPE	DATACATEGORY	GROUP	VISIBLE	DESCRIPTION
USERMODIFIABLE							
PARAM	439b6400-cb15-439e-8c57-edfc596be449			GC_Doors_Clearwidth1			LENGTH
10	1	1					
PARAM	60bf1701-87d4-4cd2-ab86-98e267ebda67			GC_Dimensions_Length1			LENGTH
9	1	1					
PARAM	e6b4c301-dd49-40a9-82a0-dc4284afe0c8			GC_Joinery_HasDrawers			YESNO
15	1	1					
PARAM	b8745b03-cb95-491f-83e1-4e8c5c70e879			GC_General_FloorMounted			YESNO
8	1	1					
PARAM	bb467c03-2bf5-4bd6-a3ce-5e8e6b0be5a7			GC_General_Outlets1			INTEGER
8	1	1					
PARAM	33a7e103-6f8b-42cf-b457-ea84b29e7af7			GC_Roofs_GutterHeight1			LENGTH
7	1	1					
PARAM	e3011104-d588-43f1-a764-24ee3a1a0d87			GC_Doors_Swing180B			YESNO
10	1	1					
PARAM	dd03dc04-b1a0-4c75-ac39-79ae0c70df75			GC_General_Code1			TEXT
8	1	1					
PARAM	72420105-055a-49bf-9779-9cba7294a07a			GC_Roofs_Gutterwidth1			LENGTH
7	1	1					



How are they Managed?

The Glue – GUID



The screenshot shows a Notepad window titled "GC Template - Shared Parameters.txt". The file contains a table of parameters and their GUIDs. The table has columns for GROUP, GUID, NAME, DATATYPE, DATACATEGORY, and DESCRIPTION. The parameters are listed in a table format with some rows highlighted in yellow.

GROUP	GUID	NAME	DATATYPE	DATACATEGORY	GROUP	VISIBLE	DESCRIPTION
GROUP	11	Lookup Tables					
GROUP	12	Rooms					
GROUP	13	windows					
GROUP	14	Signage					
GROUP	15	Joinery					
GROUP	16	System Expansion					
*PARAM	GUID	NAME	DATATYPE	DATACATEGORY	GROUP	VISIBLE	DESCRIPTION
USERMODIFIABLE							
PARAM	439b6400-cb15-439e-8c57-edfc596be449			GC_Doors_Clearwidth1			LENGTH
10	1	1					
PARAM	60bf1701-87d4-4cd2-ab86-98e267ebda67			GC_Dimensions_Length1			LENGTH
9	1	1					
PARAM	e6b4c301-dd49-40a9-82a0-dc4284afe0c8			GC_Joinery_HasDrawers			YESNO
15	1	1					
PARAM	b8745b03-cb95-491f-83e1-4e8c5c70e879			GC_General_FloorMounted			YESNO
8	1	1					
PARAM	bb467c03-2bf5-4bd6-a3ce-5e8e6b0be5a7			GC_General_Outlets1			INTEGER
8	1	1					
PARAM	33a7e103-6f8b-42cf-b457-ea84b29e7af7			GC_Roofs_GutterHeight1			LENGTH
7	1	1					
PARAM	e3011104-d588-43f1-a764-24ee3a1a0d87			GC_Doors_Swing180B			YESNO
10	1	1					
PARAM	dd03dc04-b1a0-4c75-ac39-79ae0c70df75			GC_General_Code1			TEXT
8	1	1					
PARAM	72420105-055a-49bf-9779-9cba7294a07a			GC_Roofs_Gutterwidth1			LENGTH
7	1	1					



Be Mindful

Their GUID is determined by far
more than their name!



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How are they Managed?

Demonstration

Creating a SP File

Adding Shared Parameters

Grouping Shared Parameters

Pathing to the file



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Applying Shared Parameters

Demonstration

To a family

To a project

To a tag

To a schedule



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Applying Shared Parameters

Demonstration Accessing in Dynamo



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⚠ Limitations ⚠

Once a Shared Parameter is made...

Name is un-editable

Type is un-editable

Tooltip is un-editable

GUID is determined





Limitations



Parameter Properties

Name:
GC_Ceilings_Condition1

Discipline:
Common

Type of Parameter:
Text

Tooltip Description:
<No tooltip description. Edit this parameter to write a custo...

OK Cancel



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Limitations



Do not text edit the file to fix!

Plan your file carefully
You may only get one shot...
One opportunity...



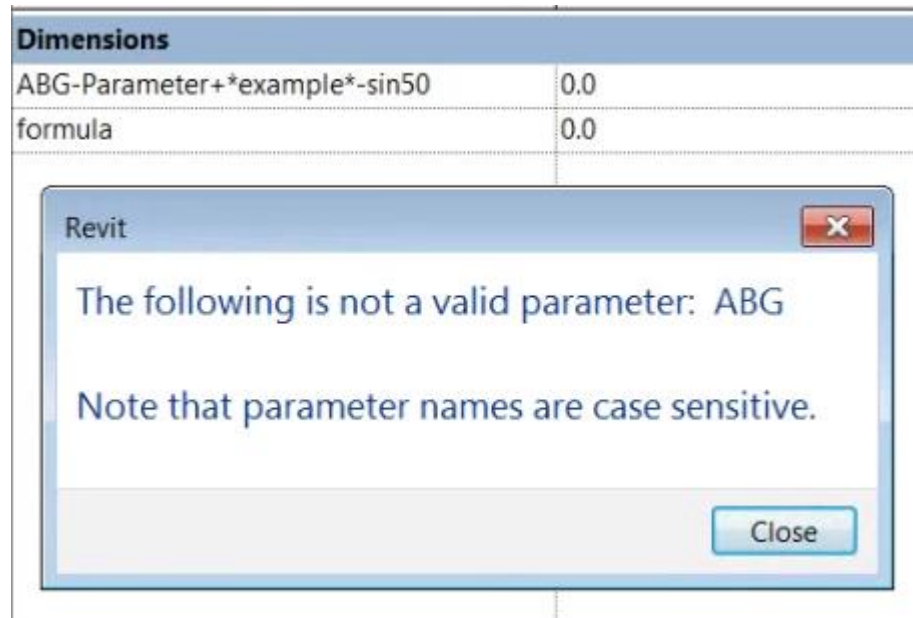
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Limitations



Be mindful of use in formulae...



Dimensions		
ABG-Parameter+*example*-sin50	0.0	=
formula	0.0	=ABG-Parameter+*example*-sin50

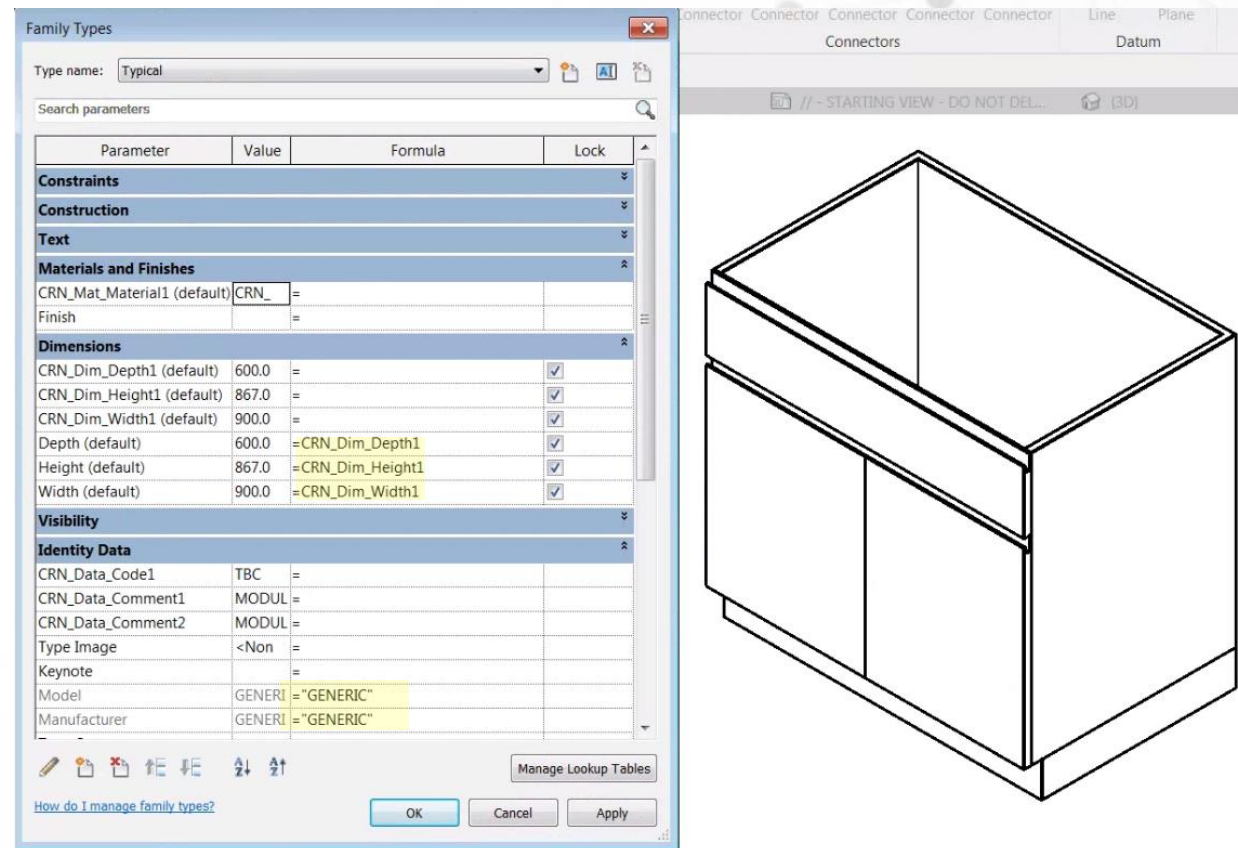
* + - / ^ () etc.

Dimensions		
ABG-Parameter+*example*-sin50	0.0	=
formula	0.0	= [ABG-Parameter+*example*-sin50]



Workaround

Working alongside Built-Ins...



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Workaround

Eek!...I've deleted a shared parameter...

Demonstration

1. Don't panic!
2. Find a family or project with it
3. Export it back to the SP file



Recommendations

SP Naming Convention

Big break = “_”

Small break = “-”

Pick a prefix – and stick to it!

ABG_CAT_This-That-This



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Recommendations

Examples

ABG_Data_FRL

ABG_Dim_Width1

ABG_Wall_Class1

Use **Numbers** on the end for future proofing (unless it doesn't need it)



Recommendations

Typical groups for parameters

Areas/Rooms

Authoring

Data (Qual)

Dimensions (Quant)

Doors

Façade

Joinery/ID

Materials

Project Info

Browser Org.

Sheets

Views

Walls

Windows



Recommendations

Cover-all categories

Areas/Rooms

Authoring

Data (Qual)

Dimensions (Quant)

Doors

Façade

Joinery/ID

Materials

Project Info

Browser Org.

Sheets

Views

Walls

Windows



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Recommendations

Workflow

SP File, read only – BIM Mngr. controls

Users copy the file to their projects

Templates/families come with SP's

New additions are discussed with BIM Mngr.



Recommendations

Preparing

Plan ahead

Communicate

Roll out

Commit



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Recommendations

Safekeeping

To all the BIM Managers out there...

Keep a backup (or two!)



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