

Content Creation

Part 3 – Parameters, Formulae and Coding



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Sessions

1. Planning it out
2. Reference planes, geometry and constraints
3. Parameter, formulae and coding
4. Graphical settings and final touches

Advanced techniques

- Parametric arrays
- Lookup tables
- Etc.



See it as this...

1. Method
2. Framework
3. System
4. Polish



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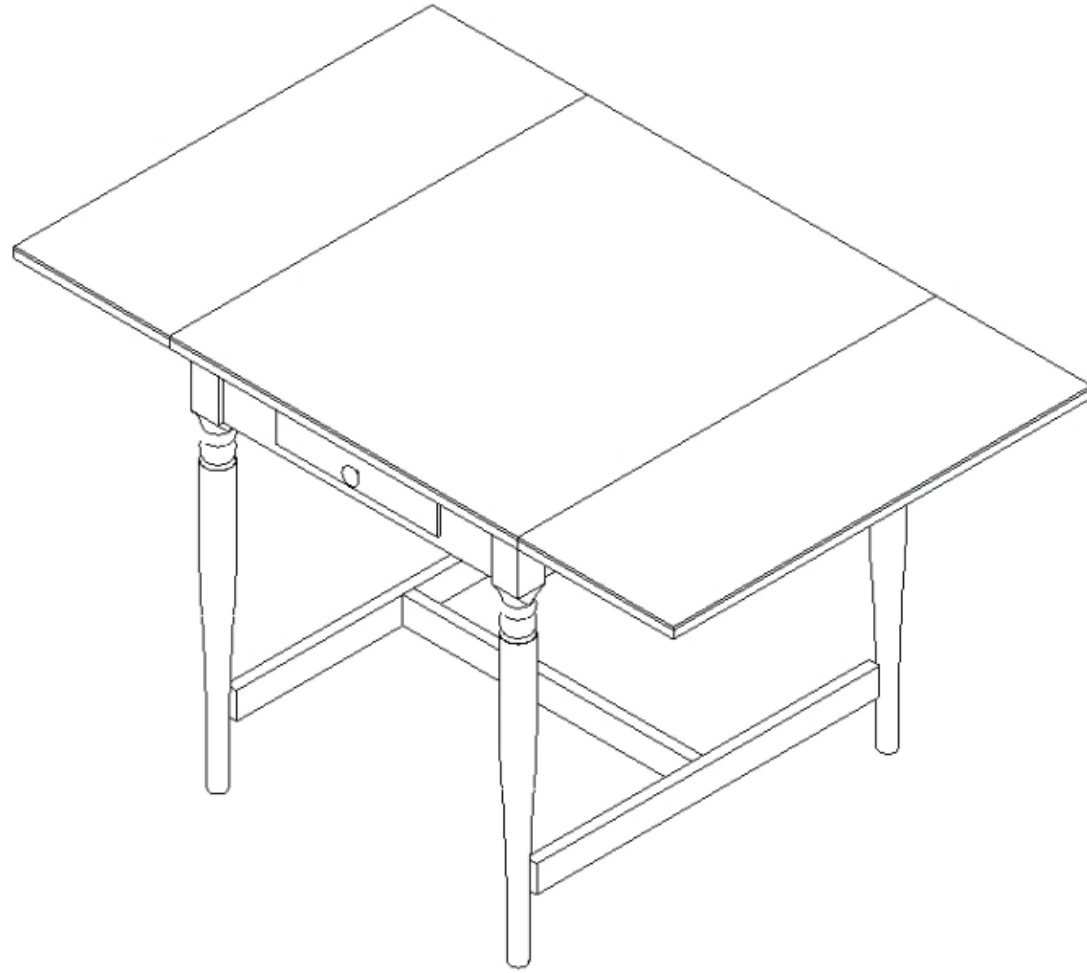


Where we're at currently

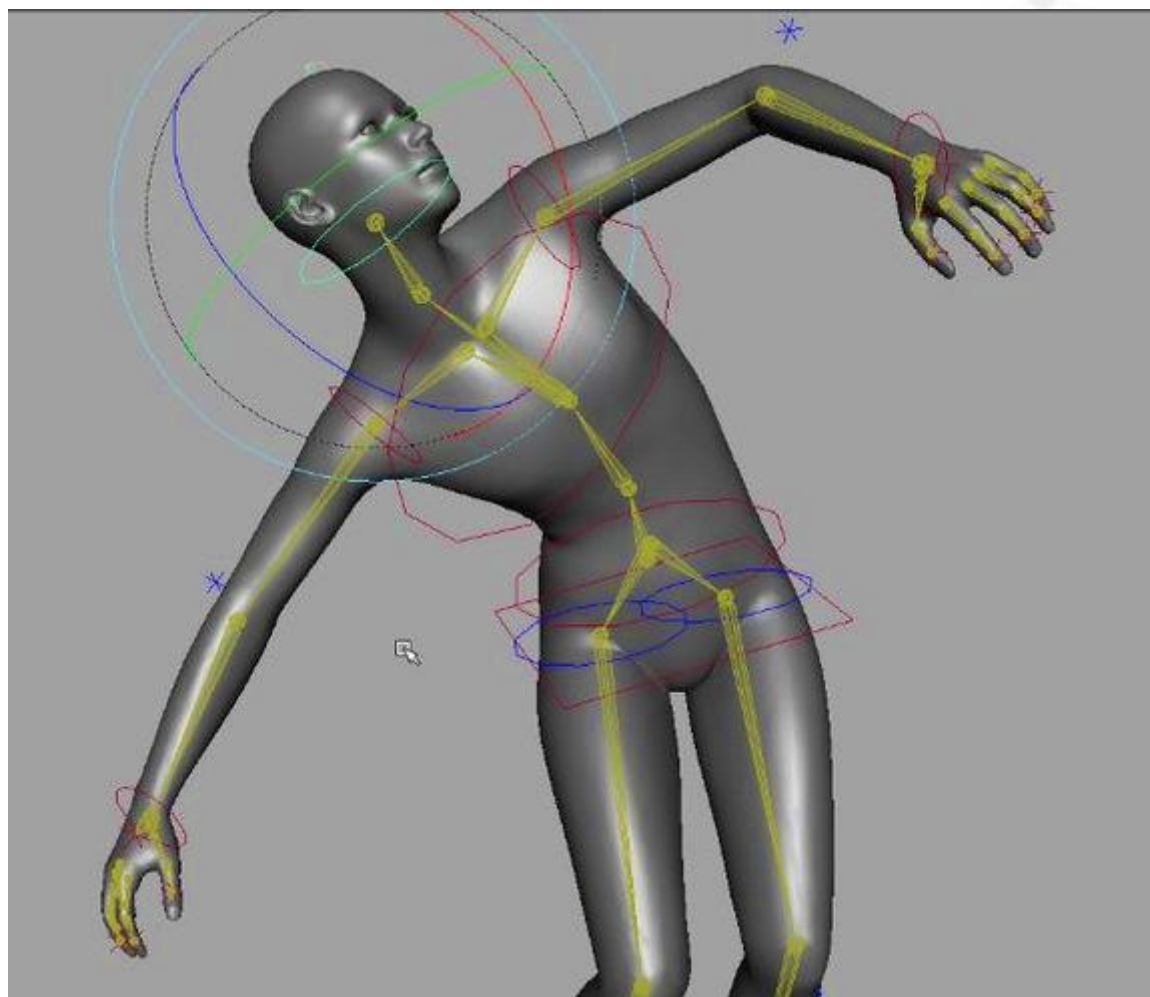
From Part 2



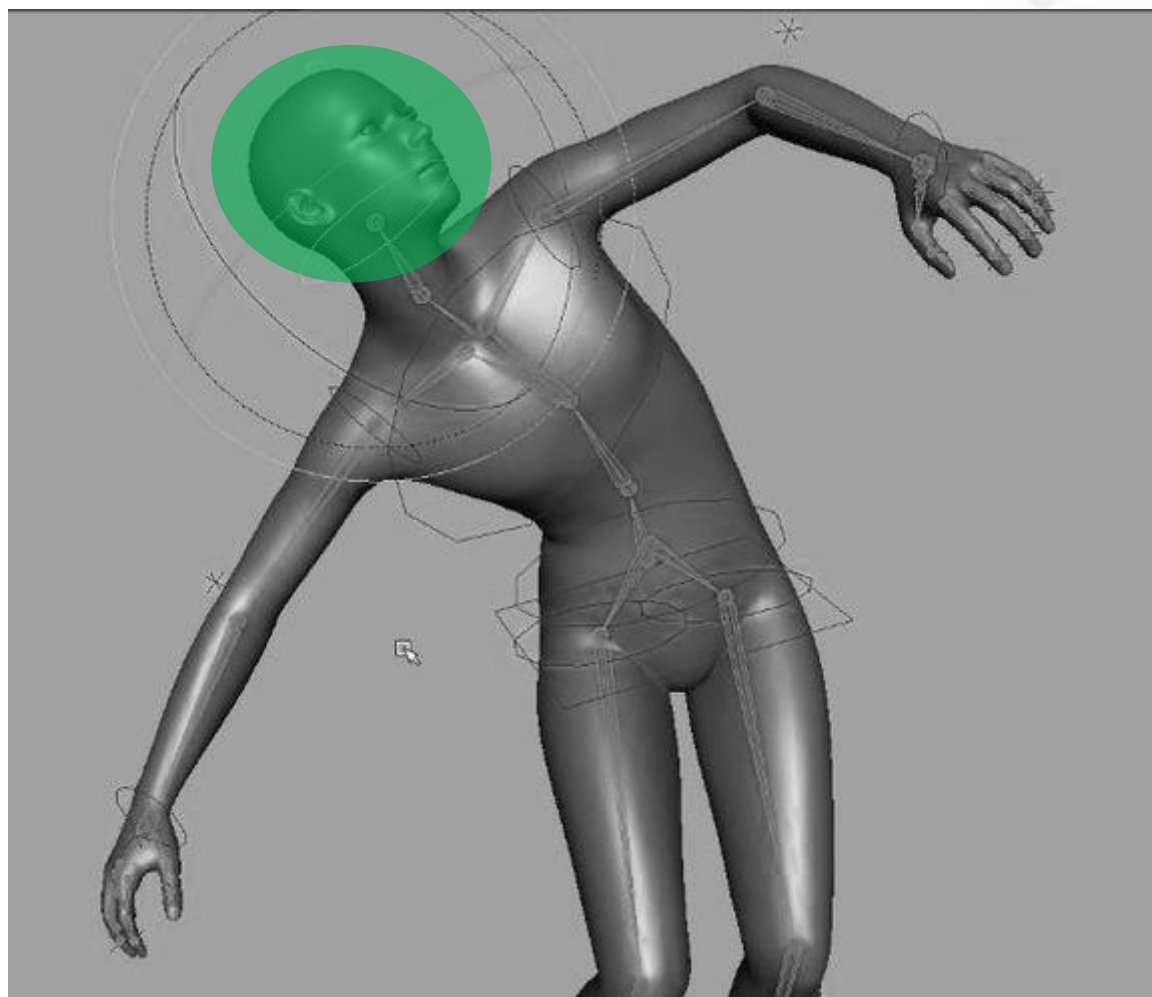
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Parameters

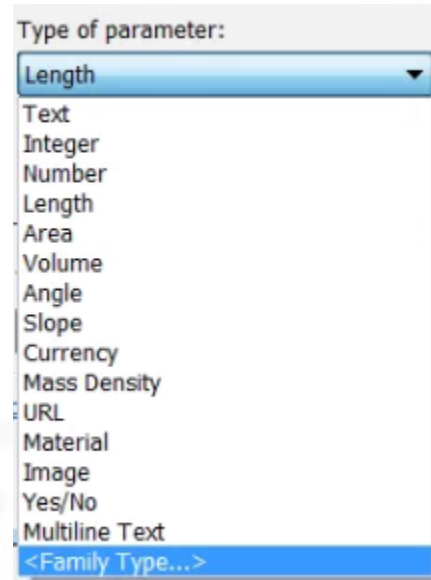
The Brains behind the operation!



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Parameters Types

It is important to use the write types of data for the right parameters.



Parameter Properties

Parameter Type

☒ Family parameter
(Cannot appear in schedules or tags)

☐ Shared parameter
(Can be shared by multiple projects and families, exported to ODBC, and appear in schedules and tags)

Select... Export...

Parameter Data

Name:

Discipline:

Type of parameter:

Group parameter under:

Tooltip description:
<No tooltip description. Edit this parameter to write a custom tooltip. Custom ...

[How do I create family parameters?](#)

OK Cancel

Critical to understand!

Type Parameters...

are set at a **family type** level.

E.g. Door leaf width/height

Instance Parameters...

are set a **family instance** level.

E.g. Door leaf finishes



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Parameter Types we will Use

Length

Width, Depth, Height

Material

Finishes

Text

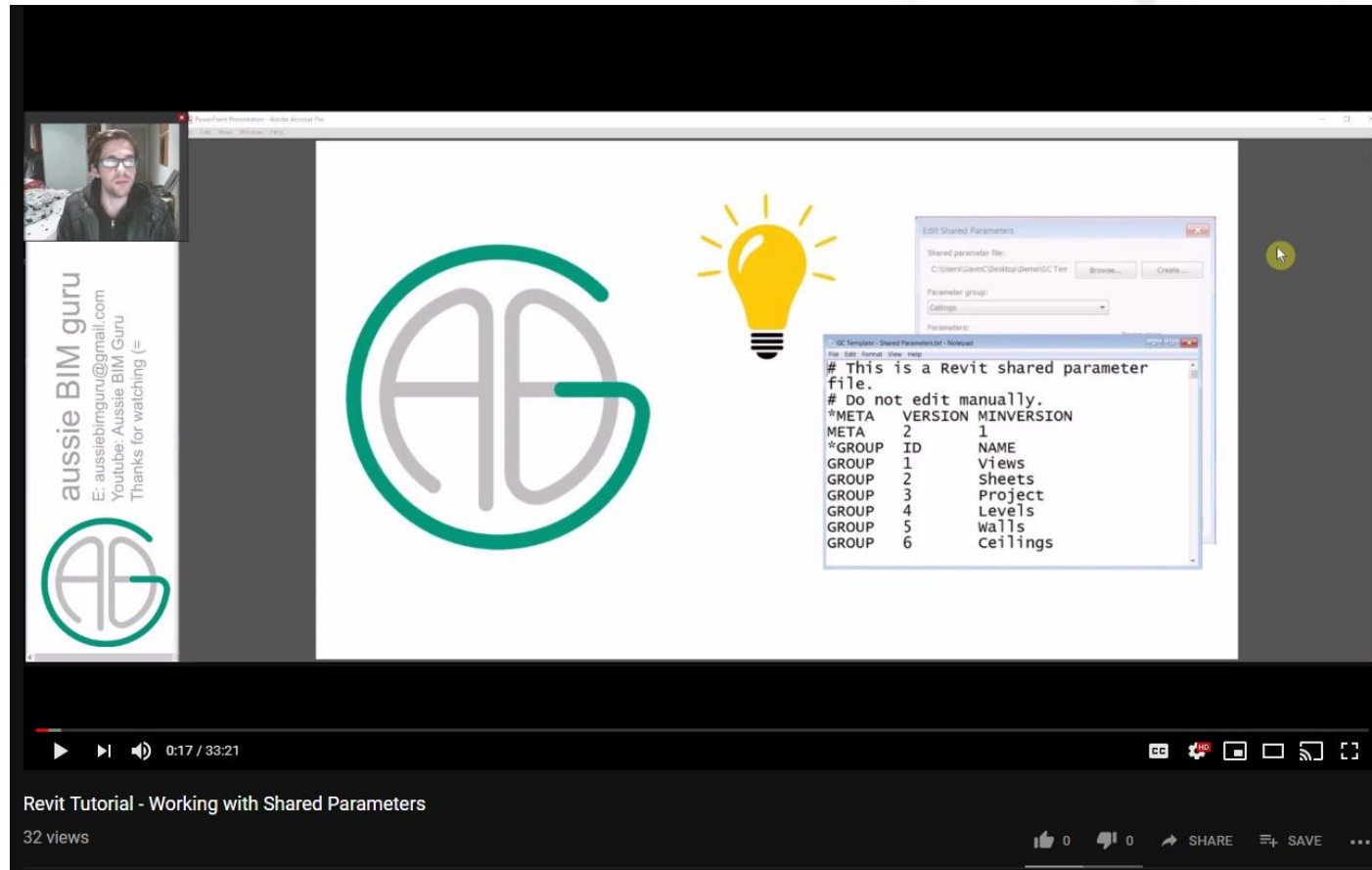
Coding

Yes/No

Table folding ability



Shared Parameters



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E: aussiebimguru@gmail.com
Youtube: Aussie BIM Guru
Thanks for watching (=)

AG

AG Template - Shared Parameters.rvt - Released

This is a Revit shared parameter file.
Do not edit manually.

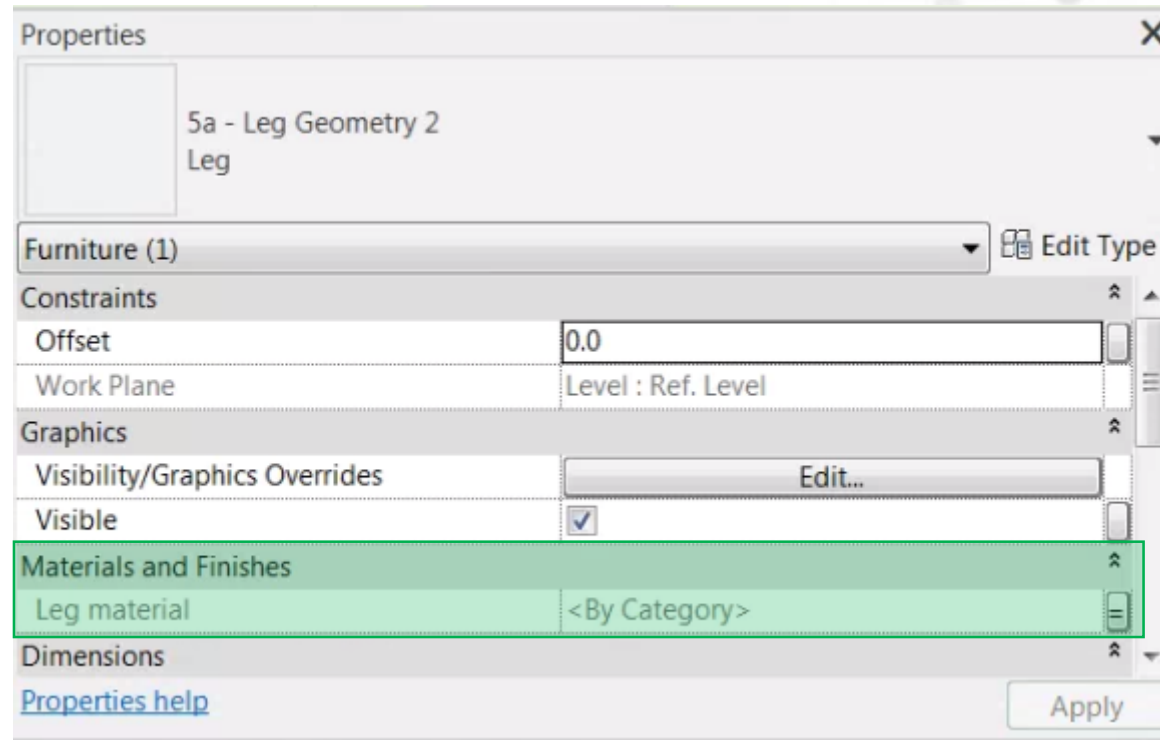
*META	VERSION	MINVERSION
META	2	1
*GROUP	ID	NAME
GROUP	1	Views
GROUP	2	Sheets
GROUP	3	Project
GROUP	4	Levels
GROUP	5	Walls
GROUP	6	Ceilings

Revit Tutorial - Working with Shared Parameters
32 views



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Nested Parameters



Useful Parameter Formulae

Adding some smarts to the parameters



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Family Types

Type name: Example

Search parameters

Parameter	Value	Formula	Lock
Constraints			
Text			
Lock text	In Apostrophe	= "In Apostrophes"	
Dimensions			
Lock values	1000.0	=1000 mm	<input type="checkbox"/>
Locked via reference	1000.0	= Lock values	<input type="checkbox"/>
Other			
Lock yes no	<input type="checkbox"/>	= 1 = 0	
Lock yes no 2	<input checked="" type="checkbox"/>	= 1 = 1	
Identity Data			

How do I manage family types?

OK Cancel Apply

Manage Lookup Tables

Family Types

Type name: Example

Search parameters

Parameter	Value	Formula	Lock
Constraints			
Text			
If example in text	Small	=if(Check this > 500 mm, "Big", "Small")	
Dimensions			
** Bad parameter name **	0.0	=	<input checked="" type="checkbox"/>
Check this	0.0	= [** Bad parameter name **]	<input checked="" type="checkbox"/>
Other			
All true	<input type="checkbox"/>	=and(Flip side control for yes no, If example in yes no)	
Any true	<input checked="" type="checkbox"/>	=or(Flip side control for yes no, If example in yes no)	
Flip side control for yes no	<input checked="" type="checkbox"/>	=not(If example in yes no)	
If example in yes no	<input type="checkbox"/>	=Check this > 500 mm	
Identity Data			

How do I manage family types?

OK Cancel Apply

Manage Lookup Tables



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Family Types

Type name: 1A - 3120, SGU

Search parameters

Parameter	Value	Formula	Lock
CRN_FAC_Dim_LowerMullionHeight	0.0	=if(or(CRN_FAC_Type_LowerMullionLeft1, CRN_FAC_Type_LowerMullionRight1), L	<input checked="" type="checkbox"/>
CRN_FAC_Dim_PanelHeight1	2641.0	=Facade system height - Frame height drop	<input checked="" type="checkbox"/>
CRN_FAC_Dim_PanelHeight2	0.0	=if(Panels above, 390 mm, 0 mm)	<input checked="" type="checkbox"/>
CRN_FAC_Dim_PanelHeight3	0.0	=if(Panels above, 273 mm, 0 mm)	<input checked="" type="checkbox"/>
CRN_FAC_Dim_PanelHeight4	1141.0	=1100 mm + Sill Setdown	<input checked="" type="checkbox"/>
CRN_FAC_Dim_PanelStileWidth1	0.0	=if(OperablePanel, CRN_FAC_Dim_FrameThicknessInternal1, 0 mm)	<input checked="" type="checkbox"/>
CRN_FAC_Dim_PanelWidth2 (default)	1400.0	=CRN_FAC_Dim_OverallWidth1 - CRN_FAC_Dim_FrameThicknessLeft1 - CRN_FAC_	<input checked="" type="checkbox"/>
CRN_FAC_Dim_ShadingDeviceDepth1	150.0	=150 mm	<input checked="" type="checkbox"/>
CRN_Dim_DrivenHeight (report)	4020.0	=	
CRN_Dim_DrivenWidth (report)	1500.0	=	
CRN_FAC_Dim_FrameDepth1	180.0	=180 mm	<input checked="" type="checkbox"/>
CRN_FAC_Dim_FrameThicknessBottom1	0.0	=0 mm	<input checked="" type="checkbox"/>
CRN_FAC_Dim_FrameThicknessInternal1	35.0	=35 mm	<input checked="" type="checkbox"/>
CRN_FAC_Dim_FrameThicknessLeft1	50.0	=50 mm	<input checked="" type="checkbox"/>
CRN_FAC_Dim_FrameThicknessRight1	50.0	=50 mm	<input checked="" type="checkbox"/>
CRN_FAC_Dim_FrameThicknessTop1	0.0	=0 mm	<input checked="" type="checkbox"/>
CRN_FAC_Dim_OverallDepth1	330.0	=CRN_FAC_Dim_ShadingDeviceDepth1 + CRN_FAC_Dim_FrameDepth1	<input checked="" type="checkbox"/>
CRN_FAC_Dim_OverallHeight1	3599.0	=Facade system height + Extra height below + Extra height above	<input checked="" type="checkbox"/>
CRN_FAC_Dim_OverallWidth1 (default)	1500.0	=CRN_Dim_DrivenWidth + CRN_Dim_Lock1	<input checked="" type="checkbox"/>
CRN_FAC_Dim_WindowHeadHeight1	2600.0	=Facade system height - Sill height - Sill Setdown	<input checked="" type="checkbox"/>
CRN_FAC_Dim_WindowSillHeight	-41.0	=Sill Setdown * -1	<input checked="" type="checkbox"/>
CRN_FAC_Dim_TransomHeight1	1141.0	=if(Higher transom 1, 1426 mm, 1141 mm)	<input checked="" type="checkbox"/>
CRN_FAC_Dim_TransomHeight2	2241.0	=Facade system height - 879 mm	<input checked="" type="checkbox"/>
Facade system height	3120.0	=	<input checked="" type="checkbox"/>

How do I manage family types?

Manage Lookup Tables

OK Cancel Apply



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Coding Systems

Classifying the Family

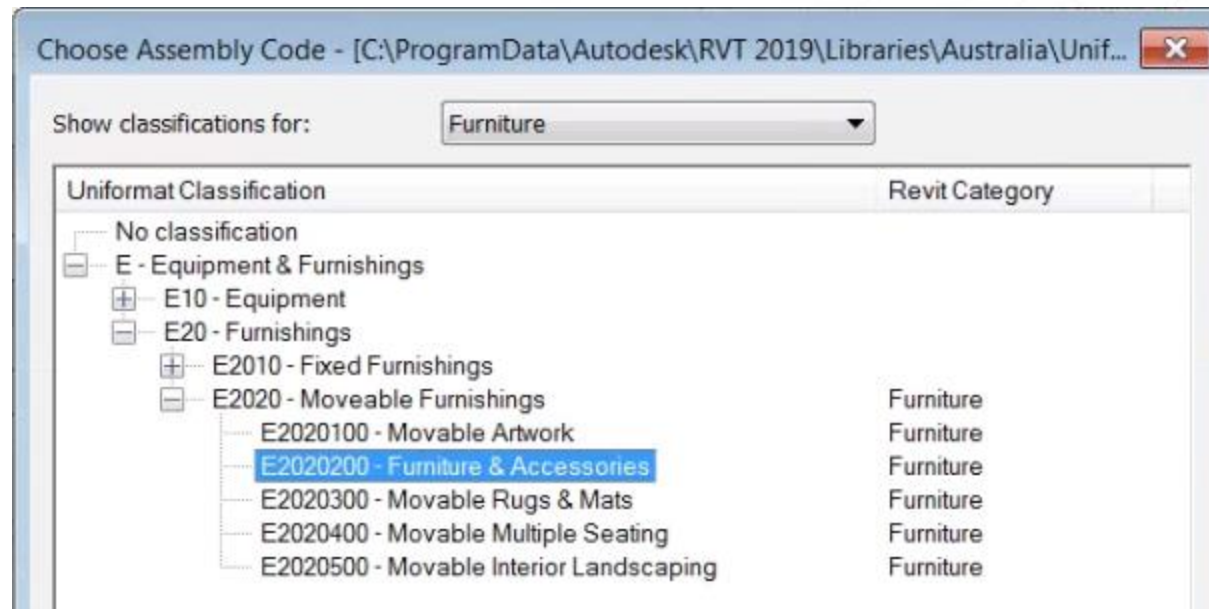


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Assembly Codes - Unifomat

Location of file;

...\ProgramData\Autodesk\RVT 20XX\Libraries\Australia\UnifomatClassifications.txt

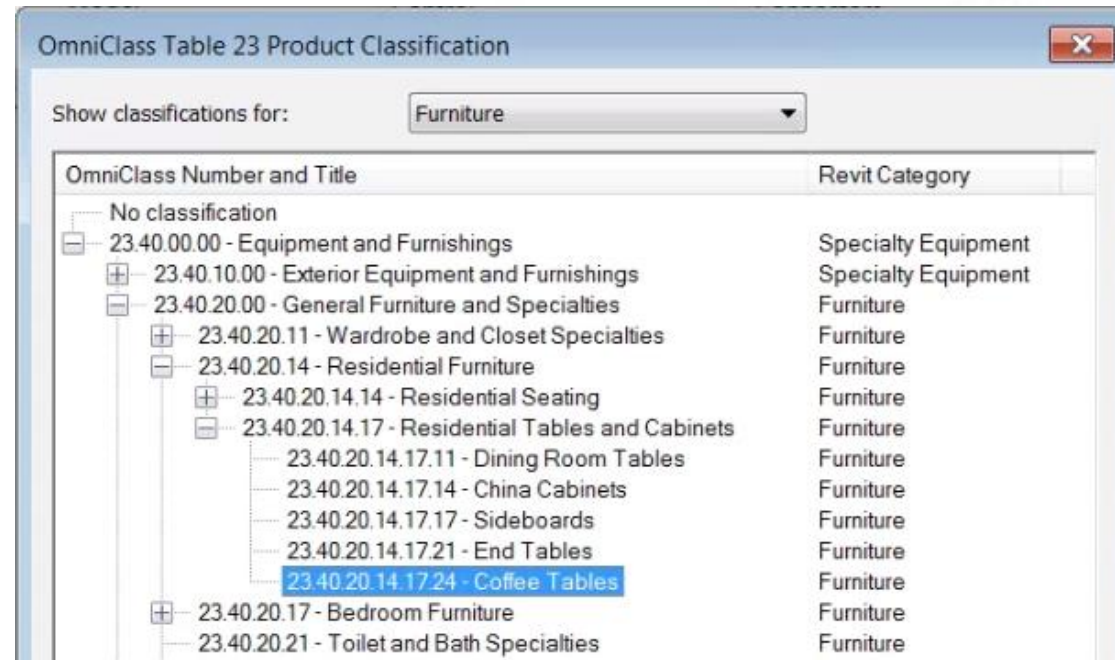


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Omniclass Number – Table 23

File is loaded by default to all families

www.omniclass.org/



OmniClass Number and Title	Revit Category
No classification	
23.40.00.00 - Equipment and Furnishings	Specialty Equipment
23.40.10.00 - Exterior Equipment and Furnishings	Specialty Equipment
23.40.20.00 - General Furniture and Specialties	Furniture
23.40.20.11 - Wardrobe and Closet Specialties	Furniture
23.40.20.14 - Residential Furniture	Furniture
23.40.20.14.14 - Residential Seating	Furniture
23.40.20.14.17 - Residential Tables and Cabinets	Furniture
23.40.20.14.17.11 - Dining Room Tables	Furniture
23.40.20.14.17.14 - China Cabinets	Furniture
23.40.20.14.17.17 - Sideboards	Furniture
23.40.20.14.17.21 - End Tables	Furniture
23.40.20.14.17.24 - Coffee Tables	Furniture
23.40.20.17 - Bedroom Furniture	Furniture
23.40.20.21 - Toilet and Bath Specialties	Furniture



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A faint, light gray background graphic consisting of a network of interconnected dots and lines, resembling a molecular structure or a data network, extending across the right side of the slide.

Without further ado...

Let's set up some parameters!



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