tekvue walls user guide for revit families

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teknion Table of Contents

Revit Content	2
Connections, Starts & Transitions	3
Wall Starts/Door Starts	5
Connectors	6
Transitions	8
Walls	14
What are Wall Runs?	15
Wall Panel Spacing	16
Doors	17
Parameters	17
Family Types	18
Restrictions	18
Layout & Planning	19
Selecting & Importing	19
Best Practices for Planning	20
Inserting Door Families into TekVue Walls	21
Specialty Equipment Rule Exceptions.	23
Architectural Complements Components	24
Schedules	25

Revit Content

The complete package of Revit Families provide:

- Wall System families
- Curtain Wall Panels
- Doors
- Basic Schedules
- Material Library

NOTE: To create your Teknion layout in Revit, please refer to the TekVue Application Guide. It highlights information to help you plan your project correctly.

The Application Guide can be downloaded from:

https://d2r72yk5wmppdj.cloudfront.net/m/269a8c4304bbeeca/original/ Tek-Vue-Full-Application-Guide.pdf

Connections, Starts & Transitions

Teknion offers TekVue wall connections and transitions as stand-alone Speciality Equipment families in Revit.

There are 3 types of Speciality Equipment families in the TekVue catalog:

- Wall/Door Starts
- Transitions
- Connections

For Specialty Equipment families, we suggest placing them first, following the design of the layout and then draw the walls aligning them to their corresponding connection. These components have detail lines that will help you to align the wall correctly.

Parameters

Properties			×
s v	tart-Teknion-Tekvue-FV Vall Start	SWS-Wall_R2015	
Specialty Equi	pment (1)	~	Edit Type
Constraints			*
Level		Level 1	
Host		Level : Level 1	
Offset		0' 0"	
Moves With N	Vearby Elements		
Materials and f	Finishes		*
Frame Finish		Metal - Teknion - AC - Clear A	nodized
Electrical - Loa	ds		\$
Panel			
Circuit Numb	er		
Dimensions			*
Height		10' 0"	
Identity Data			\$
Image			
Comments			
Mark			
Phasing			\$
Phase Created	1	New Construction	
Phase Demoli	ished	None	
Visibility			*
2D Connector	r Nodes		

<u>Height Parameter</u> - All of the Speciality Equipment families come with a Height parameter, by default the Height is set to be 120". Users should adjust the height of the connections to align with their ceiling height levels using the built-in Height parameter field (keep in mind the maximum and minimum heights for the wall systems).

<u>Material Finish Parameter</u> - These parameters control the finishes of for each family. Click in the finish field to apply another material if desired.

<u>2D Connector Nodes Visibility Parameters</u> - Each speciality equipment family has detail lines indicating how it will connect with the walls. Use these Nodes to draw in your walls, and then you can turn them off by unchecking the parameter once you are done.

2D Level of Detail

The 3D geometry of these families have been simplified to help with project performance, however the families still have levels of detail in plan view that are controlled by Coarse, Medium, and Fine.





Coarse

Medium



Fine

Wall Starts/Door Starts

Wall Starts should be used when starting a wall run against drywall. Similarly, Door starts can be used to connect a Pivot Door or Barn Door against drywall.

There are two types of Wall and Door Starts; Perpendicular Wall/Door Starts and Articulating Wall/Door Starts.





Perpendicular Wall/Door Start

Articulating Wall/Door Start

The Articulating Wall & Door Start families have an **Angle parameter**. Use this parameter to set the angle desired, ensure the angle entered meets restrictions outlined by the **Text parameter** located directly above the Angle parameter in the **Properties browser**.

Start-Teknion-Tekvue-FVS Articulating Door Start	SDA-Articulating_Door-R2015		
Specialty Equipment (1)	V 🖯 Edit Type		
Constraints	*		
Level	Level 1		
Host	Level : Level 1		
Offset	0' 0"		
Moves With Nearby Elements			
Materials and Finishes	\$		
Frame Finish	Metal - Teknion - AC - Clear Anodized		
Electrical - Loads	\$		
Panel			
Circuit Number			
Dimensions	\$		
Available Angles	0 to 20 Degrees in 1 Degree increments		
Articulating Angle	0.000°		
Height	10' 0"		
Identity Data	\$		
Image			

Connectors

There are two types of connector families available in the TekVue catalog.

- Clear Plastic Connectors
- Tape Glass Connectors

These Connector families include glass panels along with the connection frames to help complete more intricate product conditions in Revit. These connector families are used to represent the intersection of two, three, or four wall panels.

Clear Plastic Connectors







Inline

90 Degree

Variable Angle



3-Way

These are the four subtypes of Clear Plastic Connectors.

The Inline Connector is nested within the **10mm with Clear Plastic Connectors** and the **12 mm with Clear Plastic Connectors** Wall Types.

The 90 Degree Corner, 3-Way, and Variable Angle Connectors were created as individual Revit families. These families share a configurable Height Parameter. The Variable Angle connector has an Angle parameter. Each Family also has two types to choose from depending on the glass thickness required, 10mm or 12mm.

Tape Glass Connectors

These are the four subtypes of Tape Glass Connectors.







Inline

90 Degree

3-Way



4-Way

Similar to the Clear Plastic Inline Connector, the Tape Glass Connector is nested within the **10mm with Tape Glass Connectors** and the **12 mm with Tape Glass Connectors** Wall Types.

The 90 Degree Corner, 3-Way, and 4-Way Connectors were created as individual Revit families. These families share a configurable Height Parameter. Each Family also has two Types to choose from depending on the glass thickness required, 10mm or 12mm.

Transitions

These are six types of transition families available in the TekVue catalog.

- Glass Corner Transitions
- Drywall fly-by transition
- Altos Transition
- Focus Transition
- Articulating Wall/Door Transition
- Electrical Side Post

Transitions are Vertical posts that are located at the end or start of a TekVue Wall Run. These vertical posts help create a connection between a wall, such as an interior CMU wall in your project, and a Tekvue wall. It is important to note that a Wall Run ends at a vertical transition.

Glass Corner Transitions

A corner transition for glass fascias and doors. Below are the 4 subtypes of glass corner transitions:



Inline

90 Degree

3-Way



4-Way

Drywall Fly-by Transitions

An adjustable transition for a glass storefront directly against a demising drywall. Below are the 2 subtypes for the Drywall Fly-by Transition:



The Drywall Fly-by Transitions have the **Low-Profile Receptacle** nested within the family. To specify the Low Profile Receptacle select the checkbox parameter.

Properties		
Transition-Drywall_Flyby- 90 Degree	Teknion-TekVue-FVTDF_90_Degree-R2015	
Specialty Equipment (1)	~ 83	Edit Type
Constraints		1
Level	Level 1	
Host	Level : Level 1	
Offset	0' 0"	
Moves With Nearby Elements		
Materials and Finishes		1
Finish	Metal - Teknion - AC - Clear Anodized	
Electrical		1
Has Low Profile Receptacle		
Electrical - Loads		,
Panel		
Circuit Number		
Dimensions		\$
Height	10' 1"	
Identity Data		1
Image		
Comments		
Mark		
Phasing		1
Phase Created	New Construction	
Phase Demolished	None	
Visibility		1
2D Connector Nodes		mananaa
Other		\$
Cut Hole Depth	0' 0 77/256"	

Altos Transitions

An adjustable transition to be used to create a transition for a glass storefront to a Teknion Altos wall. Below are the 3 subtypes for Altos Transitions:



The 90 Degree and 3-Way Altos Transitions have the Low-Profile receptacle nested within the family and can be turned on/off via a parameter.

Focus Transitions

An adjustable transition for a glass storefront to a Teknion Focus wall. Below are the 3 subtypes for Altos Transitions:



The 90 Degree and 3-Way Focus Transitions also have the Low-Profile receptacle nested within the family and can be turned on/off via a parameter.

Articulating Wall & Door Transitions

The Articulating Wall Transition is for a storefront, and the Articulating Door Transition should be used for pivot and barn doors.

Below are the Articulating Wall & Door Transitions:



Wall

Door

The Wall Transition can be applied to both sides of a glass storefront if necessary, and can also be applied to all sides of a glass corner transition (FVTGC) if required.

The Door Transition can also be applied to both sides of the storefront if required.

Both the Wall & Door Transitions have an Angle parameter that can be configured to create angled walls.

Electrical Side Post

The Electrical Side Post must only be used inline with a pivot or barn door.



This post has both the Low Profile Receptacle and the Low Profile Light Switch nested within it. It is important to note that both the Light Switch and Receptacle can not be specified together, a choice must be made between the two options.

This Family has 2 Types; 1 Type turns on the Low Profile Switch, and the second type turns on the Low Profile Receptacle Switch.Use the **Type Selector** to browse through these types.







Light Switch

Receptacle

Walls

Teknion walls are created under the curtain wall Revit category. Each curtain wall panel within a wall can be individually selected and reconfigured as needed using the instance parameters built into them.

For further information about Revit Curtain Wall Systems, please refer to Autodesk's Knowledge Network:

https://knowledge.autodesk.com/support/revit-products/learn-explore/ caas/CloudHelp/cloudhelp/2018/ENU/Revit-Model/files/GUID-BBC 16AF1-88C1-4B2E-A23A-917C3F427E97-htm.html

Teknion's Revit template has 4 TekVue wall-types. The difference between the 4 types is the thickness of the panels and the type of In-line connectors used. Each type will consist of both the top and bottom frames along with the main glass fascias.

Curtain Wall

Architectural_Wall-Teknion-Tekvue-10mm with Clear Plastic Connectors Architectural_Wall-Teknion-Tekvue-10mm with Tape Glass Connectors Architectural_Wall-Teknion-Tekvue-12mm with Clear Plastic Connectors Architectural_Wall-Teknion-Tekvue-12mm with Tape Glass Connectors

Additionally there are 2 TekVue wall-types that utilize Teknion Architectural Complements inline mullions. These mullions can replace the tekvue mullions by default in a wall run or can be added into a specific wall using specialty equipment. See section on Architectural Complements for instructions on how to add them to a wall run.



What are Wall Runs?

Utilizing the one of the four wall types, layouts are created by creating wall runs. As depicted below in the diagram, a wall run continues through any door module and will end at a vertical transition or start.



When you draw in your walls, ensure the length of the wall runs adhere to these restrictions:

- The 10mm TekVue Wall Types have a maximum run restriction of 24' and a minimum run restriction of 1'.
- The 12mm TekVue Wall Types have a maximum run restriction of 36' and a minimum run restriction of 1'.

	18' 0''	
	H L	
	12	Ĩ
12mm Single Monolithic Glass with Tape Glass Connections		

The glass thickness must also be the same in adjacent wall runs that share a common vertical transition/connection. Walls in the same wall run must share the same height. Adjacent Wall Runs may be different wall runs if separated by a vertical transition.

The height of all TekVue walls have been set to 120" by default. The maximum height for TekVue walls is 120" and the minimum height is 85".

Wall Panel Spacing

The TekVue wall types all have by default the max spacing restrictions where the inline connectors will be placed. Due to this restriction, each wall run created may vary in glass panel width as Revit will auto generate an optimal divisible panel count that follows the max spacing restrictions according to the length of the wall drawn.

If a <u>consistent</u> panel spacing for <u>ALL</u> the wall runs is desired, it is possible to set one. See below on how to set a consistent panel spacing:

NOTE: The following steps will modify the wall type to support consistent panel spacing, but all walls in the project using the wall type will be converted as well. It is **not** possible to have fixed and max spacing for the same wall type in a single project.

For best results make the following changes before placing any walls of the intended wall types

- 1) Double click the intended wall type in the **project browser** to edit its type properties
- 2) Underneath **vertical grid** section, set the **Layout** parameter to "**fixed distance**"
- 3) Within the same section, set the **Spacing** parameter to desired distance, and then hit **apply**.

Walls drawn with the modified type will now have fixed spacing. With this change in place the User is responsible for maintaining proper panel spacing.

Keep mind the following curtain panel restrictions:

- For 10mm Wall type, Minimum panel width=12", maximum=36".
- For the 12mm Wall Type, Minimum panel width=12", maximum=48".

pe Proper	ties			
<u>=</u> amily:	ly: System Family: Curtain Wall \sim		Load	
ype: Architectural_Wall		Nall-Teknion-Tekvue-10m 🗸	Duplicate	
			<u>R</u> ename	
lype Parar	neters			
	Parameter	Value		
Construc	tion		*	
Function	14. A	Exterior	~	
Automat	ically Embed			
Curtain P	anel	System Panel : Glass-Teknion-Tekvu		
Join Condition		Border and Vertical Grid Co	ntinuous	
Material	s and Finishes		\$	
Structura	l Material			
Vertical	Grid		\$	1
Layout Maximum Spacing				
Spacing		914.400 mm		
Adjust fo	r Mullion Size			

Doors

Teknion's TekVue Doors are all created using the Door family category. These doors are not standalone placeable families. To utilize them they will be directly replacing panels within a Wall run.

The seven door families offered for the TekVue Catalog are:

- Solid Single Leaf Pivot Door
- Framed Glass Single Leaf Pivot Door
- Framed Glass Double Leaf Pivot Door
- Frameless Glass Single Leaf Pivot Door
- Frameless Glass Single Leaf Barn Door
- Framed Glass Single Leaf Barn Door
- Framed Glass Double Leaf Barn Door

Doors

- Door-Teknion-TekVue-FVDBDF_Framed_Barn_Leaf_Double-R2018
- Door-Teknion-TekVue-FVDBNS_Frameless_Barn_Leaf-R2018
- Door-Teknion-TekVue-FVDBSF_Framed_Barn_Leaf-R2018
- Door-Teknion-TekVue-FVDPDF_Framed_Pivot_Leaf_Double-R2016
- Door-Teknion-TekVue-FVDPSF_Framed_Pivot_Leaf-R2015
- ➡ Door-Teknion-TekVue-FVDPSN_Frameless_Pivot_Leaf-R2015
- Door-Teknion-TekVue-FVDPSS_Solid_Pivot_Leaf-R2015

Each of these families have nested within them:

- Universal Door Frame
- Door Body
- Egress Hardware

The three single pivot doors share the same universal frame, along with the same hardware options. The Barn doors have their own universal frame and has similar hardware options.

Parameters

<u>Material Finish Parameter</u> - These parameters control the finishes of for each family. Click in the finish field to apply another material if desired.



Doors (1)	V 🖯 Edit Type
Construction	*
Frame Type	
Materials and Finishes	*
Frame Finish	Metal - Teknion - AC - Clear A
Glass Finish	Glass - Teknion - A5 - Standar
Pull Finish	Metal - Teknion - SY - Stainles
Cover Finish	Metal - Teknion - SY - Stainles
Hardware Finish	Metal - Teknion - AC - Clear A
Frame Material	
Finish	
Dimensions	*
Width	1138.700 mm
Width	1138.700 mm

Family Types

In order to control the egress hardware used for a door, each family has types corresponding to the appropriate hardware desired. No adjustments are needed after selecting a desired family type.

E.g The solid single leaf pivot door has the following family types

- Solid Pivot Leaf, Ladder Pull Non-Locking
- Solid Pivot Leaf, Linear Pull 13" Square
- Solid Pivot Leaf, Linear Pull 24" Square
- Solid Pivot Leaf, Schlage AL Series Locking
- Solid Pivot Leaf, Schlage AL Series Non-Locking

Doors

- Door-Teknion-TekVue-FVDBSN_Frameless_Barn_Leaf-R2015
- Door-Teknion-TekVue-FVDPSF_Framed_Pivot_Leaf-R2015
- Door-Teknion-TekVue-FVDPSN_Frameless_Pivot_Leaf-R2015
- Door-Teknion-TekVue-FVDPSS_Solid_Pivot_Leaf-R2015
 - Solid Pivot Leaf, Ladder Pull Non-Locking
 - ----- Solid Pivot Leaf, Linear Pull 13" Square
 - Solid Pivot Leaf, Linear Pull 24" Square
 - Solid Pivot Leaf, Schlage AL Series Locking
 - Solid Pivot Leaf, Schlage AL Series Non-Locking



Restrictions

For planning purposes with Doors, please refer to the Application guide for TekVue to check use restrictions regarding door swings, and minimum spacing distances. Revit specific restrictions and best use will be addressed in the next section.

Layout & Planning

Selecting & Importing

The TekVue project file contains all of the Wall types, Specialty Equipment, and Doors available for TekVue within the Project Space. Along with the families the project will also contain all of the finishes applicable for TekVue.

In order to bring any desired families into your project, select the family within the project space, and "copy" it into your clipboard. The command is located underneath the **Modify** ribbon at the top of the revit workspace. From there once you are in your desired project, navigate back to the Modify ribbon to paste the component into the project. To bring over material finishes into your project open the both the



P

TekVue project file, along with the desired destination project. When within your project you may transfer over the materials from the TekVue project. This is done by using the "Transfer Project Standards" tool located underneath the **Manage** ribbon at the top of the revit workspace. Within the pop-up window select only <u>materials</u> and ensure the transfer is originating from the <u>TekVue project file</u>.

027	Select Items To C	Сору		×
	Copy from:	Architectural-Wall-Teknion	i-Te 🗸	
Transfer			^	Check <u>A</u> ll
roject Standards	Materials			Check None
ojeer standards	Model Text Ty Object Styles Panel Schedul Panel Schedul Panel Schedul	pes e Templates - Branch Panel e Templates - Data Panel e Templates - Switchboard		
	Pipe Schedule Pipe Segments Pipe Settings Pipe Types	s Types s		
	Piping System	Types	>	
			OK	Cancel

Along with this transfer you will require the appropriate tileable images to render any Revit design with their appropriate finishes applied. These files will be provided in a folder. the contents of the folder need to be copied to Revit's local Mats folder typically located here: *C:\Program Files* (x86)\Common Files\Autodesk Shared\Materials\Textures\3\Mats

Best Practices for Planning

To begin laying out a design using the TekVue product line within your own project it is best to start with the specialty equipment families. These will encompass all of the transitions, starts, and most of the connectors. Place these into the project space from your Project Browser.



Once they are in walls can be attached to the ends of these specialty equipment families. For initial space planning purposes utilize the [**Basic Wall Teknion - Generic - 1.5**"]. This wall retains the same thickness as the final TekVue wall frames, but will allow for for space planning without loading complicated geometry in.





Note: Revit has a tolerance and it tends to join walls when they are too close to each other. To prevent this select the wall and right click the the wall's grip point. Then select the option "Disallow Join". This option must be done for every wall created for the TekVue layout on both ends.

Once the design has been laid out the walls can be switched to an appropriate wall type. Ensure that the wall types attached to any connector match in terms of glass thickness and height



Inserting Door Families into TekVue Walls

As stated within the Doors section, door families will directly be integrated within a wall run. As Tekvue's Doors are parametrically adjusted to the height and width of the panel it is important to do this step last in space planning once the locations of walls and specialty equipment are finalized.

Within a 3d View, hover the mouse over an edge in the curtain wall to be customized until curtain wall or one of the vertical transitions highlights. Press tab until the panel highlights, then click to select it and unpin the panel.







In the Type Selector, select a TekVue Door to replace the panel. Only curtain wall doors can replace a curtain wall panel.

Note: Door families loaded in at this point will not be fitted to the correct width, due to the panel originally conforming to the spacing rules set by the system family. Ensure in the following steps the door width is set the the correct length according to its door type.

Hover over the bottom frame of the curtain wall run below the door and tab until the door the mullion is selected. Unpin the mullion then delete it.



Before moving on, adjust the size of the door by adding a dimension to the adjoining curtain wall gridlines, and setting the dimension to the correct length. <u>1097mm</u> for Pivot doors, <u>1140.7mm</u> for Barn doors, <u>2107.997mm</u> for Double Pivot Doors and <u>2249.8mm</u> for Double Barn Doors,

Once done, this dimension can be locked to maintain the door width. From there minor adjustments for the door position can be made without breaking its correct width.



Specialty Equipment Rule Exceptions.

TekVue has specific rules regarding the limitations of wall runs, and their interaction with Transitions/Connections. Due to the way Transitions and Connections are built, using the same Family type (Specialty Equipment), it may be easy to accidentally create invalid layout configurations. This section will outline information and the best practices to avoid these problems.

Families with names that begin with "Transition" or "Start" <u>separate</u> different wall runs from each other. Families with names that Start with "Connections" <u>continue</u> wall runs from each other.

Here is an example of this difference.

Here at this intersection we see a FVTGC Three-way Transition. This breaks up the parallel walls runs of #1 and #3. Since they are treated as different wall runs the regarding wall runs apply to them each individually.





Within the second picture the FVTGC Three-way Transition has been replaced with a FVGTP Three-way Connector. Unlike the Transition, TekVue treats this connection as a continuous run.

Keep this difference in mind when planning longer wall runs to avoid creating runs that break the maximum wall run rules.

teknion Architectural Complements Components

You are able to add Architectural Complements components to a Wall run using specialty equipment. These specialty equipment are work plane based and are imported by selecting the Glass plane as the host. Utilize the following method below to add vertical and horizontal inline mullions to an existing wall run.

You will find these architectural compliments mullions inside the project browser underneath specialty equipment.



Drag the family from the project browser in the model space, then select an appropriate glass surface. Adjust the thickness, length and Position as needed with the parameters of the imported component.



Corner Mullions are also placed as Work plane-based specialty equipment. Ensure that the Mullion Family is aligned to each side of the glass correctly after placement



teknion Schedules

Schedules in Revit offer many configuration options allowing a user to extract information from Revit content within a project. Because there are different family categories, a user may need to create different schedules to capture and communicate all necessary information. The fields, filters and sorting options for schedules can vary depending on the family category being scheduled.

To ensure that no component is missing in the schedule, we recommend starting with a "multi-category schedule" and then apply the necessary filters.

Within the TekVue project file you can find many pre-set Revit Schedules. They can be used as reference or be copied from one project to another, as required.

Schedules/Quantities

- Architectural Wall Connectors (Speciality Equipment)
- ---- Door Schedule and Components
- Frame Schedule
- Panel Schedule
- Specialty Equipment Schedule
- Wall Schedule