Smart Connections Configurations Guide



Inserting elements Delete Inserted Elements insert Gravity Point Configuration 0 51 \$1 💼 Modify Elements Delete Selected Delete Gravity Point Insert Elements Update Elements Multi-Rule Smart Connections Auto Insert Update Update by DC Delete All Elements Update Gravity Point Parameters Manager Smart Connections





- The first step in using Smart Connections is preparing configurations, i.e. setting up rules governing which elements should be inserted where.
- Cuts and elements can be inserted with Smart Connections to the following element categories: Walls, Parts, Structural Framing, Line-based Generic Models (can host rebar), Columns, Foundations
- Elements that can be used for cuts and elements are point- and line-based families of the following categories: Generic Models, Structural Framing, and Structural Connections

Smart Connections – Configuration Window

odel: Structural \vee Category		Configuration Name: Spandrel corbe		Duplicate Rename Delete Creat	e New Reset For Whole
Line Based on Side Faces	Detail Select Category Family and Type Browser Width (b, bf) Insert Details Flip by X Axis Flip hit Host is	All Categories	5 Detail Priority 7 Detail Priority 8 1 Adjust Layout by Searching for other Ele Searching Rule Class	Detail Priority 9 Detail Priority 10 ments	V Detail Connected Element
Faces Line Based on Side Faces Point Based on Side Face	Cut Geometry Layout Axis Side Offset Start Offset Start Offset Amount Start Rotate(*) Min Length O'- O'* Layout Direction	Join Geometry	Array Axis Side Offset End Offset Layout Direction Layout Rule Fixed Number	0' - 0" 0' - 6" 0' - 6" Start End Fixed Number 2	
Point Based on End Faces Point Based on	Layout Rule Fixed Number Fixed Spacing O Symbolic Rule Preview	Fixed Number v 2 1' - 0'	Fixed Spacing	[1' - 0"	
Top/Bottom Faces	Star 7 	• • • • • • • • • • • • • • • • • • • •	nal Spacing or Fixed Number& Sp		
>		+	ayout Direction		OK Cancel

- Select available categories to create new configurations. Also Group them in separate groups.
- 2. Duplicate, save, rename, or delete configurations.
- 3. Select the face of the element where you want to insert your line- or point-based elements.
- 4. Setup rules to insert elements and cuts.

E Structural Categor	y: Walls v Group: Not Assigned Detail Priority 1 Detail Priority 2 Detail Priority 3 I	Configuration Name: Spandrel co Detail Priority 4 Detail Priority 5 Detail Priority 5	rbel bearing v Save Duplicate ity 6 Detail Priority 7 Detail Priority 8 Detail Priori		lew Reset For Whole
Line Based on Side Faces	Detail Select Category Family and Type Browser Width (b,br) Insert Details ✓ Fip by X Axis	All Categories v Plate spandrel with thread : P v Height (h,d) 0' - 4' Left v Flip by Y Asis	Adjust Layout by Searching for other Elements — Searching Rule Class	None	v Detail
Line Based on Top/Bottom Faces	Flip if Host is Flipped Cut Geometry	Flip Work Plane			Connected Element
Line Based on Side Faces	Layout Axis Side Offset Start Offset 0" - 6" Relative to Length	0' - 0" End Offset 0' - 6" Relative to Length 0	- Array Axis Side Offset Start Offset End Offset	0' - 0* 0' - 6* 0' - 6*	
Point Based on Side Face	Start Rotate(*) 0 Min Length 0° - 0* Layout Direction	End Rotate(*) 0 Max Length 200' - 0* Start End ×	Layout Direction Layout Rule Fixed Number	Start End Fixed Number 2	* *
Point Based on End Faces	Layout Rule Fixed Number Fixed Spacing	Fixed Number * 2 1' - 0"	Fixed Spacing	1' - 0*	
Configuration Group		Start→	Aximal Spacing or Fixed Number®, Spacing	End Offset	
>			·		OK Cancel

- 1. Select if you want to insert linebased or point-based elements.
- 2. Select Detail Priority tab and prepare your rules.

Note: Line-based are created with the help of a Generic Model line-based family template, and point-based – from Generic Model face-based family template.



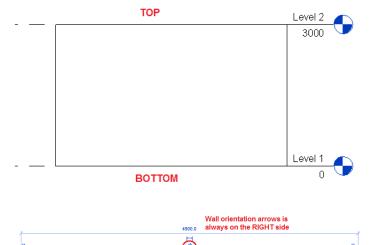
ructural V Categor	ry: Walls v Group: Not Assigned	 Configuration Name: Spandrel co 	rbel bearing v Save Duplicate Ri	name Delete Create New	Reset For Whole
Line Based on	Detail Priority 1 Detail Priority 2 Detail Priority 3 De	tail Priority 4 Detail Priority 5 Detail Prior	y 6 Detail Priority 7 Detail Priority 8 Detail Priority 9 E	etail Priority 10	
Side Faces	Detail		Adjust Layout by Searching for other Elements		Preview Detail
~	Select Category	All Categories V	Searching Rule Class	None v	
Line Based on	Family and Type Browser Width (b.bf) 0' - 0"	Plate spandrel with thread : P V			
End Faces	Width (b, bf) 0' - 0" Insert Details	Height (h,d) 0' - 4"			
,	Flip by X Axis	Flip by Y Axis			ele -
Line Based on	Flip if Host is Flipped	Flip Work Plane			Connected Element
Top/Bottom	Cut Geometry	Join Geometry			
Faces	· -	Join Geometry			
Line Based on	Layout Axis Side Offset	0' - 0"	Array Axis Side Offset	0' - 0"	
Side Faces	Start Offset 0' - 6"	End Offset 0' - 6"	Start Offset	0' - 6"	
J	Relative to Length 0	Relative to Length 0	End Offset	0'-6"	
Point Based on	Start Rotate(*) 0	End Rotate(*) 0	Layout Direction	Start End v	
Side Face	Min Length 0' - 0"	Max Length 200" - 0"	Layout Rule	Fixed Number V	
J	Layout Direction	Start End v	Fixed Number	2	
	Layout Rule	Fixed Number v	Fixed Spacing	1' - 0"	
Point Based on End Faces	Fixed Number	2			
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		- +	Side Offset	_ +	
			← Gravity Point → ← I ← Center →	ind	
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- 1. Select Category of detail from available Generic Model, Structural Framing, or Structural Connections.
- 2. Select Family and Type.
- 3. Check 'Insert Details' box.
- Select Flip Work Plane, if necessary (vertical and horizontal control arrows should be added inside the family to make it work)
- 5. Select Face on which elements should be inserted (see next page for explanation)



Element orientation

Wall orientation

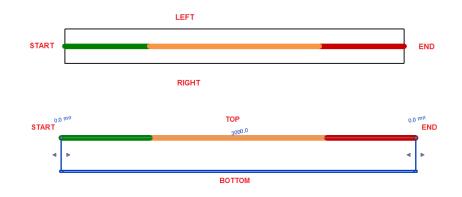


LEFT side

START



Beam orientation



Note: Beam start point is the first point you select when you define its place. Also you can see start point by analytical line – green is start, red is end.

tructural V Category:		 Configuration Name: Spandrel cor 		Duplicate Rename Delete	Create New Reset For Whole		
Line Based on	Detail Priority 1 Detail Priority 2 Detail Priority 3 Detail Priority 4 Detail Priority 5 Detail Priority 7 Detail Priority 7 Detail Priority 9 Detail Prior						
Side Faces	- Detail Select Category	All Categories *	Adjust Layout by Searching for other E Searching Rule Class	lementsNone	Detail		
-	Family and Type Browser	Plate spandrel with thread : P ×	Searching Rule Class	ivone			
Line Based on End Faces	Width (b,bf) 0' - 0"	Height (h,d) 0' - 4"					
	Insert Details	Left v			141		
	Flip by X Axis	Flip by Y Axis			ele		
Line Based on	Flip if Host is Flipped	Flip Work Plane			Connected Element		
Top/Bottom Faces	Cut Geometry	Join Geometry					
2 1000	Clayout Axis	/	- Array Axis				
Line Based on	Side Offset	0' - 0'	Side Offset	0' - 0"			
Side Faces	Start Offset 0' - 6"	End Offset 0' - 6"	Start Offset	0' - 6"			
<i>v</i>	Relative to Length 0	Relative to Length 0	End Offset	0' - 6"			
Point Based on	Start Rotate(*) 0	End Rotate(*) 0	Layout Direction	Start End	v		
Side Face	Min Length 0' - 0"	Max Length 200' - 0"	Layout Rule	Fixed Number	v		
'n	Layout Direction	Start End v	Fixed Number	2			
Point Based on	Layout Rule	Fixed Number Y	Fixed Spacing	1' - 0"			
End Faces	Fixed Number	2					
,	Fixed Spacing	1' - 0''					
Point Based on	Symbolic Rule Preview						
Top/Bottom Faces							
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Configuration	Start	Offset Fixed Number or Ma	imal Spacing or Fixed Number& S	End Offset			
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		•	─ Center → Layout Direction				
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					OK Cancel		

- Enter values according to the pictures at the bottom of the dialog.
- Layout direction can be defined from Center, Start, End, or Start End. For point-based elements on Top and End faces, you can insert elements according to Gravity point.
- There are different Layout rules for different Layout Direction rules.

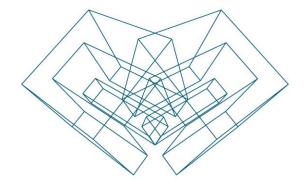


el: Structural · Category:	Walls V Group: Not Assigned	 Configuration Name: Spandrel co 	bel bearing v Save Duplicate	Rename Delete Create New Reset For Wi		
Line Based on	Detail Priority 1 Detail Priority 2 Detail Priority 3 Detail Priority 4 Detail Priority 5 Detail Priority 6 Detail Priority 7 Detail Priority 9 Detail Priority 10					
Side Faces	Detail		Adjust Layout by Searching for other Elements	L & R Connections		
	Select Category	All Categories v	Searching Rule Class			
Line Based on	Family and Type Browser Width (b,bf) 0' - 0''	Plate anchor : PL 6" x 6" x 1/2 v Height (h,d) 0" - 4"	Search in Project	Current and Linked Projects V		
End Faces	Insert Details	Left v	Searching Category	Structural Connections V		
	Flip by X Axis	Flip by Y Axis	Family and Type Browser Use all Types	Connector_Top Connection : V		
Line Based on	Flip if Host is Flipped	Flip Work Plane	Searching Rule Name	Left Connected Eleme		
Top/Bottom Faces		Flip Work Plane	-	None v		
			Cut Type			
	Cut Geometry	Join Geometry	Min Distance 0° - 0° Max Distance	1'-0"		
Line Based on Side Faces			Don't use Additional Side Check			
	Layout Axis		Array Axis			
	Side Offset	-0' - 3'	Side Offset	0' - 0"		
Point Based on Side Face	Start Offset 0' - 0"	End Offset 0° - 0"	Start Offset	0' - 0"		
-	Relative to Length 0	Relative to Length 0	End Offset	0' - 0"		
	Rotate(*) 0		Layout Direction	Center ~		
Point Based on End Faces	Min Length 0' - 0"	Max Length 200' - 0"	Layout Rule	Fixed Number & Fixed Spacir		
end races	Layout Direction	Center v	Fixed Number	1		
	Layout Rule	Fixed Number & Fixed Spacir V	Fixed Spacing	1' - 0*		
Point Based on	Fixed Number	1				
Top/Bottom Faces	Fixed Spacing	1' - 0'				
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Configuration Group	Sta	art Offset Fixed Number or Ma	ximal Spacing or Fixed Number& Spacing	End Offset		
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		i.		1		
		Start→	Gravity Point	- End		
			← Center →			
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3						

'Layout Correction by Elements' lets you search for cuts, solids, Structural Framing or Structural Connection elements on different faces. Also, find connections between different elements like wallwall, column-structural framing, etc.

Use these rules accordingly as displayed in the pictures at the bottom of the dialog.





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