Custom Join

Modified on: Sun, 10 Jan, 2021 at 5:59 PM

Custom Join – is a multi-functional dialog where user can define rules for studs/joins including size, count, position, rotation, spacing, alignment etc. All these rules can be saved and used in other framing configurations or shared with other users. This type of dialog is used frequently in our products.

Predefined Layout Name

Prede	efined Layout N	lame: De	fault Configuration Save to Databas	e Du	plicate	Delete					
Select	t Layout from [Database (Configuration: Default Configuration	n	× [Link w	ith Confi	iguration			
New	Item Remo	ve Item	Move Up Move Down								
X-Position Count Type Define Depth Rotate Depth Flip Facing Spacing Position											
	Standard Y	1 🜩	M_WF Stud : LMBR 45x120	~	✓			0 mm	Center	Y	
	Standard v	1 🗢	M_WF Stud : LMBR 45x120	~	✓	✓		0 mm	Internal	v	

Predefined Layout Name – here you can check the predefined configuration name. Configurations saves all information listed down below. **Default Configuration** is a sample configuration that comes with the software.

All modifications can be saved to the current configuration using Save to Database.

Duplicate – duplicates existing configuration in order to create a new one.

Delete – deletes configuration from the database.

Default path to database with layout configurations is: C:\Users\user name\AppData\Roaming\Tools 4 Revit\Wall+2021 (or other product and version) Configurations\CustomFramingJoins

Every configuration is created in a separate XML file and stored in corresponding folder.

08/09/21, 09:23	Custom Join : AGACAD								
📙 C:\Users\Renata\AppData\Roami	ing\Tools 4 Revit\Wall+2020 Config	gurations\CustomFra	mingJoins						
Name	Date modified	Туре	Size						
BNB	2020-07-19 12:35	File folder							
F F	2020-07-19 12:35	File folder							
	2019-08-20 18:49	File folder							
King	2019-08-20 18:49	File folder							
<mark></mark> L	2020-07-19 12:35	File folder							
	2020-07-19 12:35	File folder							
📙 Ridge	2020-07-19 12:35	File folder							
Sill	2019-08-20 18:49	File folder							
📙 Stepped Ridge	2020-07-19 12:35	File folder							
Stud	2020-07-19 12:35	File folder							
Т	2020-07-19 12:35	File folder							
	2019-08-20 18:49	File folder							
	2019-08-20 18:48	File folder							
VerticalBlock	2019-08-14 19:05	File folder							

If needed you can modify the path to all configurations in **Wall+**, **Floor+** or **Roof+** \rightarrow **Settings** \rightarrow **Configuration Files' Location**.

Select Layout from Database Configuration



Select Layout from Database Configuration – select layout from the list.

Link with Configuration

Custom Join — Configuration — Predefined Layout Name: Plate Save to Database Duplicate Delete											
Select Layout from Database Configuration: Plate ✓ Link with Configuration New Item Remove Item Move Up Move Down											
X-	-Position	Count Ty	ype				Define Depth	Rotate 90°	Rotate 180°	Flip Facing	Spacing
1 St	tandard 🛛 🕹	2 🜩	M_WF Pla	ate : LMBR 4	5x120	~	~				0 mm
Symboli	ic Preview —										

Link with Configuration – makes a link between selected layout in the current custom join and other custom joints were the same layout was used.

In order to use Link with Configuration switch this option in Framing Configuration – Enable "Link to Configuration" in Custom Joins:



For example, were is two wall frames which is created using different configuration names. Now we need to make one top/bottom plate instead of two in all frames:

Configuration Name = Frame1



Configuration Name = Frame2



Instead of changing top/bottom plates manually one by one for every configuration, just change the layout, save it and switch ON **Link with Configuration**:

https://helpdesk.agacad.com/support/solutions/articles/44001990031-custom-join

Material Class:	Wood				Ŷ								
Configuration Type:	Frame			•	Ŷ								
Configuration Name:	Frame2				Save	Save As	Rename	Delete					
Common S	Cettings	Vertical S	itud Top Plate Top Cov	ate Bottom ver	Plate Offset	5							^
Wall Framin	ng	Slope Cut Ty	d and Non-S pe	loped Plates	are symmetric	al 🔽 Don't Cut				¥			
Opening Fr	aming	Col	nfiguration - edefined Lay	out Name: /	Plate Save to	Database Du	plicate De	elete				_	
L Connection	on	Sel	ect Layout fr	om Database lemove Item	e Configuratio	n: Plate Move Down		¥ [🖊 Link w	ith Conf	iguratior	1	
End Conne	ction		X-Positio	n Count	Туре			Define Depth	Rotate 90°	Rotate 180°	Flip Facing	Spacing	
V Connecti	on	Svr	Standard	v 1 ≎	M_WF PI	ate : LMBR 45x12	20 ~	✓				0 mm	
V connecti	on												
T Connecti	on												
Ridge Stud									E				
HAT Blocking/N	loaaina 🗸	<											>

Now in other configuration make sure that Link with Configuration is switched ON too:

Material Class:	Wood		~									
Configuration Type:	Frame		~									
Configuration Name:	Frame1		~	Save	Save As	Rename	Delete					
Common S	ettings	Sloped and Non-Sloped	Bottom Plate	Offsets	✓							- ^
Wall Framir	ng	Cut Type Number of Elements no	ot Cut		Don't Cut 0				✓			
Opening Fr	aming	Custom Join Configuration Predefined Layout N	ame: <i>Plate</i>	Save to Dat	abase Dup	licate Del	ete				_	-
L Connection	on	Select Layout from D	Veltem M	figuration: [Plate Iove Down		× .	🗸 Link w	ith Confi	guration		
End Conne	ction	X-Position	Count Type	e M_WF Plate	: LMBR 45x12	0 ~	Define Depth	Rotate 90°	Rotate 180°	Flip Facing	Spacing 0 mm	
V Connecti	on	Symbolic Preview —										
TConnection	on											
Ridge Stud								E				
Blocking/N	logging										>	×

After updating frames with **Update Frame using Wall Link**, modifying or creating new frames, top/bottom plates now will have one element instead of two:



Custom Join : AGACAD



New Item, Remove Item, Move Up, Move Down

Custom Join ^ Configuration												
Predefined Layout N	Name: De	fault Configuration	Save to Database D	uplicate	Delete							
Select Layout from Database Configuration: Default Configuration												
New Item Remove Item Move Up Move Down												
X-Position Count Type Define Rotate Flip Depth 90° Facing Position												
Standard Y	1 🗢	M_WF Stud : LMBF	R 45x120 V	\checkmark			0 mm	Center	×			
Standard Y	1 🗢	M_WF Stud : LMBF	R 45x120 V	✓	~		0 mm	Internal	~			
									-			

New Item - adds new stud/joist.

Remove Item - removes selected stud/joist.

Move Up - moves selected stud/joist up.

Move Down - moves selected stud/joist down.

Symbolic Preview

Custom Join												
Predefined Layout N	Name: <i>De</i> f	fault Configuration Save to Database	Du	plicate	Delete							
Select Layout from Database Configuration: Default Configuration v Link with Configuration												
New Item Move Up Move Down												
X-Position Count Type Define Depth Rotate Depth Flip Facing Spacing Position												
1 Standard Y	1 🜩	M_WF Stud : LMBR 45x120	~	✓			0 mm	Center	×			
2 Standard Y	1 🗢	M_WF Stud : LMBR 45x120	~	✓	~		0 mm	Internal	<			

Symbolic Preview – shows symbolic preview of created situation. You can easily see the position, rotation, alignment type, and sample spacing. Preview in the picture above is for regular stud/joist. It will be a little bit different for headers, connections etc.

It does not show exact stud/joist sizes and spacing between them.

1 and 2 indicate the sides of the intersecting wall/floor/roof. These sides are used for stud/joist positioning.

I or E indicate where the Internal (Bottom) or External (Top) sides of the wall/floor/roof are.

X-Position

	X-Position	Count	Туре	Depth by Core	Rotate 90	Rotate 180	Spacing	Position	Align Type	Extend Start	Extend End	Cuts
1	Standard 🗠	1 🜩	M_WF Stud : LMBR 45x120 V	~			0 mm	Center v	None 🗵	None ~	None ~	
2	Standard	1 🔶	M_WF Stud : LMBR 45x120 ~	~	~		0 mm	Internal ~	Previou ~	None v	None v	
	Inner Side 1		P	1					·	I	·	
	Inner Side 2											
-Symb	Outer Side 2											
	Side 1 by Cente	er 📃										
	Side 2 by Cente	er										
	Center	1	2									

X-Position – controls stud/joist position related to intersecting wall/floor/roof.



Standard – places the stud/joist without any alignment with intersecting wall/floor/roof:

Inner Side 1 – places the stud/joist along inner side 1 of intersecting wall/floor/roof:



Inner Side 2 – places the stud/joist along inner side 2 of intersecting wall/floor/roof:

	2

Outer Side 2 – place the stud/joist along outer side 2 of intersecting wall/floor/roof:



Side 1 by Center – centers the stud/joist with intersecting wall/floor/roof side 1:



Side 2 by Center – centers the stud/joist with intersecting wall/floor/roof side 2:



https://helpdesk.agacad.com/support/solutions/articles/44001990031-custom-join





Example with floor/roof vertical block. First joist is added without any alignment:



Example with floor/roof vertical block. Inner Side 1 – places the joist along its first inner side:



Example with floor/roof vertical block. Inner Side 2 – places the joist along its second inner side:



Example with floor/roof vertical block. **Outer Side 1** – places the joist along its first outer side:



Example with floor/roof vertical block. **Outer Side 2** – places the joist along its second outer side:



Example with floor/roof vertical block. **Center** – places the joist along its center:



Custom Join : AGACAD

	X-Position	Count	Туре	Depth by Core	Rotate 90	Rotate 180	Spacing	Position	Align Type	Extend Start	Extend End	Cuts
1	Inner Side 👻	2 🗘	M_WF Stud : LMBR 45x120	× 🖌			0 mm	Center v	None \vee	None Y	None Y	
2	Standard v	1 🜩	M_WF Stud : LMBR 45x120	× 🗸	✓		0 mm	Internal ×	Previou ×	None Y	None Y	

Symbolic Preview					
	- 1	2			
	ï				

Count - defines the number of identical studs/joists.

Example, two top plates are used in wall framing:



Type – selected stud/joist family and type. Default families are loaded together with the software. Any time can be loaded manually using **Wall+**, **Floor+** or **Roof+** \rightarrow **Settings** \rightarrow **Load Families** function.

Depth by Core – stud/joist size will be adjusted according to the wall/floor/roof layer thickness during wall/floor/roof framing process.

Custom Join : AGACAD

	X-Position	Count	Туре		Depth by Core	Rotate 90	Rotate 180	Spacing	Position	Align Type	Extend Start	Extend End	Cuts
1	Inner Side \vee	2 🜩	M_WF Stud : LMBR 45x120	Ý	\checkmark			0 mm	Center Y	None \vee	None Y	None Y	
2	Standard Y	1 🔷	M_WF Stud : LMBR 45x120	~	>	✓		0 mm	Internal Y	Previou Y	None Y	None Y	
Symb	oolic Preview												

 1 1		

Rotate 90° - rotates selected stud/joist by 90 degrees.

Example with horizontal Joist/Rafter/Bridging: Rotate 90° is ON:



Example with horizontal Joist/Rafter/Bridging: Rotate 90° is OFF:



Example with additional joist, Rotate 90° is ON:



Example with additional joist, Rotate 90° is OFF:



Wall example:



Example with additional stud if ticked:



Example with additional stud if unticked:



Example with additional bridging/nogging when ticked:



Example with additional bridging/nogging when unticked:



Example with wood floor: when Rotate 90° is switched OFF:



Example with metal frame: Ticked:



Unticked:

Example with metal additional stud: Rotate 90° is ticked:



Example with metal additional stud: **Rotate 90°** is unticked:



Rotate 180 – rotates selected stud/joist by 180 degrees. This option is important when the stud/joist is not symmetrically shaped. For rectangular studs/joists this option usually is not used.

Example with metal wall studs:

Unticked

ſ			
ſ		_	_
1			
1			
1			
ł			_

Ticked



Example with metal wall blocking, strap:



Spacing – distance between the selected stud/joist and the previous stud/joist.

Position



Position – stud/joist can be positioned along the **Center, External**, **Internal, External Outside, Internal Outside, Center External, Center Internal** wall/floor/roof face, or **Outside Near Connected Wall**. The possible option values depend on **Rotate 90** selected value.

Near Connected Wall - option used if the stud/joist must always be near the side where another wall connects.



Near Connected Wall + Depth – option used if the stud/joist must always be near the side where other wall/floor/roof connects, and the stud/joist depth must be the same as connected wall/floor/roof layer thickness.

Example with floor:



Example with wall:

Custom Join : AGACAD



Align Type

		X-Position		Count	Туре		Depth by Core	Rotate 90	Rotate 180	Spacing	Position	Align Type	Extend Start	Extend End	Cuts
	1	Inner Side	~	2 🜲	M_WF Stud : LMBR 45x120	×	\checkmark			0 mm	Center Y	None 🗡	None Y	None Y	
	2	Standard	~	1 🗲	M_WF Stud : LMBR 45x120	~	>	✓		0 mm	Internal Y	Previou 🗵	None Y	None Y	
												Previous En	d		
	C	alia Danian										Previous Sta	irt		
ĺ	Symp	olic Preview										Core Inside			
												Core Outsid	e		
													_		
				- 1	2										
					FI F										
					۲ <u>۲</u>										

Align Type – the selected stud/joist can be aligned with the previous stud's/joist's End or Start, core inside or core outside.



	Position		Count	Туре	Depth by Core	Rotate 90	Rotate 180	Spacing	Rotated Position	Align Type
1	Standard	~	1	I_Wall_Frame Stud : LMBR 2x6 ×	v			0"	Center v	None ×
2	Standard	×	1	I_Wall_Frame Stud : LMBR 2x4 V	V	7		2"	Internal Y	Previous End Y
3	Standard	<	1	I_Wall_Frame Stud : LMBR 2x6 Y		>	V	0"	External Y	Previous Start 🛛 👻
Symt	polic Preview - 1									

Example with metal:

Custom Join : AGACAD

	Position	Count	Туре		Depth by Core	Rotate 90	Rotate 180	Spacing	Rotated Position	Align Type
1	Standard v	1 📮	I_MF Stud-Joist : 600S162-43	۷	✓			0"	Center *	None *
2	Standard ×	1 📮	I_MF Stud-Joist : 600S162-43	۷	v	>		2"	Internal Y	Previous End Y
3	Standard ×	1 🌻	I_MF Stud-Joist : 600S162-43	۲		7	>	0"	External Y	Previous Start Y
Symt	polic Preview 1		2					/		

	Position	Count	Туре	Depth by Core	Rotate 90	Rotate 180	Spacing	Rotated Position	Align Type
1	Standard ×	1	I_MF Stud-Joist : 600S162-43 v	✓			0"	Center v	None Y
2	Standard ×	1	I_MF Stud-Joist : 600S162-43 v	>	7		2"	Internal Y	Previous End Y
3	Standard Y	1 🚔	I_MF Stud-Joist : 600S162-43 v		✓	>	0"	External Y	Previous End Y
Symt	polic Preview —		2						

Samples of various wall joins











Extend Start, Extend End, Cuts

	X-Position	Count	Туре	Depth by Core	Rotate 90	Rotate 180	Spacing	Position	Align Type	Extend Start Extend End	Cuts
1	Standard ~	1 🜩	M_WF Stud : LMBR 45x300 ~				0 mm	Center ~	None ``	In "L" or "T" Stud&Plate Connection Y In "L" or "T" Stud&Plate Connection Y	
2	Standard ~	1 🜩	M_WF Stud : LMBR 45x300 ~		-		0 mm	Internal ~	Previous End ~	In "L" or "T" Stud&Plate Connection Y In "L" or "T" Stud&Plate Connection Y	<
3	Standard Y	1 🔷	M_WF Stud : LMBR 45x300 V		✓	✓	0 mm	Externa 🗡	Previous Start Y	In "L" or "T" Stud&Plate Connection Y In "L" or "T" Stud&Plate Connection Y	<
Symt	oolic Preview —										
											>

Extend Start, Extend End – controls start/end stud/joist connection with other elements from the wall/floor/roof frame. It can extend and cut both sides of the beam depending on the L or T connection with other beams.

Cut - select if stud/joist should cut the connected plate.

Example: Wall+ finds that end stud/joist is connected with plate in "L" connection. In this case, it is extended in both sides and cuts the plate:



Example: opening Top Support is connected with Trimming Joists in "L" connection. In this case, it is extended on both sides and cut. Header is not extended.



Example with blocking/nogging/bridging: **Extend Ends** is switched OFF:



Example with blocking/nogging/bridging: **Extend Ends** is switched ON:



Example: **Roof+** finds that joists from block are connected with top and bottom plates in "T" connection. In such cases, it is extended and cut.



Example with a wall: when Extend Ends is switched OFF...



...and when **Extend Ends** is switched ON:



Example with wall additional bridging: Extend Ends is switched OFF:



Example with wall additional bridging: **Extend Ends** is switched ON:



Example: **Wall+** finds that studs from block are connected with top and bottom plates in "T" connection. In such cases, it is extended and cut.



Example: **Floor+** finds that end joist is connected with rim joist in "L" connection. In this case, it is extended on both sides and cuts:



Example with floor: when Extend Ends is ON:



Example: when Extend Ends is OFF:



Cut Type

Roof+. Add Additional Bridgi	ing/Nogging/Blocking											-	
ditional Bridging													
Read Layout from Database (Configuration: Select	~											
Configuration													
Predefined Layout Name: /	Nogging Save to Database Duplicate	Delete											
New Item Remove Item	Move Up Move Down												
X-Position Count	Туре	Define Depth	Rotate F 90° 1	Rotate 180°	Spacing	Position	Align Type	Extend Start	Extend End	Cuts	Cut Type	Cut En	ds Type
1 Center v 1 📥	M. DWE Disc. Dubling a latest (LMDD 24-20) V				0.mm	Center V	None Y	None Y	None Y		Cut Bridgin Y	Cut Bri	idain Y
· · · · · ·	WI_KWP KIM-Bridging Joist : LIVIBK 24x50 *				UTITI						carbinagin		2
Sumhalia Dansiau	M_KWP KIM-bridging Joist : LIMBK 24x30										None Cut Joists		5
Symbolic Preview	M_KWP KIM-Bridging Joist : LMBK 24x30										None Cut Joists Cut Bridging/N	logging/	Blocking
Symbolic Preview	W_KWP KIM-bridging Joist : LIMbK 24830										None Cut Joists Cut Bridging/N	logging/	Blocking
Symbolic Preview	W_KWP KIM-bridging Joist : LIMbK 24830										None Cut Joists Cut Bridging/N	logging/	Blocking
Symbolic Preview	W_KWP KIM-bridging Joist : LIMbK 24830				E						None Cut Joists Cut Bridging/N	logging/	Blocking
Symbolic Preview	W_KWP KIM-bridging Joist : LIMbK 24X30				E						None Cut Joists Cut Bridging/N	logging/	Blocking
Symbolic Preview	W_KWP KIM-bridging Joist : LIMbK 24X30										None Cut Joists Cut Bridging/N	logging/	Blocking
Symbolic Preview	W_KWF KIM-Bridging Joist : LIMBR 24830										None Cut Joists Cut Bridging/N	logging/ 	Blocking
Symbolic Preview			1		E						None Cut Joists Cut Bridging/N	logging/	Blocking

Cut Type – select blocking/nogging/bridging and joist connection cutting type.

Possible options:

Example: when Cut Type = None


Example: when Cut Type = Cut Joists



Example, when Cut Type = Cut Bridging/Nogging/Blocking



Example with wall: When None is selected:



Example: When **Cut Studs** is selected:



Example with wall additional bridging: when Cut Type = Don't Cut



Example with wall additional bridging: when Cut Type = Cut Studs



Example with wall additional bridging, when Cut Type = Cut Additional Element



Example with floor: when **Don't Cut** is selected:



Example: when **Cut Joists** is selected:



Example with metal wall bridging/nogging:



Example with metal wall frame , when Cut Type = Cut Additional Element



Cut Ends Type



Cut Ends Type – select bridging/nogging end cutting type.

Example: when **Don't Cut** is selected:



Example: when **Cut Joists** is selected:



Example: when Cut Bridging/Nogging/Blocking is selected:



Preassembled

1 Standard ~ 1 ↓ M_WF Stud : LMBR 45x300 ~ ✓ 2 Standard ~ 1 ↓ M_WF Stud : LMBR 45x150 ~ ✓	0 mm	Center V None V None V N	None ~	
2 Standard V 1 - M. WF Stud : LMBR 45x150 V				
	✓ 0 mm	Internal Y Previou Y None Y N	None 🖌 🗌	
3 Standard ∨ 1 → M_WF Stud : LMBR 45x150 ∨ □	✓ ✓ 0 mm	Externa Y Previou Y None Y N	None 🖌 🗌	
Symbolic Preview				

Fills information into these parameters:

FM Module Type – writes configuration name.

FM Module Mark – writes FS (Frame Start) or FE (Frame End) values + L (Left) or R (Right) + Mark (from Wall/Floor/Roof).

FM Module Preassembled – writes Yes/No if element is/is not included into preassembly.

Example: Free end stud/joist is included into the preassembling so **FM Module Type** parameter has end connection configuration value, **FM Module Mark** parameter contains **FS** (Frame Start) + **L** (Left) + current wall **Mark** value (it can be seen near **FM HostMemberSortMark**).

Properties X M_WF Stud LMBR 45x150 Structural Framing (Other) (1) Velue Bevation at Top Uares Elevation at Top Uares Elevation at Bottom Varies Elevation at Bottom Varies RM HostSortMark FM NotsSortMark FM NotsSortMark Framing Member Side Stud Framing Member Type Stud Framing Member Type Framing Member Mark SS Framing Member Mark SS <th colspan="5">3/09/21, 09:23</th> <th></th> <th>Custo</th> <th>om</th> <th>m Join : AGACAD</th>	3/09/21, 09:23						Custo	om	m Join : AGACAD
M.WF Stud Structural Framing (Other) (1) Vel Start, Formula 0.0 Volume 0.018 m² Elevation at Dottom Varies Elevation at Bottom Varies FM HostSortMark Framing Member Type Stud Framing Member Description Side Stud Framing Member Mark SS Framing Member Mark FS L W-369 FM Module Mark FS L W-369 FM Module Mark FS L W-369 FM Module Preassembled Conc Part Position <	Properties X					{3D}	:	X	(🔂 {3D}
Structural Framing (Other) (1) User, Start, Formula 0.0 Volume 0.018 m³ Elevation at Top Varies Elevation at Bottom Varies Identity Data FM HostSortMark FM Number of Connectors 0.000000 Image Comments Mark Framing Member Type Stud Framing Member Cut Length 2610.0 Framing Member Cut Length 2610.0 Framing Member Description Side Stud Framing Member Type Fut MostSortMark SS - Framing Member Mark SS Framing Member Mark SI Frame Framing Member Mark SS Framing Member Mark SI Frame <th></th> <th>M_WF Stud LMBR 45x150</th> <th></th> <th>•</th> <th></th> <th></th> <th></th> <th></th> <th></th>		M_WF Stud LMBR 45x150		•					
User_Start_Formula 0.0 Volume 0.018 m³ Elevation at Top Varies Elevation at Bottom Varies Identify Data * FM HostSortMark F FM Number of Connectors 0.000000 Image	Structural Fr	aming (Other) (1)	~	🔠 Edit Type					
Volume 0.018 m³ Elevation at Top Varies Elevation at Bottom Varies Identity Data * FM HostSortMark 0.00000 Image - Comments - Mark - Framing Member Type Stud Framing Member Type Stud Framing Member Type Stud Framing Member Description Side Stud Framing Member Description Side Stud Framing Member Mark SS-2 Framing Member Mass - Framing Member Volume 0.018 m³ CNC Part Name - Framing Member Volume 0.018 m³ CNC Part Name - FM Module Mark FS L W-369 FM Module Type Default Configuration FM Modiue Type Default Configuration FM Modiue Type Default Configuration	User_Start_F	Formula	0.0	^ []					
Elevation at Bottom Varies Elevation at Bottom Varies Identity Data * FM HostSortMark	Volume		0.018 m³						
Elevation at Bottom Varies Identify Data FM HostSortMark FM Number of Connectors 0.00000 Image Comments Mark Framing Member Side Stud Framing Member Type Stud Framing Member Cut Length Z610.0 Framing Member Type Stud Framing Member Cut Length Z610.0 Framing Member Description Side Stud Framing Member Mark SS-2 Framing Member Mark SS-2 Framing Member Mark SS FM HostMemberSortMark W-369 Framing Member Volume 0.018 m³ CNC Part Number CNC Part Number FM Module Mark FSL W-369 FM Module Mark FSL W-369 FM Module Type Default Configuration FM Module Grade	Elevation at	t Top	Varies						
Identity Data Image FM HostSortMark 0.000000 Image 0.000000 Image 0 Comments 0 Mark 0 Framing Member Side Stud Framing Member Type Stud Framing Member Type Stud Framing Member Description Side Stud Framing Member Mark SS - 2 Framing Member Volume 0.018 m³ CNC Part Name - FM Module Mark FS L W-369 FM Module Mark FS L W-369 FM Module Type Default Configuration FM Module Preasembled	Elevation at	t Bottom	Varies						
FM HostSortMark	Identity Data	1		*					
FM Number of Connectors 0.00000 Image	FM HostSor	tMark							
ImageImageCommentsImageMarkImageFraming MemberSide StudFraming Member TypeStudFraming Member Cut Length2610.0Framing Member DescriptionSide StudFraming Member DescriptionSide StudFraming LayerFrameFraming Member NarkSSFM HostMemberSortMarkW-369Framing Member Volume0.018 m³CNC Part NameForameFM Module MarkFS LW-369FM Module MarkFS LW-369FM Module MarkFS LW-369FM Module TypeDefault ConfigurationFM Module TypeDefault Configuration	FM Number	r of Connectors	0.000000						
CommentsImage: Comments of the stude of the s	Image								
MarkImage: Side StudFraming MemberSide StudFraming Member TypeStudStudImage: StudFraming Member Cut Length2610.0Framing Member DescriptionSide StudFraming Member DescriptionSide StudFM SortMarkSS-2Framing Member MarkSSFraming Member Volume0.018 m³CNC Part NumberImage: Stude	Comments								
Framing MemberSide StudFraming Member TypeStudFraming Member Cut Length2610.0FramingWallFraming Member DescriptionSide StudFM SortMarkSS-2Framing LayerFrameFraming Member MarkSSFM HostMemberSortMarkW-369Framing Member Volume0.018 m³CNC Part NumberICNC Part NumberIFM Module MarkFS L W-369FM Module MarkFS L W-369FM Module PreasembledIFM Module PreasembledIFM Module PreasembledIFM Wood GradeI	Mark								
Framing Member Type Stud Framing Member Cut Length 2610.0 Framing Member Description Side Stud FM SortMark SS-2 Framing Member Mark SS Framing Member Mark SS FM HostMemberSortMark W-369 Framing Member Mass	Framing Me	ember	Side Stud						
Framing Member Cut Length 2610.0 Framing Wall Framing Member Description Side Stud FM SortMark SS-2 Framing Layer Frame Framing Member Mark SS Framing Member Mark SS FM HostMemberSortMark W-369 Framing Member Mass	Framing Me	ember Type	Stud						
Framing Wall □ Framing Member Description Side Stud □ FM SortMark SS-2 □ Framing Layer Frame □ Framing Member Mark SS □ Framing Member Mass □ □ Framing Member Volume 0.018 m³ □ CNC Part Number □ □ FM Module Mark FS L W-369 □ FM Module Type Default Configuration □ FM Module Type Default Configuration □ FM Module Preassembled □ □ CNC Part Position □ □ FM Wood Grade □ □	Framing Me	ember Cut Length	2610.0						
Framing Member Description Side Stud FM SortMark SS-2 Framing Layer Frame Framing Member Mark SS FM HostMemberSortMark W-369 Framing Member Mass	Framing		Wall						
FM SortMark SS-2 Framing Layer Frame Framing Member Mark SS FM HostMemberSortMark W-369 Framing Member Mass - Framing Member Mass - Framing Member Volume 0.018 m³ CNC Part Number - CNC Part Name - FM Module Mark FS L W-369 FM Module Mark FS L W-369 FM Module Type Default Configuration FM Module Preassembled Image: CNC Part Position FM Module Preassembled Image: CNC Part Position FM Modol Grade -	Framing Me	ember Description	Side Stud						
Framing LayerFrameFraming Member MarkSSFM HostMemberSortMarkW-369Framing Member Mass-Framing Member Volume0.018 m³CNC Part Number-CNC Part Name-FM Module MarkFS L W-369FM Module TypeDefault ConfigurationFM Module PreassembledIFM Module PreassembledIFM Wood Grade-	FM SortMar	k	SS-2						
Framing Member MarkSSFM HostMemberSortMarkW-369Framing Member Mass0.018 m³Framing Member Volume0.018 m³CNC Part Number2CNC Part Number2FM Module MarkFS L W-369FM Wall LayerFrameFM Module TypeDefault ConfigurationFM Module PreassembledICNC Part PositionIFM Wood GradeI	Framing Lag	yer	Frame						
FM HostMemberSortMark W-369 Framing Member Mass 0.018 m³ Framing Member Volume 0.018 m³ CNC Part Number - CNC Part Name - FM Module Mark FS L W-369 FM Wall Layer Frame FM Module Type Default Configuration FM Module Preassembled I CNC Part Position - FM Wood Grade -	Framing Me	ember Mark	SS						E
Framing Member MassIFraming Member Volume0.018 m³ICNC Part NumberIICNC Part NameIIFM Module MarkFS L W-369IFM Wall LayerFrameIFM Module TypeDefault ConfigurationFM Module PreassembledIImage: CNC Part PositionIFM Wood GradeI	FM HostMe	mberSortMark	W-369						
Framing Member Volume0.018 m³CNC Part NumberImage: CNC Part NameCNC Part NameImage: CNC Part NameFM Module MarkFS L W-369FM Wall LayerFrameFM Module TypeDefault ConfigurationFM Module PreassembledImage: CNC Part PositionFM Wood GradeImage: CNC Part Position	Framing Me	ember Mass							
CNC Part NumberImage: Concent of the conc	Framing Me	ember Volume	0.018 m³						
CNC Part NameFS L W-369FM Module MarkFS L W-369FM Wall LayerFrameFM Module TypeDefault ConfigurationFM Module PreassembledIImage: CNC Part PositionImage: CNC Part PositionFM Wood GradeImage: CNC Part Position	CNC Part N	umber							
FM Module Mark FS L W-369 FM Wall Layer Frame FM Module Type Default Configuration FM Module Preassembled Image: CNC Part Position FM Wood Grade Image: CNC Part Position	CNC Part N	ame							-
FM Wall Layer Frame FM Module Type Default Configuration FM Module Preassembled Image: Chronic Configuration CNC Part Position Image: Chronic Configuration FM Wood Grade Image: Chronic Configuration	FM Module Mark FS L W-369								
FM Module Type Default Configuration FM Module Preassembled Image: Configuration CNC Part Position Image: Configuration FM Wood Grade Image: Configuration	FM Wall Layer Frame		Frame						
FM Module Preassembled Image: Constraint of the system CNC Part Position Image: Constraint of the system FM Wood Grade Image: Constraint of the system	FM Module	Туре	Default Config	guration					
CNC Part Position FM Wood Grade	FM Module	Preassembled	✓						
FM Wood Grade	CNC Part Po	osition							
	FM Wood G	Grade							

Example with roof opening:

FM Module Mark – writes Framing Member Mark + Mark (from Roof) + Mark (from Opening).

Opening Header2 is included in the preassembly so FM Module Type parameter has opening framing configuration name, FM Module Mark parameter contains Framng Member Mark parameter value + current roof Mark value (can be seen near FM HostMemberSortMark) + current window Mark.

Custom Join : AGACAD

Properties	×	(🔂 {3D}	🔂 {3D}	🗙 🔂 {3D}	🗐 F5
M_WF Plate-Rim Jo LMBR 48x300	vist			S	
Structural Framing (Other) (1)	✓ 🖓 Edit Type			38/79 mg 12 800	
FM HostMemberSortMark	Roof 300 - Frame Panel_11				
Framing Layer	Frame				
Framing Member	Header 2		2/00//		8.146
Framing Member Description	Header 2				for the second s
Framing Member Mark	HJ	6 / //			Z /
Framing Member Type	Joist				\sim
Framing Member Volume	0.013 m ³				
Framing	Roof		∕ ∕⊧∽		/
Framing Member Cut Length	896.00				
FM SortMark	HJ-1				
Framing Member Mass	5.802 kg			{{	- Maria
CNC Part Number					MIT
CNC Part Name					
FM Module Mark	HJ Roof 300 - Frame Panel_11 7			/// /~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	L,
FM Wall Layer	Frame				
FM Module Type	1H0V0H1Z				
FM Module Preassembled			XXXII		/
CNC Part Position	1;152.00;1000.00; 3;576.00				/
FM Wood Grade					

Example with floor/roof vertical block:

FM Module Type – writes configuration name. *FM Module Mark* – writes roof mark.

Properties		х	Section 6	😭 {3D}	×	
M_WF Joist LMBR 45x150		•				
Structural Framing (Other) (1) 🗸 🔂 Edit Ty	/pe				
Framing Member Descripti	. Module	•	~			
FM SortMark	MD-1			8.		/
Framing Layer	Frame				20	\sim
Framing Member Mark	MD					
FM HostMemberSortMark	F5				1	
Framing Member Mass						m
Framing Member Volume	0.017 m³					° 1 ľ
CNC Part Number						
CNC Part Name						
FM Module Mark	F5					
FM Wall Layer	Frame					
FM Module Type	FM Module Type Default Configurat			↗∕		
FM Module Preassembled						
CNC Part Position						
FM Wood Grade						

Example with wall king stud:

FM Module Type

For Windows, Doors and Openings – writes opening type (Window, Door, Opening, JoinedOpening). For Connections – writes join configuration name.

FM Module Mark – writes *FM Module Type* + *Mark* (from Wall) + *Mark* (from Window, Door or Opening) + unique number.

FM Module Preassembled – writes Yes/No if element is (or is not) included in the preassembly.

King is included in preassembly so **FM Module Type** parameter has Window value because this King belongs to the window, **FM Module Mark** parameter contains **FM Module Type** parameter value (Window) + current wall **Mark** value (it can be seen near **FM HostMemberSortMark**) + current window Mark + unique number.

Properties	×	
M_WF Stud LMBR 45x200		FIT
Structural Framing (Other) (1)	🗸 🖽 Edit Type	
Framing	Wall	
Framing Member Description	King Post	
FM SortMark		
Framing Layer	Frame	
Framing Member Mark	KP	
FM HostMemberSortMark	W-1	
Framing Member Mass		
Framing Member Volume	0.034 m ³	
Framing Member Cut Length	3820.0	
FM Module Mark	Window W-1 Wind-1 2	
CNC Part Number		
CNC Part Name		
FM Module Type	Window	
FM Module Preassembled		
CNC Part Position		
FM Wood Grade		
FM Wall Layer	Frame	
SDC		
Assembly Depth		
Assembly Length		
Assembly Height		
FM Module Number		
Phasing		
Properties help	Apply	

Example with wall vertical block:

FM Module Type – writes configuration name. *FM Module Mark* – writes wall mark.

08/09/21, 09:23			C	Sustom Join : AGACAD
Properties		×	Έ	
M_WF Stud LMBR 45x200		•	2005	
Structural Framing (Other) (1)	V 🔠 Edi	t Type		
Mark		~		
Framing Member	Module			
Framing Member Type	Module			
Framing	Wall			
Framing Member Description	Module			
FM SortMark				
Framing Layer	Frame		U.	
Framing Member Mark	MD		88	
FM HostMemberSortMark	W-1		l 🕅	
Framing Member Mass				
Framing Member Volume	0.025 m³			
Framing Member Cut Length	2820.0			
FM Module Mark	W-1			
CNC Part Number				
CNC Part Name				
FM Module Type	Vertical Block .	•		
FM Module Preassembled	✓			244 ×
CNC Part Position			l l É	
FM Wood Grade			- 0	
FM Wall Layer	Frame		-	-
SDC				

Example with floor opening:

FM Module Type

For Openings – writes opening type.

For Connections – writes join configuration name.

FM Module Mark – writes FM Module Type + Mark (from Floor) + Mark (from Opening) + unique number.

FM Module Preassembled - writes Yes/No if element is (or is not) included in the preassembly.

Example:

Header2 is included in preassembly so **FM Module Type** parameter has Opening value, **FM Module Mark** parameter contains **FM Module Type**parameter value (Opening) + current floor **Mark** value (F-1, can be seen near **FM HostMemberSortMark**) + current window **Mark** + unique number.

Properties	×	
M_WF Rim-Bridging LMBR 45x200) Joist	
Structural Framing (Other) (1)	🗸 🔓 Edit Type	-153.0 mm -153.0 mm
Comments		
Mark	1.3	
Framing Member	Header 2	
Framing Member Type	Joist	o ^{207.0} o
Framing Member Cut Length	700.0	
Framing	Floor	
Framing Member Description	Header 2	
FM SortMark		
Framing Layer	Frame	
Framing Member Mark	HJ	
FM HostMemberSortMark	F-1	
Framing Member Mass		
Framing Member Volume	0.006 m³	
CNC Part Number		
CNC Part Name		
FM Module Mark	Opening F-1 1	
FM Wall Layer	Frame	
FM Module Type	Opening	
FM Module Preassembled	✓	
CNC Part Position	1	
FM Wood Grade	□ •	
Properties help	Apply	1:25 🛛 🗇 🔽 🙀 👘 🃎 🖇 🛗 🕷 🖼 <

Custom Join : AGACAD

Example with floor end connection:

08/09/21, 09:23

FM Module Type – writes end connection configuration name.

FM Module Mark – writes FS (Frame Start) or FE (Frame End) values + L (Left) or R (Right) + Mark (from Floor).

FM Module Preassembled – writes Yes/No if element is/is not included into preassembly.

Example: Edge joist is included into the preassembling, so **FM Module Type** parameter has end connection configuration value, **FM Module Mark** parameter contains **FS** (Floor Start) + **L** (Left) + current floor **Mark** value (it can be seen near **FM HostMemberSortMark**).

Properties		×	Ŀ,	Leve
M_WF Joist LMBR 45x200		•		
Structural Framing (Other) (1)	🗸 记 Edit	Туре		
Cutback_E	0.0	~		
Cutback_S	0.0			
Identity Data		*		
FM HostSortMark				
FM Number of Connectors	0.000000			
Image				
Comments				
Mark				
Framing Member	Edge Joist			_
Framing Member Type	Joist			
Framing Member Cut Length	5710.0			
Framing	Floor			
Framing Member Description	Edge Joist			
FM SortMark				
Framing Layer	Frame			
Framing Member Mark	EJ			
FM HostMemberSortMark	F-100			
Framing Member Mass				
Framing Member Volume	0.051 m³			
CNC Part Number				
CNC Part Name				
FM Module Mark	FS L F-100			
FM Wall Layer	Frame			
FM Module Type	1Y0X			
FM Module Preassembled	✓			
CNC Part Position				
FM Wood Grade				

			Custon	n Join	: A	GACAD			
.e	ve	11	1	X	>	Section 3		North	n
		E							
	-	LC LC	()		ŀ			
		ή		,		<u> </u>			
			Ĭ						
							 		-

Example with metal opening king:

FM Module Type

For Windows, Doors, and Openings – writes opening type. For Connections – writes join configuration name.

FM Module Mark – writes **Framing Member Mark** + **Left** or **Right** + **Mark** (from Wall) + **Mark** (from Window, Door or Opening).

FM Module Preassembled - writes Yes/No if element is (or is not) included in the preassembly.

Example:

King is included in the preassembly so **FM Module Type** parameter has Door value, because this King belongs to the door, **FM Module Mark** parameter contains **Framing Member Mark** parameter value + Right value + current wall **Mark** value (can be seen near **FM HostMemberSortMark**) + current door **Mark**.

Custom Join : AGACAD



Example with metal T connection:

FM Module Type – writes connection configuration name.

FM Module Mark – writes **FS** (Frame Start), **FE** (Frame End) or **TC** (T Connection) values + **L** (Left) or **R** (Right) + **Mark** (from Wall).

FM Module Preassembled – writes Yes/No if element is/is not included into preassembly.

Example: T stud is included into the preassembling so **FM Module Type** parameter has T connection configuration value, **FM Module Mark** parameter contains **TC** (T Connection) + current wall **Mark** value (it can be seen near **FM HostMemberSortMark**).

Properties	×							
M_MF C+C Stu C12051-15	M_MF C+C Stud C12051-15							
Structural Framing (Other) (1) v 📴 Edit Type							
Framing Layer	Frame							
Framing Member Mark	TS 🔤 🗖							
FM HostMemberSortMark	W-8							
Framing Member Mass								
Framing Member Volume	0.002 m³							
Link to Connected Wall								
Build in Place								
CNC Part Number								
CNC Part Name								
FM Module Mark	TC W-8							
FM Wall Layer	Frame							
FM Module Type	Default Configurati							
FM Module Preassembled	☑ –							
CNC Part Position								
FM Wood Grade								



Example with metal floor opening trimming joist:

FM Module Type

For Openings – writes opening configuration name. For Connections – writes join configuration name.

FM Module Mark – writes Framing Member Mark + Left or Right value + Mark (from Floor).

FM Module Preassembled – writes Yes/No if element is (or is not) included in the preassembly.



Example with metal floor end connection:

FM Module Type – writes end connection configuration name.

FM Module Mark – writes FS (Frame Start) or FE (Frame End) values + L (Left) or R (Right) + Mark (from Floor).

FM Module Preassembled - writes Yes/No if element is/is not included into preassembly.

Example: Edge joist is included into the preassembling, so **FM Module Type** parameter has end connection configuration value, **FM Module Mark** parameter contains **FS** (Floor Start) + **L** (Left) + current floor **Mark** value (it can be seen near **FM HostMemberSortMark**).



Example with additional floor joist: **FM Module Type** – writes configuration name. **FM Module Mark** – writes floor mark.

08/09/21, 09:23	Custom Join : AGACAD					
	Properties M_MF Stud-Joist C20376-15	×				
	Structural Framing (Other) (1)	~ 🖓 Edit Type				
	Framing Layer	Frame 🗛				
	Framing Member Mark	MD				
/////////	FM HostMemberSortMark	F-5				
	Framing Member Mass					
	Framing Member Volume	0.003 m ³				
	CNC Part Number					
	CNC Part Name					
	FM Module Mark	F-5				
	FM Wall Laver	Frame				
	FM Module Type	Default Configuration				
	FM Module Preassembled					
	CNC Part Position					
	FM Wood Grade					
	Phasing	*				
	Disco Control	Man Caratana II M				
	Properties help	Apply				

Example with metal roof:

FM Module Type – writes opening type name.

FM Module Mark – writes FM Module Type + Mark (from Roof) + Mark (from Opening) + unique number.

FM Module Preassembled – writes Yes/No if element is (or is not) included in the preassembly.

Example:

A	Properties ×					
	M_MF Stud-Joist C20351-15	-				
	Structural Framing (Other) (1)	~ 🔡 Edit Type				
	Mark					
	FM Module Type	Window				
	FM Module Mark	Window Roof 203+3layer_2 W-101 1				
	FM Module Preassembled					
	Framing Member Description	Trimmer Joist				
8747.0	Framing Member Volume	0.001 m ³				
	Framing Member Type	Joist				
	Framing Member Mark	UT UT				
	FM SortMark					
	Framing Member	Trimmer Joist				
	Framing	Roof				
	FM HostMemberSortMark	Roof 203+3layer_2				
	Framing Layer	Frame				
	Framing Member Mass					
	CNC Part Number					
	CNC Part Name					
	Properties help	Apply				

Example with roof edge:

FM Module Type – writes end connection configuration name.

FM Module Mark – writes FS (Frame Start) or FE (Frame End) values + L (Left) or R (Right) + Mark (from Roof).

FM Module Preassembled – writes Yes/No if element is/is not included into preassembly.

Example: Edge joist is included into the preassembling, so **FM Module Type** parameter has end connection configuration value, **FM Module Mark** parameter contains **FS** (Roof Start) + **L** (Left) + current roof **Mark** value (it can be seen near **FM HostMemberSortMark**).

	Properties			×
		M_MF Stud-Joist C20351-15		•
	Structural Fr	aming (Other) (1)	~ Ca Ed	it Type
	FM Module	Туре	Default Configuration	
	FM Module	Mark	FS L Roof 203+3layer_2	
	FM Module	Preassembled		
599.1	Framing Me	ember Description	Edge Joist	
	Framing Member Volume		0.002 m³	
	Framing Me	ember Type	Joist	
	Framing Me	ember Mark	EJ	
	FM SortMar	rk	EJ-1	
	Framing Me	ember	Edge Joist	
	Framing		Roof	
	FM HostMe	emberSortMark	Roof 203+3layer_2	
	Framing Lay	yer	Frame	
	Framing Me	ember Mass		
	CNC Part N	umber		
	CNC Part N	ame		
a second s	CNC Part P	osition		•
	Properties he	elp	Ap	ply

All these parameters can later be used in the schedules and view filters.

Build in Place

	X-Position	Count	Туре				Depth by Core	Rotat e 90	Rotat e 180	Spacing	Position	Align Type	Extend Start	Extend End	Cuts	Pre- assembled	Build in Place	Link to Connected W
1	Standard ~	1 🔷	M_WF Joist	: LMBR 4	45x150	~	~			0 mm	Center ~	None 👻	None ~	None ~		~	-	
2	Standard ~	1 🔷	M_WF Joist	: LMBR 4	45x150	~		-		0 mm	Internal ~	Previou ~	None ~	None ~		~	>	
3	Standard ~	1 🔷	M_WF Joist	: LMBR 4	45x150	~		~	~	0 mm	Externa ~	Previou ~	None Y	None ~		~	>	
SymI	oolic Preview —																	

Build in Place – writes Yes/No information into beam instance parameter if the beam is built-in-place or is prefabricated with whole wall/floor/roof frame.

Example with wall corner studs:



Example with bottom rim joist:

Custom Join : AGACAD



Example with opening top header:

Properties	x	
M_WF Rim-Bridg LMBR 45x200	ging Joist 🗸	745.0 74510 -75.5 mm
Structural Framing (Other) (1)) 🗸 🖓 Edit Type	
Constraints	\$ ^	
Reference Level	Level 1	
Start Level Offset	-75.5	
End Level Offset	-75.5	l F
Cross-Section Rotation	-90.00°	
Geometric Position	\$	♀
Start Extension	22.5	
End Extension	22.5	
yz Justification	Uniform	
y Justification	Origin	
y Offset Value	0.0	
z Justification	Origin	
z Offset Value	0.0	
Construction	\$	
#d	200.0	
Build in Place	✓	
Insert_Left		
Insert_Right		
Row	0	

.....

Custom Join : AGACAD

Properties		~
M_WF Plate LMBR 45x200		•
Structural Framing (Other) (1)	🗸 🖯 Edit T	ype
End Extension	22.5	•
yz Justification	Uniform	
y Justification	Origin	
y Offset Value	0.0	
z Justification	Origin	
z Offset Value	0.0	
Construction		:
#d	200.0	
Build in Place	✓	
Insert_Left		
Insert_Right		
Row	0	
Link to Connected Wall		
Assembly Mass		
Element Mass		
Assembly Created-Updated		
Details Created-Updated		
DC		

- v [

Example with roof end:

Properties		×	🔂 {3D} 🛛 🗙	
M_Roof_Frame C LMBR 48x300	Common Joist	•		
Structural Framing (Other) (1)	🗸 🔐 Edit	Туре		574
Constraints		* ^		777
Reference Level	Roof]		
Start Level Offset	171.41			
End Level Offset	2063.27			///
Cross-Section Rotation	0.00°			24.06
Geometric Position		*		
Start Extension	0.00		2	745
End Extension	0.00			
yz Justification	Uniform			
y Justification	Origin			
y Offset Value	0.00			
z Justification	Center			
z Offset Value	0.00			
Construction		^		
Build in Place				
Lock Position				
Lengthen_Start	0.00			
Lengthen_End	0.00		KAN DE CONTRACTOR	2 1
Link to Connected Wall			the second se	
Assembly Created-Updated				and the second second

Example with floor bridging:

Custom Join : AGACAD

Properties		×	1 P	{3D}	×	E Level 0		Level 1	Ģ	Section 4
M_WF Rim LMBR 45x1	-Bridging Joist 50	•								
Structural Framing (Oth	er) (1) 🗸 🖓 🔂 Ec	lit Type								
Constraints		* ^					/			
Reference Level	Level 1									
Start Level Offset	-115.0									~
End Level Offset	-115.0						-11.			
Cross-Section Rotation	90.00°							Storm 1		
Geometric Position		*		/				\sim		
Start Extension	-22.5			\sim				\sim		
End Extension	-22.5									<. //
yz Justification	Uniform					\sim	$\boldsymbol{\times}$			10.00
y Justification	Origin							000.0		The MIT.
y Offset Value	0.0				_					
z Justification	Origin								\checkmark	
z Offset Value	0.0							\sim		
Construction		*								~
#d	150.0									
Build in Place										
Insert_Left										
Insert_Right		•								
Properties help	A	pply								

Example with floor additional joist:

Properties		×	\odot	{3D}	E Level 0	🗄 Level 1
M_WF Joist LMBR 45x15	50	•				↓ 150.0 ↓ ↓ ↓
				M		M M
Structural Framing (Othe	r) (1) 🗸 🖓 🗄 Edit	Туре		IXI		IXI IXI
Constraints		* ^		V N		
Reference Level	Level 1					
Start Level Offset	-75.0					
End Level Offset	-75.0					
Cross-Section Rotation	0.00°					
Geometric Position		\$				
Start Extension	-22.5					
End Extension	-23.7					
yz Justification	Uniform					
y Justification	Origin					
y Offset Value	0.0					
z Justification	Origin					
z Offset Value	0.0					
Construction		*				
#d	150.0					
Build in Place						
Link to Connected Wall						
Assembly Mass						

Example with floor/roof vertical block:

Custom Join : A	GACAD
-----------------	-------

Properties			×	Section 6	🔂 {3D}	×
M_WF Joist LMBR 45x150			•			
Structural Framing (Other) (1)) ~	🔠 Edit Ty	pe 📃			
End Extension	67.5		A .			
yz Justification	Uniform					
y Justification	Origin					
y Offset Value	0.0					
z Justification	Origin					
z Offset Value	0.0					
Construction		\$				
#d	150.0					\times
Build in Place						/~
Link to Connected Wall		1				, ,
Assembly Mass						
Element Mass					7/ ,	
Assembly Created-Updated						

Example with wall bottom pad:

Properties		×		
M_WF Plate LMBR 45x45	1	•		
Structural Framing (Other) (1) 🗸 🗸	Edit Type		
y Offset Value	0.0			
z Justification	Origin			
z Offset Value	0.0			
Construction		\$		
#d	200.0			
Build in Place	>		_ /	
Insert_Left	✓			
Insert_Right			A	
Row	2			
Link to Connected Wall			⊫	
Assembly Mass				

Example with metal wall bottom pad:

Custom Join : AGACAD

×

		Properties
		2
		Structura
		Identity D
		FM Host
		FM Num
		Image
		Comme
		Mark
		Framing
•		Framing
n		Framing
<u>-</u>	╨╞═┈╼╴╼╴╼╴╼╴═┥╴┘╴	 Framing
	1 1	Framing
b	•	FM Sort
		Framing
	, ,	Framing
		EM Host

M_MF C+C Plate C12051-15	-
Structural Framing (Other) (1)	🗸 🔠 Edit Type
Identity Data	* ^
FM HostSortMark	
FM Number of Connectors	0.000000
lmage	
Comments	
Mark	
Framing Member	Bottom Plate
Framing Member Type	Plate
Framing Member Cut Length	5224.6
Framing	Wall
Framing Member Description	Bottom Plate
FM SortMark	
Framing Layer	Frame
Framing Member Mark	BP
FM HostMemberSortMark	W-6
Framing Member Mass	
Framing Member Volume	0.002 m³
Link to Connected Wall	
Build in Place	
CNC Part Number	· ·
Properties help	Apply

Example with wall additional stud:



Example with wall vertical block:

Custom Join : AGACAD

Properties	×		E		
M_WF Stud LMBR 45x200		•		4995.6 4	
Structural Framing (Other) (1) 🗸	🔠 Edit Type			
y Offset Value	0.0	□ ^			
z Justification	Origin				
z Offset Value	0.0				
Construction		\$			
#d	200.0				
Build in Place	✓				
Link to Connected Wall					
Assembly Mass					
Element Mass					
Assembly Created-Updated					
Details Created-Updated					
DC					
Graphics		*	965		
Axis Visible_T					
Even Number					
Properties help	:	Apply			

Example with floor end connection:

Properties		X	🕒 Level 1	× 🗘	Section 3	合 North
M_WF Joist LMBR 45x200		•	42(2) mm	- 8	ŀ	
Structural Framing (Other) (1)	🗸 🗟 Edit Ty	/pe		V		
Construction	*	^				
#d	200.0					
Build in Place	✓					
Link to Connected Wall						
Assembly Mass						
Element Mass						
Assembly Created-Updated						
Graphics	*	:				
Axis Visible_T				————		
Solid Visible						
Split Part						
Symbolic Section_Build in Place	✓					
Structural	\$					
Stick Symbol Location	Center of Geo					
Start Connection	None					
End Connection	None					
Cut Length	5710.0					
Structural Usage	Other					
Enable Analytical Model	✓					

Example with metal opening king stud:

	960.8	v	Properties				×
1	2974.6 mr	2 - (=	Ø	M_MF C+C S C12051-15	tud		•
			Structural Fr	aming (Other)	(1) ~	🔒 Edit Ty	/pe
			Constraints			\$	~
			Reference L	evel	Level 0		
			Start Level (Offset	25.4		
			End Level O	ffset	2974.6		
			Cross-Section	on Rotation	0.00°		
			Geometric Po	osition		*	
	19.2		Start Extens	ion	23.9		
٦	1 23		End Extensi	on	23.9		
	<u></u> ∧		yz Justificat	ion	Uniform		
			y Justificatio	on	Origin		_
			y Offset Val	ue	0.0		
			z Justificatio	n	Center		_
			z Offset Val	ue	0.0		
			Construction	1	10.00	ث	1
			#d		12.00 cm		
			Build in Plac	ce			
	E		Link to Con	nected Wall			
	j,		LOCK POSITIC	n			
		•	Structural			~	

Example with T connection:



Example with metal bridging:

	Properties		×
	M_MF C+C Plate C12051-15	e	•
	Structural Framing (Other) (1) 🗸 🔓 Edit Ty	pe
595 4 mm (1) (365 4 mm	Framing Layer	Frame	~
565.4 mm 4 565.4 mm	Framing Member Mark	ABP	
600.0	FM HostMemberSortMark	W-8	
	Framing Member Mass		
	Framing Member Volume	0.000 m³	
6	Link to Connected Wall	\checkmark	
1	Build in Place		
	CNC Part Number		
	CNC Part Name		
	FM Module Mark		
	FM Wall Layer	Frame	
	FM Module Type		
	FM Module Preassembled		
	CNC Part Position		
	FM Wood Grade		Υ.
	Properties help	Apply	

Example with metal additional stud:

	Properties			×
	6	M_MF C+C Stud C12051-15	I	•
585	Structural F	raming (Other) (1) ~	🔠 Edit Type
^1	Framing La	ayer	Frame	^
	Framing M	lember Mark	AS	
1 I	FM HostM	emberSortMark	W-8	
	Framing M	lember Mass		
	Framing M	lember Volume	0.002 m³	
	Link to Co	nnected Wall	\sim	
	Build in Pla	ice	\square	
	CNC Part N	Number		
	CNC Part N	Vame		
	FM Modul	e Mark		
	FM Wall La	iyer	Frame	
	FM Modul	е Туре		
	FM Modul	e Preassembled	<u>~</u>	
	CNC Part F	osition		
	- FM Wood	Grade		¥
	Properties h	elp		Apply

Example with metal frame corner brace:

Custom Join : AGACAD

	Properties		×			
	M_MF C+C_CH Plate C08941-10					
X a ref	Structural Framing (Other) (1)	~	Edit Type			
ATAL A	Framing Member Cut Length	452.3	^			
	Framing	Wall				
F I I I I I I I I I I I I I I I I I I I	Framing Member Description	Brace				
2 3 ²	FM SortMark					
	Framing Layer	Frame				
AT AR	Framing Member Mark	BR				
1 PA	FM HostMemberSortMark	W-6				
	Framing Member Mass					
	Framing Member Volume	0.000 m³				
•	Link to Connected Wall	\checkmark				
	Build in Place					
	CNC Part Number					
	CNC Part Name					
	FM Module Mark					
	FM Wall Layer	Frame	_ ~			
	Properties help	-	Apply			

Example with metal floor opening trimming joist blocking:



Example with metal floor end:



Custom Join : AGACAD

Descrition	
Properties	×
M_MF Stud-Joist C20376-15	•
Structural Framing (Other) (1)	🗸 🖯 Edit Type
y Offset Value	0.0
z Justification	Center
z Offset Value	0.0
Construction	\$
#d	20.30 cm
Lock Position	
Link to Connected Wall	
Build in Place	
DC	
Details Created-Updated	
Materials and Finishes	*
Structural Material	<by category=""></by>
Structural	\$
Stick Symbol Location	Center of Geometry
Start Connection	None
End Connection	None
Properties help	Apply

Example with metal floor additional joist:



Example with metal roof:



Properties					×
	M_MF Stud-Jo C20351-15	bist			•
Structural Fra	aming (Other)	(1) ~	🖌 🔠 Edit	Тур	e
Construction			_	\$	~
#d		20.30 cm			
Lock Positio	n				
Link to Con	nected Wall	\checkmark			
Build in Plac	:e	\checkmark			
Graphics				*	
Solid Visible					
Structural				\$	
Stick Symbo	l Location	Center of Geor	metry		
Start Conne	ction	None			
End Connec	tion	None			
Cut Length		4009.5			
Structural U	sage	Other			
Camber Size	2				
Number of	studs				
Enable Anal	ytical Model				~
Properties he	lp		Ар	oly	

Custom Join : AGACAD

Example with metal roof ed:

	Properties			×
	4	M_MF Stud-Joist C20351-15		•
	Structural Fr	aming (Other) (1)	~ 8	🖥 Edit Type
	End Extensi	on	30.0	^
	yz Justificat	ion	Uniform	
	y Justificatio	on	Origin	
699.1	y Offset Val	ue	0.0	
	z Justificatio	n	Center	
	z Offset Val	ue	0.0	
	Construction	1		*
	#d		20.30 cm	
<u></u>	Lock Positio	n		
	Link to Con	nected Wall	\sim	
	Build in Pla	ce		
	Graphics			*
	Solid Visible	2		
	Structural			*
	Stick Symbo	ol Location	Center of Geomet	ry
	Start Conne	ction	None	×
	Properties he	<u>elp</u>		Apply

Example with wall additional blocking:

Custom	Join	: AGACAD)
--------	------	----------	---

Properties			×	
M_WF Plate LMBR 45x20	D		•	
Structural Framing (Other)	(3)	V 🖯 Edit	Туре	
Constraints			* ^	
Reference Level	Level 1			
Start Level Offset	1000.0			
End Level Offset	1000.0			
Cross-Section Rotation	90.00°			
Geometric Position			*	
Start Extension	-22.5			
End Extension	-22.5			
yz Justification	Uniform			
y Justification	Origin			
y Offset Value	0.0			
z Justification	Origin			
z Offset Value	0.0			
Construction			*	
#d	200.0			
Build in Place	✓			
Insert_Left				
Insert_Right				
Row	0			
Link to Connected Wall				
Assembly Mass				
Element Mass				×
Assembly Created-Upd				
Details Created-Updated				Jun .



Connected Wall/Floor/Roof

	X-Position	Count	Туре	Depth by Core	Rotat e 90	Rotat e 180	Spacing	Position	Align Type	Extend Start	Extend End	Cuts	Pre- assembled	Build in Place	Link to Connected Wall
1	Standard ~	1 🔷	M_WF Stud : LMBR 45x300 ~				0 mm	Center ~	None V	None ~	None ~		-	\checkmark	7
2	Standard ~	1 🔷	M_WF Stud : LMBR 45x150 ~		-		0 mm	Internal ~	Previou ~	None ~	None ~		~	>	>
3	Standard ~	1	M_WF Stud : LMBR 45x150 ~		~	~	0 mm	Externa ~	Previou ~	None ~	None ~		~	-	✓



Link to Connected Wall/Floor/Roof – choose this option if end stud/joist is near wall/floor/roof corner and the element should be prefabricated and connected to an intersecting wall/floor/roof.

Example with wall corner:

Custom Join : AGACAD

Properties	×	1 {3D}	X 🔂 {3D}
M_WF Stud LMBR 45x150	-		
Structural Framing (Other) (1)	✓ 🔠 Edit Type		
Constraints	* ^		
Reference Level	Level 1		
Start Level Offset	22.5		
End Level Offset	2677.5		
Cross-Section Rotation	0.00°		
Geometric Position	\$		
Start Extension	-22.5		
End Extension	-22.5		
yz Justification	Uniform		
y Justification	Origin		
y Offset Value	0.0		
z Justification	Origin		
z Offset Value	0.0		
Construction	\$		
#d	300.0		
Build in Place	✓		
Link to Connected Wall	✓		To the second seco
Assembly Mass			E
Element Mass			
Assembly Created-Updated			0
Graphics	*		
Axis Visible_T			
Even Number			
Solid Visible			
Split Part			
Symbolic Section_Build in Place	✓		

Example with opening trimming joist:

Properties			×
M_WF Joist LMBR 45x200			•
Structural Framing (Other) (1)	~ 8	🖥 Edit Typ	e
Constraints		\$	\mathbf{h}
Reference Level	Level 1		
Start Level Offset	-153.0		
End Level Offset	-153.0		
Cross-Section Rotation	0.00°		
Geometric Position		\$	
Start Extension	-22.5		
End Extension	-22.5		
yz Justification	Uniform		
y Justification	Origin		
y Offset Value	0.0		
z Justification	Origin		
z Offset Value	0.0		
Construction		\$	
#d	200.0		
Build in Place			
Link to Connected Wall	<		
Graphics		\$	
Axis Visible_T			

Example with opening king stud:

M_WF Stud LMBR 45x20	00 rr) (1) 🗸 🗗		•		343	▼
	er) (1) 🗸 🗄					
Structural Framing (Othe		🖥 Edit T	Гуре			
yz Justification	Uniform		^			
y Justification	Origin					
y Offset Value	0.0					
z Justification	Origin					
z Offset Value	0.0					
Construction			*			
#d	200.0					
Build in Place	✓					
Link to Connected Wall	✓					
Assembly Mass						
Element Mass						
Assembly Created-Upd.	•					
Details Created-Updat						
DC				18	⊫	
Graphics			×	8	• •	
Structural			^			
Stick Symbol Location	Center of Geometry	у				
Start Connection	None				$\hat{1}$	
End Connection	None				-	
Cut Length	3320.0					
Structural Usage	Other					
Enable Analytical Mode						
Dimensions			*			
#d_True	200.0					
HP	200.0					

Example with metal opening king stud:

960.8	Properties		×
	M_MF C+C S C12051-15	tud ,	Ŧ
	Structural Framing (Other)	(1) V 🔠 Edit Type	
	Constraints	* /	
	Reference Level	Level 0	
<u> </u>	Start Level Offset	25.4	
	End Level Offset	2974.6	
	Cross-Section Rotation	0.00°	
	Geometric Position	*	
_ <u> </u>	Start Extension	23.9	
-1 3	End Extension	23.9	
	yz Justification	Uniform	
	y Justification	Origin	
	y Offset Value	0.0	
	z Justification	Center	
	z Offset Value	0.0	
	Construction	*	
	#d	12.00 cm	
	Build in Place		
	Link to Connected Wall		
	- Lock Position		

Example with metal T connection:

Properties	×
M_MF C+C Stu C12051-15	ıd 👻
Structural Framing (Other) (1) 🗸 🔂 Edit Type
Framing Layer	Frame 🔨 🔨
Framing Member Mark	TS
FM HostMemberSortMark	W-8
Framing Member Mass	
Framing Member Volume	0.002 m³
Link to Connected Wall	
Build in Place	
CNC Part Number	
CNC Part Name	
FM Module Mark	TC W-8
FM Wall Layer	Frame
FM Module Type	Default Configurati
FM Module Preassembled	
CNC Part Position	
FM Wood Grade	



Example with metal floor opening trimming joist:

	1116.2	Properties		×
		M_MF Stud-Joist C20376-15		•
1/ //////		Structural Framing (Other) (1)	✓ Contraction	/pe
///////////////////////////////////		#d	20.30 cm	~
		Lock Position		
////// >>>		Link to Connected Wall		
1111/125/1	8/1/1 /1/1 /	Build in Place		
11/1/ 51/ 1/1	11/1 /1// /1	DC		
	// //// ////	Details Created-Updated		
		Materials and Finishes	\$	
		Structural Material	<by category=""></by>	
1// \\$//////////////////////////////////	11/ 11/ 11	Structural	\$	
	/ /// ///	Stick Symbol Location	Center of Geometry	
		Start Connection	None	
	//// //// ///	End Connection	None	
14/1 /1/1 /1	1/ /// ////	Cut Length	5845.7	
9/1 - 11/1 - 11/1	- /// /////	Structural Usage	Other	
1-11/1-12/1-		Camber Size		
NH IN	111 11///	Number of studs		¥
	K ////	Properties help	Apply	