

FRAMER

for SketchUp

USER MANUAL

Framer for SketchUp is a parametric wall framing extension used for modeling stud-framed walls of any customizable size (imperial or metric), with bottom and top plate options, customizable wallboard options, such as OSB, plywood, Zip, Densglass and drywall. Parametric framed openings are easily added and include customizable headers, multiple jacks and sill plates. Framed openings cut out wallboard. Framing members are modeled as components and can be reported per wall section. Framer for SketchUp works with Estimator for SketchUp for real-time takeoff generation.



Wall Tool: Used to model walls from assigned parameters, including number of bottom plates (regular or treated), top plates, stud spacing, start and end stud/corner conditions. Walls may be rectangular, gable or shed (assign pitch).



Door Tool: Used to model framed door openings from assigned parameters, including header size and plies (single, double, triple), number of jacks (1-4), width and header height.



Window Tool: Used to model framed window openings from assigned parameters, including header size and plies (single, double, triple), number of jacks (1-4), number of sills, width, height and header height.



Lumber Tool: Used to model standalone framing members, such as beams, joists, studs, bracing, regular and treated plates, headers, etc.



Blocking Tool: Used to model blocking between studs at any chosen location. Blocking may be staggered or solid, flat or edgeways



Reports Tool: Used to generate simple or detailed HTML or CSV (Excel) reports listing framing components and wall parameters on a per wall basis.



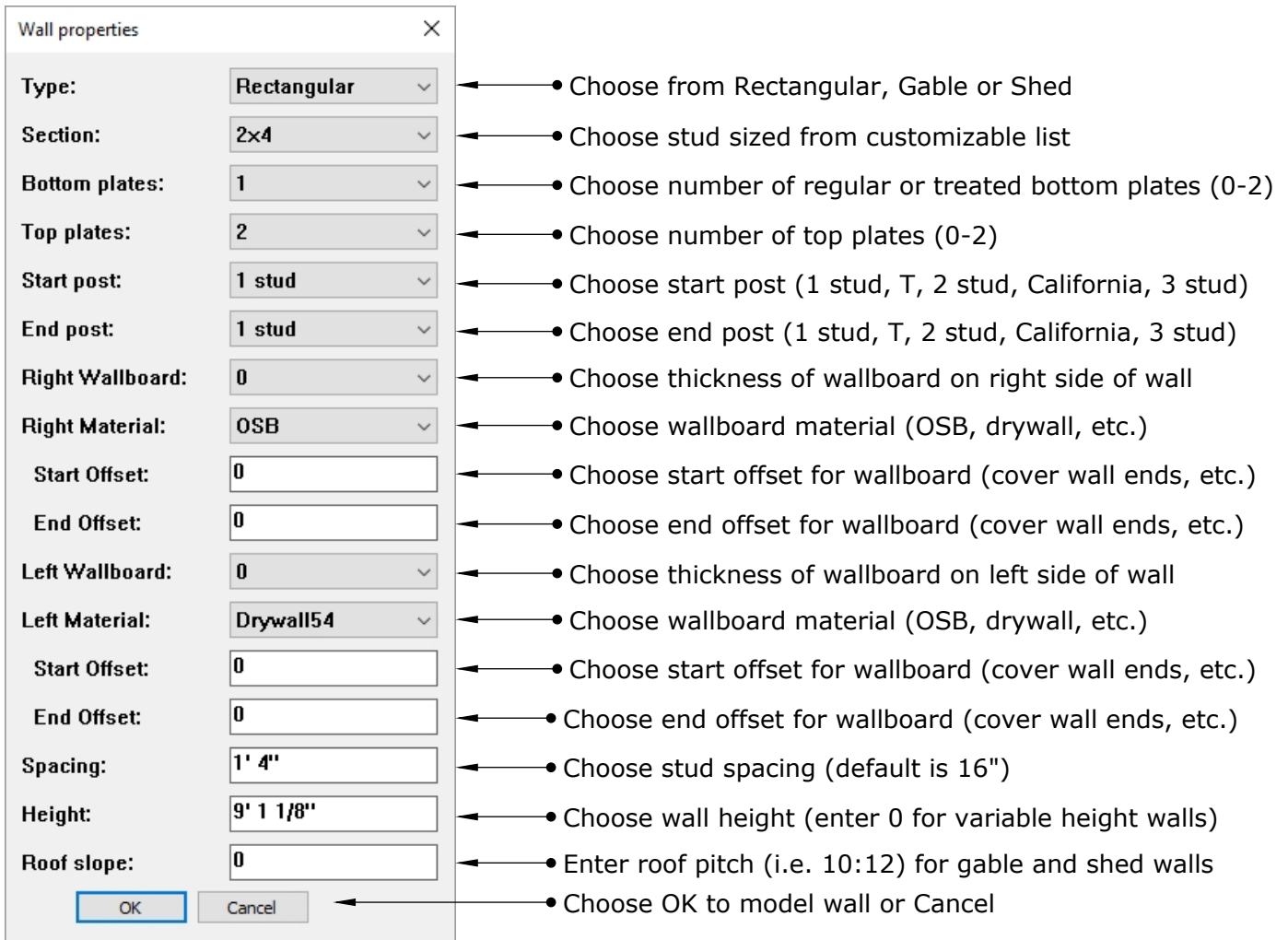
Configure Materials Tool: Used to customize framing member sections/sizes, metric or imperial, as well as assign customizable material textures to framing members.



Help Tool: Used to open the Framer for SketchUp User Manual

Wall Tool

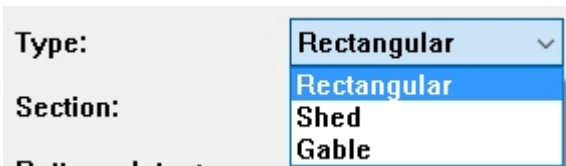
Wall Tool User Interface Overview:



Wall properties

Type:	Rectangular	Choose from Rectangular, Gable or Shed
Section:	2x4	Choose stud sized from customizable list
Bottom plates:	1	Choose number of regular or treated bottom plates (0-2)
Top plates:	2	Choose number of top plates (0-2)
Start post:	1 stud	Choose start post (1 stud, T, 2 stud, California, 3 stud)
End post:	1 stud	Choose end post (1 stud, T, 2 stud, California, 3 stud)
Right Wallboard:	0	Choose thickness of wallboard on right side of wall
Right Material:	OSB	Choose wallboard material (OSB, drywall, etc.)
Start Offset:	0	Choose start offset for wallboard (cover wall ends, etc.)
End Offset:	0	Choose end offset for wallboard (cover wall ends, etc.)
Left Wallboard:	0	Choose thickness of wallboard on left side of wall
Left Material:	Drywall54	Choose wallboard material (OSB, drywall, etc.)
Start Offset:	0	Choose start offset for wallboard (cover wall ends, etc.)
End Offset:	0	Choose end offset for wallboard (cover wall ends, etc.)
Spacing:	1' 4"	Choose stud spacing (default is 16")
Height:	9' 1 1/8"	Choose wall height (enter 0 for variable height walls)
Roof slope:	0	Enter roof pitch (i.e. 10:12) for gable and shed walls
<input type="button" value="OK"/> <input type="button" value="Cancel"/>		Choose OK to model wall or Cancel

Wall Types:



Type: Rectangular

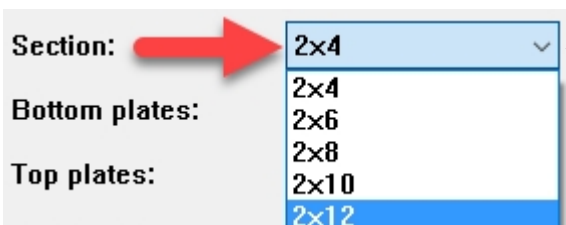
Section: Rectangular

Shed

Gable

Drop-down list (default is Rectangular). Choose from Rectangular, Shed or Gable. If Shed or Gable, make sure to enter the roof pitch in Roof Slope (in degrees or x:12).

Wall Section:



Section: 2x4

Bottom plates: 2x4

Top plates: 2x6

2x8

2x10

2x12

Choose stud size from a customizable list in this drop-down. Common stud sizes come pre-loaded in Framer, but users may create their own sections in Configure Materials.

Bottom plates: 1

Top plates: 1

Start post: 1 treated

End post: 2 treated

Choose the type and number of bottom plates (0-2). Treated plates will appear differently and be assigned own layer for differentiation and estimating purposes.

Top plates: 2

Start post: 1

End post: 2

Choose number of top plates.

Start post: 1 stud

End post: 1 stud

Right Wallboard: 2 studs Conventional

Right Material: 1 stud with T studs

Choose start and posts from drop-down lists.

1 Stud

2 Studs Conventional corner (2nd stud spaced to accept wall)

2 Studs L-shaped California corner (facing left side of wall)

2 Studs L-shaped California corner (facing right side of wall)

3 Studs together

T-Post used to start a wall intersecting another wall

Start and End Posts - Walls in Framer are modeled one wall at a time, just as they are built/installed in the field. Users may choose how to start and end walls to best suit corners and intersections. 2-Stud California corners are fairly common. Users must choose Right or Left facing, which is as name implies, facing the right or left of the wall being modeled, with anticipation of next intersecting wall. Please note that T-Posts do not recognize intersecting wall size, nor will T's displace an existing stud in the intersecting wall. If they are the same, no problem, if the intersecting wall is narrower, new T studs (which match wall being modeled) will stick out (for example, a 2x6 wall intersecting a 2x4 wall)

Right and Left Wallboard- To avoid confusion between Exterior and Interior of walls, Right and Left Wallboard are the terms used to reference the type of wallboard (sheathing, drywall, etc.) to be used on each side of the wall being modeled (referencing side of the wall being modeled). Users may choose a sheathing material for the Exterior of the building and drywall for the Interior of the building. Drywall may be on both right and left sides on interior walls. Users may completely customize their list of material types and thicknesses in the Configure Materials tool to be discussed later in this manual.

Right Wallboard: 0

Right Material: 0 1/2

Start Offset: 0 3/4

End Offset: 1 1/4

Left Wallboard: 0

Choose thickness (0 by default for no wallboard) of wallboard from this drop-down list (same for Right and Left. Users may customize these sizes in the Configure Materials tool.

Right Material:	OSB
Start Offset:	Drywall54
End Offset:	Densglass
Left Wallboard:	Drywall48
Left Material:	Insulation
	OSB
	Plywood
	Zip
	Drywall54

Choose Right and Left Wallboard Material. Note, if zero thickness is chosen, no wallboard will be modeled despite selection. Users may completely customize this list. A variety of wallboard types come pre-installed in Framr.

NOTE: Drywall48 references 4' drywall sheets. Drywall54 is for 54" (4'-6") sheets for users in the US who use 9' walls (common height). Framr will report the coverage (Area) of wallboard. For users wishing to differentiate wallboard sizes for estimating purposes, this additional material type was generated. Users may create custom material types, as well as delete those they do not want, in the Configure Materials Tool.

Wallboard Start and End Offsets- When walls intersect with one another, there are times when users may wish to offset the start and or end of the wallboard on the wall being modeled. Offsets provide a tool for this need. A positive number for the start will PULL the end of the sheathing to cover an adjacent wall, as in **Figure A and Figure B**. A negative number for the Start Offset will push the end of the sheathing in the direction of the wall being modeled, by x distance. A negative number for the End Offset will PUSH the end of the sheathing back, as shown in **Figure C**, to accept an adjacent wall. Note that these offsets, as well as any wall parameters may be edited at any time by **right-click** context menu, **Edit Framr Wall**.

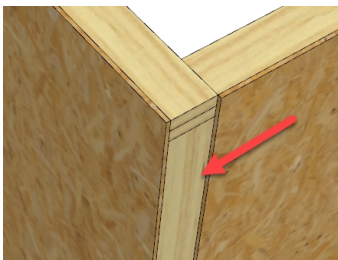


Figure A- This 2x6 wall intersection leaves a sheathing gap of 6"

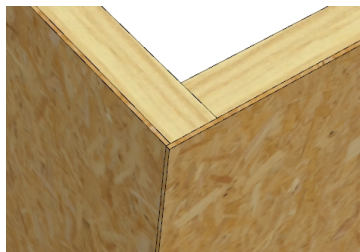


Figure B- A Start Offset of 6" PULLS sheathing start out to cover end

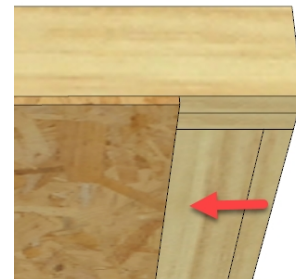


Figure C- This 2x6 wall has a -6" End Offset to hold sheathing back for adjacent wall.

Start Offset:	0
End Offset:	0

Enter positive or negative offset for Start and/or End if necessary.

Spacing:	1' 4"
Height:	9' 1 1/8"
Roof slope:	0

Enter Stud Spacing (default is 16")
Enter Wall Height (zero will trigger variable height option to choose top along Blue Axis)
For Shed and Gable Wall Types - enter roof pitch in degrees or x:12

Editing Wall Parameters- Users may edit wall parameters at any time by using the right-click context menu, Edit Framr Wall. This will bring up the dialog box to allow for any edits. NOTE, any manual changes made to a wall will be deleted, as the wall will be rebuilt based on the edited parameters.

Modeling a Wall- To model a wall, choose the Wall Tool and enter wall parameters as outlined previously. Upon clicking the OK button, the cursor icon will become the pencil icon. Choose the start point of the wall by clicking once, then move in the direction of the wall (typically along the Red or Green axis) as shown in **Figure D**. Either type in the desired wall length and hit Enter, OR click on the desired end point. The wall will be modeled instantly.

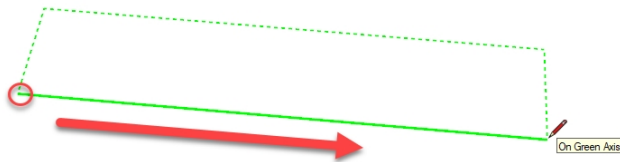


Figure D

TAB Key- Framer provides functionality for toggling which side of the line to model the wall, as well as allowing for wallboard thickness while modeling walls. This is accomplished with the use of the TAB key on your keyboard. After you have started a wall, press the TAB key once to switch sides of the wall. Press the TAB key again to show wallboard (**Figure E**), thus offsetting the wall path by the thickness of the wallboard. This can come in handy when modeling a framed exterior wall where the sheathing is flush with the slab, for example.



Figure E

MOVE/RESIZE FRAMER WALL- To edit the start or endpoint of a wall, select the wall and use the right-click context menu Move/Resize Framer Wall. Upon executing this command the 2D outline of the wall will be displayed. You will notice yellow grips at each corner of the wall and along either side. The CORNER grips (**Figure F**) are for resizing or modifying the start and/or end of a wall. Simply select a grip on the end to modify and stretch it out to the new point, then hit Enter. The wall is rebuilt in the new size.

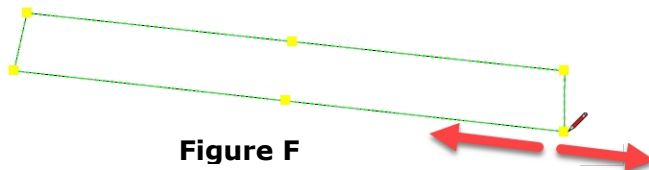


Figure F

IMPORTANT - To **move** a wall modeled using Framer, you **MUST** use the MOVE tool provided by Framer, NOT using SketchUp's Move command. While you may move the wall using this way, any future edits to the wall will cause issues. In order to properly move a wall, select the wall and using the same right-click context menu Move/Resize Framer Wall and choose a yellow grip on the desired side of the wall (**Figure G**) and move it into the new position, hit Enter.

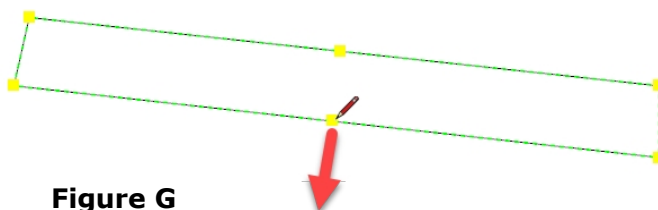
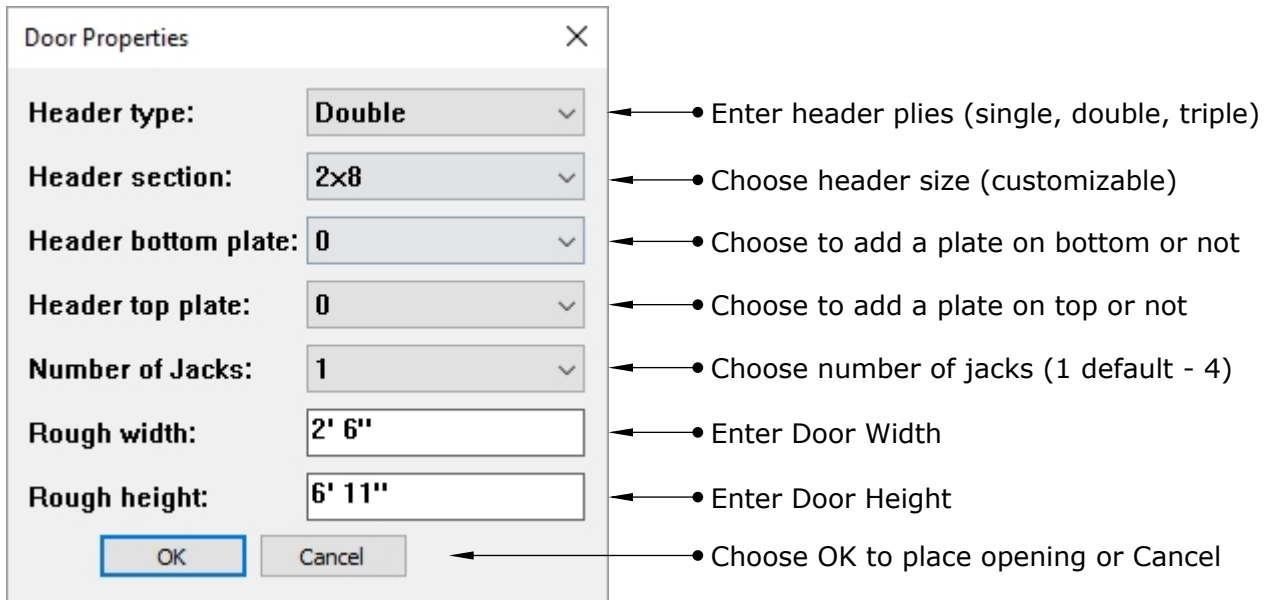


Figure G

Door Tool

Adding Door Openings- To add a door opening to any wall, simply select the wall to receive the opening. Then open the Door Tool UI shown below to enter parameters.



The image shows a 'Door Properties' dialog box with the following fields and annotations:

- Header type:** Double (dropdown) → Enter header plies (single, double, triple)
- Header section:** 2x8 (dropdown) → Choose header size (customizable)
- Header bottom plate:** 0 (dropdown) → Choose to add a plate on bottom or not
- Header top plate:** 0 (dropdown) → Choose to add a plate on top or not
- Number of Jacks:** 1 (dropdown) → Choose number of jacks (1 default - 4)
- Rough width:** 2' 6" (text input) → Enter Door Width
- Rough height:** 6' 11" (text input) → Enter Door Height
- Buttons:** OK (highlighted) and Cancel → Choose OK to place opening or Cancel

Place Door Openings- Upon clicking OK, X-Ray mode is enacted so that you may see behind the wallboard. Default position is referencing the Center of the door opening (**Figure H**), but pressing the TAB Key will toggle between Center, Right and Left position. Note, the door outline will be RED if an opening will not fit in the wall chosen and at that location, or GREEN if OK. Click the location to place the opening. Press enter if only one opening is desired, or continue placing same size opening in same wall if desired. Pressing Enter will commit the opening to the wall, displacing any studs in the path and cutting out any wallboard on either side.

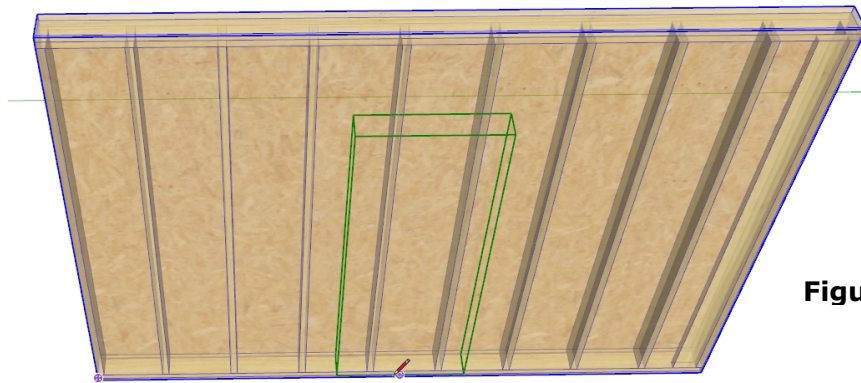
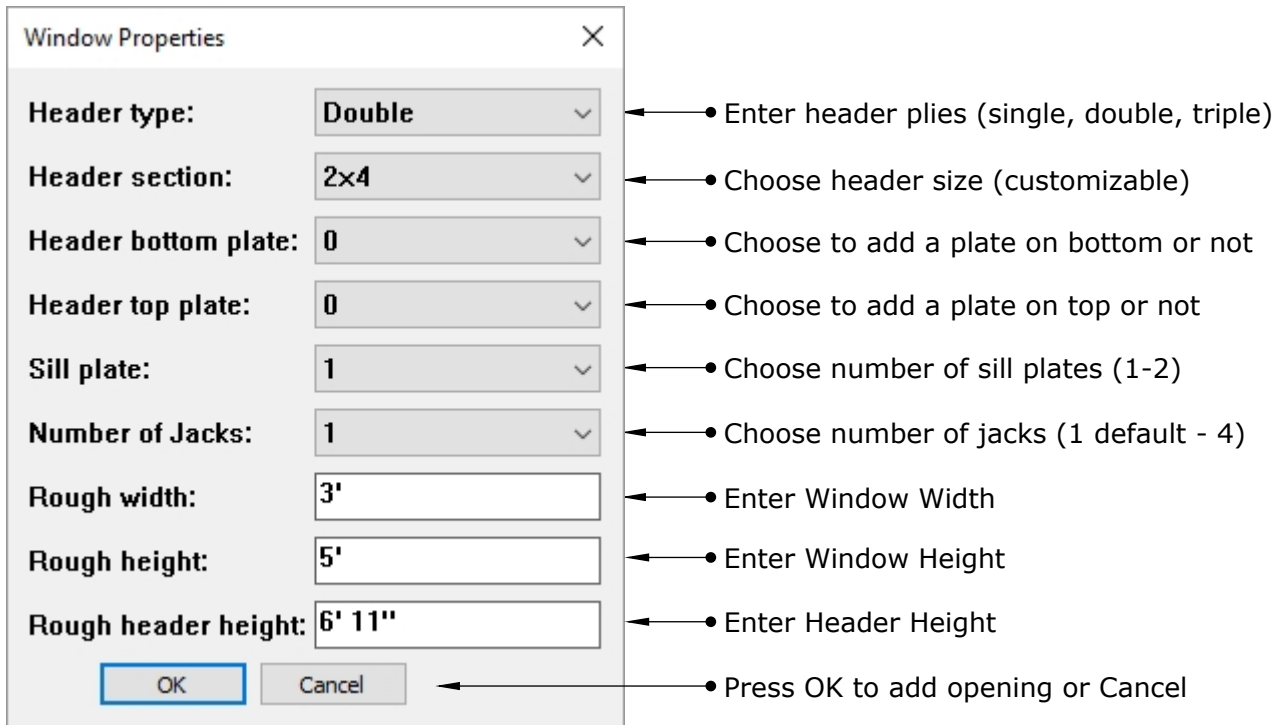


Figure H

EDIT/MOVE/DELETE Door- The Right-Click context menu is used for these commands. At any time, a door opening may be Edited (change parameters). Select the wall, right-click > Edit Framed Door to edit parameters. To move a door opening, right-click > Move Framed Door to choose new location for door opening. IF there are more than one door opening in a selected wall, the first opening will highlight in BLUE. Use the TAB Key to toggle the openings until the desired opening is highlighted, then move. To Delete an opening, the same TAB key functionality is applied to select the opening to delete. Right-click > Delete Framed Door, select the door opening to delete and press ENTER.

Window Tool

Adding Window Openings- To add a window opening to any wall, simply select the wall to receive the opening. Then open the Window Tool UI shown below to enter parameters.



The image shows a 'Window Properties' dialog box with various settings. To the right of the dialog, arrows point to specific fields with descriptive text:

- Header type: Double → Enter header plies (single, double, triple)
- Header section: 2x4 → Choose header size (customizable)
- Header bottom plate: 0 → Choose to add a plate on bottom or not
- Header top plate: 0 → Choose to add a plate on top or not
- Sill plate: 1 → Choose number of sill plates (1-2)
- Number of Jacks: 1 → Choose number of jacks (1 default - 4)
- Rough width: 3' → Enter Window Width
- Rough height: 5' → Enter Window Height
- Rough header height: 6' 11" → Enter Header Height
- OK/Cancel buttons → Press OK to add opening or Cancel

Place Window Openings- Upon clicking OK, X-Ray mode is enacted so that you may see behind the wallboard. Default position is referencing the Center of the window opening (**Figure I**), but pressing the TAB Key will toggle between Center, Right and Left position. Note, the window outline will be RED if an opening will not fit in the wall chosen and at that location, or GREEN if OK. Click the location to place the opening. Press enter if only one opening is desired, or continue placing same size opening in same wall if desired. Pressing Enter will commit the opening to the wall, displacing any studs in the path and cutting out any wallboard on either side.

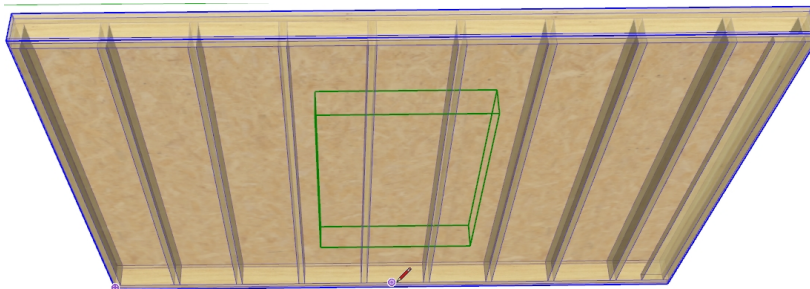


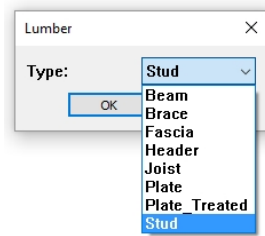
Figure I

EDIT/MOVE/DELETE Window- The Right-Click context menu is used for these commands. At any time, a window opening may be Edited (change parameters). Select the wall, right-click > Edit Framed Window to edit parameters. To move a window opening, right-click > Move Framed Window to choose new location for door opening. IF there are more than one door opening in a selected wall, the first opening will highlight in BLUE. Use the TAB Key to toggle the openings until the desired opening is highlighted, then move. To Delete an opening, the same TAB key functionality is applied to select the opening to delete. Right-click > Delete Framed Window, select the window opening to delete and press ENTER.

Lumber Tool

Standalone Lumber Tool- This tool may be used to model individual lumber components. Available lumber types at this time are:

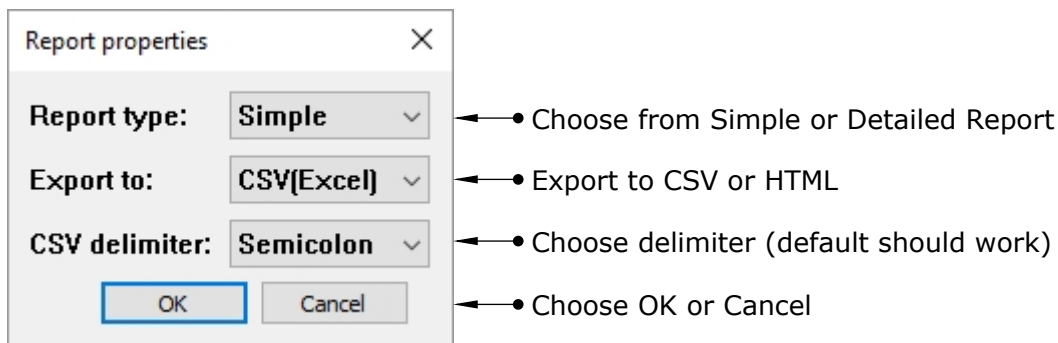
- Beam
- Brace
- Fascia
- Header
- Plate
- Plate_Treated
- Stud



To model an individual framing component, select the tool and then choose the TYPE from the drop-down menu. Another drop-down menu will display to choose the size of the component. These lumber types are customizable and may be added, edited, etc. in the Configure Materials Tool.

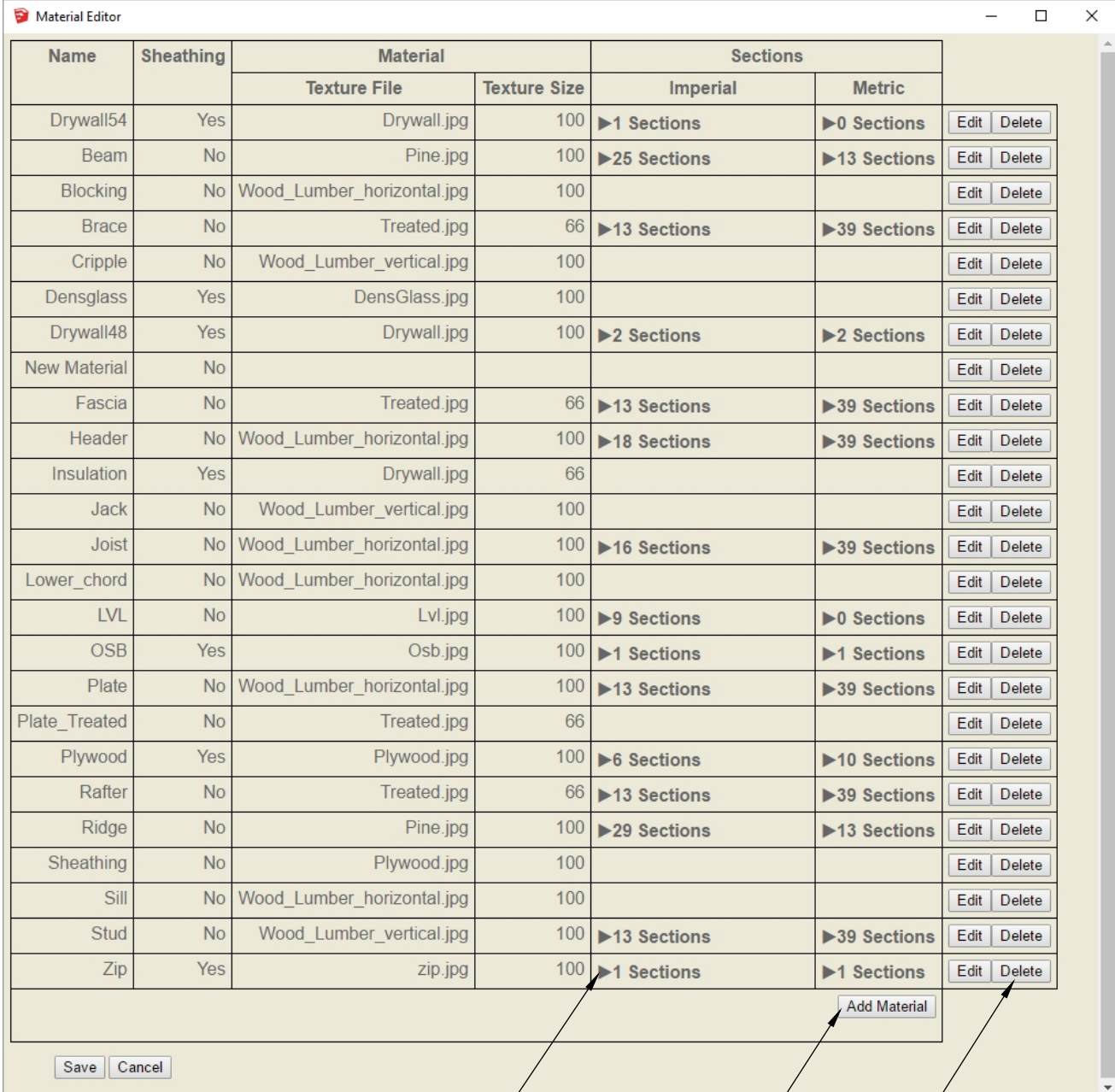
Reports

Reports- This tool may be used to generate reports, either Simple (display wall parameters and size) or Detailed (display list of framing components in each wall). Reports may be generated as HTML reports to view on your screen, or saved as CSV (Excel) files. To generate a report, select a wall or walls and open the reports UI as shown below.



Configure Materials

Configure Materials- All framing material types have configurable sizes and textures which are customizable. Sections can be edited, deleted, etc. to suit your needs and workflow. Framr comes pre-loaded with a variety of common-sized framing members. The image below shows the User Interface.



The Material Editor window displays a table with columns for Name, Sheathing, Material (Texture File and Texture Size), and Sections (Imperial and Metric). Each row represents a material type, and each section column shows a count of sections with expand/collapse arrows. Edit and Delete buttons are provided for each material row. An 'Add Material' button is located at the bottom right of the table area, and 'Save' and 'Cancel' buttons are at the bottom left.

Name	Sheathing	Material		Sections		Edit	Delete
		Texture File	Texture Size	Imperial	Metric		
Drywall54	Yes	Drywall.jpg	100	▶1 Sections	▶0 Sections	Edit	Delete
Beam	No	Pine.jpg	100	▶25 Sections	▶13 Sections	Edit	Delete
Blocking	No	Wood_Lumber_horizontal.jpg	100			Edit	Delete
Brace	No	Treated.jpg	66	▶13 Sections	▶39 Sections	Edit	Delete
Cripple	No	Wood_Lumber_vertical.jpg	100			Edit	Delete
Densglass	Yes	DensGlass.jpg	100			Edit	Delete
Drywall48	Yes	Drywall.jpg	100	▶2 Sections	▶2 Sections	Edit	Delete
New Material	No					Edit	Delete
Fascia	No	Treated.jpg	66	▶13 Sections	▶39 Sections	Edit	Delete
Header	No	Wood_Lumber_horizontal.jpg	100	▶18 Sections	▶39 Sections	Edit	Delete
Insulation	Yes	Drywall.jpg	66			Edit	Delete
Jack	No	Wood_Lumber_vertical.jpg	100			Edit	Delete
Joist	No	Wood_Lumber_horizontal.jpg	100	▶16 Sections	▶39 Sections	Edit	Delete
Lower_chord	No	Wood_Lumber_horizontal.jpg	100			Edit	Delete
LVL	No	Lvl.jpg	100	▶9 Sections	▶0 Sections	Edit	Delete
OSB	Yes	Osb.jpg	100	▶1 Sections	▶1 Sections	Edit	Delete
Plate	No	Wood_Lumber_horizontal.jpg	100	▶13 Sections	▶39 Sections	Edit	Delete
Plate_Treated	No	Treated.jpg	66			Edit	Delete
Plywood	Yes	Plywood.jpg	100	▶6 Sections	▶10 Sections	Edit	Delete
Rafter	No	Treated.jpg	66	▶13 Sections	▶39 Sections	Edit	Delete
Ridge	No	Pine.jpg	100	▶29 Sections	▶13 Sections	Edit	Delete
Sheathing	No	Plywood.jpg	100			Edit	Delete
Sill	No	Wood_Lumber_horizontal.jpg	100			Edit	Delete
Stud	No	Wood_Lumber_vertical.jpg	100	▶13 Sections	▶39 Sections	Edit	Delete
Zip	Yes	zip.jpg	100	▶1 Sections	▶1 Sections	Edit	Delete

Expand on selection to edit

Add new material

Edit or Delete Sections

Save Changes or Cancel

Material Editor

Name: Stud
Sheathing: ☐
Material Texture File: Wood_Lumber_vertical.jpg
Material Texture Size: 100

- Choose Name from list
- Choose whether it is a wallboard
- Material Texture File Name
- Material Texture Size

Imperial Sections

Nominal	Actual	
2x4	1 1/2x3 1/2	Delete
2x6	1 1/2x5 1/2	Delete
2x8	1 1/2x7 1/4	Delete
2x10	1 1/2x9 1/4	Delete
2x12	1 1/2x11 1/4	Delete
		Add Section

- Nominal size (size displayed)
- Actual size (modeled)
- Delete Section

Metric Sections

Value	
16x50	Delete
16x75	Delete
16x100	Delete
16x114	Delete
16x150	Delete
19x50	Delete
19x75	Delete
19x100	Delete
19x114	Delete

- Metric Users

Help 

Help- The Help icon opens this User Manual for reference.