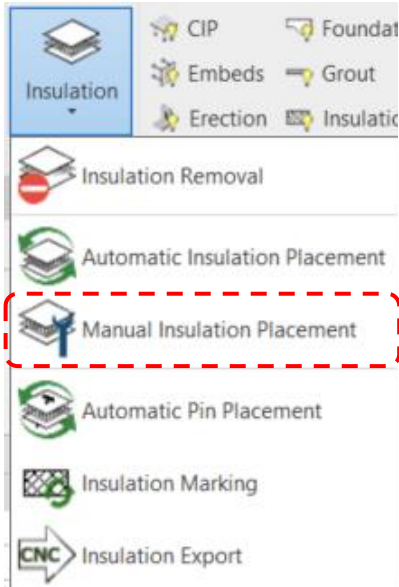


Insulation Tools:

Manual Insulation Placement



Programmed Result of Tool:

The Manual Insulation Placement tool will allow the user to place insulation sheets within a selected wall panel. The user will click 2 points within the wall panel to define the extreme extents of the insulation sheet to be placed by the tool.

Steps to Perform Tool Operation:

1. Select the Manual Insulation Placement tool under the Insulation drop-down.
2. Select the wall panel instance that you wish to add insulation to.
 - a. The wall panel and the following elements that are hosted to it will be isolated: insulation, wood nailers, and solid zones.
3. If prompted, choose the insulation family to be place.
 - a. If prompted, choose whether to set this insulation family as the default for this project.
 - i. If you choose to set this as the default, that insulation's family name will be written to the DEFAULT_INSULATION parameter in Project Information.
 1. If DEFAULT_INSULATION does not exist, run Project Shared Parameters and try again.
 - ii. If you choose not to set this as the default, you will have to continue to select which insulation family should be placed the next time the tool is run.
4. Click 2 points to define the extreme extents of the insulation to be placed. For example, click where you want the lower-left corner and upper-right corner of the insulation to be.
5. The insulation will be placed according to your 2 click points.
6. Repeat step 3 until all insulation sheets have been placed in that wall panel.
7. Press Esc to complete the command.

Building your Insulation Families to be Compatible with this Tool:

- The insulation family must belong to either the Specialty Equipment or Generic Models category.
- The following shared parameters must exist as Instance parameters: DIM_LENGTH, DIM_WIDTH.
 - Their values cannot be read-only (i.e., the value cannot be controlled by a formula)
- The shared parameter named DIM_THICKNESS must exist as an Instance or Type parameter.
 - If DIM_THICKNESS is configured as an Instance parameter, then Manual Insulation Placement will assign a thickness value to it that matches the DIM_WYTHE_INSULATION parameter value from the wall panel that the insulation is being placed within.
 - If DIM_THICKNESS is configured as a Type parameter, then Manual Insulation Placement will find and place the family type within the insulation family that has a DIM_THICKNESS value that matches the DIM_WYTHE_INSULATION parameter value from the wall panel that the insulation is being placed within.
- The following shared parameters should be added to define the maximum and minimum sheet size that should ever be created by the Manual Insulation Placement tool: DIM_WIDTH_MAX, DIM_LENGTH_MAX, DIM_WIDTH_MIN, DIM_LENGTH_MIN.

Insulation Tools:

Manual Insulation Placement

Known Limitations:

- If both click points are outside of the bounds of the wall panel, no insulation will be placed.
- If both click point would result in the sheet of insulation being cut into multiple pieces, then no insulation will be placed.
- If your click points are less than DIM_WIDTH_MIN or DIM_LENGTH_MIN apart, then the insulation sheet that is placed will be expanded to the minimum sheet size defined by these parameter values.
- The 2 click points will define the aspect ratio of the insulation sheet being placed (i.e., it defines the length and width directions of the insulation sheet).
- If your 2 click points would result in left over space that is less than the DIM_WIDTH_MIN/DIM_LENGTH_MIN value, then the value assigned to the insulation's DIM_WIDTH/DIM_LENGTH will be adjusted to leave enough room for the minimum size to be placed.
 - For example, for the insulation being placed assume DIM_WIDTH_MIN is 11" and DIM_WIDTH_MAX is 4'. In the width direction, your 2 click points are 4' 10" apart. It will not place a sheet that has a maximum width of 4' because that would only leave 10" behind which is less than the minimum value. Instead, it will place a sheet that is 3' 11" wide which will leave the minimum spacing available for the next sheet of insulation to be placed.
- DIM_LENGTH, DIM_WIDTH, and DIM_THICKNESS parameter values will always be round down to the nearest 1/8".
- Only certain elements placed within the wall panel are eligible to automatically cut back the insulation placed by the Manual Insulation Placement tool.
 - Void family instances must intersect the insulation to be placed and be cutting the wall panel in order to automatically be cut from the insulation placed by the tool.
 - Wood nailer family instances will automatically cut the insulation if they have been hosted using the BOM Product Hosting tool and they have a MANUFACTURE_COMPONENT value or Family Name that contains both "WOOD" and "NAILER".
 - Solid zone family instances will automatically cut the insulation if they have been hosted using the Addon Hosting Updater tool and they have a MANUFACTURE_COMPONENT value that contains both "SOLID" and "ZONE".
- Manual Insulation Placement will not process re-entrant corners. Insulation must be placed manually in those scenarios.
- Only wall panels that are built as follows will be eligible for processing by this tool:
 - Wall panel families must belong to the Structural Framing category.
 - Wall panel families must have a CONSTRUCTION_PRODUCT parameter value that contains "WALL" and "INSULATED".
 - The family must have a value assigned to the DIM_WYTHE_INNER and DIM_WYTHE_INSULATION parameters and values assigned to each.
 - Wall panel families must be built such that their family origin is located at the center of their DIM_WYTHE_INNER face.