



Filled Cavity (FC) / Long Tab Banded Installation Instructions

Materials Required:

- *Faced Fiberglass Insulation with Extended Tabs - Supplied in widths to match purlin spaces and lengths approximately 2 feet longer than bay spaces*
- *Unfaced Fiberglass - Supplied in rolls compatible with roof panel widths*
- *Lamtec Vapor Retarder - As specified*
- *Metal Banding - Supplied in coils, minimum 3/4" wide*
- *Banding Screws - Minimum 1/2" hex-head TEK screws*
- *Thermal Blocks - 3/4" or 1" thick, as specified and where applicable*

Materials shall be inspected for damage, proper sizes, and quantities upon delivery and should be stored in a dry, secure manner. Notify carrier and your laminator of any damaged material, improper sizes, or shortages immediately upon delivery.

When installing any insulation system, the Builder, Erector, and Insulation Installer must meet federal and state OSHA safety and fall protection standards.

Banding:

The banding should be installed perpendicular to the purlins. It should be cut in lengths that are long enough to run from eave to eave or eave to ridge, depending upon the roof design. For gabled buildings, be sure to add extra length to accommodate for the irregular roof geometry. The Long Tab Banded installation method is also referred to as a "Filled Cavity system" (FC) in ASHRAE literature.

Spacing:

For purlins spaced 5' on center, the banding should be spaced a maximum of 30" on center.

For purlins 4' or less on center, banding can be placed a maximum of 48" on center.

Enough banding should be cut to accommodate the spacing specified above.

The banding should be attached to the bottom of the eave strut and to each purlin using TEK screws. Be sure to pull the banding as tight as possible and keep all subsequent runs parallel.

It is extremely important to be as neat and accurate as possible when laying out the metal banding because it will be visible from the interior of the building. The more accurate the installation, the better the project will look when the job is completed.

Installation of the Lower Long Tab Faced Insulation:

Now that you have created the insulation support system with the metal banding, it is time to organize the insulation that has been provided for the roof.

The faced insulation layer should be installed between and parallel to the purlins.

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These rolls will have been custom laminated to a specific length and width to fit each purlin space. As such, each roll of insulation will have a “roll tag” indicating its correct location. It is important to use the correct roll of insulation in the correct location.

Once the faced insulation has been organized, the insulation should be unrolled into the cavity between the purlins, on top of the metal banding. The long tabs should be extended over the top of each purlin and oriented such that the tabs from adjacent runs are overlapped to create a continuous vapor retarder. The overlapping tabs should be taped with a suitable tape or sealant.

NOTE: It is important that the tabs not be pulled so tight that they cause the lower edges of the insulation to pull away from the sides of the purlins.

At the end wall, the insulation should be peeled back from the facing approximately 6” to 12” and removed. This will create an extended tab that can be attached to the rake angle with tape or sealant.

At the internal purlin bracing, it is important that the insulation is not excessively compressed. The ASHRAE 90.1 Standard addresses this by stating: “U-Value in Table A2.3.3 shall not be used where the insulation is substantially compressed by the bracing between the purlins”.

In cases where the bracing will “substantially compress” the insulation, the bracing should be temporarily removed to allow the faced insulation to be installed, and then replaced.

In applications where this is not practical, the insulation and facing can be cut to fit around the bracings. This is best accomplished as follows:

Determine where the insulation will need to be cut to fit the bracing.

Cut the entire width of the fiberglass and laminated facing, but only cut a portion of each tab beyond the edges of the fiberglass, to accommodate the bracing offset* on the purlin. It is preferred that the facing is not cut completely from edge to edge.

*The bracing offset is the distance from the top of the bracing to the purlin’s lower flange.

For example: If the bracing is located 3” above the bottom flange of the purlin, cut the full width of the fiberglass and laminated facing, plus an additional 3” beyond each edge of the fiberglass, leaving the remainder of the tab intact.

After the insulation has been installed, the facing can be sealed from the bottom with a suitable tape to encapsulate the bracing.



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It is important to note that the faced layer of insulation must be installed in the entire width of the roof slope before the top layer of unfaced fibreglass, thermal spacer blocks (where applicable), and roof sheets can be installed.

Installation of the Top Layer of Unfaced Insulation and the Roof:

Unroll the unfaced insulation perpendicular to the purlins, making certain that there are no gaps between the edges of adjacent runs.

In cases where it is necessary to splice the unfaced insulation, this can be done by overlapping the ends approximately 1-2 inches before installing roof panels as follows:

For standing seam roofs, the roof clips and thermal spacer blocks should be installed and the roof panels attached. Care should be used to be certain the thermal spacer blocks remain in place directly above the purlins.

For screw down roofs, the panels should be attached with appropriate fasteners as indicated by the building manufacturer or supplier.

Planning:

It is important to plan the project to make certain that there is no exposed insulation at the end of the work day or at the onset of inclement weather.

Suggested Practices:

- *Only install the insulation as far out as you can sheet in one day or as weather permits.*
- *Do not leave any insulation exposed to the elements overnight. The system is not designed to support the added weight associated with heavy rain or snow.*
- *As the erector / installer, you assume responsibility for all materials once on-site. It is in your best interest to protect the insulation from getting wet.*

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Notes:

When applicable, it is suggested that the building manufacturer be contacted early in the design stage and advised of the insulation system being installed.

It may be possible for them to engineer the roof system with the bracing at the bottom of the purlins or possibly eliminate them completely.

These instructions are meant to be a guide; they are not the only way to install this type of system. Modifications will likely be necessary to accommodate project variables. A cross section diagram has been provided to illustrate the final installed system.

