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To: Extension Number 1

Date: 10-27-2006

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INSULATION QUESTIONS?

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## Insulation Bulletin, No. 3

LAMINATED FIBERGLASS INSULATION PRODUCERS ASSOC.  
1230 KEITH BUILDING - CLEVELAND, OHIO 44115

### Recommended Conventional Methods of Installation of Laminated Fiberglass Insulation in Metal Buildings

#### STORAGE

Prior to installation, the faced insulation should be stored in accordance with LFIPA Insulation Bulletin, No. 1, "Recommended Storage Procedure of Faced Fiberglass Insulation at the Job Site."

#### INSTALLATION TEMPERATURES

Installing faced insulation is not recommended when the temperature is below the minimum levels noted in the chart below. If insulation is installed when the temperature is below the respective recommended temperature, extreme care is required because the facing may become brittle and crack. Wind chill factor should be taken into consideration. Also, faced insulation with a vinyl component should not be installed where temperatures will exceed 140°F (200° for foil facings).

#### MINIMUM WORKABILITY TEMPERATURE

INSULATION FACING	*F (*C)
Vinyl	40 (4)
Reinforced Foil Scrim Kraft	-10 (-23)
Vinyl Reinforced Foil (Heavy Duty)	20 (-7)
Vinyl Reinforced Foil (Standard Duty)	20 (-7)
Embossed Vinyl—Semi-Rigid	20 (-7)
Vinyl Reinforced Polyester	20 (-7)

#### INSULATION TRIM STRIPS

The purpose of the trim strips is to provide a finished appearance to the insulation facing tabs. Trim strips do not provide a vapor barrier. The trim strips are installed ahead of the insulation and paneling.

#### WALLS

Pre-cut the trim strips to wall height rather than attempting to work with a full roll. The weight and placement of the insulation determines the location of the strips. Locate the center line of the trim strips so it will be at the joint of the insulation. With the finished side to the interior of the building, attach one end of the strip to the eave strut. Pull down over the flange of the girts to a taut condition and fasten at the base angle. Do not tension the trim strips enough to pull the girts or eave struts out of alignment. Only a few runs are placed prior to installing insulation, thus minimizing the possibility of misalignment.

#### ROOF

Installation of the trim strips on the roof is accomplished in the same manner as on the walls. It is suggested that longer rolls be used and each strip cut as needed. Position the first run to cover the joint of the insulation. Attach the trim strip to the top of the eave strut. Stretch the trim strips over flanges of purlins to the opposite eave. Fasten the trim strips to the eave and one of the ridge purlins when correctly aligned. On extremely wide buildings it is advisable to install additional fasteners at intermediate purlins to ensure proper alignment.

Care should be given to insure that trim strip fasteners are located under panel corrugations to avoid interference with panels.

#### ROOF INSTALLATION

Insulation should be in lengths that will cover the distance from eave to eave plus a one foot overhang on each side of the building. In the case where more than one roll may be necessary to span the roof, it is common practice that the splice be made at a point other than the ridge. Insert a one

inch diameter rod into the core of the insulation to serve as a spindle. Starting at the end of the building, temporarily secure one end of the insulation by wrapping the overhang around the eave strut and clamping with vice grip pliers, or attach the insulation to the eave strut by use of double faced tape. Pull the insulation across the purlins with the vapor barrier toward the interior (Illustration No. 1). A weighted end clamp attached to the end of the insulation and allowed to overhang at the eave will keep tension on the insulation while the metal panels are being attached over the insulation. The weighted end clamp is assembled by clamping two 2" x 4" boards on the top and bottom sides at the end of the insulation and using a concrete block or sand bag as a weight (Illustration No. 2). Install the next roll in the same manner making sure the rolls are stretched tight, aligned properly and closely butted. Fasten tabs as per one of the methods described below.

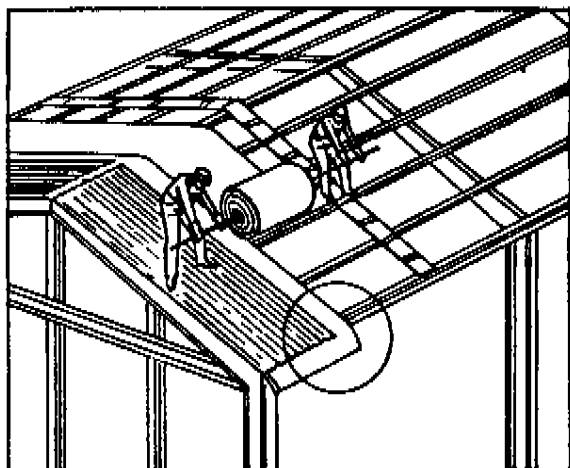


ILLUSTRATION NO. 1

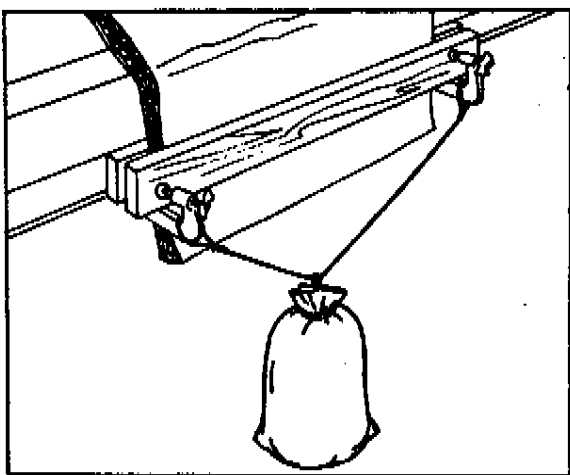


ILLUSTRATION NO. 2

## SIDEWALL AND ENDWALL INSTALLATION

Insulation should be cut to length in multiples of lengths of wall sheets, plus a minimum 12" allowance per sheet for overhang. Set up a template in a clean location to prevent staining the facing. Unroll the insulation and cut the dimension from base angle to eave strut or rake plus 6" extra. Attach one end of the insulation to the base angle. Pull from the other end to stretch the insulation tightly outside the girts to the eave or rake. Install the facing toward the building interior. Attach the panel to the structure. Place the next roll of insulation in the same manner with edges butted snugly, and fasten as per one of the methods described below (Illustration No. 3).

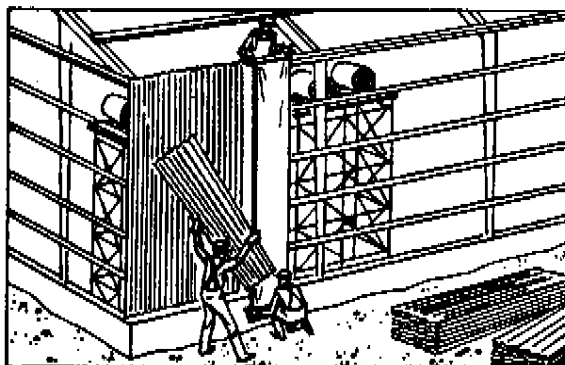


ILLUSTRATION NO. 3

## APPLYING INSULATION TO PANELS PRIOR TO ERECTION

Wall insulation may be applied to the panels prior to installing the panel. This method is particularly good if wind is a problem. Note: The insulation must be the same width as the panels.

Stack the panels on saw horses with the inside face of the panels up. Cover the panel liberally with adhesive from top to bottom to adequately hold the insulation (Illustration No. 4). Unroll the insulation over the panel taking care to line up the edges of the insulation with the edges of the panel. Press the insulation to the adhesive, smooth the insulation toward the roll end and cut at the edge of the panel (Illustration No. 5).

The pre-insulated panel is now ready for installation in the same manner as panels are normally installed. After the panels have been installed, tabs are sealed (one tab method described below) from the interior.

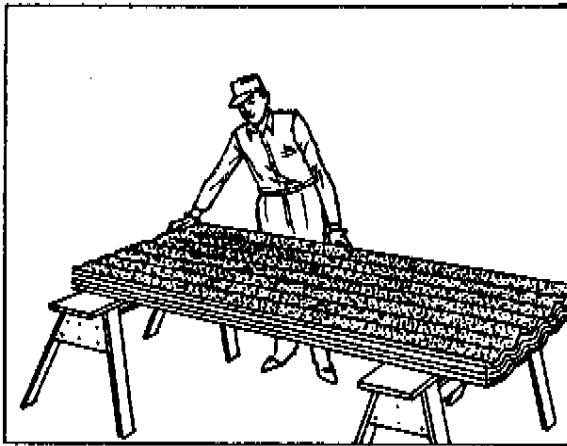


ILLUSTRATION NO. 4

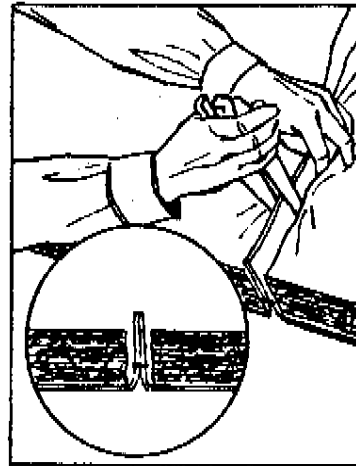


ILLUSTRATION NO. 6

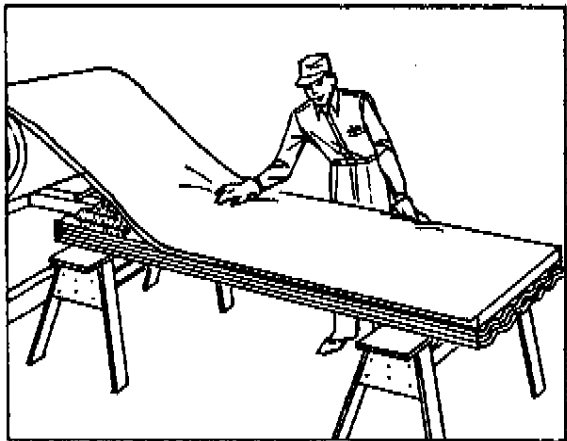


ILLUSTRATION NO. 5

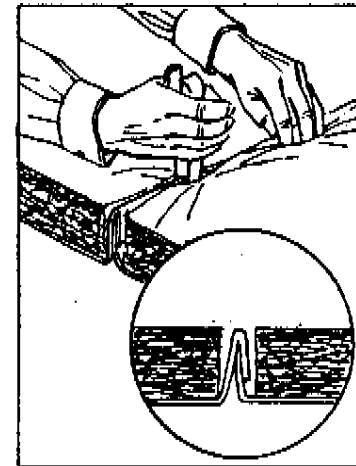


ILLUSTRATION NO. 7

### FASTENING TABS

There are several methods of fastening tabs of insulation facing. Most facings are 6" wider than the laminated insulation. The extra facing may be supplied as 2-3" tabs, 1-2" and 1-4" tab, or 1-6" tab. If 2-3" tabs are supplied a plier stapler should be used in fastening the insulation. At the seam where the two rolls of insulation are joined, pull the tabs upward and staple approximately every 8",  $\frac{1}{4}$ " to  $\frac{3}{8}$ " from bottom of faced side of insulation (Illustration No. 6). When this initial stapling is completed fold the tab over and staple in between each original staple. The tabs will now be stapled approximately every 4" assuring a tight vapor seal. Tuck the completely sealed tab back into the joint (Illustration No. 7). Caution should be taken not to staple too close to the base of the tabs, because the staples may pull out, resulting in a poor vapor seal.

If 1-2" and 1-4" tabs, or 1-6" tab is supplied then the one tab method can be used from the interior of the building after wall insulation and panels have been placed. If 1-6" tab is supplied, a good quality moisture proof adhesive recommended by your laminator should be sprayed or brushed on the back of the tab. Extend the tab over the facing of the adjacent roll of insulation, press firmly with a damp cloth along the seam to smooth it and to remove excessive adhesive (Illustrations No. 8 and No. 9). If 1-2" and 1-4" tabs are supplied, tuck the 2" tab between the adjacent rolls of insulation and adhere the 4" tab to the next adjacent roll as described above for 1-6" tab.

In either case, it is advisable to use a starter roll so that the insulation is 12" wider than the metal panels. This prevents working directly at the panel edge when folding and stapling the tabs.

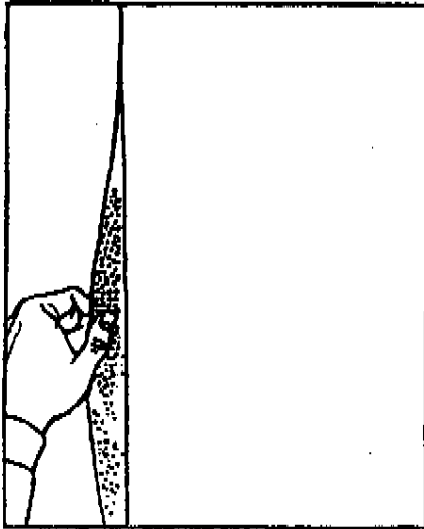


ILLUSTRATION NO. 8

**NOTES:**

Any rips or tears must be covered with matching facing tape to insure a tight seal. Patching tape is not to be used to seal tabs.

Trim excessive insulation flush at eaves and rakes to prevent it from acting as a wick and moving water into the building.

Safety precautions as prescribed by OSHA should be followed at all times and persons installing insulation should be equipped with requisite safety devices.

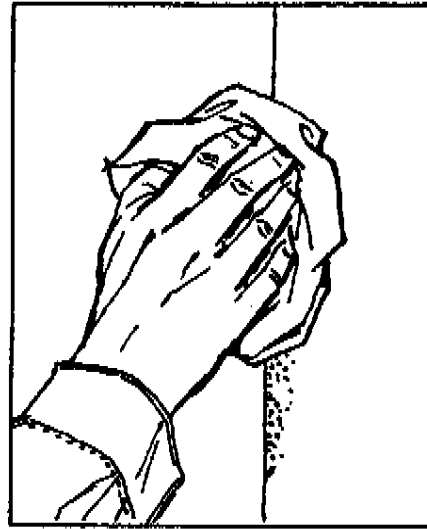


ILLUSTRATION NO. 9

Careful construction of the building, including proper installation of the insulation material, is essential to obtaining customer satisfaction. The procedures outlined in this Bulletin describe the conventional methods of installing laminated fiberglass insulation, which have been found by contractors to produce satisfactory results. However, building and insulation systems differ. Accordingly, the contractor should adhere to the particular erection instructions furnished by the metal building manufacturer and the laminator supplying the insulation.