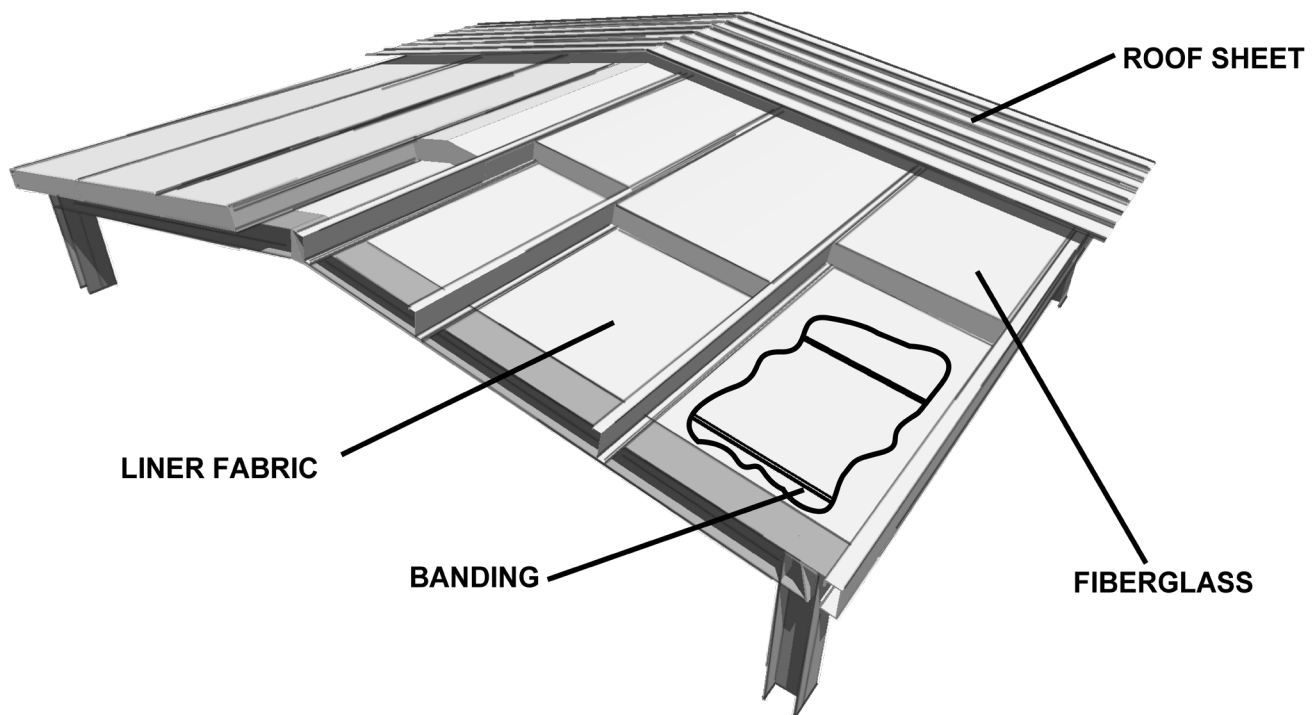




ProLiner™ Banded Liner System

Retrofit Installation Instructions



Introduction

The ProLiner™ Banded Liner System is designed to provide maximum thermal performance in pre-engineered metal buildings using Owens Corning fiberglass. Additionally, ProLiner™ meets energy code requirements, improves the acoustical environment and aids in sound abatement, and provides a brighter finished interior.

Retrofit Installation Instructions**General****Safety Considerations**

The ProLiner™ Banded Liner System shall be installed by a contractor employing a site-specific safety plan. Comply with all OSHA-applicable local and federal rules and regulations when installing this system. Workers must use OSHA required fall protection when installing the banded liner system at heights (see OSHA regulations at 29 CFR 1926 Subpart M).

Caution - Required Personal Protective Equipment: Safety glasses, cut-proof gloves (for sharp banding edges), long sleeve/loose fitting clothing (for insulation installation).

Before You Start

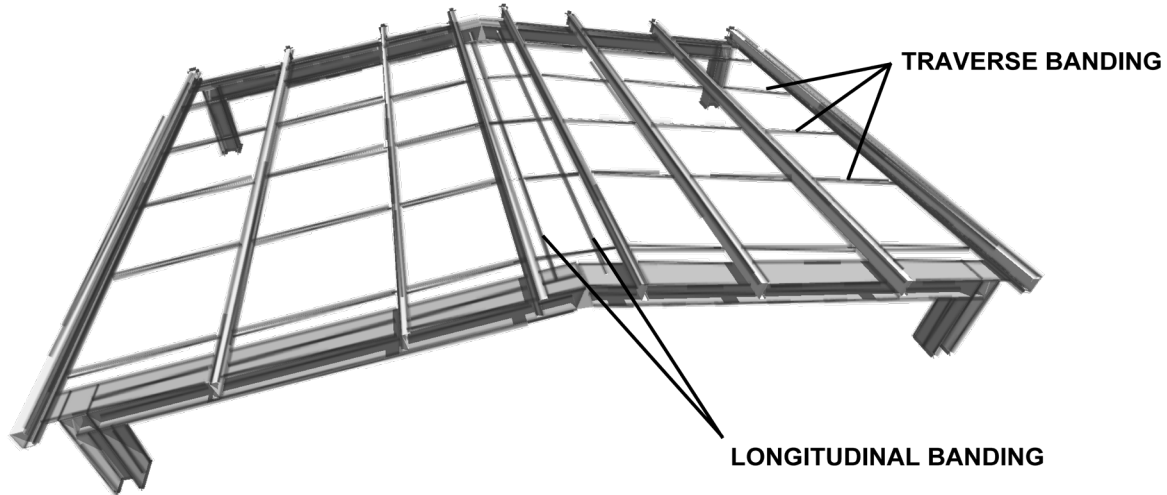
- Open pallets and packaging to ensure complete order was received. L&L nor the carrier are responsible for missing or shorted materials if not noted on the carrier's bill of lading upon delivery.
- Review shop drawings to ensure each custom-made fabric panel is installed in the appropriate area.
- Obtain necessary rake/base angles for your building type for fabric and banding attachment.
- Optional lightweight steel angle for ProLiner™ roof to wall fabric transition is recommended (see shop drawings for detailing).
- Assemble appropriate equipment and tools.

Materials List

- 1" banding (and dispenser)
- Fabric panels
- TEK fasteners
- Adhesive (and brushes) and/or double-sided tape
- Insulation per specification
- Patch tape if required

Equipment and Tools Required

- Man lift/scissor lift/fall protection harness and lanyards
- Screw guns with 5/16" nut setters
- Tape measures
- Razor knives
- Metal tin snips
- Iron pipe for banding dispenser
- Safety glasses, cut-proof gloves and hard hat
- Locking c-clamps

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Preparation
A. Traverse Banding Perpendicular to Purlins

1. Determine the width of the bay and refer to Table 1 for number of bands required. Divide the bay into equal increments for installing main area banding 48" on center. In addition, include one band 2" off each rafter flange edge.

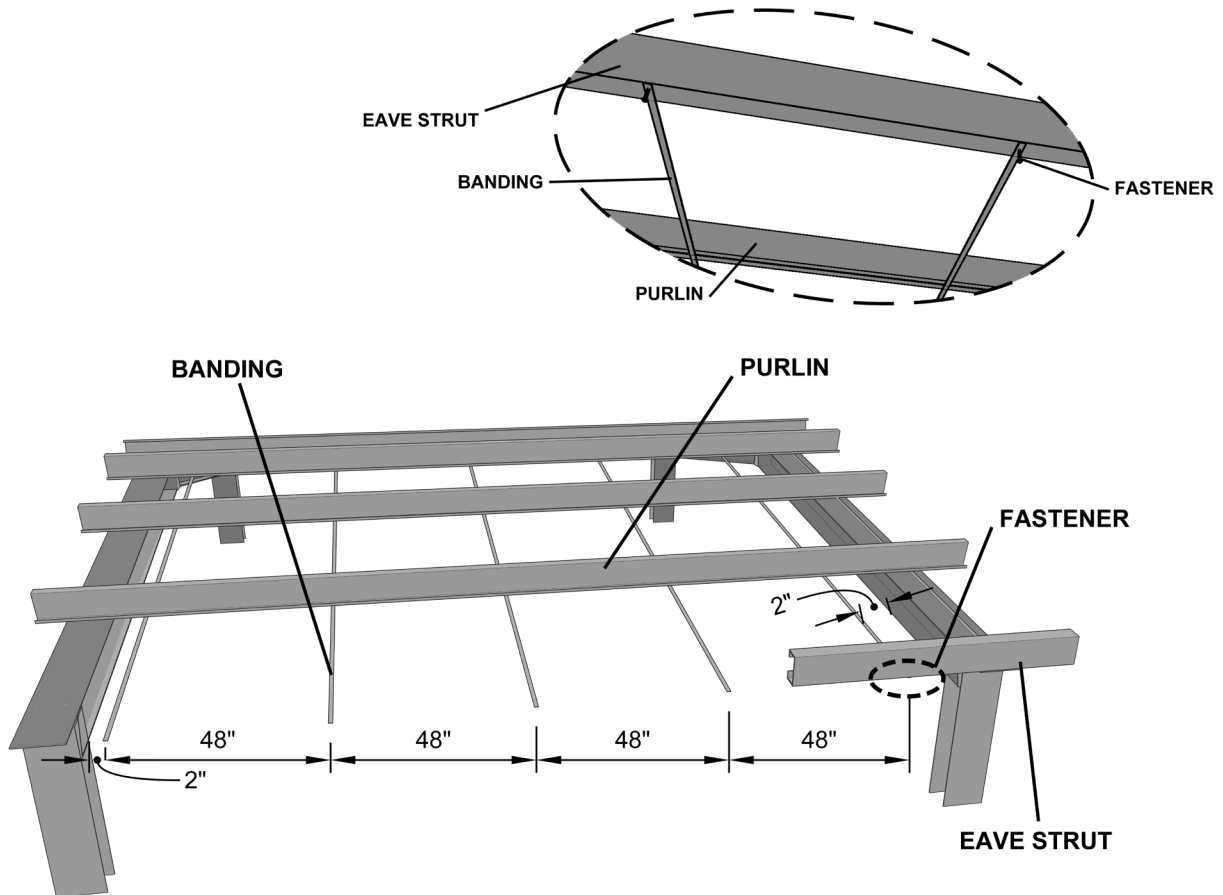
Table 1

Bay Width (Feet)	# Bands For Main Area	# Bands 8" From Rafter Flange	Total # Of Bands For Bay
9-12	2	2	4
13-16	3	2	5
17-20	4	2	6
21-24	5	2	7
25-28	6	2	8
29-32	7	2	9
33-36	8	2	10
37-40	9	2	11
41-44	10	2	12

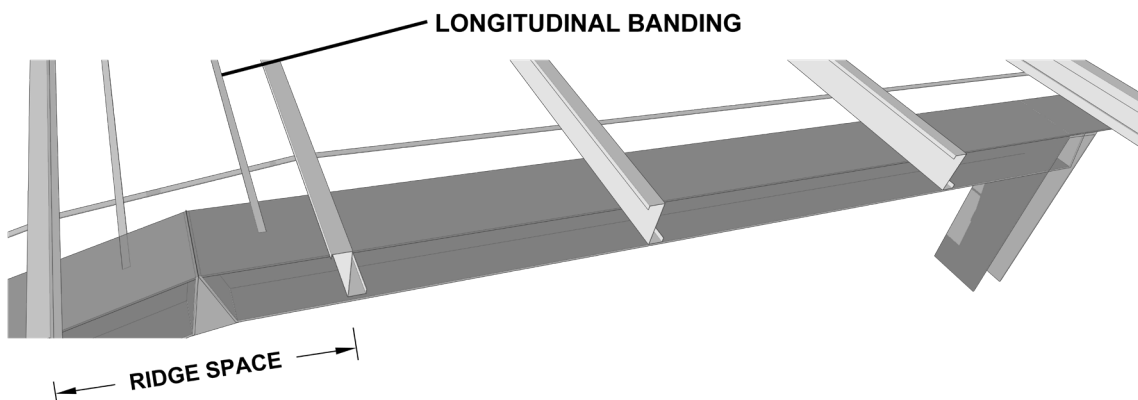
2. Set up rolls of steel banding to dispense perpendicular to the purlins. Cut all bands to reach from sidewall to sidewall (accounting for roof pitch) plus 2'0" for handling and fastening.

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3. Fasten one end of each traverse band to the bottom of the sidewall eave strut using one (1) of the $\frac{3}{4}$ " TEK 3 fasteners with washers provided.

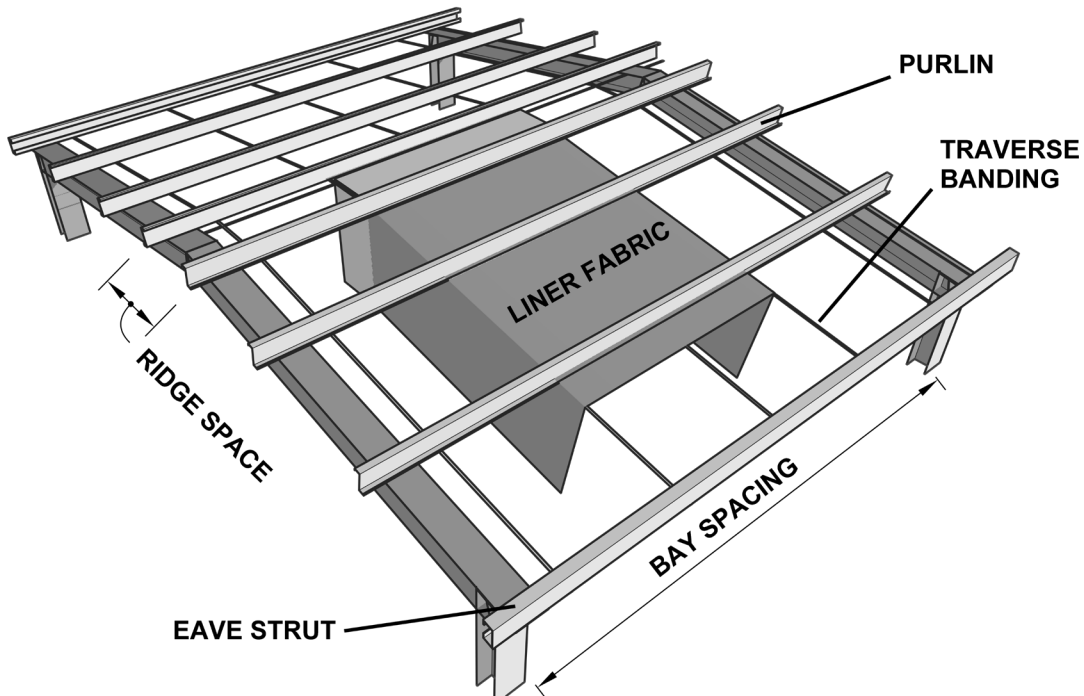


4. For additional fabric support, install two (2) longitudinal bands within the ridge space of a double slope building and pull each traverse band tight towards the ridge, over the ridge bands and down to the far eave. Fasten traverse banding to the ridge purlins and far eave strut using one (1) of the $\frac{3}{4}$ " TEK 3 fasteners with washers provided. Do not fasten into purlins at this point.

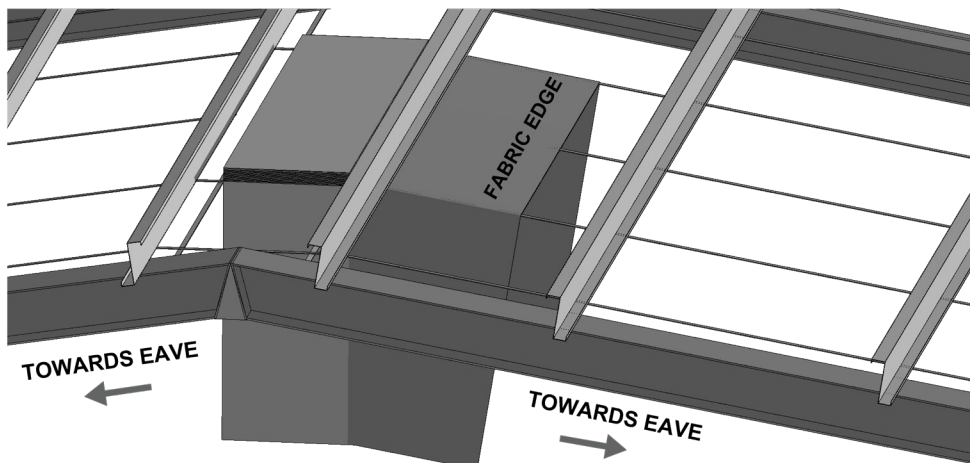


Retrofit Installation Instructions**B. Fabric**

1. Select the fabric panel (sized and fabricated for a specific bay) in which you are working per the supplied drawings. Starting between two (2) purlins in the center of the bay to be covered, begin feeding the folded fabric bundle over the traverse bands towards the opposing rafter. C-clamps may be used to temporarily hold the fabric in place.

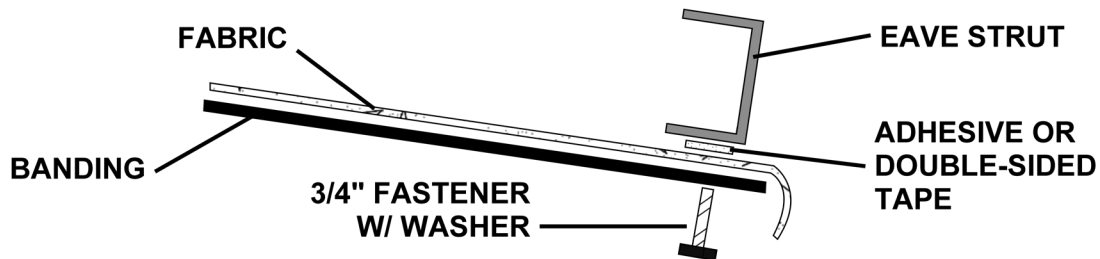


2. Pull the leading edge of fabric toward the eave making sure the finished side (usually white) is facing downward towards the building interior. Once the fabric is square to the eave and rafters, begin securing the fabric and banding to the near eave purlin using the $\frac{3}{4}$ " TEK 3 fasteners with washers. Then, work the fabric back towards the far eave purlin and secure in the same manner.

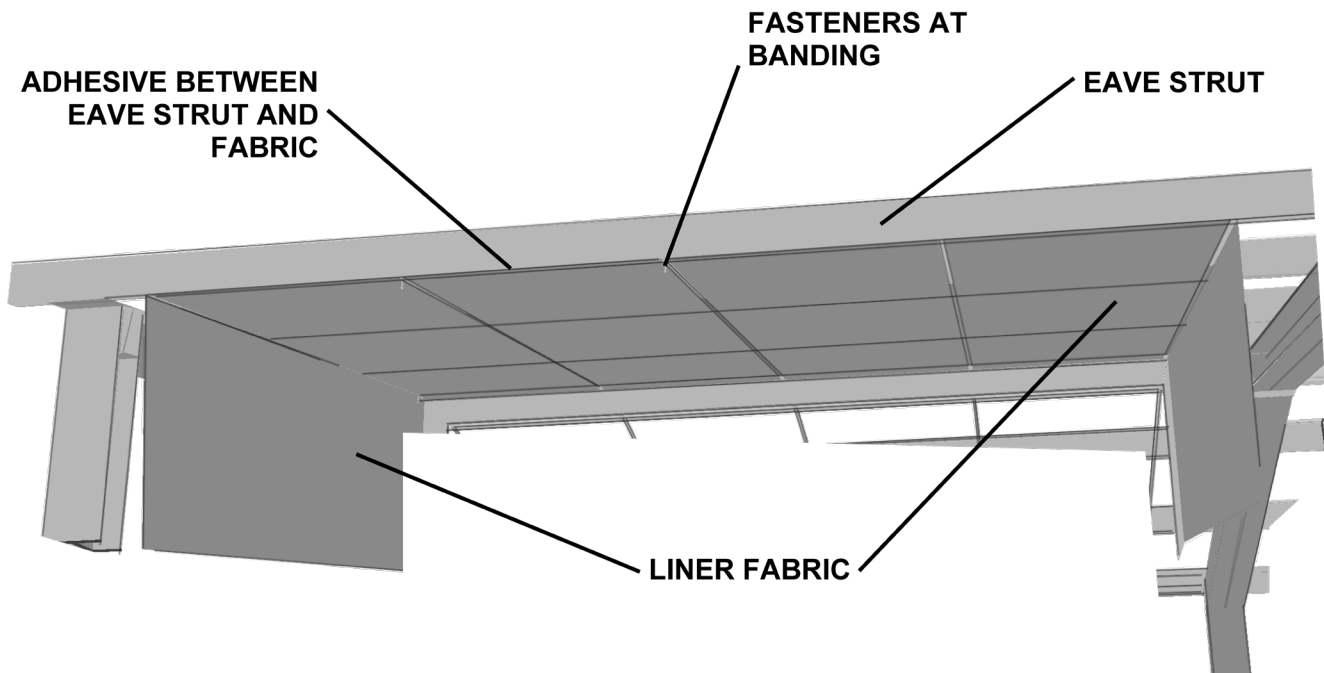


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3. Back out each eave fastener, apply brush adhesive or double-sided tape and adhere fabric to the bottom of the eave strut using banding and 3/4" TEK 3 fasteners with washers in the original holes where previously located.

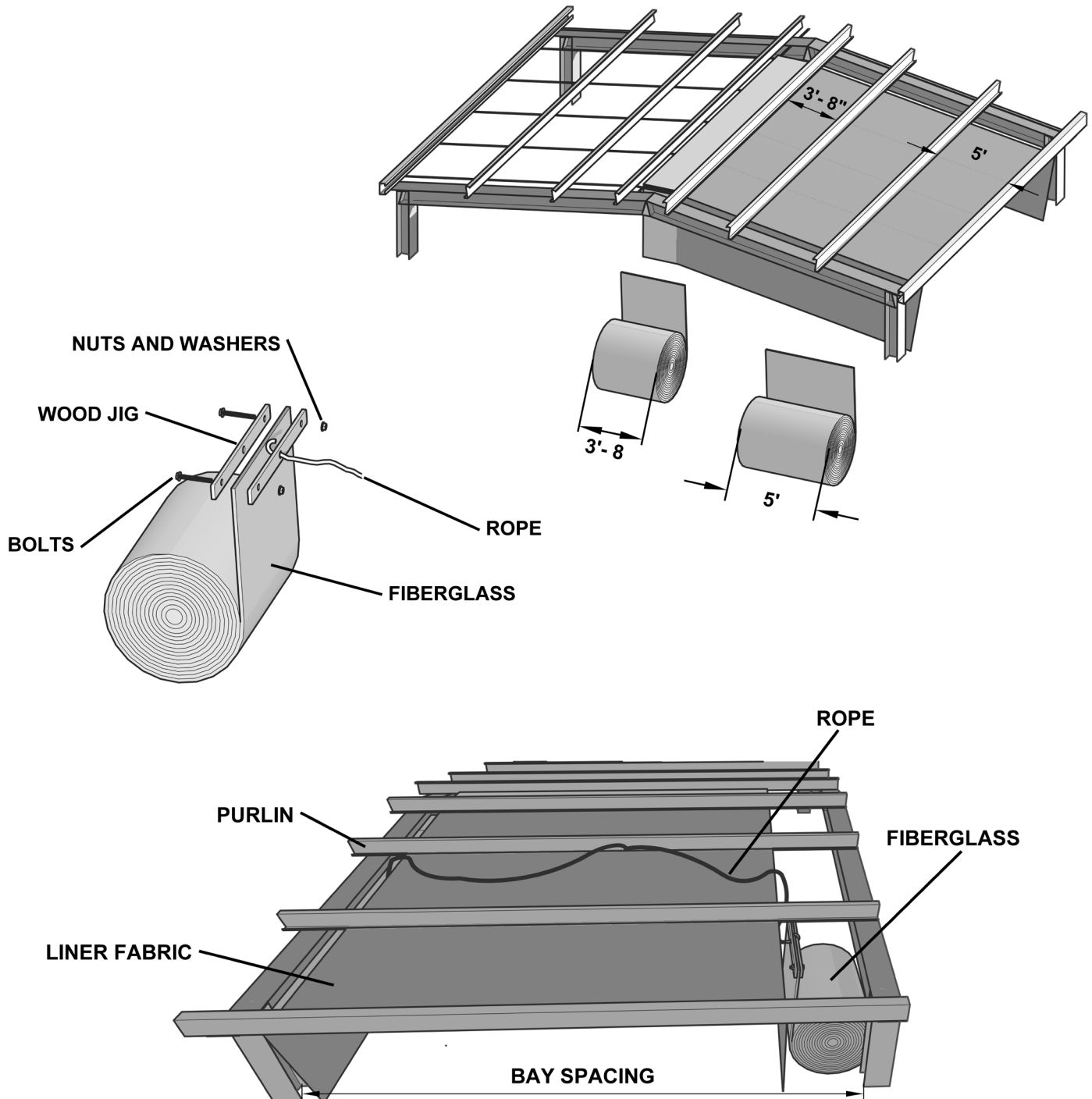


4. Repeat for each band and complete the fabric installation by pulling the fabric in opposing directions towards the rafters, working out wrinkles and securing traverse banding at each purlin intersection with a 3/4" TEK 3 fastener with washer. Do not fasten the 2" rafter band at this point, as it will be secured after the insulation has been installed.



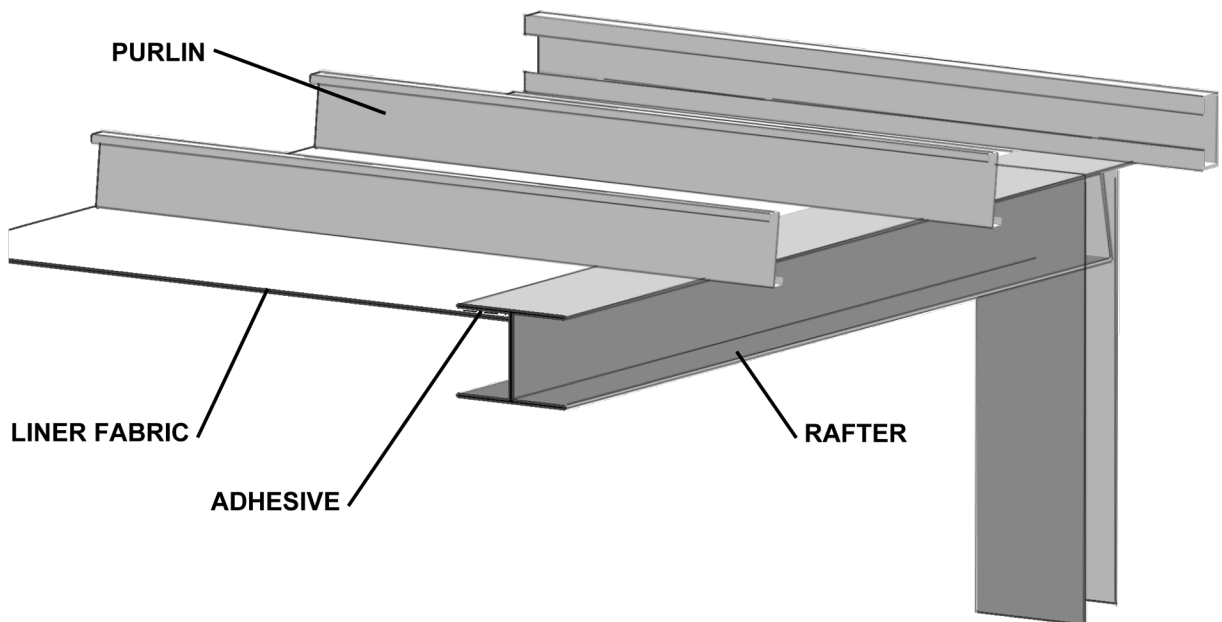
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C. Insulation

1. Select the custom-cut roll of insulation to be installed in the purlin cavity you are working. Attach the pulling mechanism to the insulation as shown and feed the rope end into the cavity (above the fabric) to the opposite rafter and pull as another crewman feeds the insulation roll into the cavity. Repeat for each purlin space within the bay ensuring insulation roll ends butt against the adjacent bay's roll ends above the rafter centerline.



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2. If using Blown-In Loose Fill Insulation, feed one edge of the fabric over the banding 2" off the rafter edge and seal to the bottom side of the rafter flange using provided brush adhesive or double-sided tape. Beginning at the bay nearest the endwall, feed the blowing machine's hose far into purlin cavity (above the fabric) and blow in insulation while gently pulling hose back out of purlin cavity towards you, making sure the full height/width of the cavity is completely filled.
3. Seal the near edge of fabric to the rafter flange in the same manner as described above. Trim excess fabric at the rafters and eaves. Complete the installation by sealing all holes and penetrations with the supplied patch tape.



- a. NOTE – All building interiors are different due to various utility configurations and other obstructions. If required, please consult L&L to obtain proper custom panel fabrication for your building requirements.
- b. NOTE – Each purlin cavity must be completely filled with insulation in order to maximize thermal performance. Purlin bracing may alter the method of installation. Always destroy any existing facing on prior installed faced metal building insulation to eliminate a double vapor retarder condition.
- c. NOTE – Throughout the installation process, ensure all fabric edges are sealed properly to adjacent surfaces to maintain vapor and air barrier integrity.
- d. NOTE – ProLiner™ is not intended for use in high humidity applications (consistent relative humidity levels greater than 30%) or structures housing open sources of water.
- e. NOTE – Lightweight metal angle at eave/rake (and required fasteners) is the responsibility of the installing contractor or metal building manufacturer.

For questions on this system call 800-646-7858 or 800-747-5385

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