

NEW CONSTRUCTION ROOF DETAILS

# L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS

Call Toll Free: 800-747-5385  
[www.linsulation.com](http://www.linsulation.com)



## **CAUTION!**

This product does not  
provide fall protection



# L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS FROM L&L INSULATIONS

## INTRODUCTION

Born out of a successful contracting business, Thermal Design brought together practical methodology and cost efficient materials to solve the problems of insulating pre-engineered buildings. The L&L Saver System™ is still being improved with improved materials and installation procedures.

The L&L Saver System™ is "NOT" certified by Thermal Design for use as an alternative form of fall protection. Materials are not structurally adequate nor quality controlled for such use and will not provide OSHA compliant fall protection. Workmen must use OSHA compliant systems at all times when installing the L&L Saver System.

If OSHA compliant alternative fall protection is desired, contact L&L Insulations to upgrade the system to the L&L Saver System™ FP. Thermal Design is the exclusive licensee of the patented fall protection function.

The content of this manual contains proprietary information, drawings and instructions which are copyrighted and made available for use under the shrink wrap license agreement on the cover or the wrapper of this manual. This manual and associated CD's, software and other documents covered under the license agreements remain property of Thermal Design, Inc. and are solely intended for the exclusive use with the legitimate materials and systems of Thermal Design.

We request that all designers and users only allow the purchase of legitimate materials from authorized sources and follow detailed customized project instructions and installation drawings assure satisfactory performance of the products.

Technical information, support and quotations may be obtained by calling L&L Insulations at 800-747-5385.



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# L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS

## FROM L&L INSULATIONS

### NEW PRE-ENGINEERED BUILDING INSULATION INSTRUCTIONS

The L&L Saver System™ is a multi-purpose system that performs many functions with minor variations such as strap patterns, color, insulation thicknesses and types, layers, thermal break options, vented systems, etc. The system can also be used in many different types of structures, thus it is important to read the project instructions carefully and call L&L Insulations (800-747-5385) if there are any questions regarding installation procedures.

We have attempted to cover each type of installation in sufficient detail; however it is impossible to cover every circumstance. Common sense and experience with the system will answer most questions. The basic concept of the L&L Saver System™ is:

1. Create a platform with tensioned steel straps (installed in the entire area to be insulated).
2. Position and pull out the specially folded, custom fabricated fabric liner on the strap platform and clamp it squarely in position. Generally a bay at a time and typically eave to ridge to eave works best.
3. Fasten the steel strap platform supporting the fabric liner to the bottom of the purlin flanges with the self-drilling screws provided for that purpose.
4. Trim and seal the fabric liner perimeter edges to the abutting rafters and eave struts with the special contact sealant provided for that purpose. Syseal® Sticky Tape by Thermal Design will be used at any fabric liner splices. Inspect the fabric liner for any holes, patch and seal so that it is air tight. As an option, Syseal® Sticky Tape may also be used to seal the fabric liner to the bottom of the eave struts.
5. Unroll and position the insulation in the purlin cavity. It is recommended to thermally break the roof panels from the top of the purlins with a second layer of insulation and/or a thermal spacer block, typically provided by the roof system manufacturer as a tested roof component. Refer to the customized project drawings for details on insulation thicknesses.

Production rates for an R-30 two-layer L&L Saver roof insulation system with thermal spacer block, typically provided by the roof system manufacturer as a tested component are generally in the range of 150-200 sq. ft. per man-hour for the complete system installation in a typical pre-engineered metal building. Upwards to 300 sq. ft. per man-hour have been reported in larger buildings with experienced installers. The labor is approximately 1/2 strapping, 1/4 fabric liner and 1/4 insulation placement. Poor site conditions and poor weather conditions will affect the production rates.

Installation training may be available to contractors for a subsidized fee and is highly recommended.

# L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS FROM L&L INSULATIONS

## DEGREE OF DIFFICULTY AND PRODUCTION RATES

Installation of the L&L Saver System™ during the roof sheeting operation is much faster than retrofit installation, which is completely installed from the underside of the structure. The chart below gives ranges of production rates for use in estimating labor costs for installation.

There are many factors that affect production rates on every type of construction. Insulation systems are no exception, therefore judgement is required in considering variables such as experience of the crew, available equipment, building height, weather likely during installation period, etc. The production rates below are ranges normally encountered under average conditions with an experienced erection crew properly equipped to perform the work. We have timed many installations and find it fairly easy to achieve 150 square feet per man-hour on first time new construction installations. Experienced crews are known to achieve nearly 300 square feet per man-hour under ideal new construction conditions. We suggest close observation of production rates to obtain experience rates for your own crew as being the best method of determining production rates.

\*These rates are for typical metal buildings with eave height up to 30 feet. Add for additional height costs.

TOPSIDE INSTALLATION IN NEW BUILDINGS	
Description	Production Rates
Installing a single- or double-layer L&L Saver System™ during sheeting process (includes labor to install Quik-Stop™ Thermal Block in single-layer systems)	Roof: 150-200 sq. ft./man-hour
	Walls: 120-170 sq. ft./man-hour
Installation of thermal blocks alone to top side of structure located 5' on-center	600 to 800 sq. ft./man-hour

Call L&L Insulations (800-747-5385) for assistance if you have questions or if a stand-off bracket system is required to create added insulation space.

# L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS FROM L&L INSULATIONS

## TOOLS AND EQUIPMENT REQUIRED

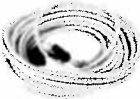
### Tools:



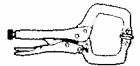
Screw guns (two recommended, 0-1000 RPM 4.5 amp minimum, three wire)\*



Five-sixteenths inch (5/16") long shank magnetic nutsetter (two recommended plus spares)



Double-grounded, three-wire extension cords as required to reach power source



8-10 self-locking clamps (with pads preferred for clamping fabric in position)



Utility knives with extra blades (minimum of two)



One pair of safety glasses per worker



Extension ladder with tie off



GoJo® Brand cream hand cleaner (regular type dissolves the Simple Saver High Tack Sealant™)



Towels for hand cleaning



25-foot tape measure



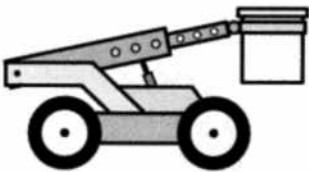
Wrenches to fit rafter brace bolts (two sets of two wrenches)



A good quality caulking and caulking gun to seal liner system at junctions of rafters, rafter braces, fasteners, and other trade hangers.

### Equipment:

Lifts operable from the basket allow installation with one less crew member and normally pay for themselves in production labor savings.



#### Lifts:

- A. Basket type boom lift-best
- B. Scissor lift- OK on solid, level surfaces
- C. Scaffolding

#### Power Generators:

- A. Power Generator or grounded temporary electrical service.



Note: Use scaffolding if automatic lifts are not available. Safety equipment is required for compliance with all applicable State and Federal safety standards. Once the liner system is properly installed and certified it provides the through fall protection for the workers above. CAUTION: Fall protection requires a signed installer agreement. Requires workers be tied off with OSHA compliant safety harness and equipment within six feet of any edge of the L&L Saver System.

\*When drilling, it is very important to use a variable speed RPM/high torque screw gun. A variable speed DeWalt 269 (DW269) with maximum 0-1000 RPMs is an example of a suitable tool. A variable speed 0-2,500 RPM screw gun may be used, however the electric motor in the screw gun may burn out prematurely due to lower torque ratings. Fastener tips may be ruined by using too high of a speed screw gun for installation. Once the tip of a fastener is ruined it is almost impossible to use.

DO NOT use drywall variable speed screw guns with 0 to 4000 RPM speed as it will simply ruin the fastener tips due to fast heat build-up. Use only screw guns, which have clutches; do not use regular drills as they will torque the heads off the fasteners!

# L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS FROM L&L INSULATIONS

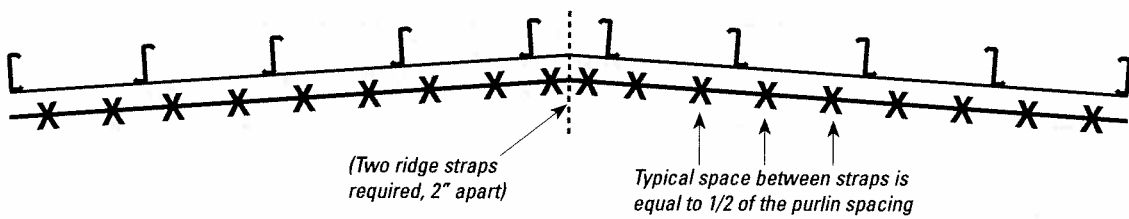
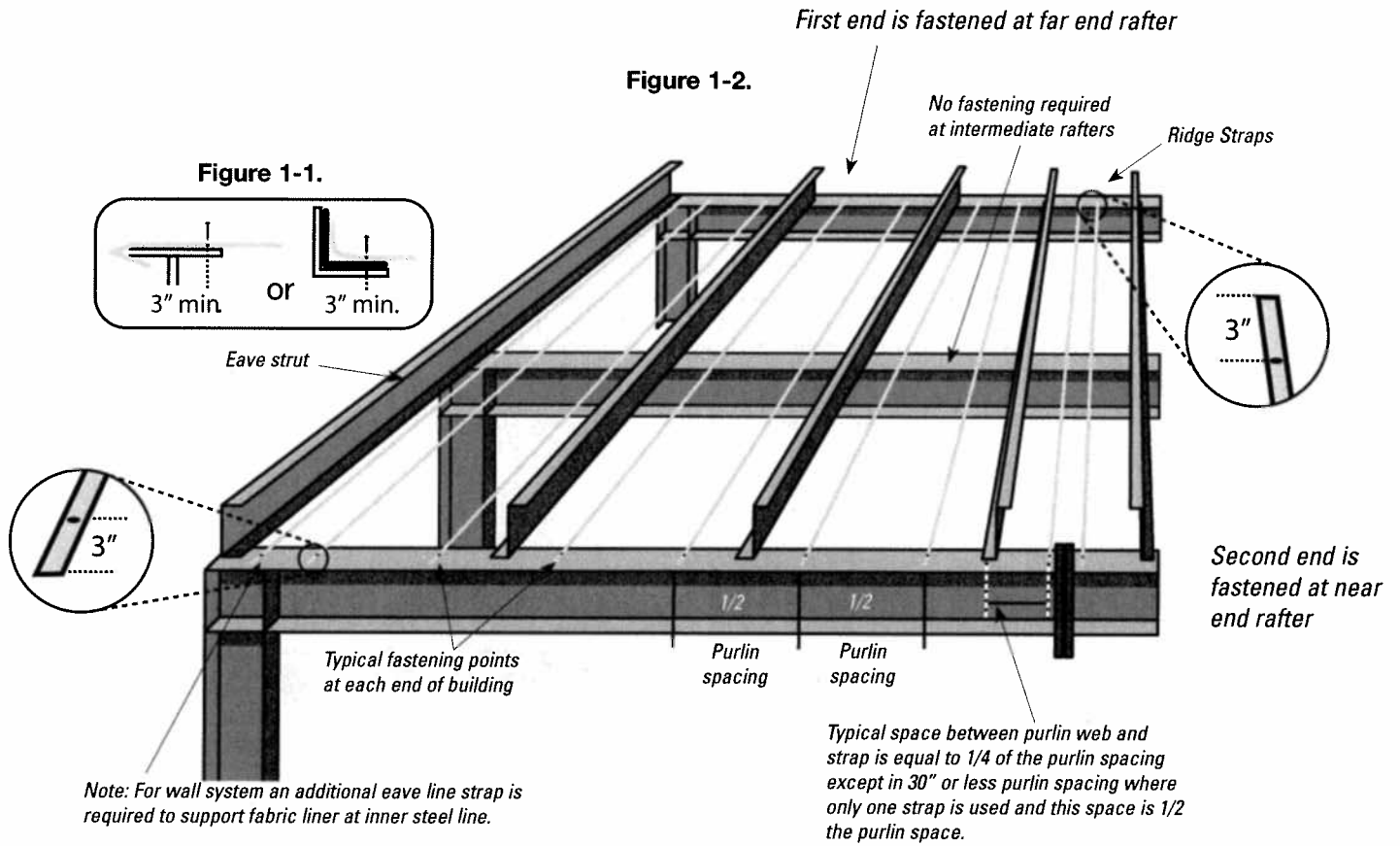
## INSTALLATION OF GRID STRAP PLATFORM

### Install Longitudinal Straps First

- Step 1** To begin the installation of the strap platform, open the package containing the packing list and project drawings. Check to be sure all materials are there and that they are not damaged. If something is missing or damaged, contact L&L Insulations at 800-747-5385. Any damages to materials from shipping must have claims filed directly with the carrier. Do not install damaged materials. Carefully review the project drawings and written instructions.
- Step 2** Assemble the strap dispenser on the ground or floor at one end of the building. Cut a number of steel straps the length of the building plus two feet. Using a lift, feed several straps over the building rafters from one end of the building to the other. (Tip: Bend a sharp hook in the strap about two inches from the end to hook over the top rafter flanges to aid in installation.) Two straps per five foot purlin space are required. See the project drawings for exact spacings. Straps for two or three purlin spaces may be pulled in on each lengthwise pass to save time. (Tip: Always keep finished side down and avoid twisting the straps.)
- Step 3** Pull all the longitudinal straps over the rafters with the finished side (normally white) down and hook them on the far end rafter. Once a number of straps are pulled into position, one crew person fastens the far end of each strap to the top of the far end rafter with a self-drilling fastener. Complete this process with all straps. Required: Keep fastener centered on the strap when fastening. Use the fine thread self-drilling screws for fastening to thicker steel. Steel over 3/8" thick may require pre-drilling of holes with a drill bit (not provided). Tip: Use a variable speed screw gun at low rpm's with pressure for best results. Using a screw gun on too fast of rpm's can heat and deform the fastener tips.
- Step 4** Hook the other end of the lengthwise straps to the near end rafter and fasten as follows:
- Drill a fastener partially into the rafter to start a hole, being careful to maintain proper spacing as shown in the drawings.
  - Pull each strap tight by hand and fully drill a fastener through the strap about 3/8" to 1/2" short of the started hole. Drill the fastener all the way into the strap, then angle the fastener tip into the started hole and screw it in (see "Figure 1-1." on page 7). This method will tension the lengthwise strap as it screws in to the hole.
- Step 5** Repeat this process until all the longitudinal straps are installed.

# L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS FROM L&L INSULATIONS

## INSTALLATION OF GRID STRAP PLATFORM (CONT.)



\*see project drawings packed with materials for exact spacing for your project.

# L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS FROM L&L INSULATIONS

## INSTALLATION OF GRID STRAP PLATFORM (CONT.) Install Traverse Straps Second

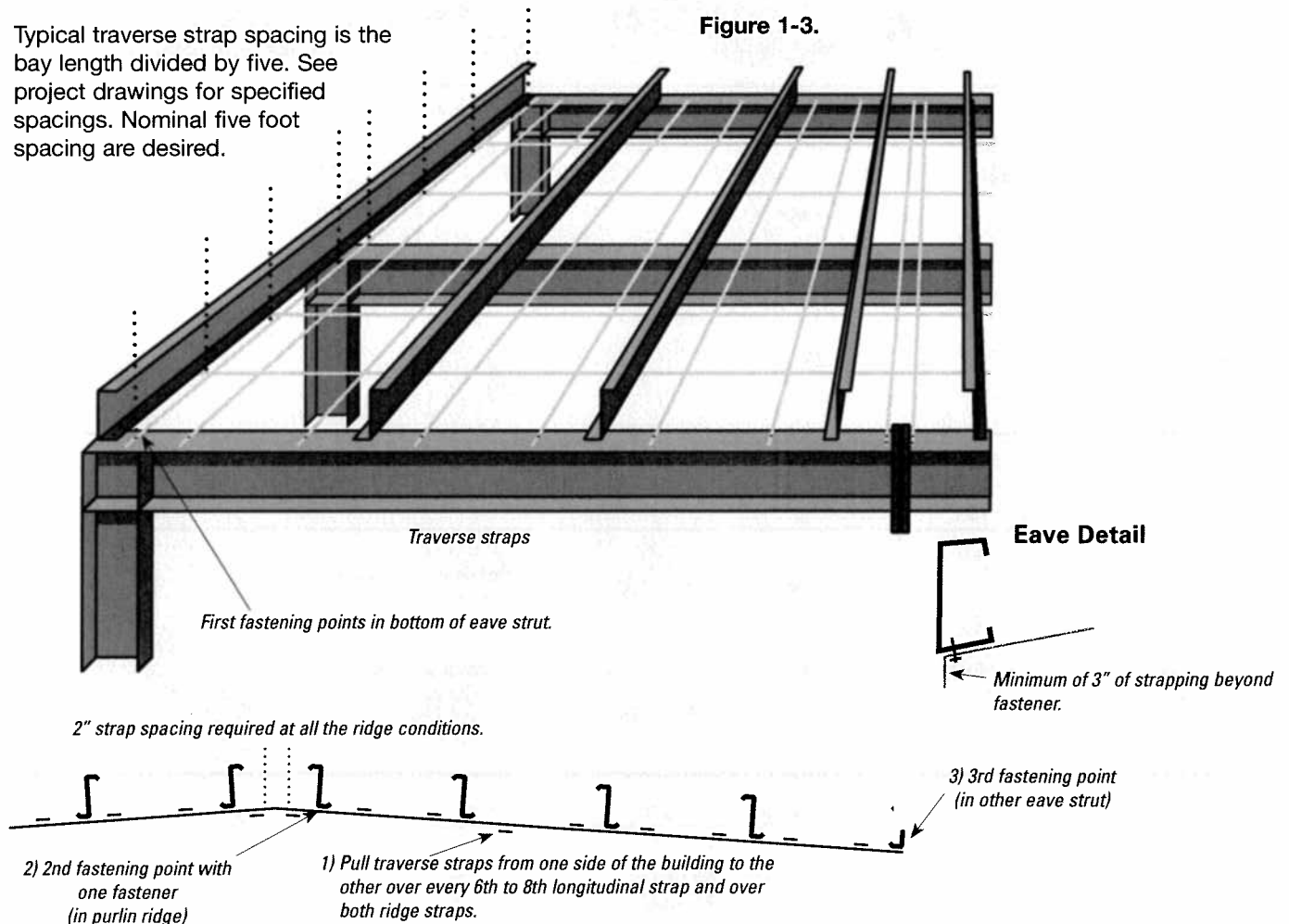
**Step 6** Cut the traverse straps the width of the building plus two feet. See the project drawings for the number of straps and spacing. (Roofs with 2:12 pitch or greater require additional strapping length to allow for the incline. Multiply the building width by the correction factor in the table [right] to find the proper length, then add two feet.) Pull the traverse straps below the purlins from one eave of the building, over every sixth to eighth longitudinal strap down to the other eave strut, but over both of the ridge straps and under all other longitudinal straps. Be careful not to twist the straps and keep the painted side down. This procedure allows for faster installation and keeps the straps in the same plane. Take all the traverse straps for each bay and feed them at the same time. After feeding the traverse straps from one side to the other, fasten the far end of each traverse strap to the bottom of the far eave strut with a fastener, measuring the proper spacing. Pull the straps tight to the ridge, fasten each traverse strap to one\* ridge purlin with one fastener and then feed and pull the strap tightly to the near eave and fasten to the bottom of the near eave strut with the fasteners provided.

ROOF PITCH WIDTH CORRECTION FACTORS	
2:12 pitch	= 1.02
4:12 pitch	= 1.06
6:12 pitch	= 1.12
8:12 pitch	= 1.21

\*Roof pitches of 2:12 or greater require fastening at both ridge purlins to allow for adequate length of strap to reach both ridge purlins upon subsequent fastening.

Typical traverse strap spacing is the bay length divided by five. See project drawings for specified spacings. Nominal five foot spacings are desired.

Figure 1-3.





# L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS FROM L&L INSULATIONS

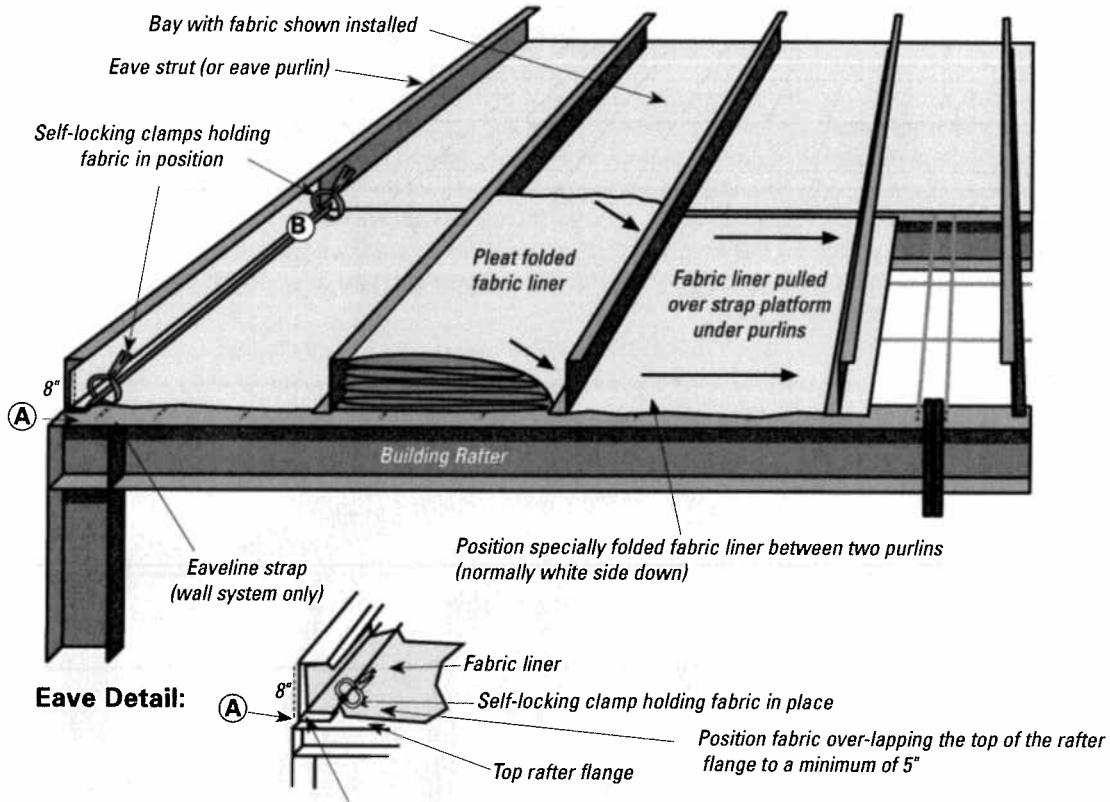
## FABRIC LINER INSTALLATION

(APPROX. 600 SQ. FT./MAN-HOUR)

**Step 1** Select the package clearly marked with the specified piece of fabric liner, which will be marked to match the custom project drawing layout, and remove the protective packaging. Unroll the factory-folded fabric liner on the tensioned strap platform from one rafter to another. Position the fabric between any two purlins, normally at the ridge or eave. Center and unroll the pleated fabric over one or two longitudinal straps to aid in installation. Beginning at the eave space or ridge space works best. Be sure the correct color side will be down since the fabric can be reversed and be different colors.

**Step 2** Pull the bottom edge of the fabric liner at least eight inches beyond the outside corner (A) of the eave strut and clamp one corner securely in position above the near rafter with a self-locking clamp. Insure a 5 inch over lap of the fabric on the top of the rafter for subsequent sealing with contact sealant. Then pull the other corner at (B) above the other eave strut connection plus eight inches, while keeping the fabric tight and square with the eave strut. Clamp the fabric in that position. Be sure to allow for the extra eight inches of fabric. Important! Keep the fabric square with the eave struts and centered on the bay. This will minimize potential wrinkles. Due to the flexible nature of the fabric and the large sizes used, some wrinkles are inevitable. See project drawings for each bay's fabric sizes.

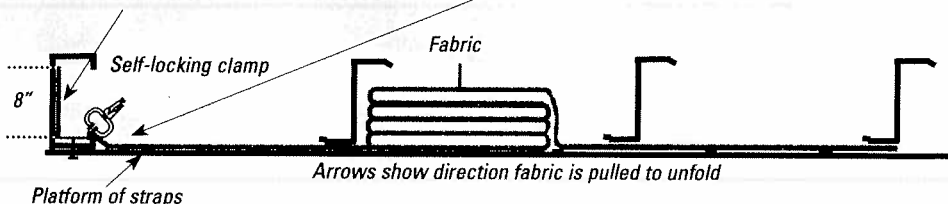
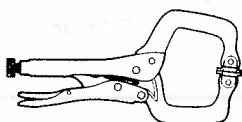
Figure 1-4.



Minimum of 8" of extra fabric beyond the outside corner of the eave strut and securely clamp the fabric in the position. Always keep the fabric edge square with the eave line by keeping the dimensions of the vertical fabric edge eight inches up from the lower corner of the eave strut as shown. Clamp the fabric to in that position pending permanent fastening.

Important!  
Keep fabric square with eave and clamp securely!

Recommended type of self-locking clamps



Fabric shown in second purlin spacing for easier visualization of this step.

# L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS

## FROM L&L INSULATIONS

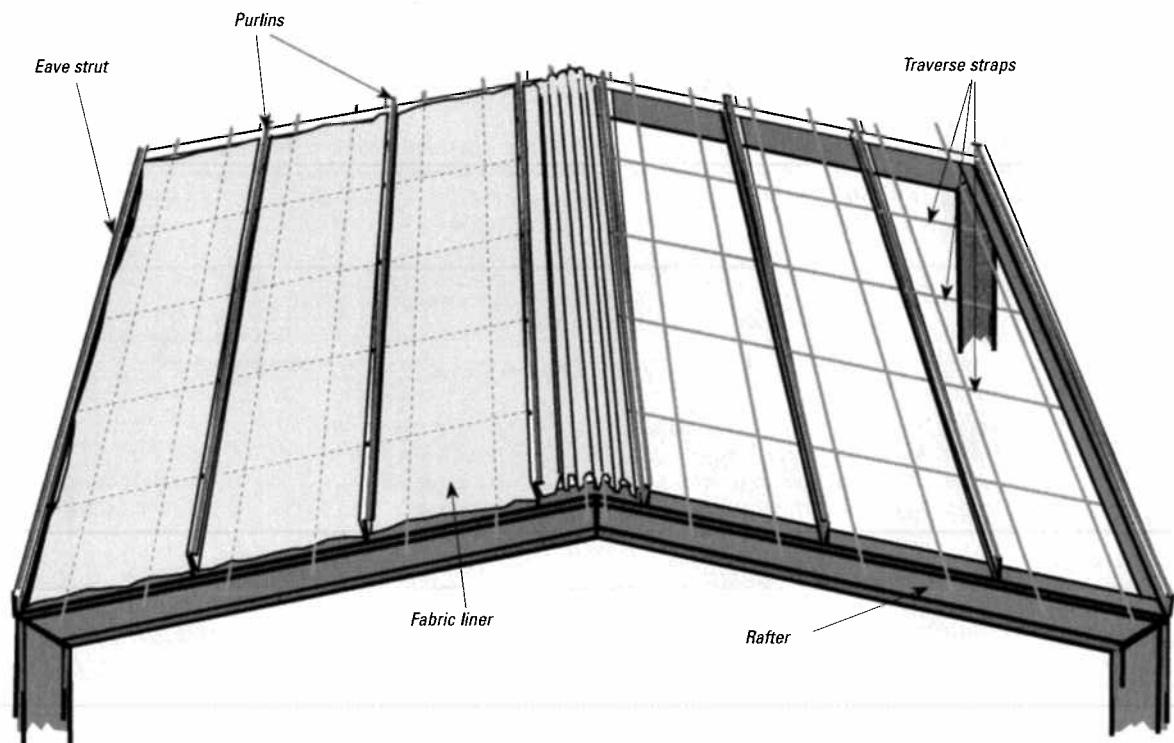
### FABRIC LINER INSTALLATION (CONT.)

#### Pull fabric out across the strap platform

**Step 3** Pull the other end of fabric liner off of the top of the folded pile to the ridge space. Pull all the excess fabric into the ridge space. Pull the fabric tight from the eave strut to the ridge purlin space. Center the fabric squarely between the rafters and clamp it into position. Then, from a lift below, install the fasteners (B, next page) through the traverse straps and fabric liner at each intersection point of the traverse straps and the ridge purlin. Clamping the edges of the liner to the rafter flanges every 20-25 feet along the rafters aids in the installation. If both sides of the roof are sheeted at the same time, remove the (A2) fasteners (installed when strapping was installed) and pull the fabric taut to the other eave strut and clamp snugly into position. If only one side of the roof is to be sheeted at a time, the fabric may be left in the ridge purlin space until the second slope is ready to cover or start the fabric from the ridge space. (Take precautions that rain or snow will not enter the system if the fabric is stored in the ridge purlin space. Pushing the fabric back under the roof sheets and/or covering the ridge space will protect against water entry.)

When the fabric is clamped in position in the second slope, install the (C) fasteners where the traverse straps cross below each purlin. Care must be taken when installing the fasteners. If a hot burr is created and falls from the purlin to the liner fabric, it can melt a small hole in the liner fabric. If this occurs the fastener shall be backed out of the hole, a square piece of Syseal® Repair Tape shall be placed over the small hole. Rub the Syseal® Repair Tape onto the liner surface to get the tape sealant to bond, then the fastener can be screwed back into the original hole. After installing the (C) fasteners near the eaves, back out the (A1) or (A3) fasteners from one strap end at a time, pull the fabric tight toward the outer wall line and reinstall the fasteners through the fabric and into the same holes from which they came. Finally install a strap along the bottom of each eave strut and at any field splices with fasteners a maximum of 30 inches apart from rafter to rafter (see Eave Detail on the following page). Any intermediate fabric liner splices done on-site must be done on the bottom side of a purlin and requires fastening at least six inches from the edge of the fabric liner. Use Syseal® Sticky Tape by Thermal Design to position and seal the fabric splices on the bottom of a purlin prior to fastening. Use the Simple Saver High Tack Sealant™ provided to seal fabric liner to eave struts. As an option, you may order Syseal® Sticky Tape for this purpose. Care must be taken at the eave strut to make sure the liner fabric closes and seals all holes that maybe present in the eave strut. Cover and seal any holes in the bottom of the eave strut with the liner fabric or otherwise seal them.

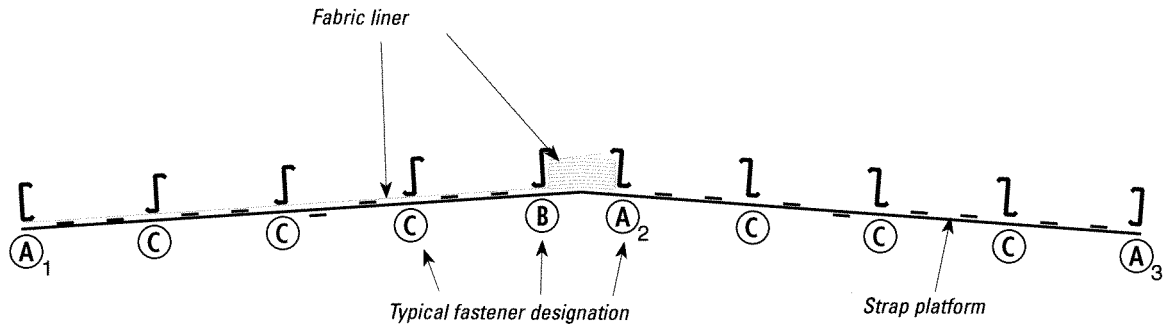
Figure 1-5.



# L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS FROM L&L INSULATIONS

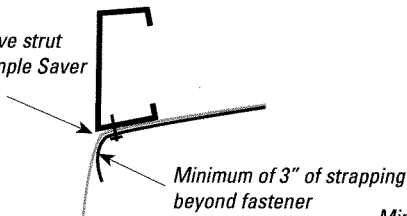
## FABRIC LINER INSTALLATION (CONT.)

Figure 1-6.



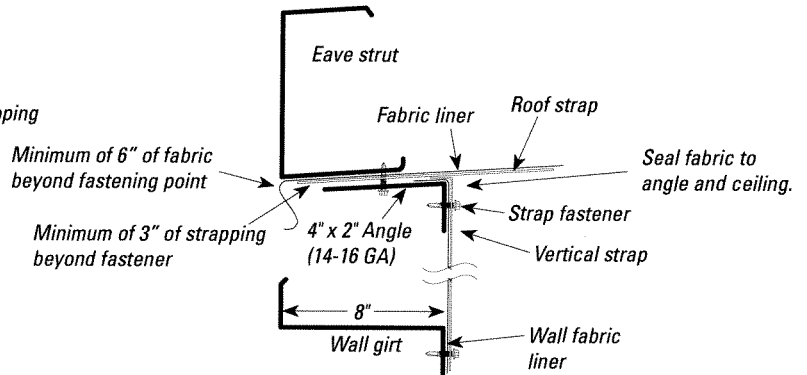
### Standard Eave Detail

Fabric liner must be sealed to eave strut using Syseal® Sticky Tape or Simple Saver High Tack Sealant™\*



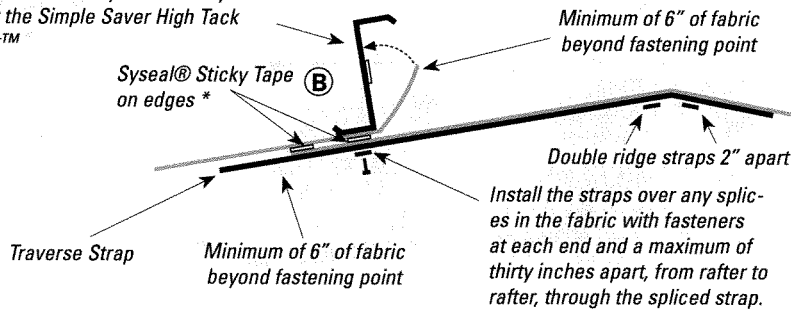
\*Make sure all holes in the eave strut are covered and sealing of the fabric is done to outside edge of eave strut.

### Special Eave Detail - Roof and Wall System detail for interior steel liner.



### Splice Detail at a Purlin

Adhered to purlin on uphill side with Syseal® Sticky Tape or the Simple Saver High Tack Sealant™



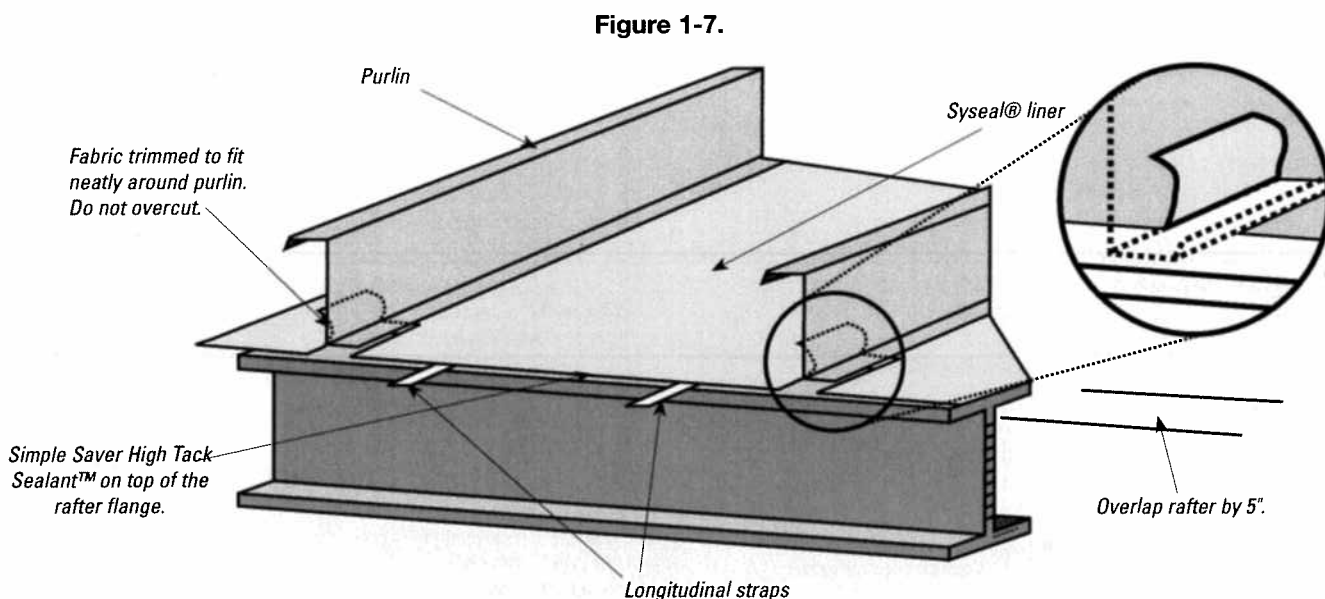
For use if a more finished look is desired where the roof and wall systems adjoin each other. Recommended when roof and wall systems are different colors.

\*Syseal® Sticky Tape must run continuous along the edge of liner fabric from rafter to rafter to seal against any air infiltration and water vapor infiltration.

# L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS FROM L&L INSULATIONS

## FABRIC LINER INSTALLATION (CONT.) Trim and seal fabric edges

- Step 4** Trim the fabric edges to fit neatly around all of the purlins or other obstacles. Find the point where the purlin intersects with the edge of the rafter and place one cut in the fabric from this point to the edge. Then push down slightly on the fabric and cut at a 90° angle to the first cut beneath the purlin so the fabric fits neatly around the purlin. Care must be taken to cut very neatly and DO NOT over cut the liner fabric at the purlins to prevent air infiltration (see "Figure 1-7.")
- Step 5** Once trimmed, the next step is to seal the edges of the fabric to the topside of the rafter and eave strut. Make sure Simple Saver High Tack Sealant™ is applied continuous from purlin to purlin along the entire rafter. Apply to multiple purlin spaces at one time, usually from the ridge point to eave point on top of the rafter. Allow Simple Saver High Tack Sealant™ to tack a few minutes and neatly seal the first fabric tab down to the topside of the rafter to check for adhesion. Allow sealant to tack a few minutes and then stick all the tabs down firmly, going from the eave to the ridge. The field test for adhesion should be that the applied fabric should stay stuck and is difficult to pull off the rafter once adhered and should not be able to slide after the fabric is applied. Once proper adhesion is verified, neatly and securely seal each successive fabric tab down to the rafter in the same manner. Each time you move to the next purlin space, do so by walking on top of rafter and on the secured fabric to firmly adhere it to the rafter. Finally, neatly seal the ends of L&L Saver System™ fabric liner to the bottom of the eave struts securely and install any remaining required fasteners.



# L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS

## FROM L&L INSULATIONS

### INSULATION PLACEMENT

(APPROX. 600 SQ. FT./MAN-HOUR)

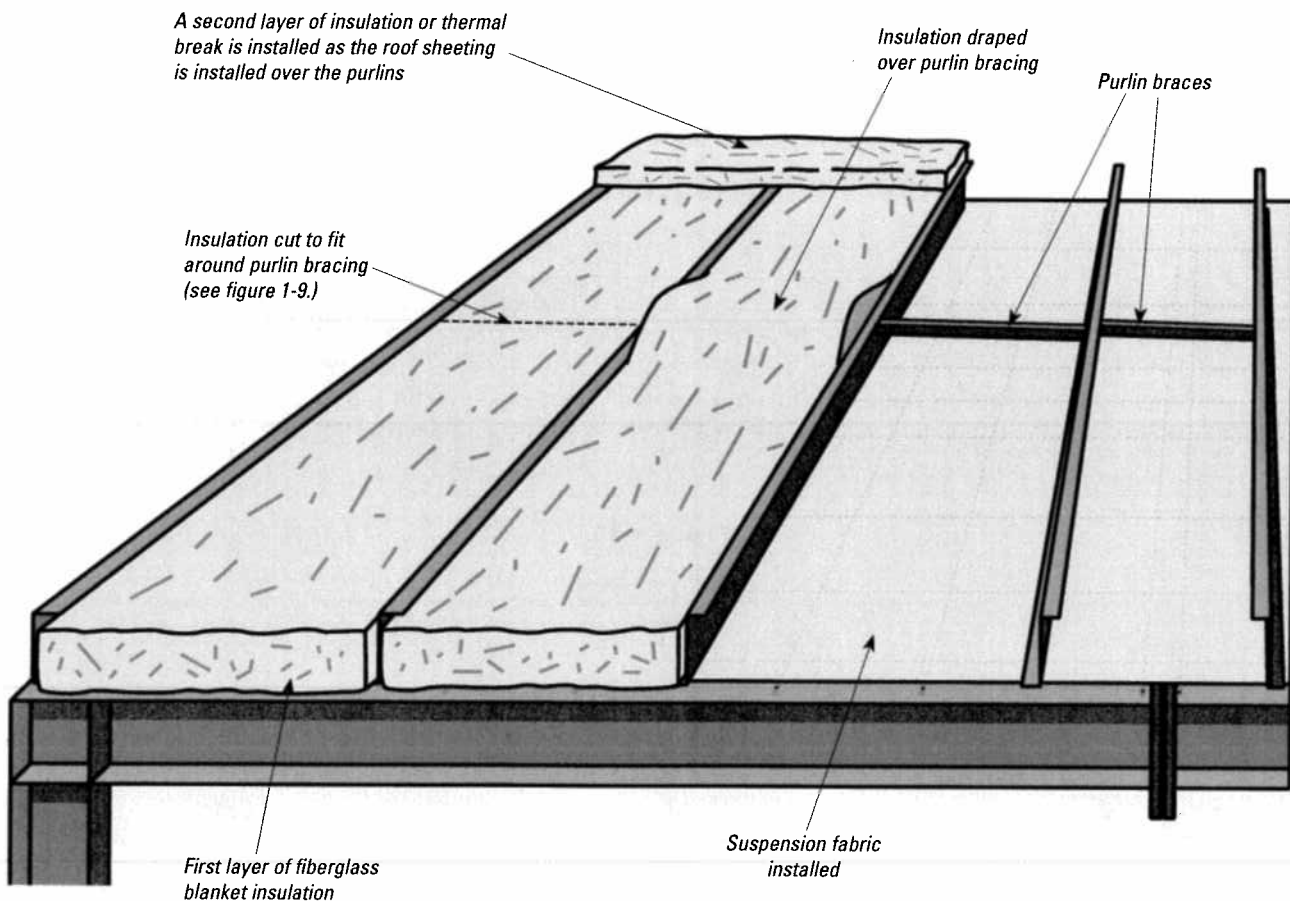
Install insulation between and over the purlins

**Step 6** Unwrap unfaced insulation rolls or batts and shake insulation to achieve the required thickness and position them neatly on top of the liner system between the purlins. (Refer to insulation sizing verification sheet for the widths of rolls or batts shipped for each unique spacing and the insulation placement.) If the building uses bracing between the purlins, install the insulation over the top of the purlin stiffener braces and apply the roof sheets to the point where the insulation over the brace can be cut along the brace with a knife and the insulation is allowed to drop down on each side of the brace. Fluff the insulation to achieve the required thickness. This step allows for maximum expansion of the insulation thickness in the purlin cavities on each side of the bracing. Repeat this process at all braces.

With two-layer systems, a second layer of insulation can be installed over the top of the purlins and the first layer of insulation to provide added insulation and a thermal break. For thick single-layer insulation or blown-in insulation systems, a separate thermal break material is recommended on the purlins. The roof panels are then sequentially installed along the roof and fastened. Insure that there is sufficient space for maximum desired insulation thickness.

Plan the installations so that the insulation is not left exposed and the installed areas are covered each day to prevent damage to the materials from potential bad weather. Installing a bay or two of the liner fabric at a time is typical.

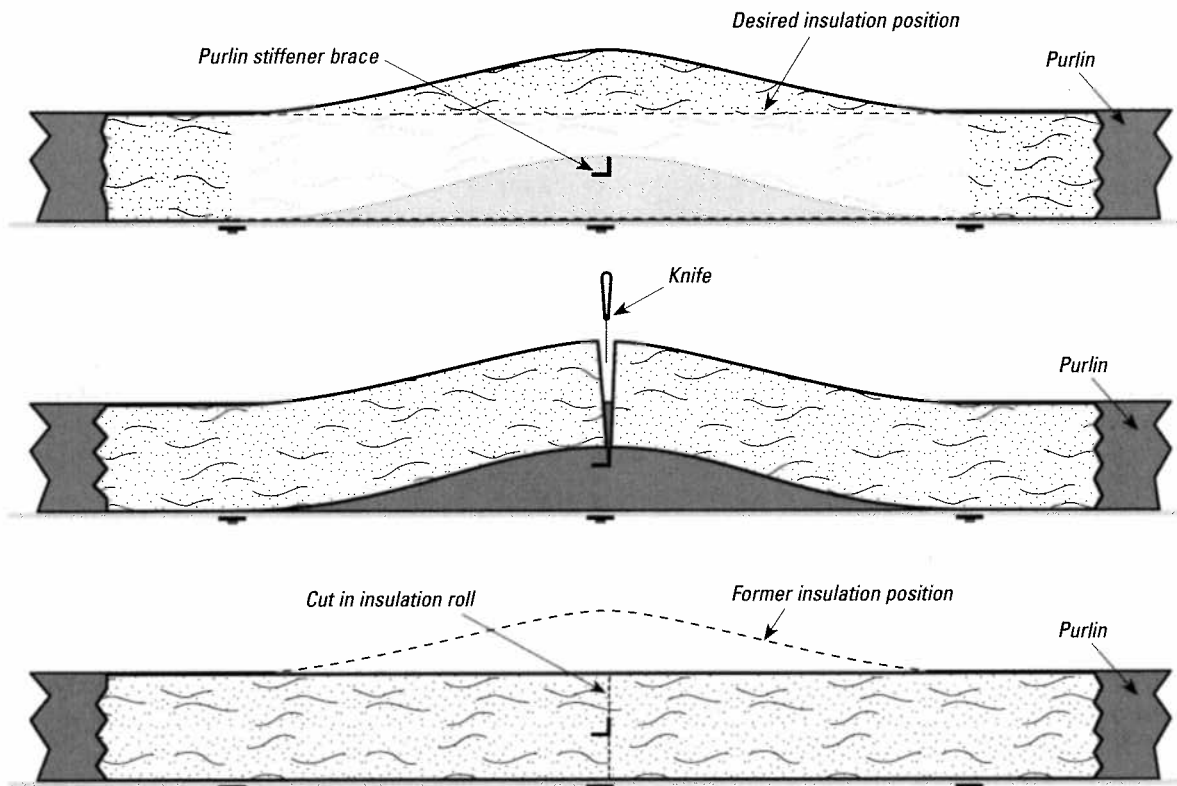
Figure 1-8.



# L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS FROM L&L INSULATIONS

## INSULATION PLACEMENT (CONT.)

Figure 1-9.



## HIGH HUMIDITY APPLICATIONS

**Step 7** In high humidity applications, it is recommended that the junction of the liner fabric along the rafter flanges and the fabric be caulked with a clear siliconized acrylic latex caulk (caulking is not provided with the system) and areas where it has been trimmed to fit around purlins, rafters, braces, etc. It is recommended that the installation be inspected and any cuts, pinholes or other such breaches in the fabric liner be sealed with caulking, tape or a flashing upon installation completion (see "Figure 1-10."). If no L&L Saver wall system will be installed, neatly trim off any excess fabric and steel strapping at the eave lines after the roof is installed.

Figure 1-10.



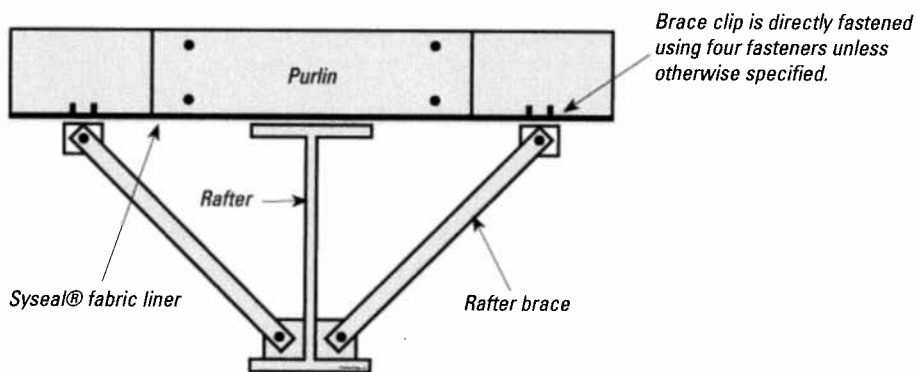
# L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS

## FROM L&L INSULATIONS

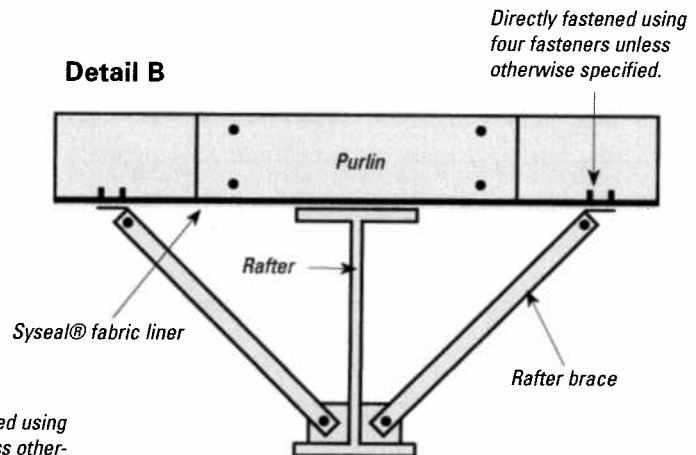
### RAFTER BRACE DETAILS

These fastening methods are routinely approved by building manufacturers for use with liner systems. Tip: Specify one of these options when ordering the building. If this is not possible, call the building manufacturer's engineering department for the number of fasteners needed to attach the braces or brace clips. These methods preserve the integrity of the high quality vapor retarder membrane. Brace clips (Detail A) are available from L&L Insulations. Contractor is to verify the use of these connections with the building manufacturer. The manufacturer's standard method, if different from above, can be utilized but may require additional sealing materials.

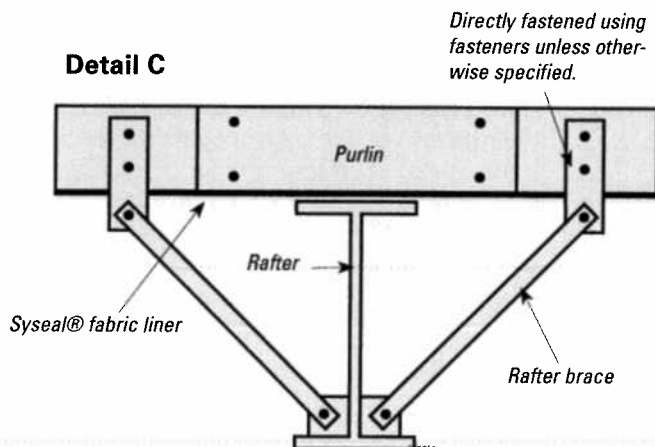
**Detail A**



**Detail B**



**Detail C**



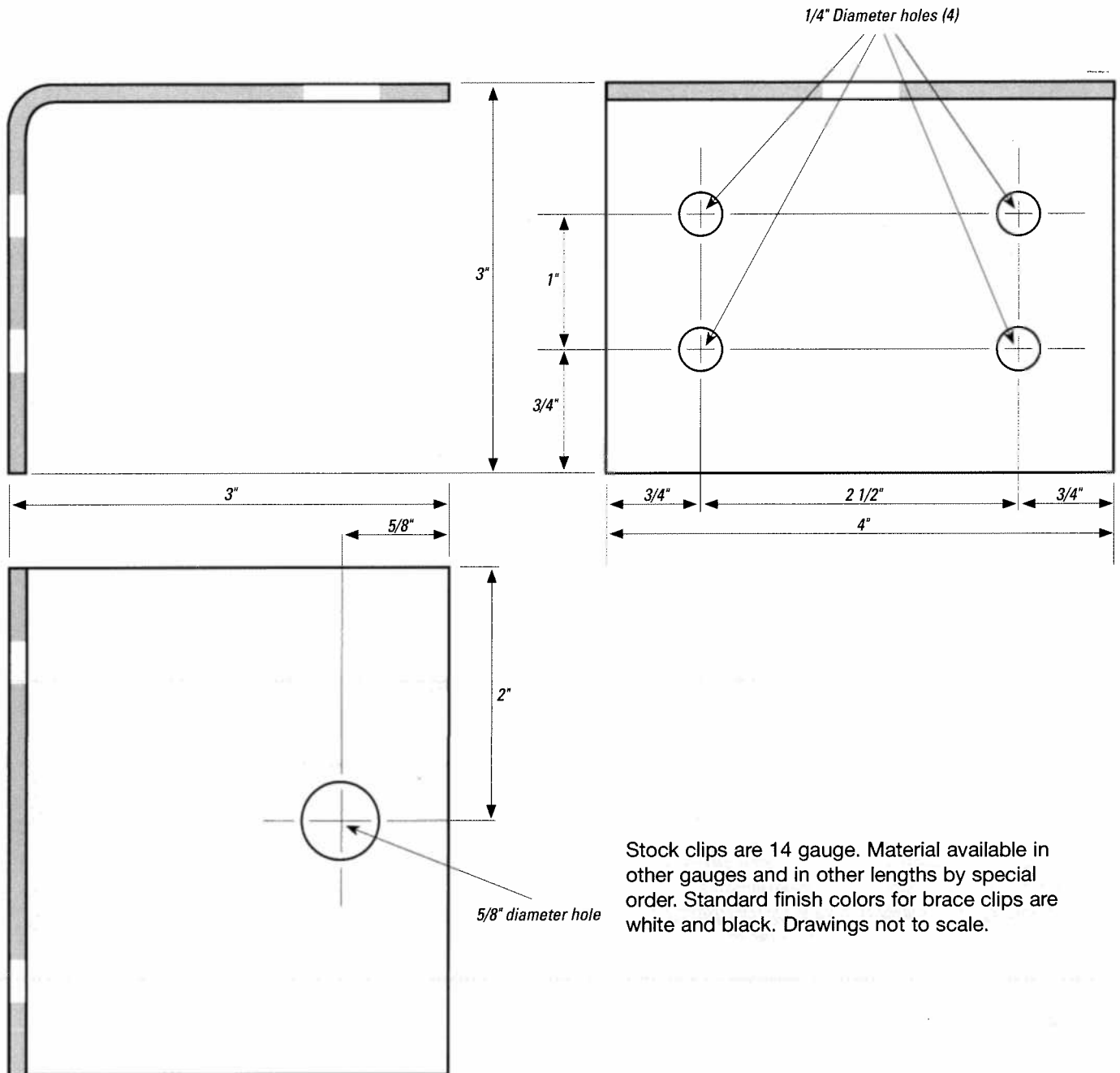
Care must be taken when cutting a slit for the flat bar to go through the fabric liner.

# L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS FROM L&L INSULATIONS

## MINIMUM BRACE CLIP DETAILS

**IMPORTANT NOTICE: CONSULT YOUR BUILDING MANUFACTURER FOR BRACE CLIP STRUCTURAL REQUIREMENTS BEFORE INSTALLATION AND USE OF THESE ALTERNATIVE BRACE CLIPS.**

**MANY BUILDING MANUFACTURERS HAVE THEIR OWN PREFERRED BRACE CLIP DESIGNS FOR USE WITH LINER SYSTEMS.**



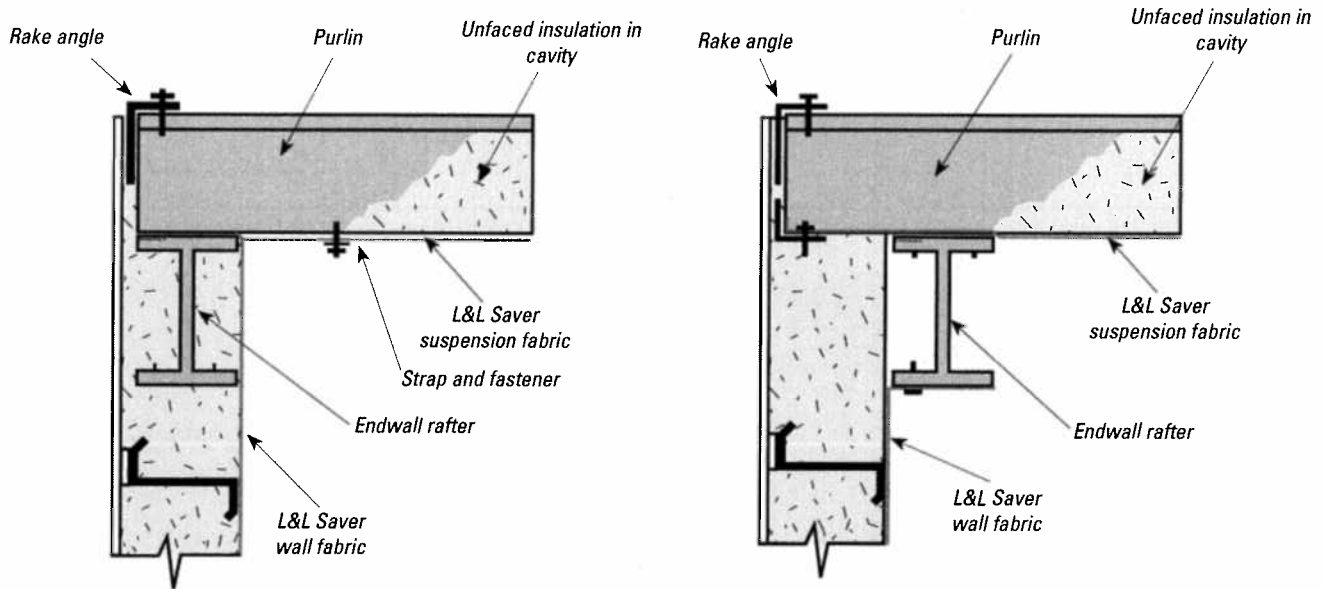
Stock clips are 14 gauge. Material available in other gauges and in other lengths by special order. Standard finish colors for brace clips are white and black. Drawings not to scale.



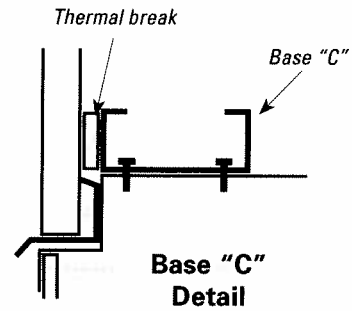
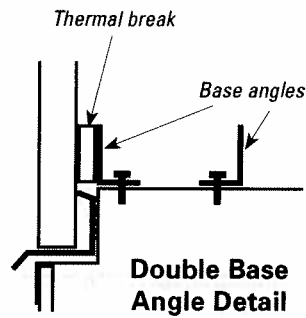
# L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS FROM L&L INSULATIONS

## PREFERRED DETAIL FOR EXPANDABLE OR HEAVY IRON END RAFTER

Figure 1-11.



Double base angle or base "C" required for wall systems.

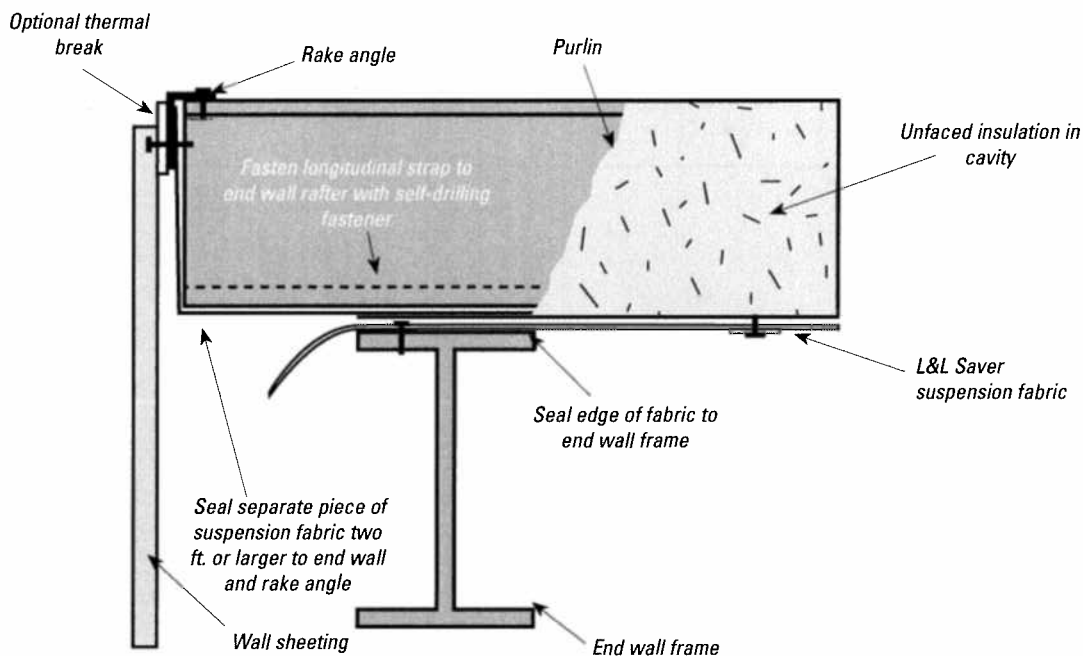


# L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS FROM L&L INSULATIONS

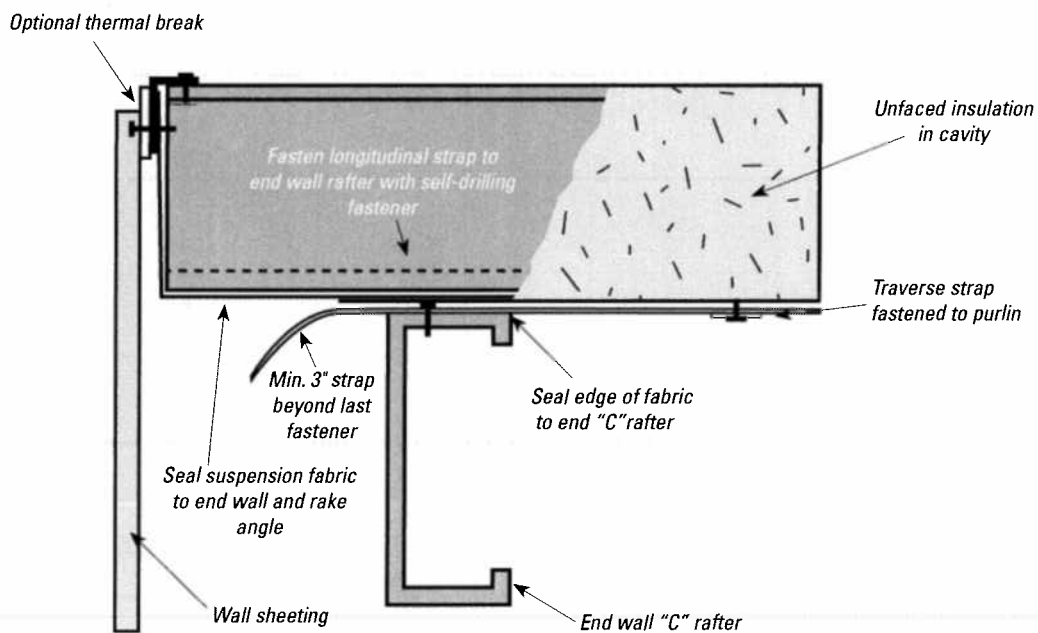
## INSTALLATION OF TWO-FOOT WIDE (OR SIMILAR) INSET FABRIC LINER BETWEEN ENDWALL FRAME AND RAKE ANGLE

### Expandable End Wall or Heavy Iron Rafter

Figure 1-12.



### Non-Expandable End Wall

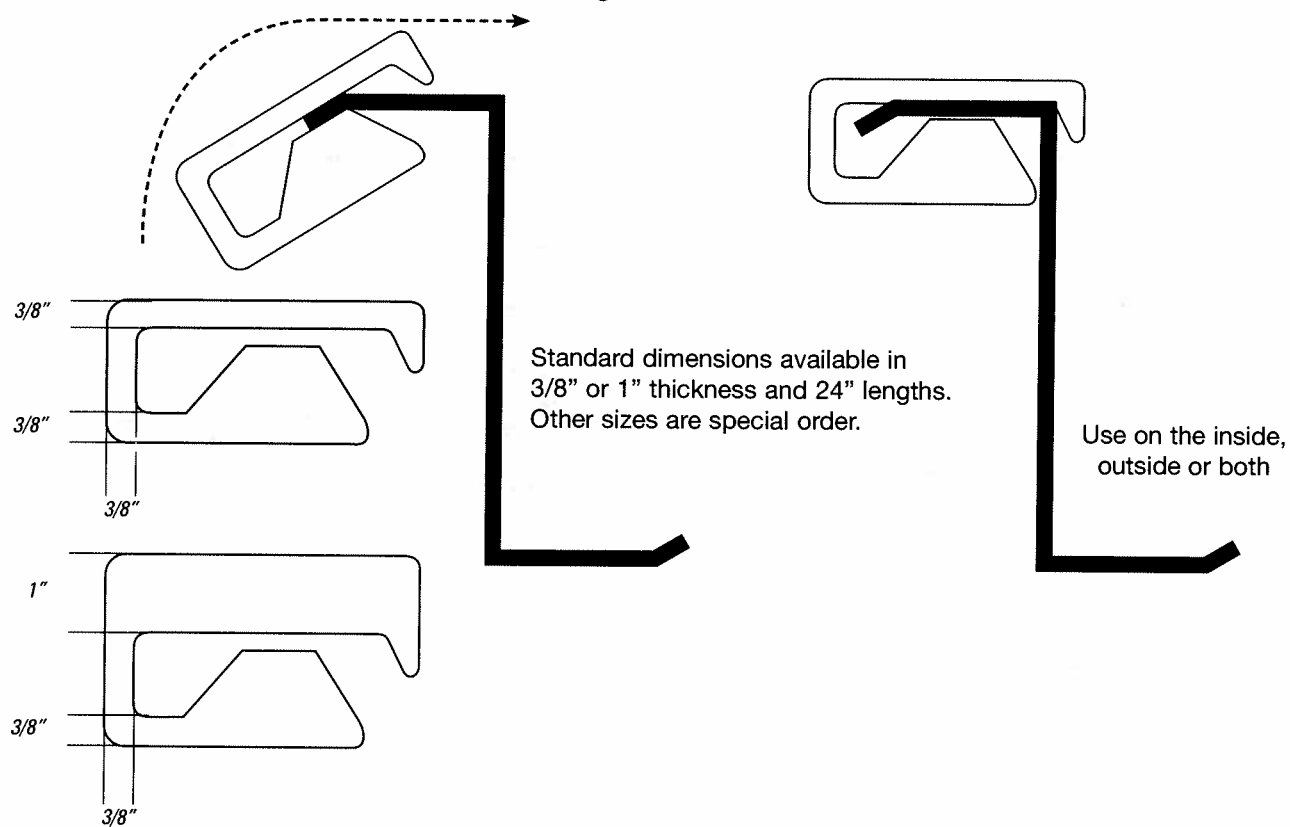


# L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS FROM L&L INSULATIONS

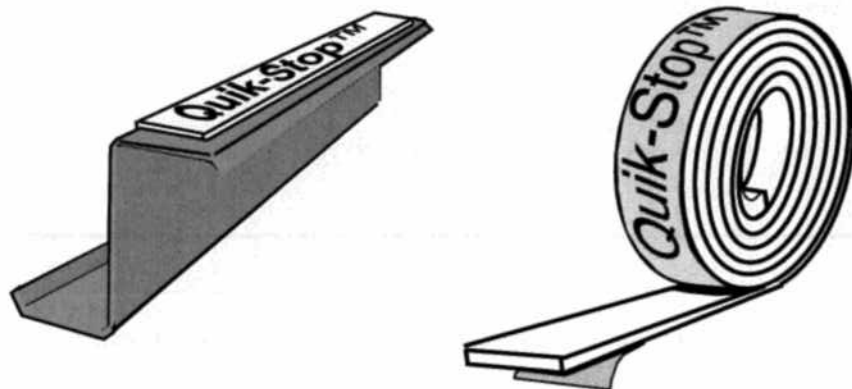
## OPTIONAL THERMAL BREAKS AVAILABLE FROM L&L INSULATIONS

**Snap-R®:** To install, snap on with a twist motion then slide along the purlins. They won't blow away!

Figure 1-13.

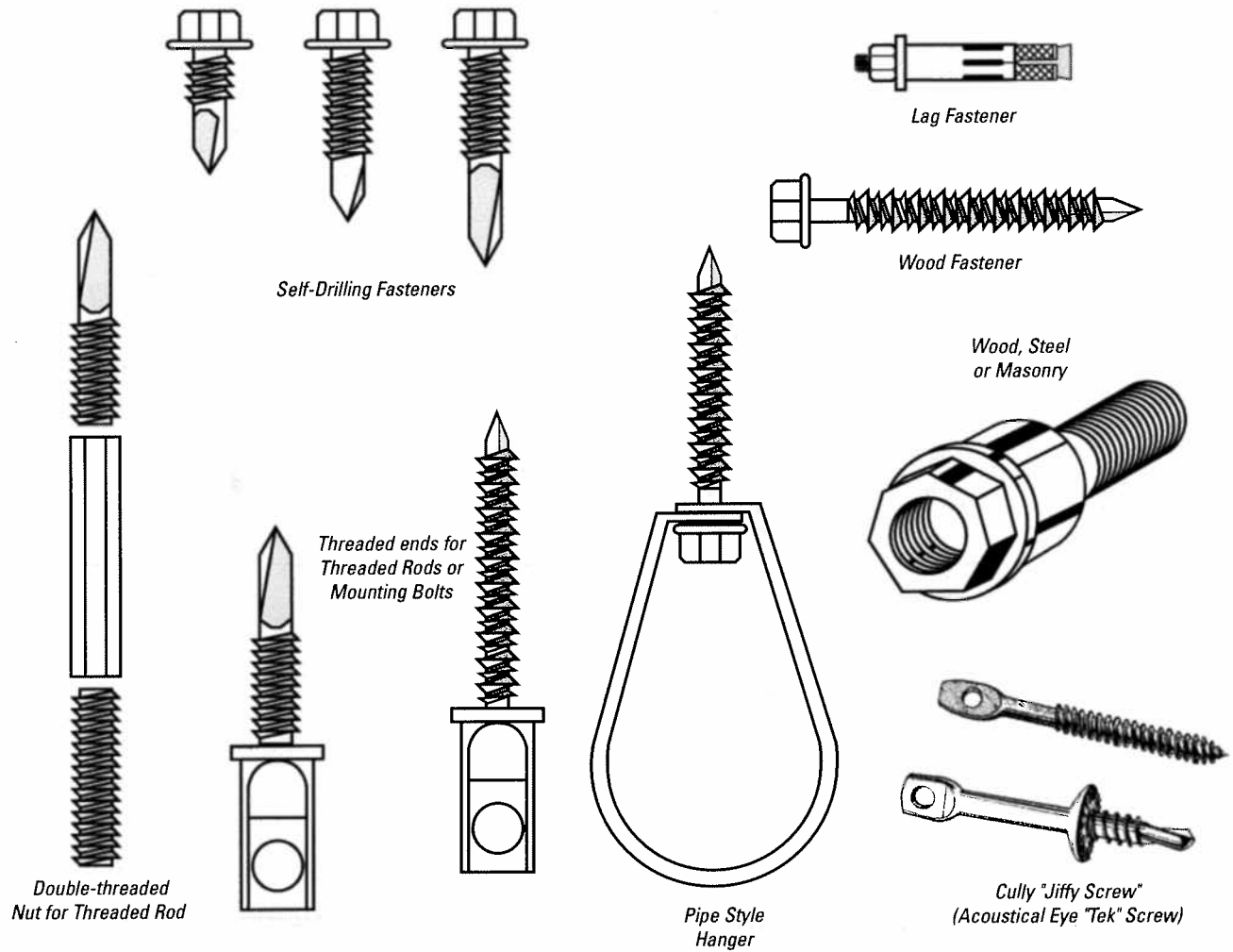


**Quik-Stop™ Thermal Break Tape:** Adheres to the purlins and/or girts and won't blow away while sheeting is being applied. Quik-Stop™ Thermal Break Tape provides a thermal break between the conductive metal sheeting and purlins or girts. Use on the topside, bottomside or both.

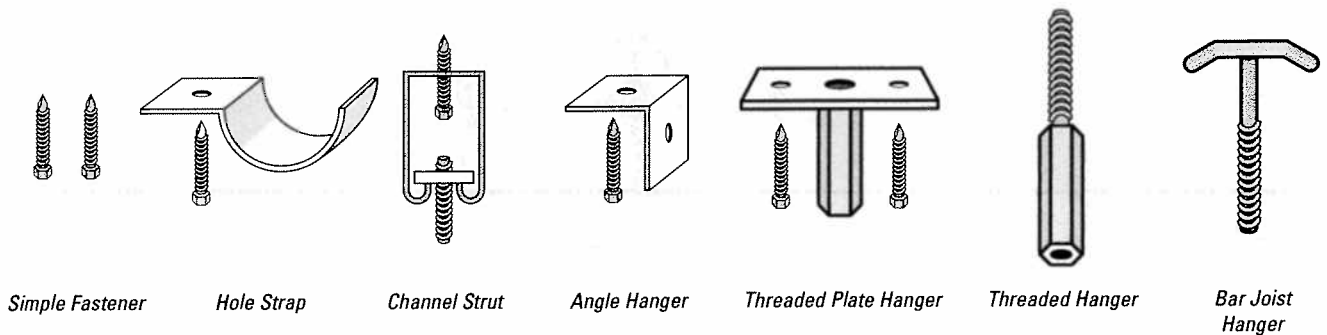


# L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS FROM L&L INSULATIONS

## COMMON FASTENERS, HANGERS AND METHODS



### Common Hanging Methods

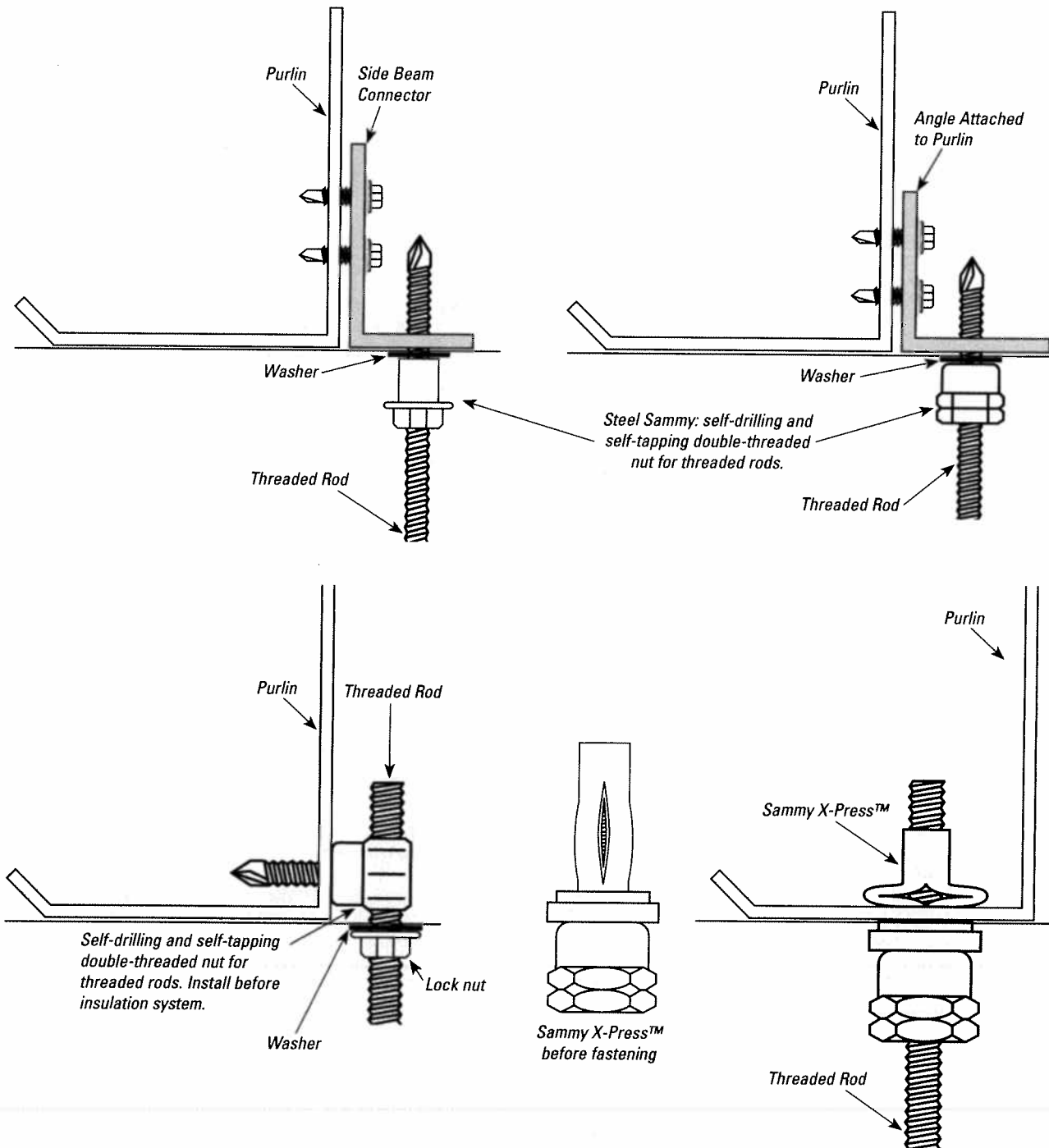


# L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS

## FROM L&L INSULATIONS

### SPECIFIC THIRD-PARTY HANGERS AND METHODS

Third-party fasteners are available from L&L Insulations for distinct fastening methods. These products specialize in hanging ductwork, pipes, and other items from ceiling without having to cut large holes in the vapor retarder. Ask your salesperson about these and other suspension methods. Check with your building manufacturer for all applications to meet building requirements. Be sure to fasten optional angle irons or side beam connectors before installing the fabric.





# CAUTION!

This product does not provide fall protection

Limitation of Material Warranty: The L&L Saver System™, its owners, licensees and distributors have no control over site conditions or its suitability for any particular purpose. Therefore, the L&L Saver System™, its owners, licensees and distributors do not warrant the performance, merchantability or fitness for any particular purpose of any part of or complete installation containing the L&L Saver System™ or products. There are no other expressed or implied warranties that extend beyond this limitation. The buyers remedies shall be limited to the repair or resupply of a like quantity of non-defective product or the value thereof. The company shall not be held responsible for consequential or liquidated damages. The seller limits its liability to the cost of materials furnished to the buyer. Installation costs are excluded.

Specification values are typical data subject to normal manufacturing variations and are not meant to be guaranteed or limiting specifications. Thermal Design, Inc. reserves the right to improve and change component specifications without notice.

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