

NEW CONSTRUCTION WALL DETAILS

L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS

Call Toll Free: 800-747-5385
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.



CAUTION!

This product does not
provide fall protection

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

TOOLS AND EQUIPMENT REQUIRED

Tools:



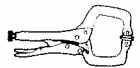
Screw guns (two recommended, 0-1000 RPM 4.5 amp minimum, three wire)*



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



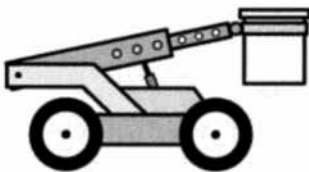
Wrenches to fit rafter brace bolts (two sets of two wrenches)



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.

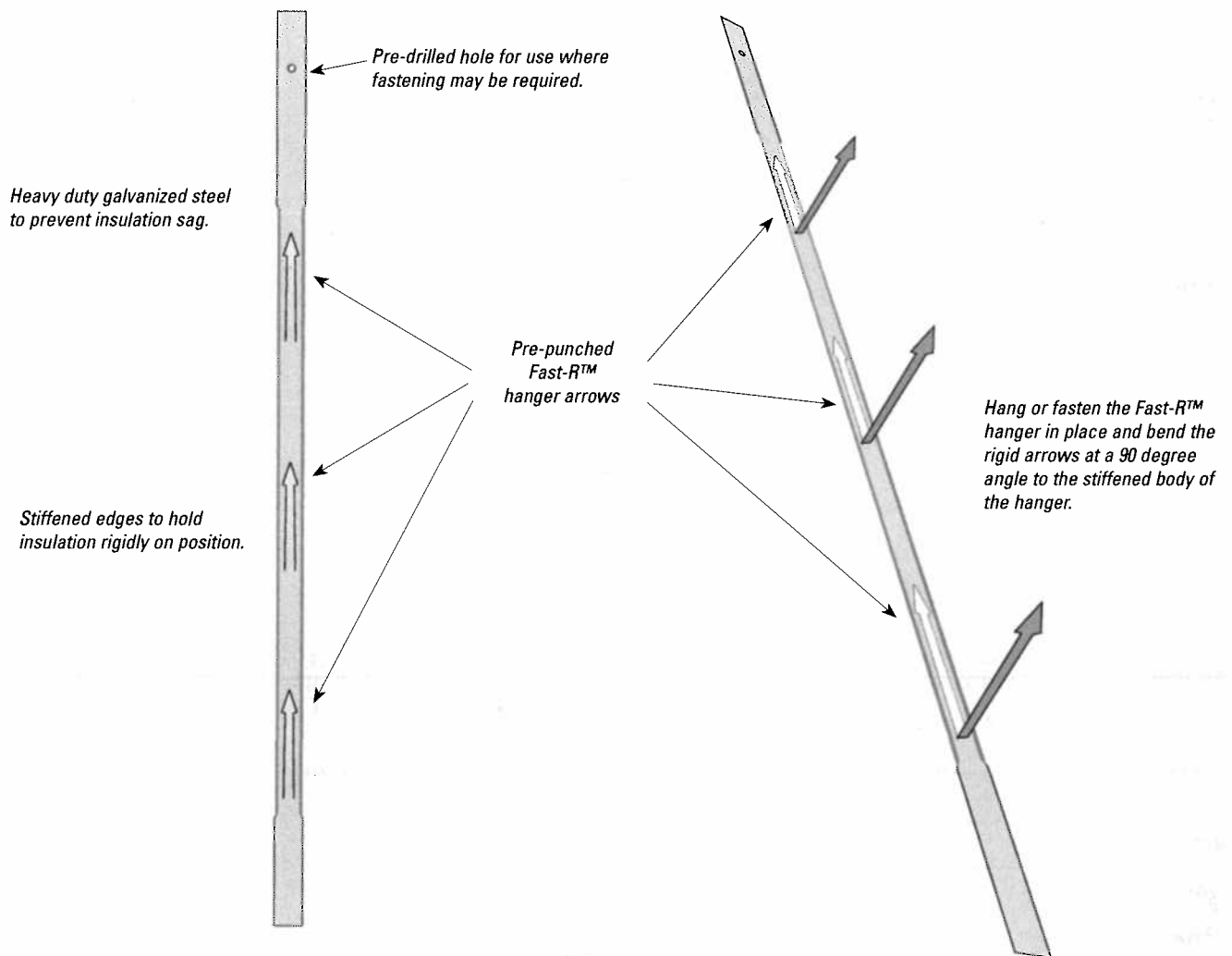
DO NOT use drywall variable speed screw guns with 0 to 4000 RPM speed as it will simply ruin the fastener tips due to fast heat build-up. Use only screw guns, which have clutches; do not use regular drills as they will torque the heads off the fasteners!

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

FAST-R™ HANGER INSTRUCTIONS

Fast-R™ hangers have been developed to quickly hang blanket fiberglass wall insulation. They are pre-cut metal strips with barbed arrows punched into them every 8" on center. These special hangers are shipped in boxes of 80 pieces, which will cover approximately 1000 sq. ft. with girts spaced 48"-96" apart.

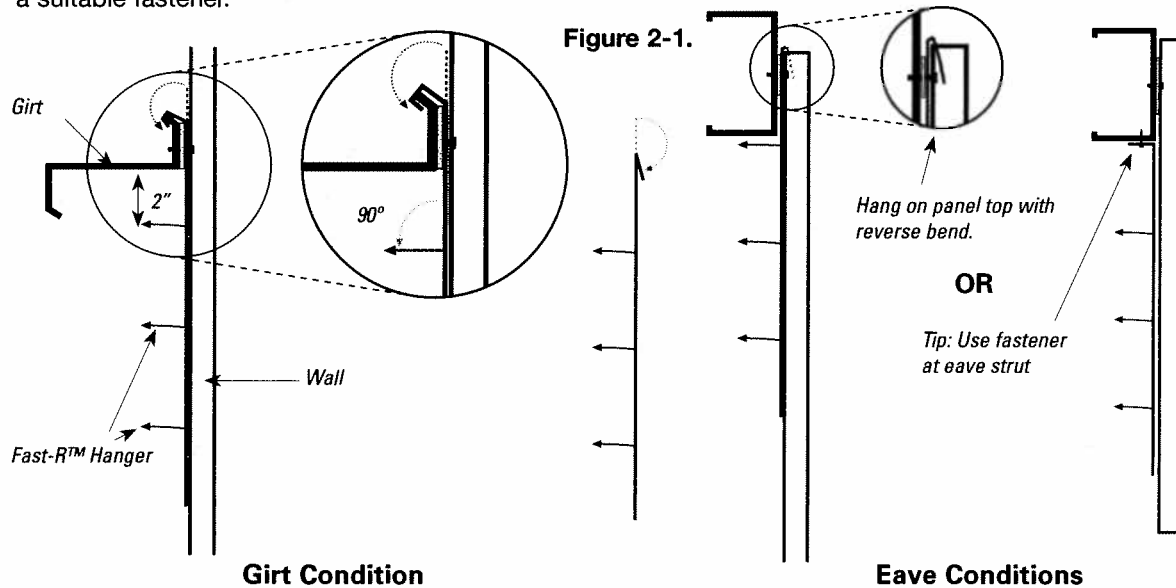
(Narrow girt spaces, such as 24", may not require hangers if insulation will support itself.)



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

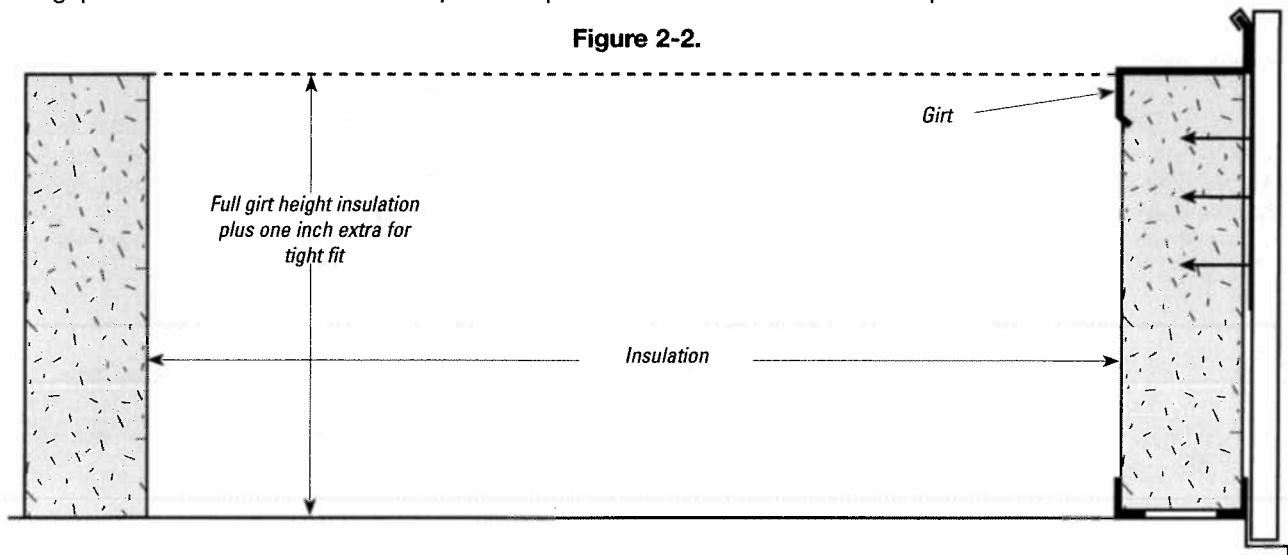
FAST-R™ HANGER INSTRUCTIONS

Step 1 Start at one end of the wall area to be insulated. Remove a Fast-R™ hanger from the box and bend the three barbed arrows perpendicular (90°) to the main body of the hanger. From the interior of the building, slide the top end of the hanger upward between the girt and the tight wall panel until the end protrudes above the girt lip approximately 1.5". Do not install in corrugations of the panels! In some instances fastening may be required. Bend this protruding end sharply inward around the girt lip to secure the Fast-R™ hanger. Typically two hangers are placed per 60" or 72" insulation blanket width or symmetrically, 30" to 36" apart, respectively. Ideally, hangers positioned 15" or 18" from each side of the blanket, respectively. If any part of the building structure does not allow the above hanging process, simply fasten the hanger to an appropriate structure with a suitable fastener.



INSTALLING THE INSULATION

Step 2 Cut the insulation to fit exact length between girts, plus one inch extra. Shake insulation to required thickness recovery of the specified product. Carefully lift up the insulation blanket into position setting the bottom of the insulation into the insulation space first, tilt it and impale it on the barbed arrows. Bend the arrow heads up to lock insulation in position starting at the top arrow and gently pull and fluff the insulation to required thickness around the rigid supporting arrows. Insure that there are no gaps between the insulation and the girts nor any gaps between insulation batts. Repeat this process in all wall areas until completed.

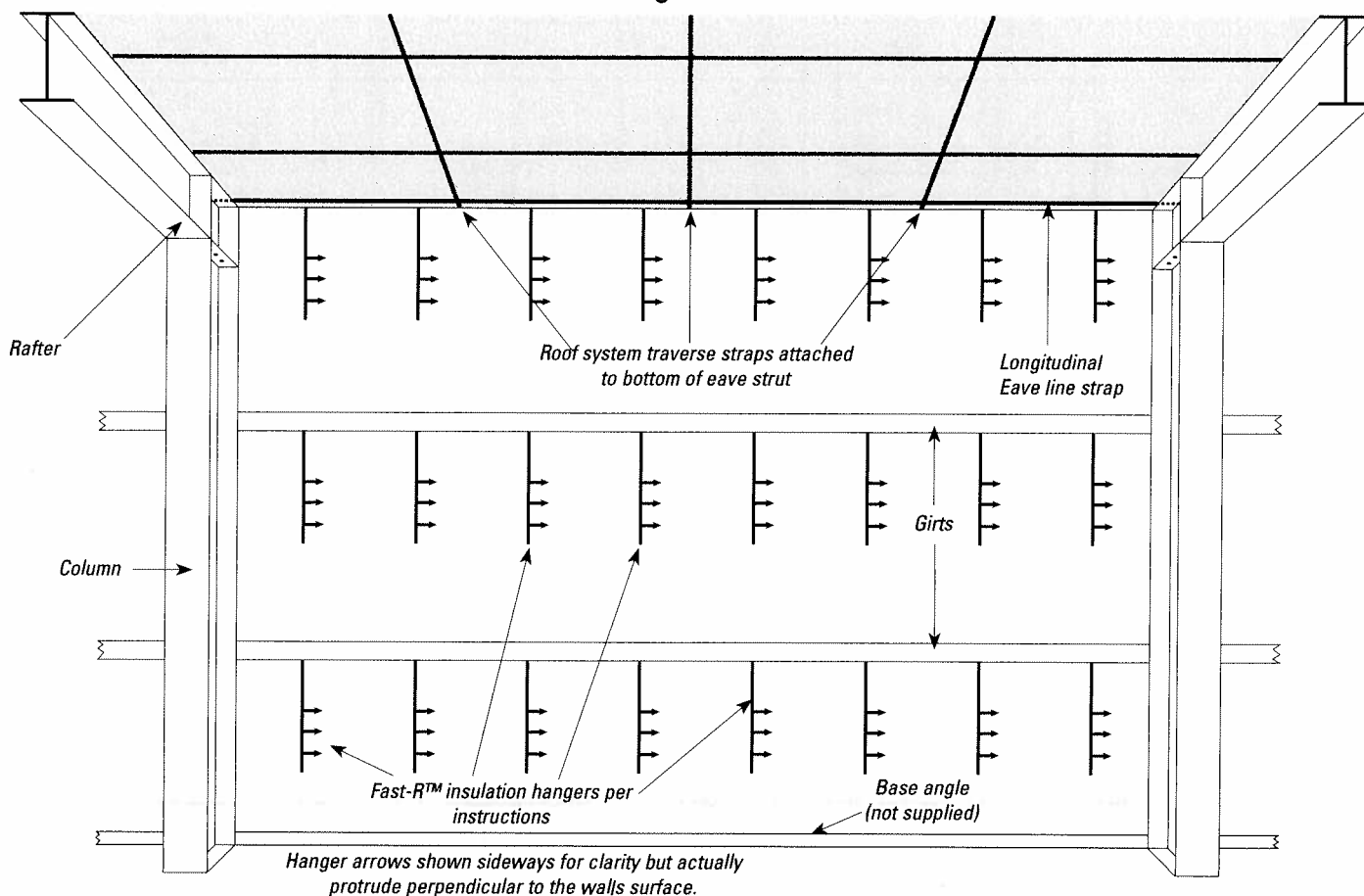


L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS FROM L&L INSULATIONS

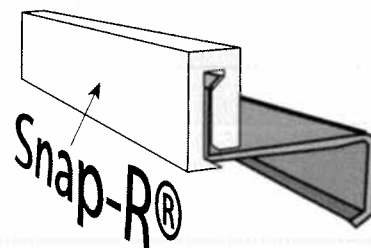
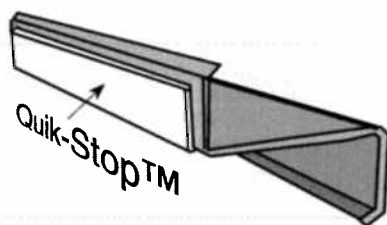
EAVE LINE STRAP INSTALLATION

Step 3 If the eave line strap was not installed along with the longitudinal roof straps, it must now be installed below the traverse ceiling straps from rafter to rafter. Cut the eave line strap the length of the bay (e.g. 20 feet for 20 feet long bay spacing) and install it plumb with the inside plane of the girts.

Figure 2-3.



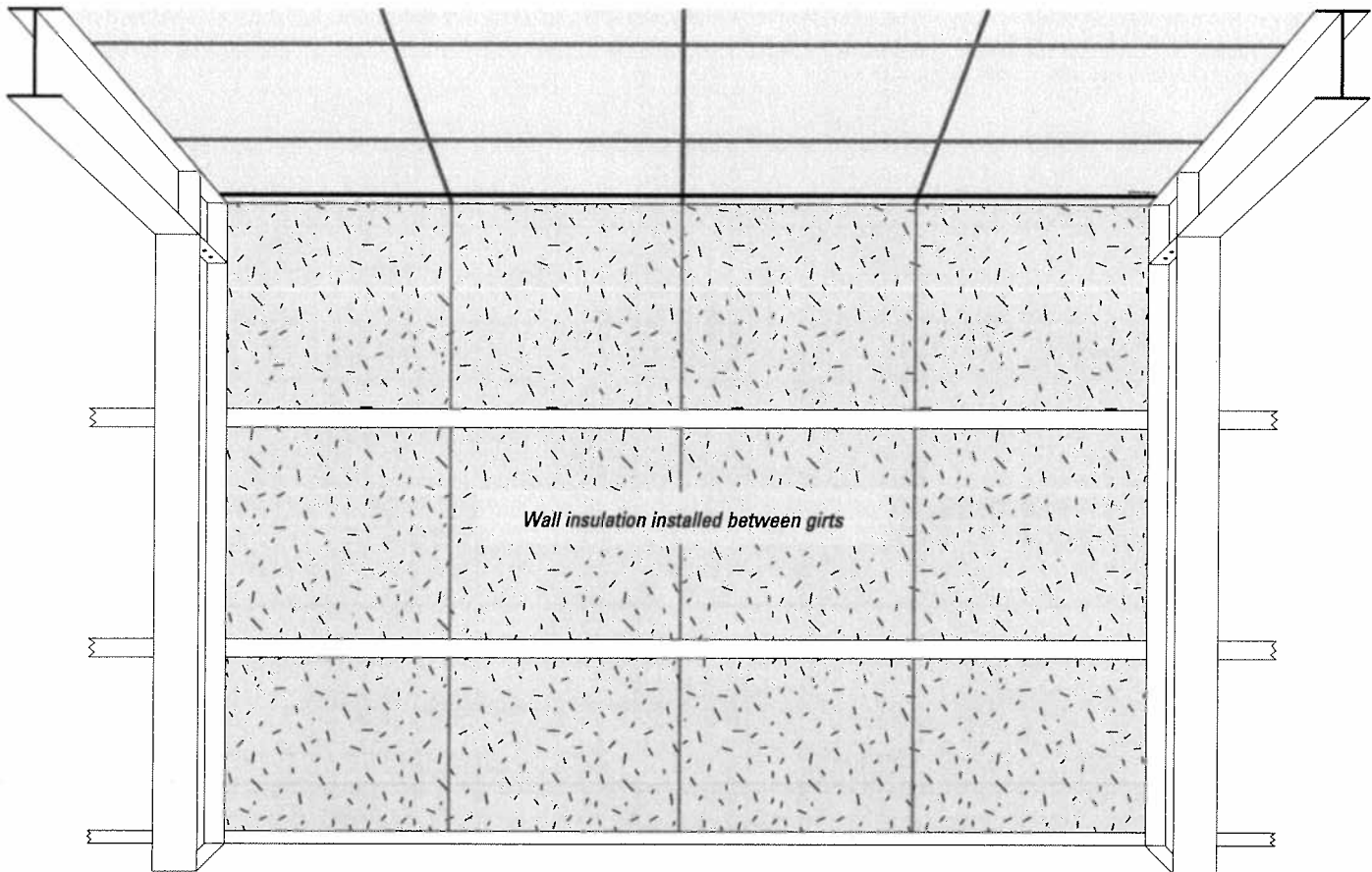
Thermal Design recommends applying a minimum 3/16" thick Quik-Stop™ self-adhering thermal break to the outside of girts, jambs and headers before applying wall sheets and/or between the interior flanges and the wall liner fabric to reduce conductive heat transfer. Snap-R® Thermal Blocks may be used for greater thickness on the interior of the girts to create the desired insulation depth space.



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

NEW WALL SYSTEM INSULATION IN STEEL FRAME BUILDINGS

Figure 2-4.



Cut the insulation to the proper lengths, shake each piece to the required thickness and impale it squarely between the girts on the rigid Fast-R™ hanger arrows. Abut the insulation joints tightly together and leave no gaps. Filling the full depth of the space is critical for optimum performance because of convection currents.

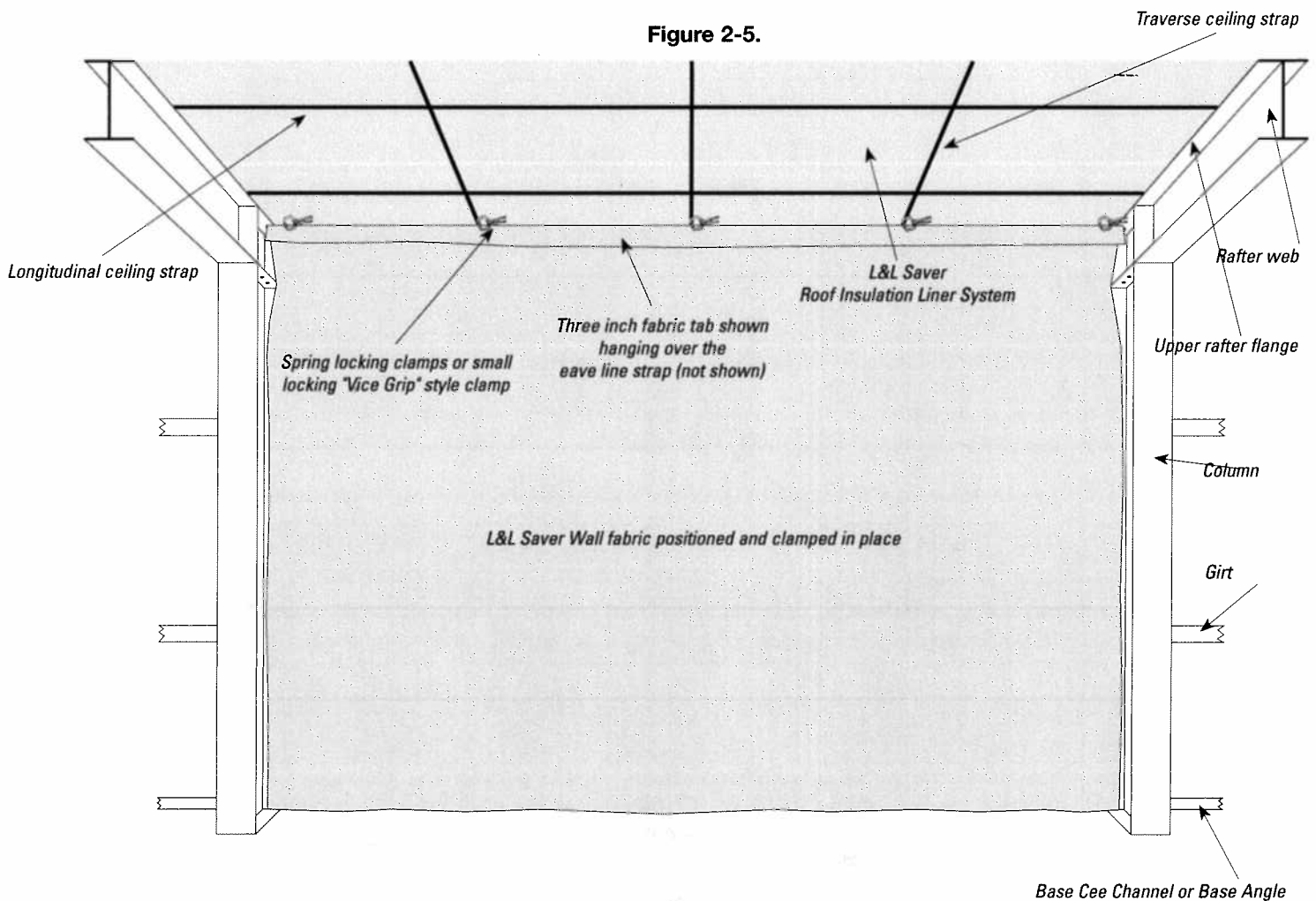
Filling the wall depth with high quality blanket fiberglass insulation will inhibit vertical convection currents and tightly fitting the insulation on all sides will minimize the loss of performance.

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

NEW WALL SYSTEM INSTALLATION IN STEEL FRAME BUILDINGS

Step 4 Position appropriate sized fabric on wall bay (see sketch provided with system for sizes). Factory seams, if any, should run vertically on wall fabric. Start positioning the wall fabric in either inside corner at the rafter and eave line strap intersection. Position the wall fabric behind, up and around the eave line strap toward the interior by three inches and temporarily clamp it in this exact position. Allow sufficient fabric to the side to seal the fabric all the way to the column web and have at least one inch of side trim. (At least two inches are allowed by Thermal Design for this trim.) Proceed laterally toward the opposite inside corner of this eave line bay, positioning the wall liner fabric behind, up and around the eave line strap by the three inches, temporarily clamping the wall fabric squarely in position between the eave line strap and each overlying traverse ceiling strap (see Figure 2-5).

Figure 2-5.



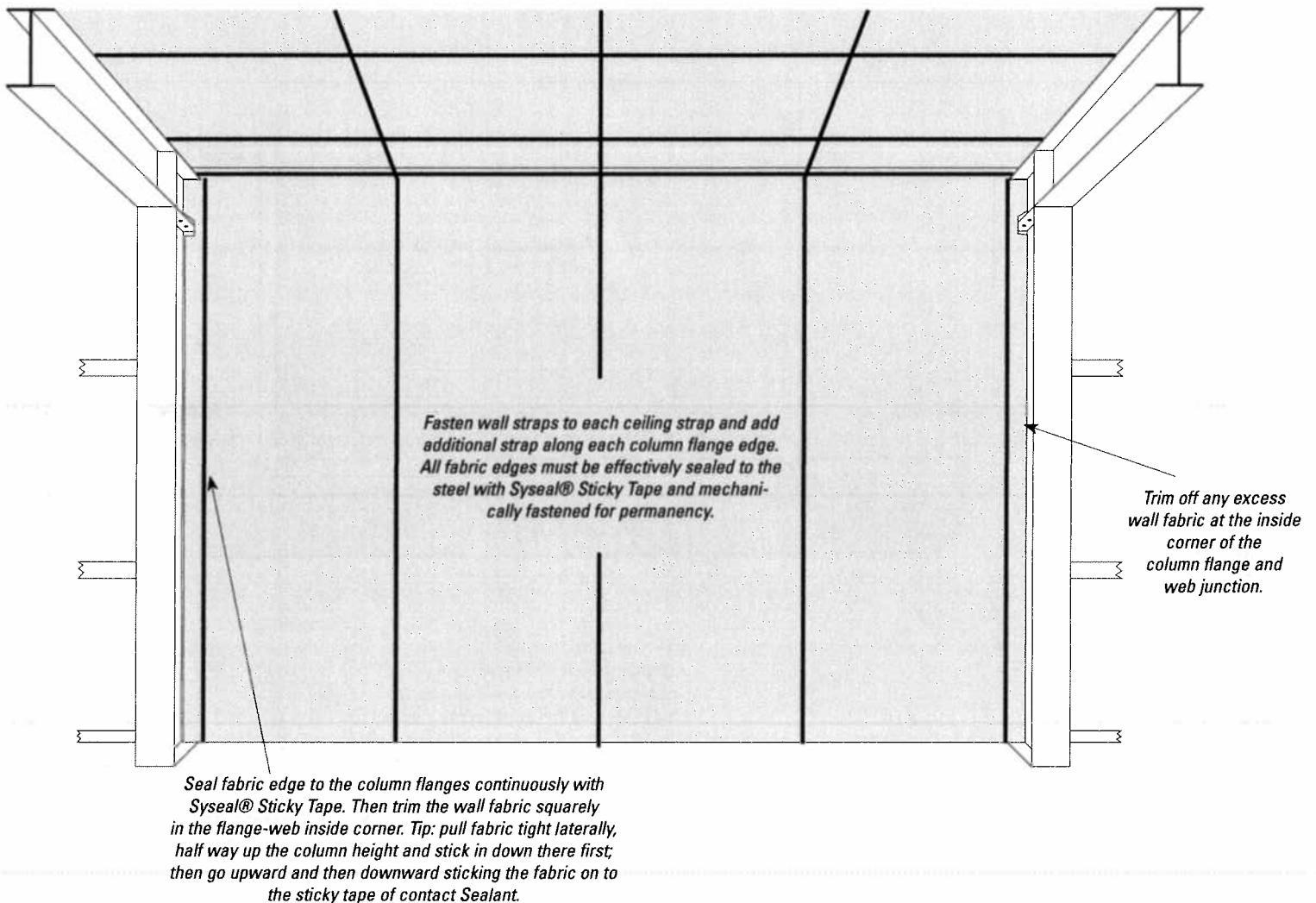
L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS FROM L&L INSULATIONS

NEW WALL SYSTEM INSTALLATION IN STEEL FRAME BUILDINGS

Step 5 Cut the number of vertical wall straps required. Straps shall reach from ceiling to floor plus 8 inches extra. Install wall retaining straps by drilling self drilling screws through wall strap, about 3 inches from one end; then through the eave line strap, the overlying wall fabric and into the traverse ceiling strap, thereby fastening them together. Remove temporary clamps upon each permanent fastening. Also install a steel retention strap vertically, along the column flange to mechanically fasten the edge conditions for permanency.

Step 6 Adhere Syseal® Sticky Tape to this upper side of the wall fabric three inch tab. Then neatly bond this upper wall fabric edge to the ceiling fabric adjacent to the eave line strap. (See figure 2-8 on page 10.)
Hint: Installing a small piece of Syseal® Sticky Tape between the traverse ceiling strap and the ceiling fabric prior to bonding the fabric edge insures that this small condition is also effectively sealed.

Figure 2-6.

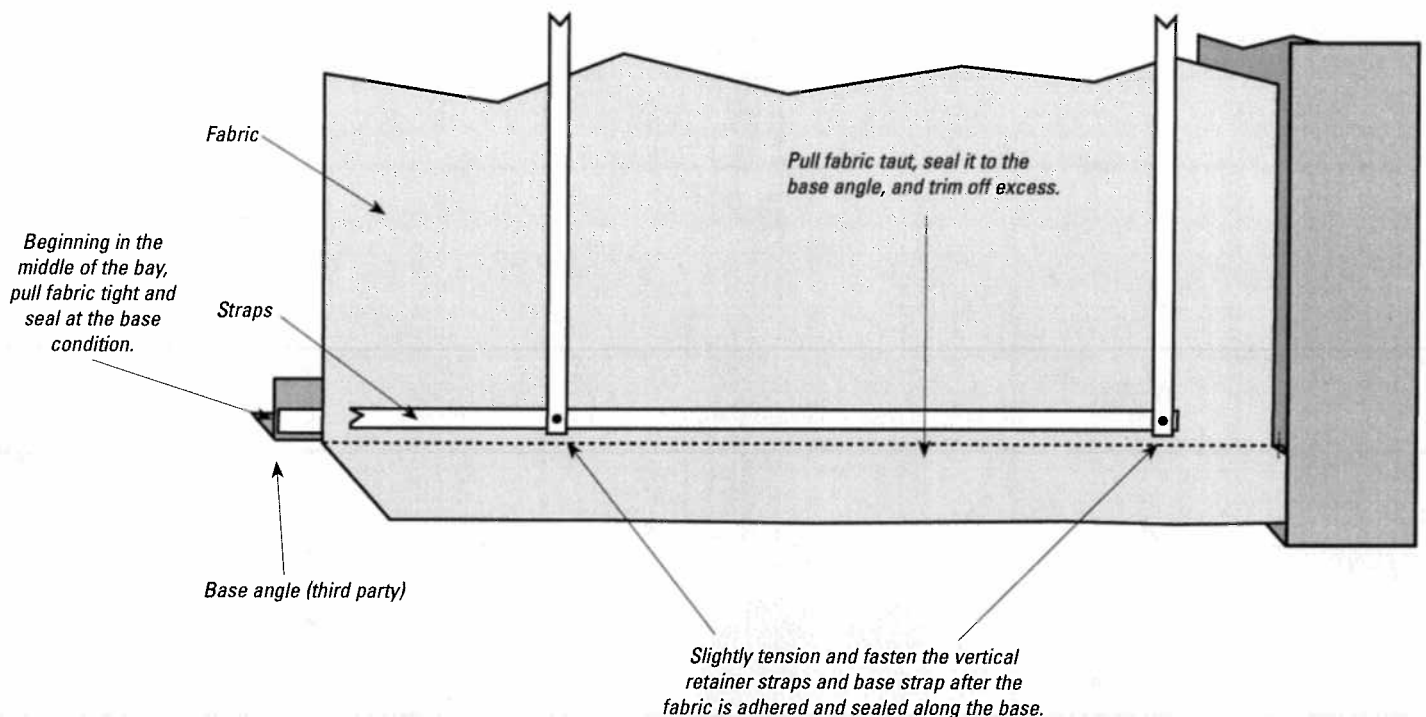


L&L SAVER SYSTEM™ INSTALLATION INSTRUCTIONS FROM L&L INSULATIONS

NEW WALL SYSTEM INSTALLATION IN STEEL FRAME BUILDINGS

Step 7 Install Syseal® Sticky Tape or the Simple Saver High Tack Sealant™ continuously along the base angle near the floor and up the column flanges near the inside corner of the column web to column flanges. Allow to get very tacky. Beginning in the center of the wall bay at the base angle, pull the wall fabric straight downward with some tension, and stick the wall fabric under slight tension to the Syseal® Sticky Tape or Simple Saver High Tack Sealant™. Proceed to pull the wall fabric tight and stick it to the base angle laterally to each column web. Then trim the wall fabric squarely in the floor-wall inside corner. It is highly recommended that a sill seal (by others) is installed between the floor foundation and the base structural members. Fasten the wall straps at the base in slight tension and then at each intersection with underlying girts when self-drilling fasteners. Similarly, pull taut and seal the wall fabric side edges to the column flanges with Simple Saver High Tack Sealant™ or Syseal® Sticky tape, trim off any excess fabric at the inside corners. With some tension, fasten the lower end of the side edge straps to the base and then fasten at each intermediate girt location. Refer to installation sketches with these instructions.

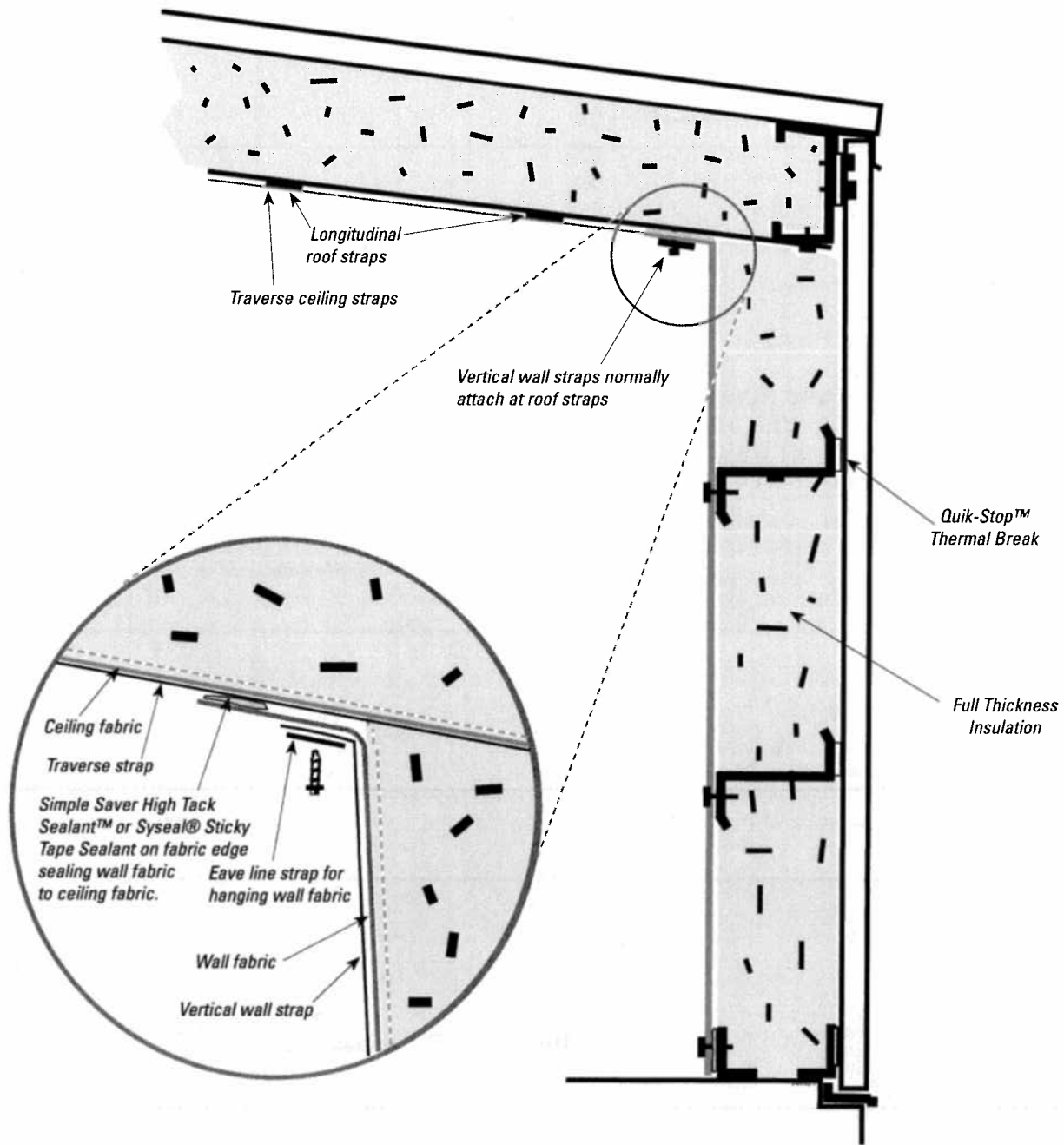
Figure 2-7.



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

PROPER INSTALLATION OF WALL STRAPS

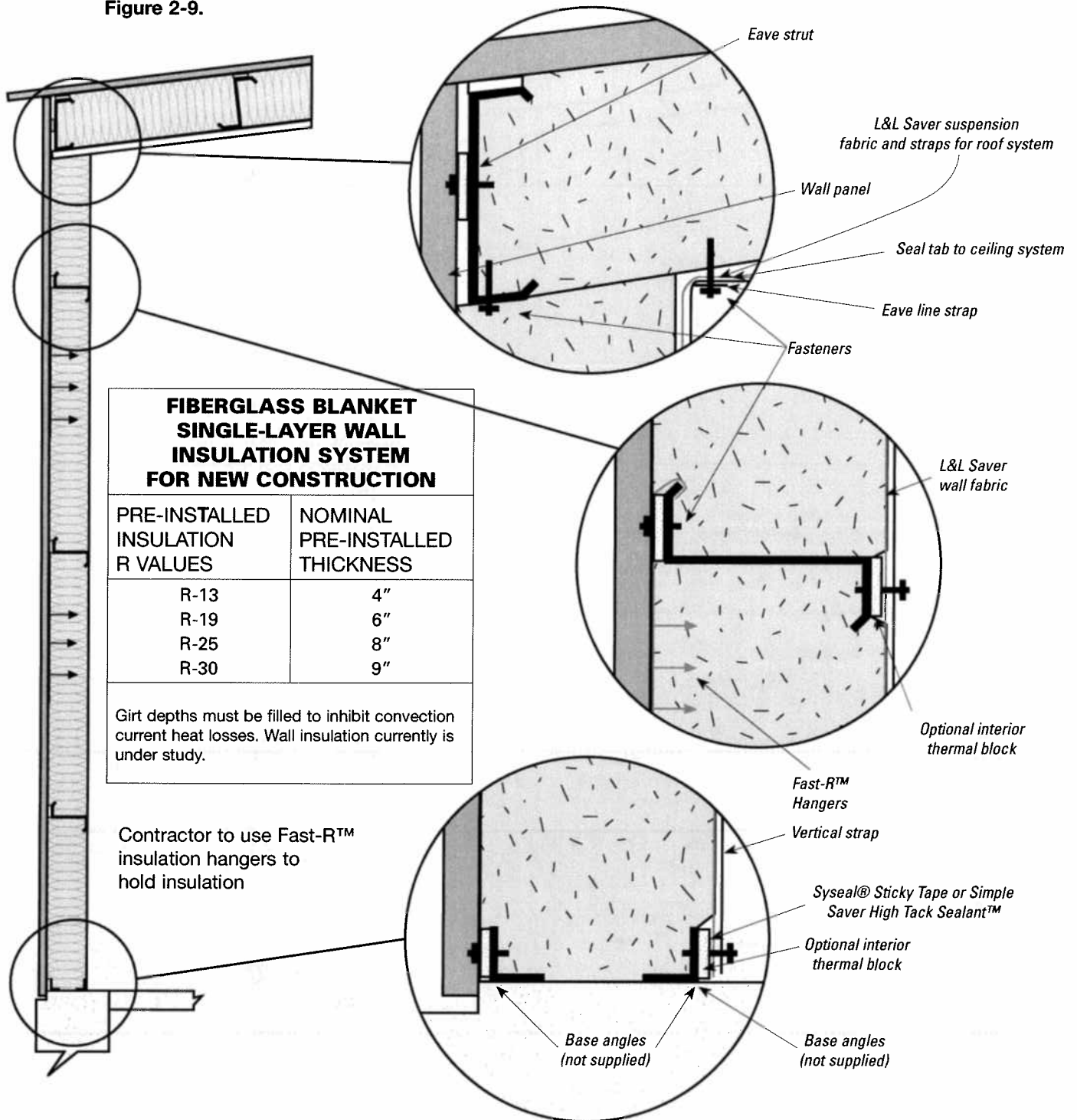
Figure 2-8.



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

SINGLE-LAYER WALL SYSTEM INSULATION IN STEEL FRAME BUILDINGS

Figure 2-9.

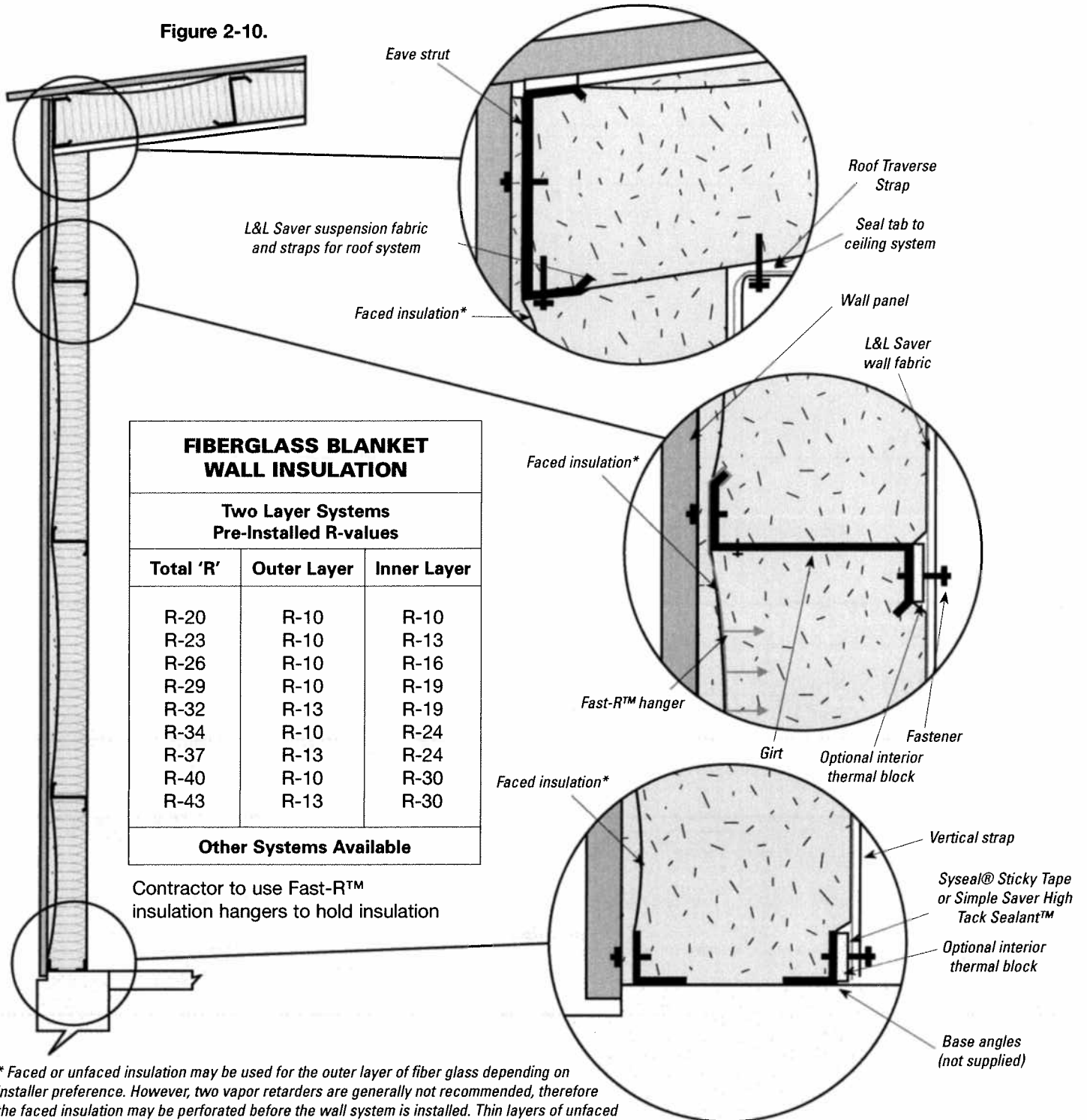


Notice: Vertical wall system performances are currently under research investigation.

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

DOUBLE-LAYER WALL INSULATION SYSTEM FOR STEEL FRAMED BUILDINGS

Figure 2-10.



* Faced or unfaced insulation may be used for the outer layer of fiber glass depending on installer preference. However, two vapor retarders are generally not recommended, therefore the faced insulation may be perforated before the wall system is installed. Thin layers of unfaced insulation are fragile and may be difficult to install without tears, holes, stretches, etc. Thick single layers of fiberglass are generally recommended with thermal breaks on girts.

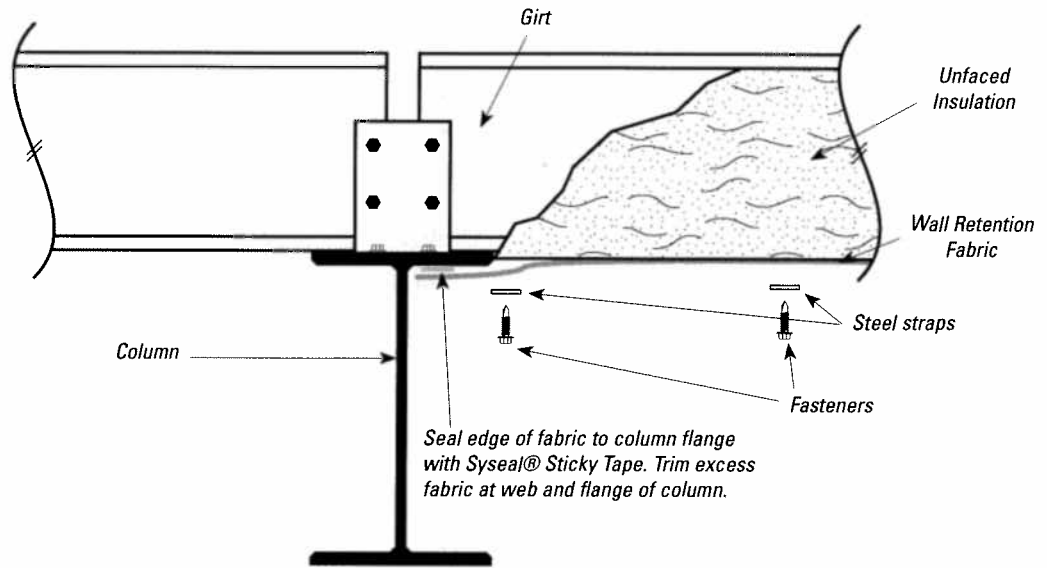
Notice: Vertical wall system performances are currently under research investigation.

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

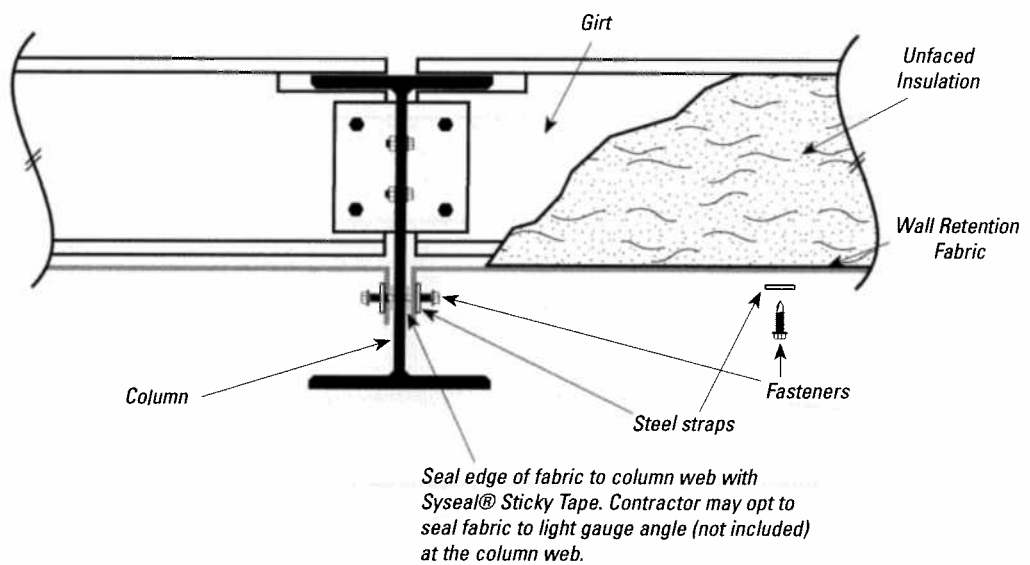
SECTIONAL DETAIL AT GIRT-TO-COLUMN CONNECTION

**Outset Girt Condition
(Exterior Mounted Girts)**

Figure 2-11.



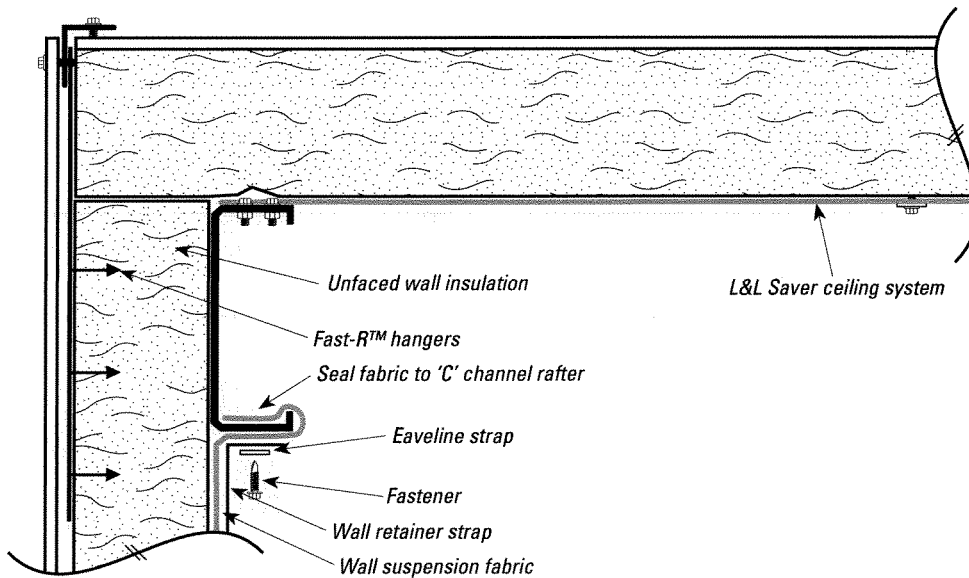
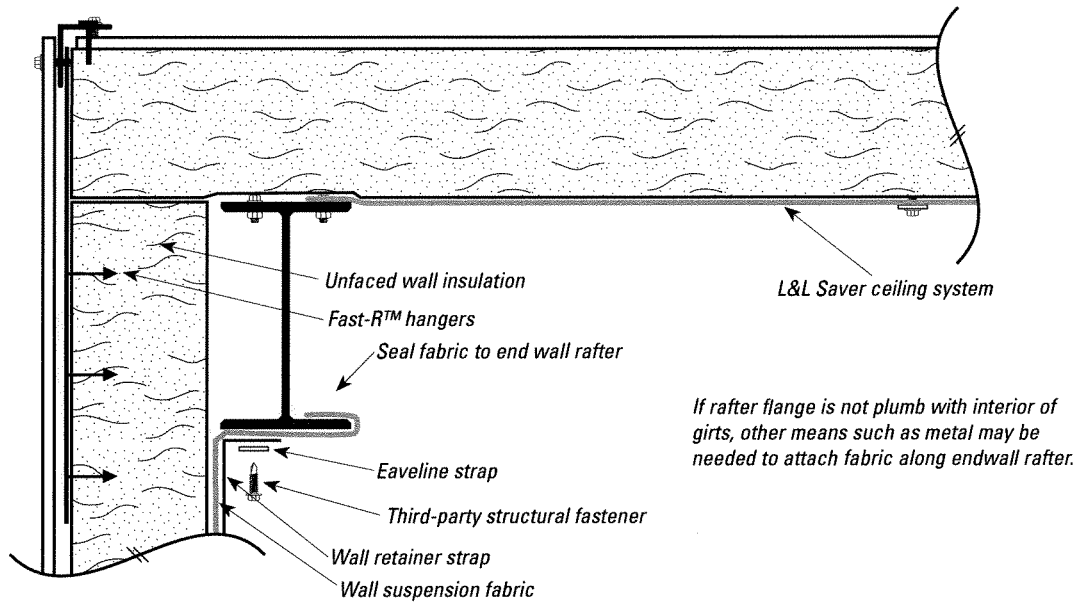
Inset Girt Condition



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

SECTIONAL DETAIL AT END RAFTER TO END WALL CONNECTION

Figure 2-12.



Note: Various building lines have different structural details and may be different than these shown. Call L&L Insulations at 800-747-5385 for recommendations.

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

SPECIAL EAVE AND WALL DETAILS

Figure 2-13.

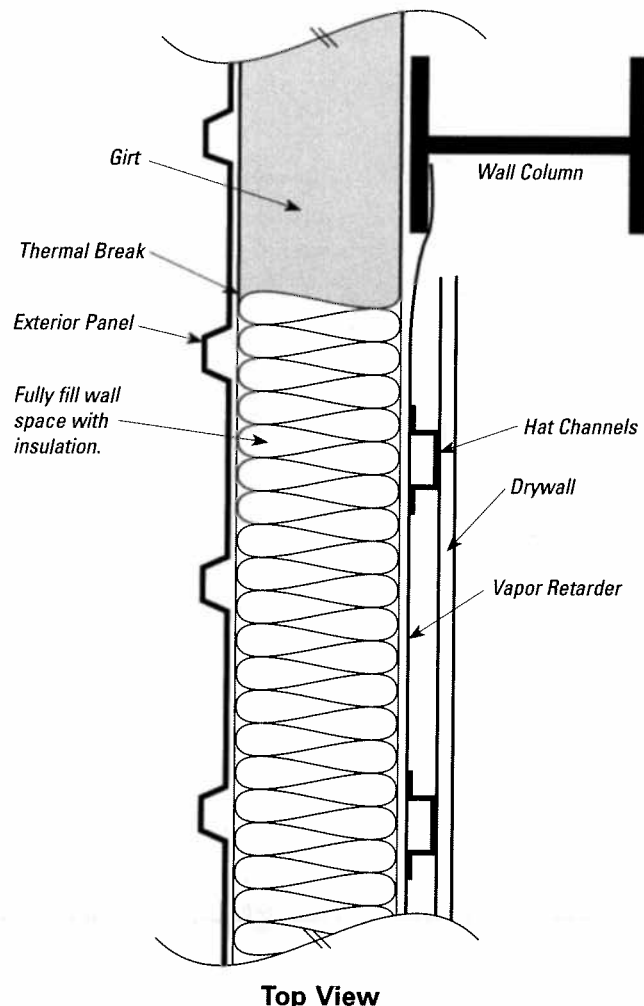
The detail to the right shows how a conventional pre-engineered wall with normal sized girts can be well insulated using the L&L Saver System™. Either hat channels or steel studs can be installed vertically on 16" or 24" centers and the drywall applied to them.

When using hat channels it might be necessary to specify an intermediate girt in the lower seven foot (or more) girt span when ordering the building to provide adequate support for the lighter channels.

All the electric, phone and computer wires can be placed in the open hat channel/steel stud cavity created along with the receptacle boxes. This allows the integrity of the vapor retarder to be maintained, unlike a standard stud wall that is full of subcontractors installations. *(Note: Wires can run horizontally between the vapor retarder and studs by simply pushing in on the vapor retarder.)*

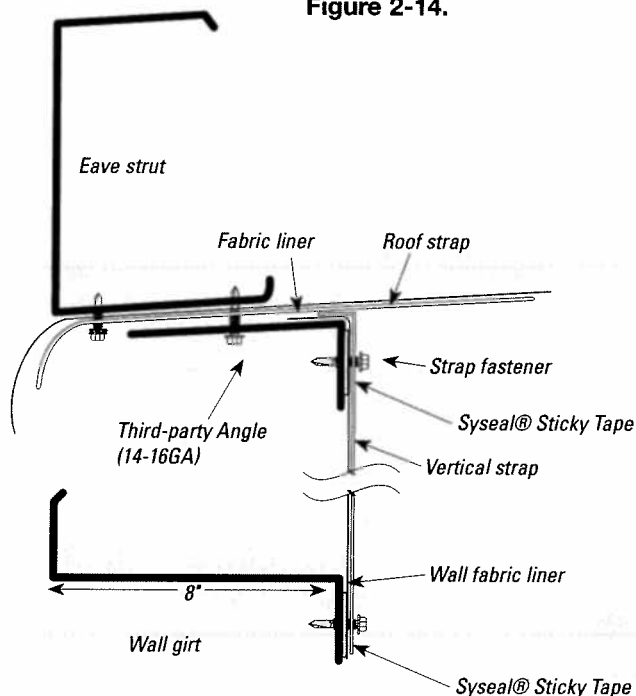
Limited holes can be drilled in the column webs (and in limited numbers) for the horizontal running wires. Contact your building manufacturer for limitations.

Wall Detail: Full Girt Cavity Insulation



Special Eave Detail

Figure 2-14.

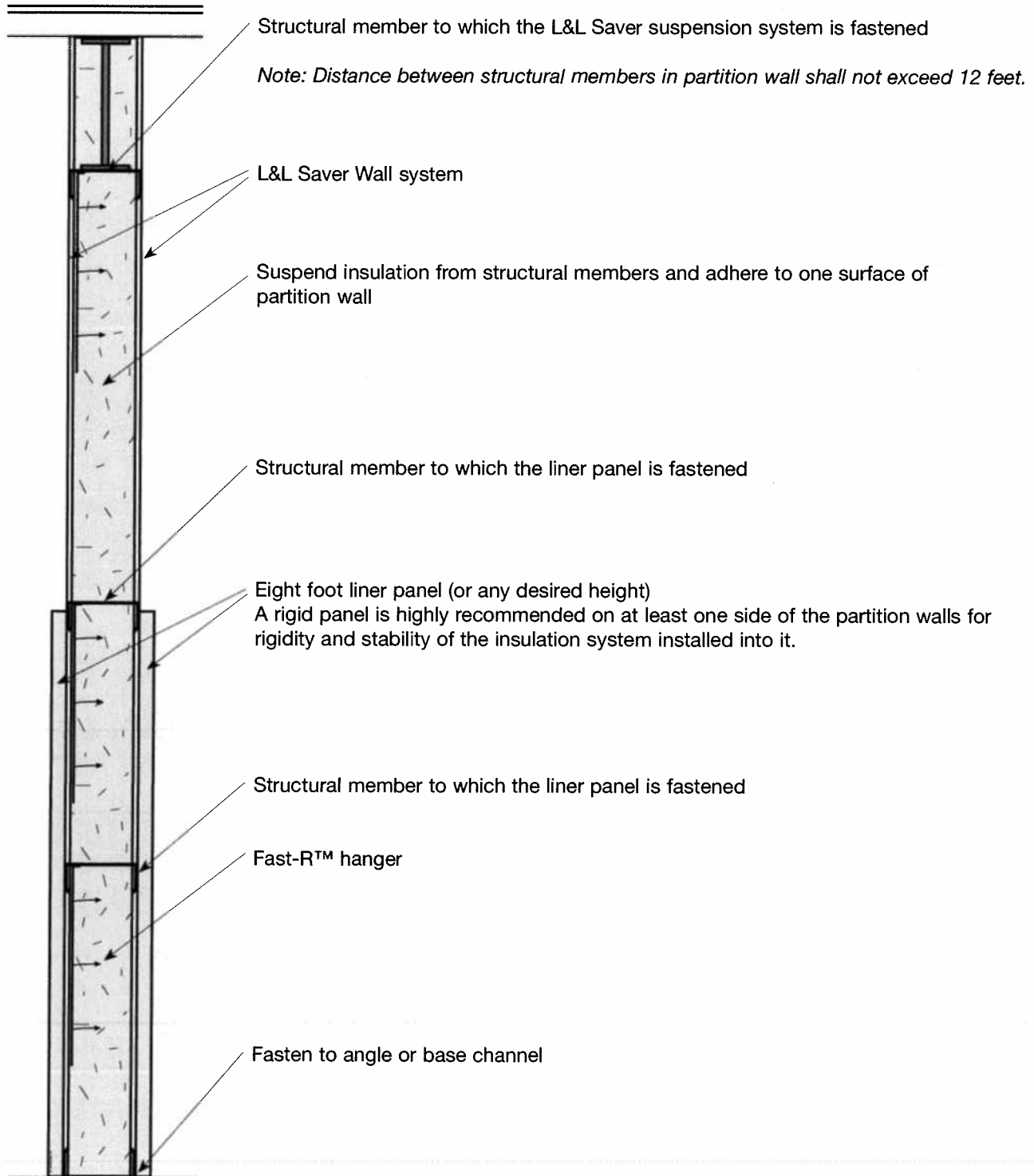


For use if a more finished look is desired where the roof and wall systems adjoin each other. Recommended when roof and wall systems are different colors.

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

INSULATED PARTITION WALL SYSTEM

Figure 2-15.





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.

The information and performance values contained in this document replace and supersede all other previous documents created and managed by Thermal Design, Inc.

Copyright © 2012 Thermal Design, Inc.
PO Box 468, Madison, NE 68748

All rights reserved, including the right of reproduction in whole or in parts in any form.
All trademarks are property of respective properties.
L&LSaver InstallInstructions.indd PM 01/10/12