

ENERGYCRAFT® INSULATION SYSTEM

Manufactured by Thermal Design



Excellent Insulation System

The EnergyCraft® Insulation System creates the uniform depth space needed for the optimum insulation thickness and delivers the maximum possible insulation performance. Properly sealed ceiling and wall systems prevent air infiltration and isolate the conductive steel structure from the conditioned space. The EnergyCraft® Insulation System provides both low U-Factors and low emissivity values, stopping over 90% of the combined three types of heat transfer.

Class A Fire Hazard Classification

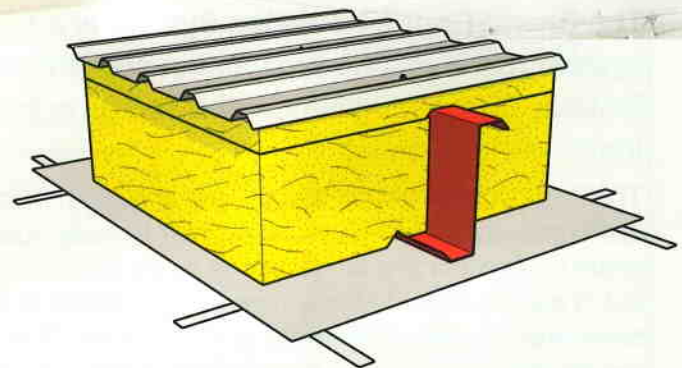
The vapor retarder fabric liner of the standard EnergyCraft® Insulation System complies with: ASTM C1136, Types I through VI; NFPA 701 Large Scale; flame spread of 25 or less per ASTM E-84 (equivalent to NFPA 255, ANSI 2.5 or UL/ULC 723).

Absorbs Sound

Provides excellent yet inexpensive acoustic finishes where conventional suspended ceilings are not appropriate or not in the budget. Standard system has 75% sound absorption (NRC 0.75). This superb by-product of the EnergyCraft® Insulation System comes free with the system. Excellent for gymnasiums, arenas, houses of worship, manufacturing, entertainment spaces and multipurpose rooms.

Finishes and Decorates

The EnergyCraft® Insulation System's clean white appearance is often used as an exposed interior finish in buildings. Purlins and girts are hidden, eliminating the cost to paint them. Various colors and strap patterns may be specified to obtain unique aesthetic appearances. The ceiling and wall surfaces are washable and easy to maintain. (Some minor wrinkles may be visible due to the large pieces of support fabric used.)



Brightens Interiors

The white, light reflective surface enhances efficiency of the lighting system. Light reflectance tests of up to 80% are achieved. Savings of lighting equipment, wiring and electricity result in substantial dollar savings for the building owner. Low ultraviolet producing light sources or UV filtered lenses are necessary to prevent UV degradation and obtain optimum service life.

Helps Prevent Condensation

The high strength EnergyCraft® fabric liner isolates the cold conductive purlin and girt surfaces from the inside conditioned air, reducing the exposed conductive purlin and girt surface areas from about 50% of the roof and wall areas to a fraction of 1%. Water vapor transmission rate is ≤ 0.02 grains per hour/sq. ft. for the standard fabric liner. Factory-made, triple extrusion welded seams are pressure resistant to assure very low vapor permeance and vapor retarder integrity as opposed to thousands of staple holes or hidden, unsealed lap joints typical with older methods of insulation.

Retrofit Application

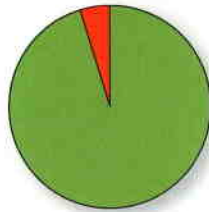
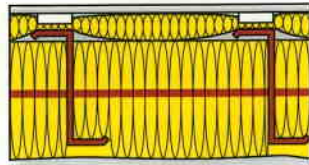
Adding systems to existing building roof and wall structures from the inside is also possible with the EnergyCraft® Insulation System. Single directional strap systems are standard in retrofit applications. Grids patterns are available for an additional cost.

Performance Comparisons of R-30 Systems

Values are based on insulation assemblies in a 5' purlin space with a standing seam roof and thermal block. The hot box tested assemblies were tested in the horizontal position with vertical upward heat flow. Performance will vary with structural spacing and assembly orientation. Visit www.thermaldesign.com for more information.

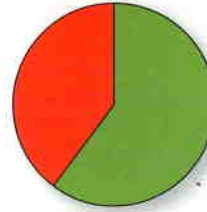
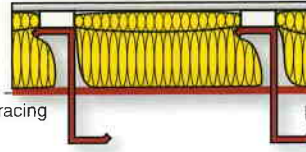
- A. ASTM-C 1363 hot box tests, Oak Ridge National Laboratory
- B. Finite Element Modeling, NAIMA MB304 (8/06), System 3

EnergyCraft® "Liner System"



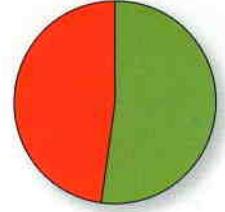
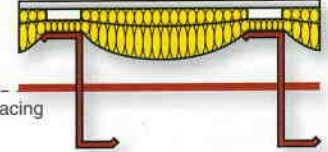
4.7% loss

Long Tab System "Filled Cavity"



39.7% loss

Sag & Bag "Double Layer"



47.0% loss

Pre-Installed R-value:	R-30 (R19+R11)
U-Factor:	U-0.035^A
Installed R-value:	R-28.6
Exposed Purlin/Girt Area:	0%

Pre-Installed R-value:	R-29 (R19+R10)
U-Factor:	U-0.057^B
Installed R-value:	R-17.5
Exposed Purlin/Girt Area:	41.7%

Pre-Installed R-value:	R-30 (R19+R11)
U-Factor:	U-0.063^A
Installed R-value:	R-15.9
Exposed Purlin/Girt Area:	41.7%

The EnergyCraft® Insulation System is a fabric liner system that minimizes insulation compression and isolates the conductive purlins and girts from the inside conditioned air.

The EnergyCraft® fabric liner system is custom made for each order and the Syseal® fabric liner typically spans the entire bay's width and length in one piece. It is simply pulled out of a special pleated fold, over a grid platform of tensioned steel straps installed below the purlins or joists. This creates the required space for full designed insulation thickness and performance between the structural members. In multi-layer systems the upper layer of insulation may be installed over the structural members with minimal compression.

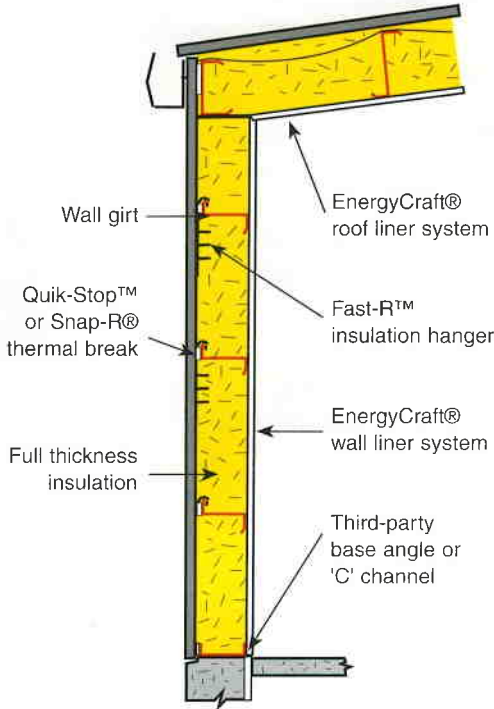
	Simple Saver System®	MBI Safety Liner System™	EnergyCraft® Insulation System
Thermal Performance	✓	✓	✓
Aesthetics	✓	✓	✓
Fall Protection	✓	✓	
Synergy Design sm	✓	✓	
Indoor Air Quality	✓		
Limited Material Warranty	10 Year	10 Year	1 Year*

EnergyCraft® Insulation Roof Systems		
Pre-installed R-value	Lower Layer(s)	Upper Layer(s)
R-19	6"	-
R-25	8"	-
R-29	6"	3"
R-30	9"	-
R-30	6"	3 1/2"
R-32	6"	4"
R-35	8"	3"
R-38	8"	4"
R-43	9"	4"
R-49	9"	6"
R-49	12"	3 1/2"
R-51	12"	4"
R-57	12"	6"
R-60	9"	9"
R-68	12"	9"
R-76	12"	12"

Multiple layers and appropriate space is required for any of these systems. Contact technical support for thermal performance most representative of your specific project.

*extended warranty available

Metal Building Wall Detail



EnergyCraft® Metal Building Wall System

The EnergyCraft® wall insulation system is installed completely from the inside, out of the wind and weather. Unfaced insulation lengths are simply cut to fit the girt spacings and then impaled onto the pre-formed Fast-R® insulation hangers. These prevent the fiber glass from sagging. The fabric liner is then installed on the inside plane of the wall to isolate the insulation and conductive girts from the conditioned air. This also provides a clean, bright, finished appearance.

Filling The Full Girt Depth Is Required

Single layer systems help speed the wall sheeting process and a thick single layer of unfaced insulation is preferred to two layers of compressed laminated insulation in walls. The EnergyCraft® single layer liner systems prevent bulging and dimpling of the metal wall panels which is common with laminated insulation compressed between the panels and through-fastened to the sub-structure.

The full depth should be filled to minimize loss of thermal performance caused by convection currents. Wall panel laps, trim and flashing should be sealed per codes to prevent air infiltration into the insulation. Syseal Building Wrap™ is also available for the ultimate in air leakage resistance.

The EnergyCraft® Insulation System installs in virtually any wall structure type to make any building envelope energy efficient.

Items to consider when ordering buildings.

Standardized Purlin Spacings

Custom made insulation widths are available, however by simply specifying standardized purlin spaces from the building manufacturer, you will increase your installation productivity, reduce waste and shorten lead times for delivery. **Specify 2', 3', 4', 5' and 6' purlin and girt spacings from your building manufacturer that match standard insulation widths. Generally there should not be no more than one non-standard width spacing on each side of the ridge of any building.**



Rafter Brace Clips

The design of the rafter brace attachment to the bottom plane of the purlin speeds installation of the liner system and provides superior vapor seal. **Specify one of these common details when ordering your building.**

Hanging Methods

These are some of the many common hangers that can be used with the EnergyCraft® Insulation System without the need to cut the fabric liner. Compression seals or caulk type sealants may be used with any hanger type. Contact Thermal Design at **800-255-0776** for additional hanger details and products.



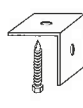
Simple Fastener



Hole Strap



Channel Strut



Angle Hanger



Threaded Plate Hanger



Threaded Hanger



Bar Joist Hanger



Self-drilling Hanger

EnergyCraft® Insulation Wall Systems	
Preinstalled R-Value	Thickness
R-10	3"
R-11	3 1/2"
R-13	4"
R-19	6"
R-25	8"
R-30	9"
R-38**	12"

**Two insulation layers and stand-off brackets may be required to provide necessary insulation depth.

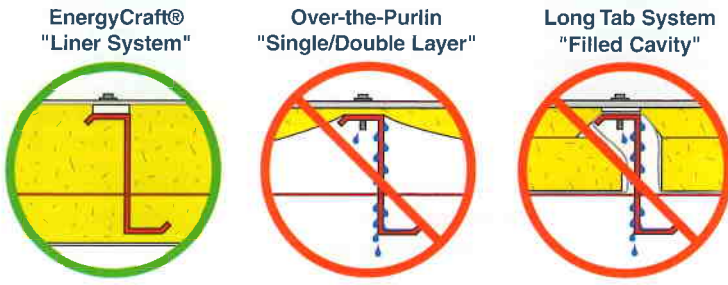
Other combinations are available upon request.

Installed performance is currently under study.

Call Thermal Design at **800-255-0776** for analysis of your specific application.

EnergyCraft® Insulation System vs. Traditional Methods

With today's high energy costs and the potential for continued increases, owners, designers, builders and the government are all focusing their attention on more energy efficient buildings. **Improving the building envelope design and maximizing your installed insulation performance will return more value to the owner than any other building material going into the project.** The EnergyCraft® Insulation System is designed to solve the defects of "traditional" compression insulating methods. Properly placing and sealing the liner system to create the full required insulation space will virtually eliminate insulation compression and assure the ultimate performance.



ENERGYCRAFT® INSULATION SYSTEM

- Minimizes Insulation Compression
- Proper Vapor Retarder Placement
- Purlins Fully Encapsulated
- Finished Appearance
- Triple Extrusion Welded Seams
- No Bracing Interference
- Helps Prevent Condensation

TRADITIONAL METHODS

- Severely Compressed Insulation
- Defective Vapor Retarder Placement
- Voids in Insulation
- Exposed Conductive Structure
- Unfinished Appearance
- Poorly Sealed Seams
- Bracing Interference
- Invites Condensation Problems

Notices

All represented and test values are for typical products tested and are not guaranteed values for actual installations.

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.

States and/or jurisdictions may have a variety of insulation regulations. Check for specific details regarding the insulation regulations that apply in your area.

Trademarks and Licenses

Unauthorized making, using or selling of this technology or trademarks or service marks or copyrighted works shall be each subject to a minimum royalty and lost profit per square foot of surface insulated from such unauthorized acts. Sellers of any component with the knowledge or intent that such component is to be used to evade the purchase of legitimate materials from authorized sources shall be held liable as contributory infringers and otherwise as lawful. All costs of collection, including legal fees and costs, shall be sought as damages for unauthorized use and infringement.

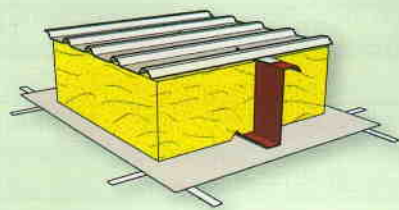
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EnergyCraft® Insulation System manufactured by:



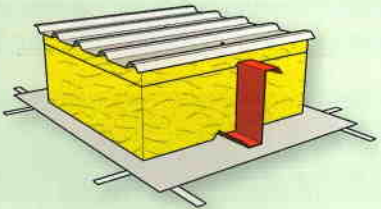
America's Leading Thermal System Technology
1-800-255-0776 | Available Nationwide and Export
www.thermaldesign.com

Contact your Authorized Distributor Below:



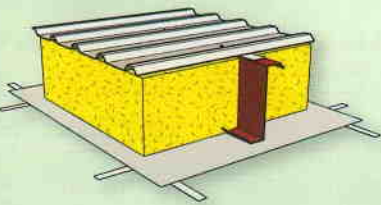
Single Layer Systems

Thermal breaks are recommended between roof decking and the structure to reduce thermal conduction.



Double Layer Systems

The upper layer of fiber glass is installed between roof decking and the structure to reduce thermal conduction.



Blown-in Systems

Blown-in systems fill nearly every crack and crevice for maximum thermal performance.

Thermal spacer blocks may be added to increase insulation space, increase thermal total performance and further reduce conduction.



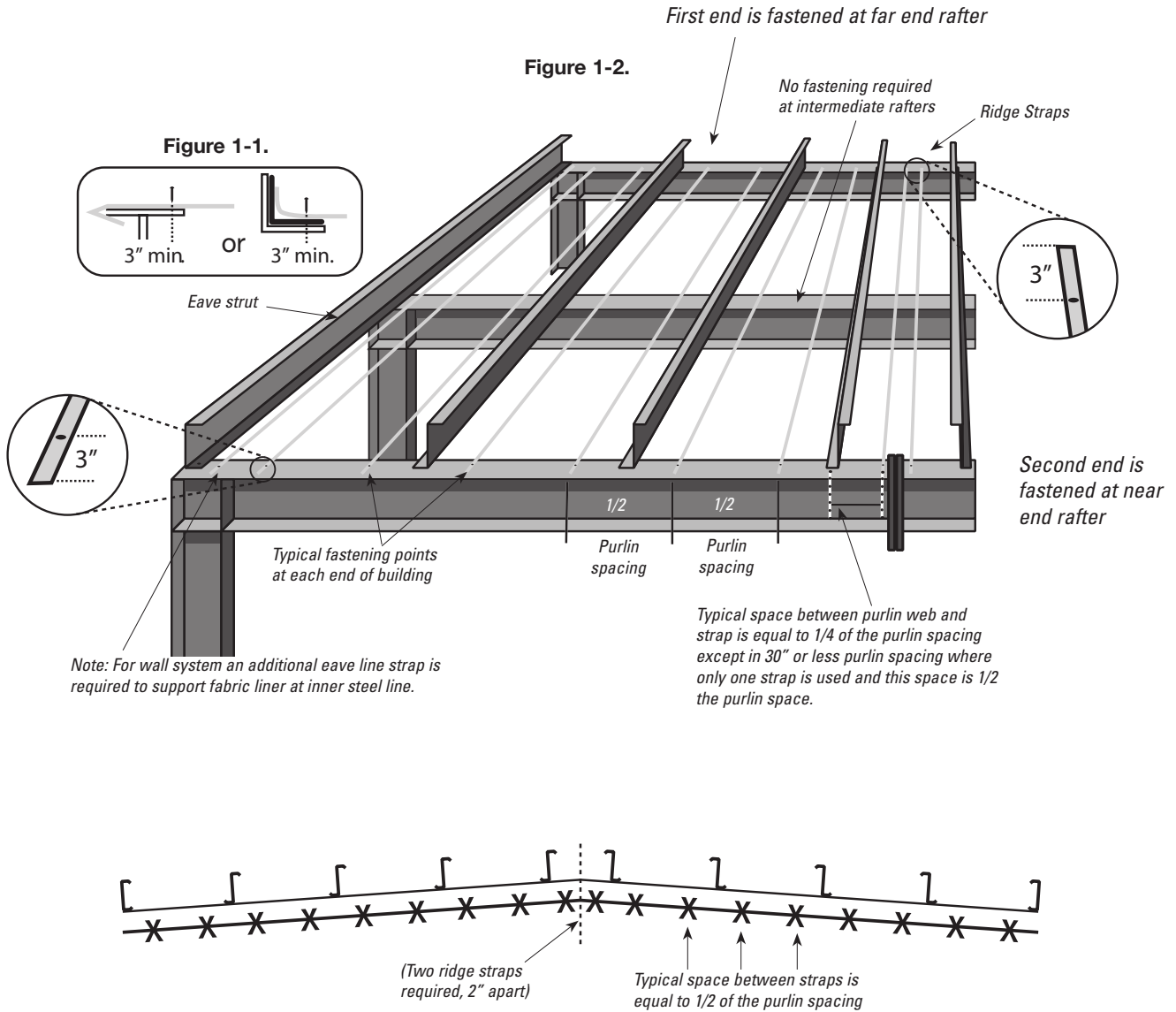
CAUTION!

This product does not provide fall protection

NOT FALL PROTECTION is labeled repeatedly on the back of the fabric liner. Steel erectors may charge more for products which require workers to be tied-off due to the lower productivity.

ENERGYCRAFT® INSULATION SYSTEM INSTALLATION INSTRUCTIONS BY THERMAL DESIGN

INSTALLATION OF GRID STRAP PLATFORM (CONT.)



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

ENERGYCRAFT® INSULATION SYSTEM INSTALLATION INSTRUCTIONS BY THERMAL DESIGN

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

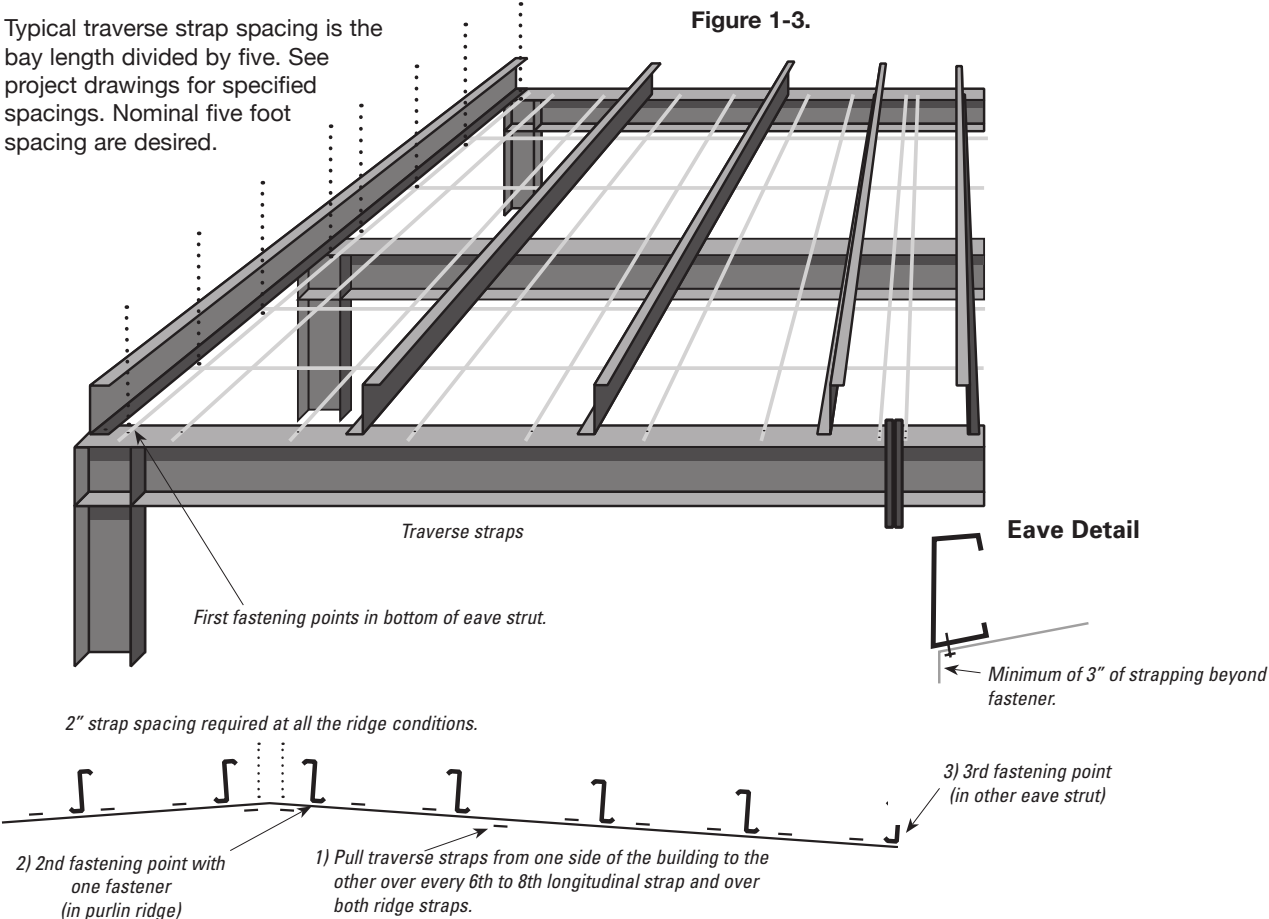
Step 6 Cut the traverse straps the width of the building plus two feet. See the project drawings for the number of straps and spacing. (Roofs with 2:12 pitch or greater require additional strapping length to allow for the incline. Multiply the building width by the correction factor in the table [right] 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 spacing are desired.

Figure 1-3.



NEW CONSTRUCTION WALL DETAILS

ENERGYCRAFT[®] INSULATION SYSTEM **INSTALLATION INSTRUCTIONS**

Call Toll-free: 800-255-0776 Fax: 402-454-2708
E-mail: custserv@thermaldesign.com
www.thermaldesign.com



CAUTION!

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ENERGYCRAFT® INSULATION SYSTEM INSTALLATION INSTRUCTIONS BY THERMAL DESIGN

INTRODUCTION

Thermal Design is the nation's leader in the ongoing development of thermal insulation technologies for pre-engineered and other non-residential buildings.

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 EnergyCraft® Insulation System is still being improved with improved materials and installation procedures.

The EnergyCraft® Insulation 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 EnergyCraft® System.

If OSHA compliant alternative fall protection is desired, contact Thermal Design to upgrade the system to the Simple Saver System™. 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 Thermal Design at 800-255-0776 or an authorized distributor.

Thermal Design is dedicated to improving the quality and performance of these multipurpose systems for insulating pre-engineered buildings and providing an economically desirable means of building energy efficient buildings.



CAUTION!
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ENERGYCRAFT® INSULATION SYSTEM INSTALLATION INSTRUCTIONS BY THERMAL DESIGN

TOOLS AND EQUIPMENT REQUIRED

Tools:



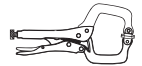
Screw guns (two recommended, 0-1000 RPM 4.5 amp minimum, three wire)*



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



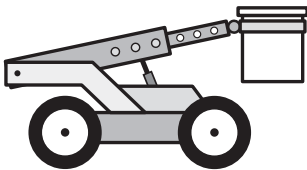
Wrenches to fit rafter brace bolts (two sets of two wrenches)



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 EnergyCraft® 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.

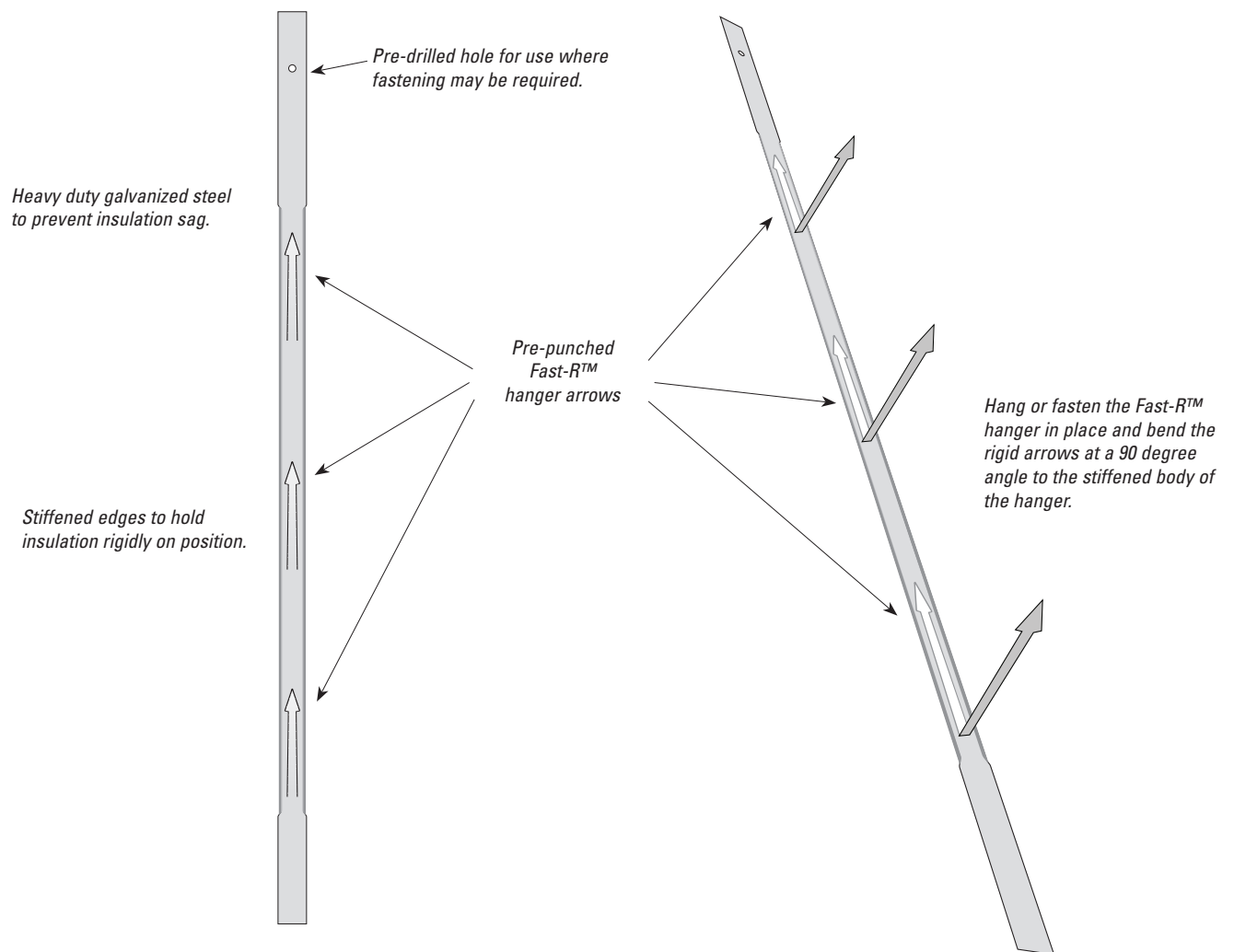
DO NOT use drywall variable speed screw guns with 0 to 4000 RPM speed as it will simply ruin the fastener tips due to fast heat build-up. Use only screw guns, which have clutches; do not use regular drills as they will torque the heads off the fasteners!

ENERGYCRAFT® INSULATION SYSTEM INSTALLATION INSTRUCTIONS BY THERMAL DESIGN

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.

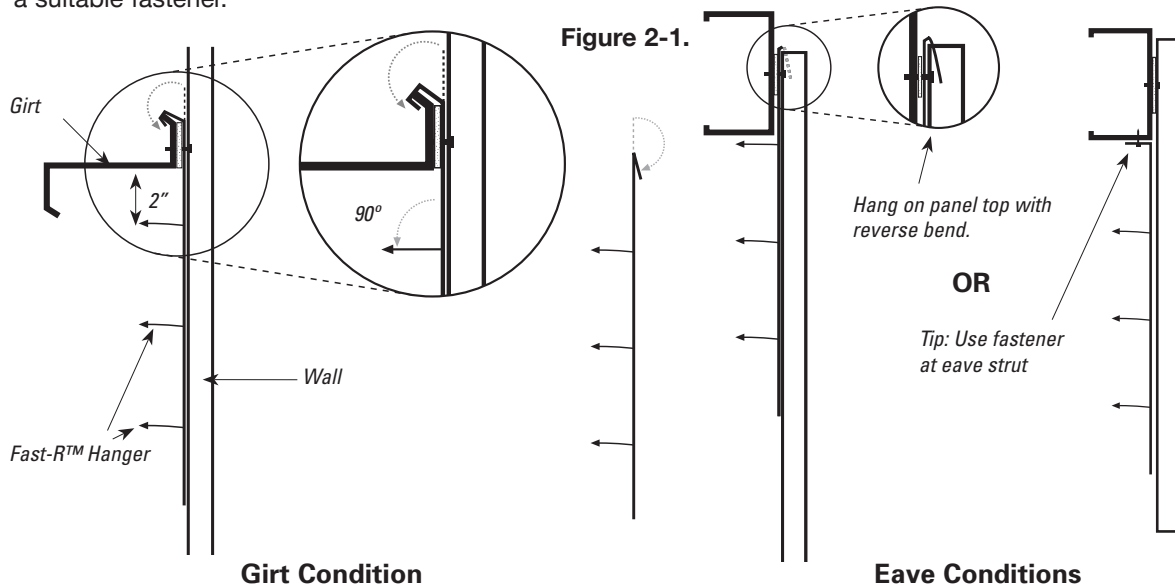
(Narrow girt spaces, such as 24", may not require hangers if insulation will support itself.)



ENERGYCRAFT® INSULATION SYSTEM INSTALLATION INSTRUCTIONS BY THERMAL DESIGN

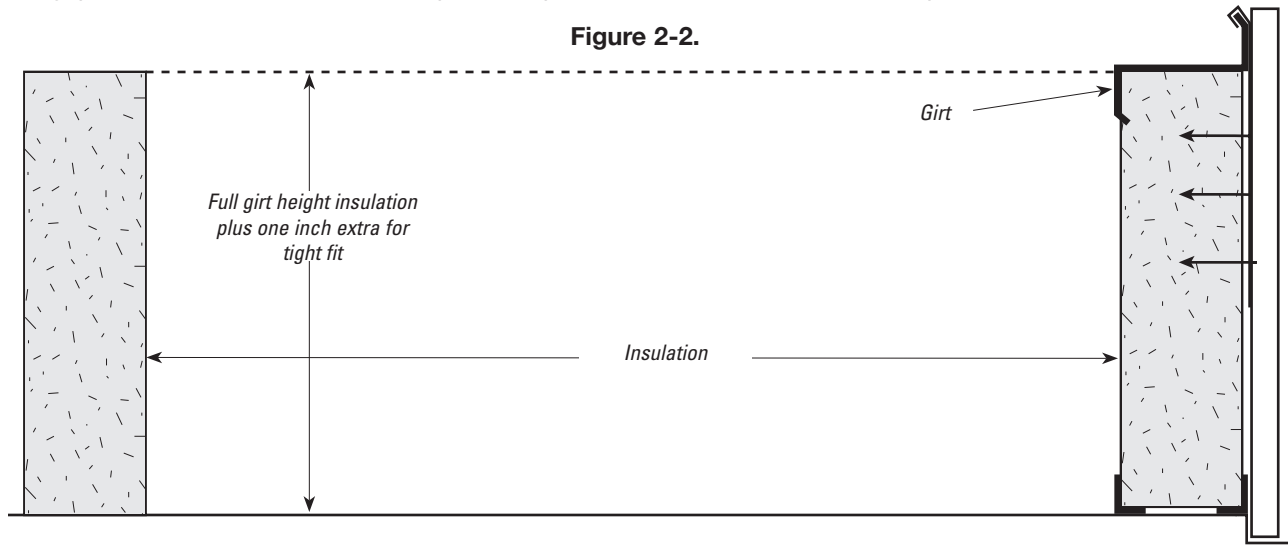
FAST-R™ HANGER INSTRUCTIONS

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.

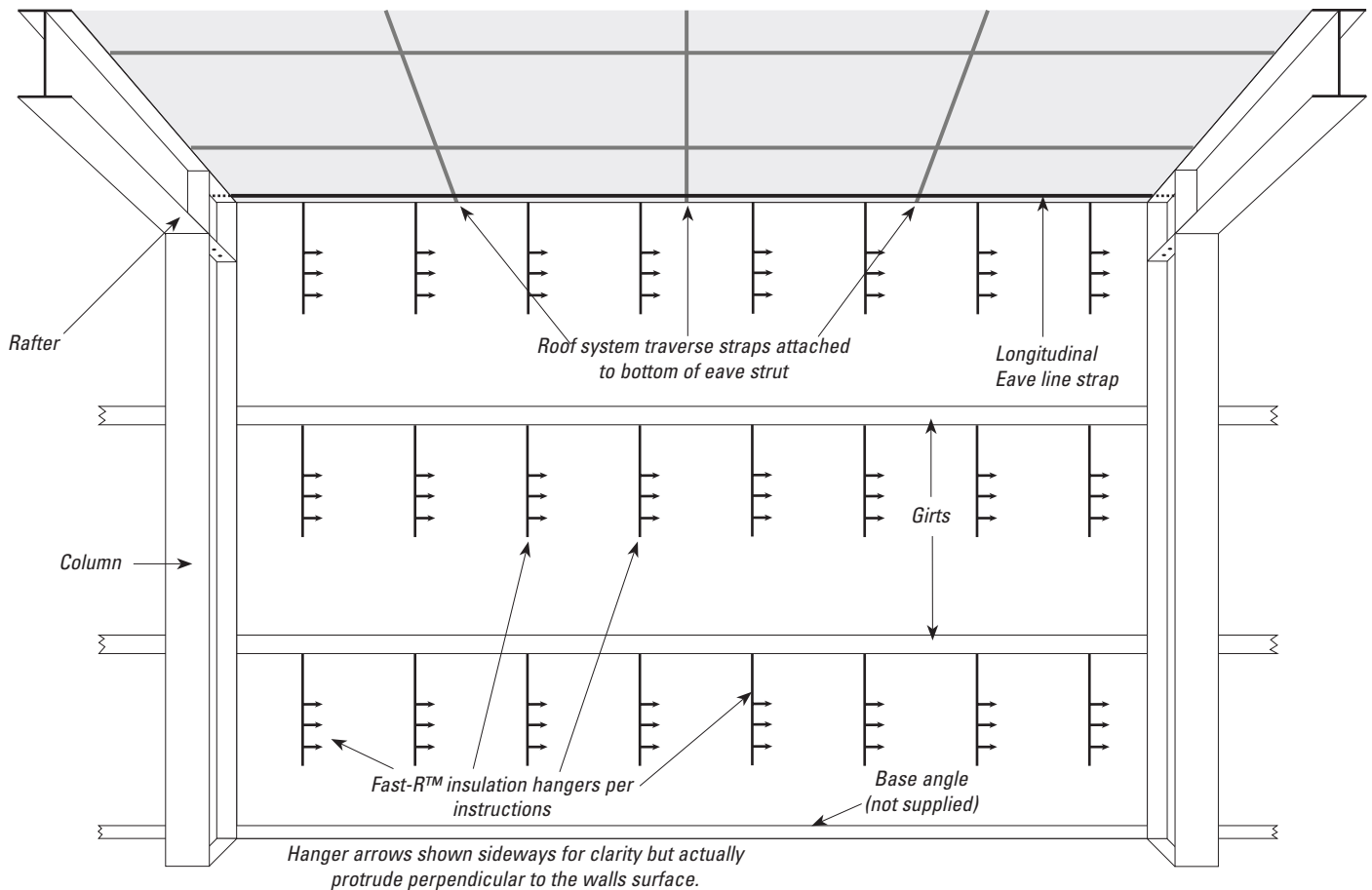


ENERGYCRAFT® INSULATION SYSTEM INSTALLATION INSTRUCTIONS BY THERMAL DESIGN

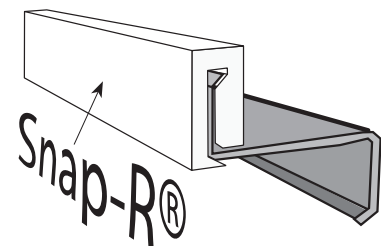
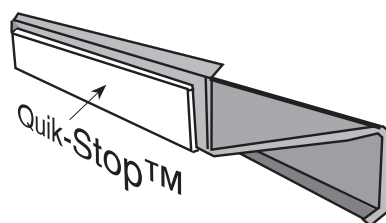
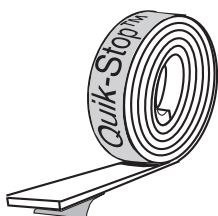
EAVE LINE STRAP INSTALLATION

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.



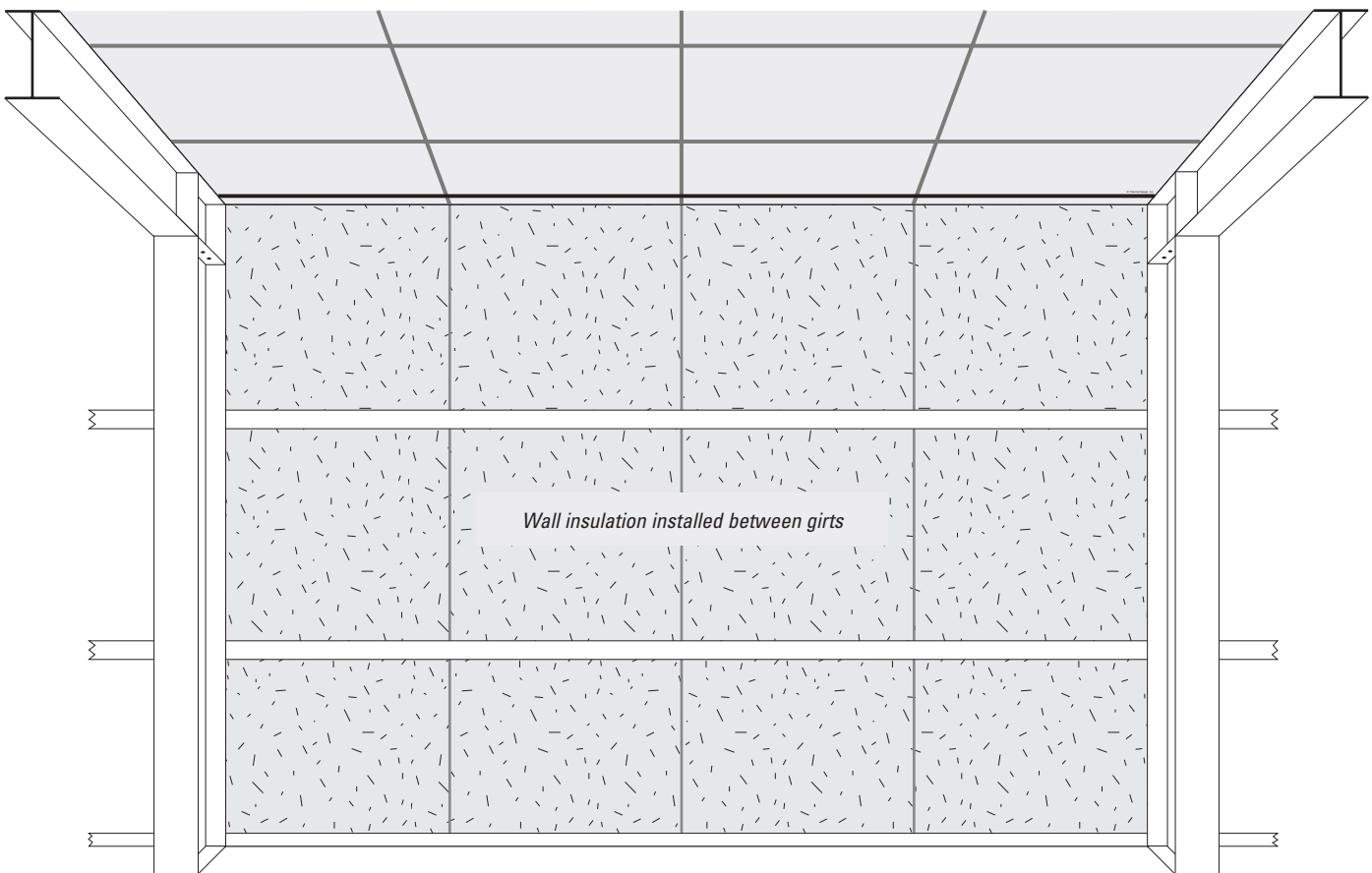
Thermal Design recommends applying a minimum 3/16" thick Quik-Stop™ self-adhering thermal break to the outside of girts, jambs and headers before applying wall sheets and/or between the interior flanges and the wall liner fabric to reduce conductive heat transfer. Snap-R® Thermal Blocks may be used for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



ENERGYCRAFT® INSULATION SYSTEM INSTALLATION INSTRUCTIONS BY THERMAL DESIGN

NEW WALL SYSTEM INSULATION IN STEEL FRAME BUILDINGS

Figure 2-4.



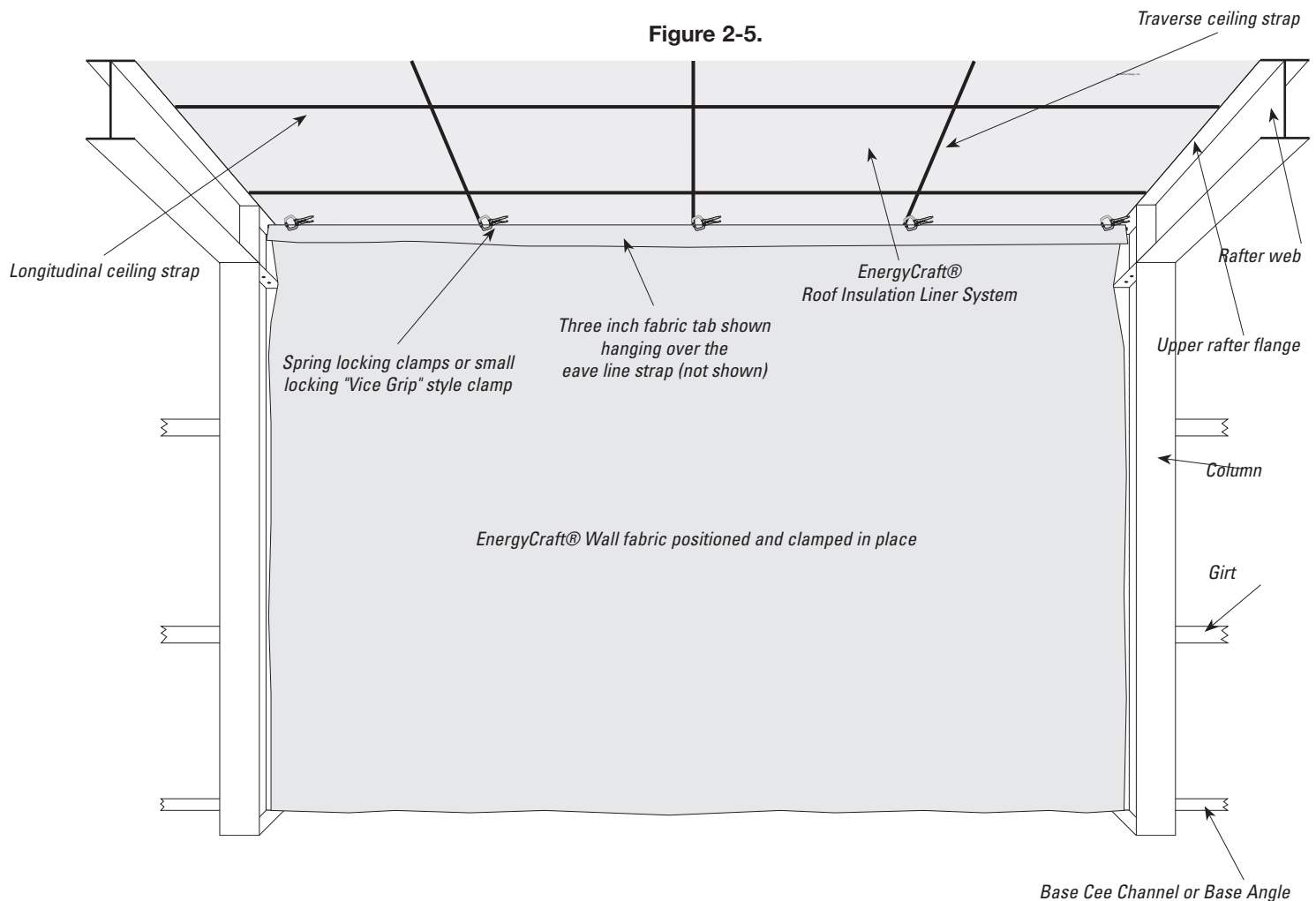
Cut the insulation to the proper lengths, shake each piece to the required thickness and impale it squarely between the girts on the rigid Fast-R™ hanger arrows. Abut the insulation joints tightly together and leave no gaps. Filling the full depth of the space is critical for optimum performance because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

ENERGYCRAFT® INSULATION SYSTEM INSTALLATION INSTRUCTIONS BY THERMAL DESIGN

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).



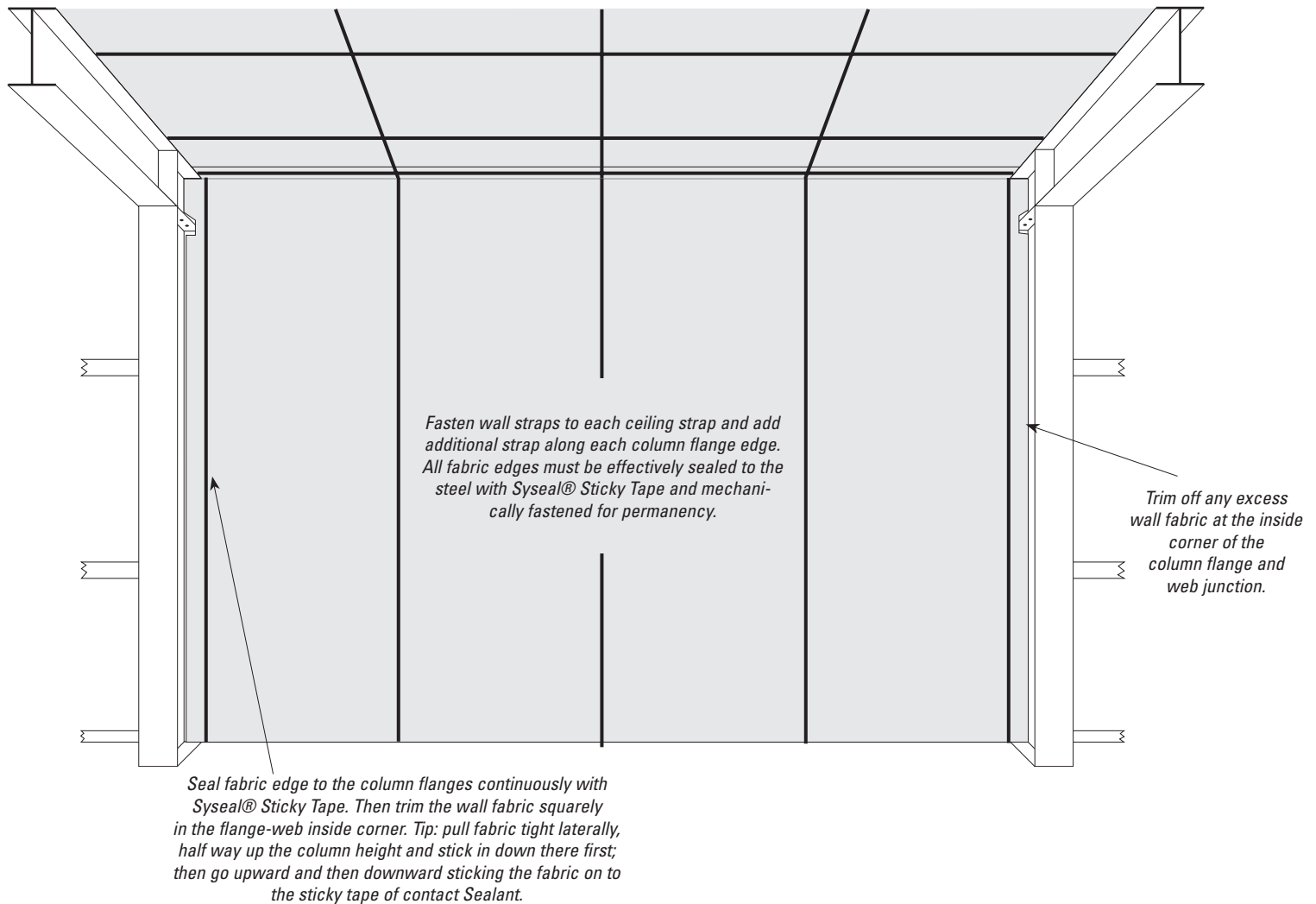
ENERGYCRAFT® INSULATION SYSTEM INSTALLATION INSTRUCTIONS BY THERMAL DESIGN

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.

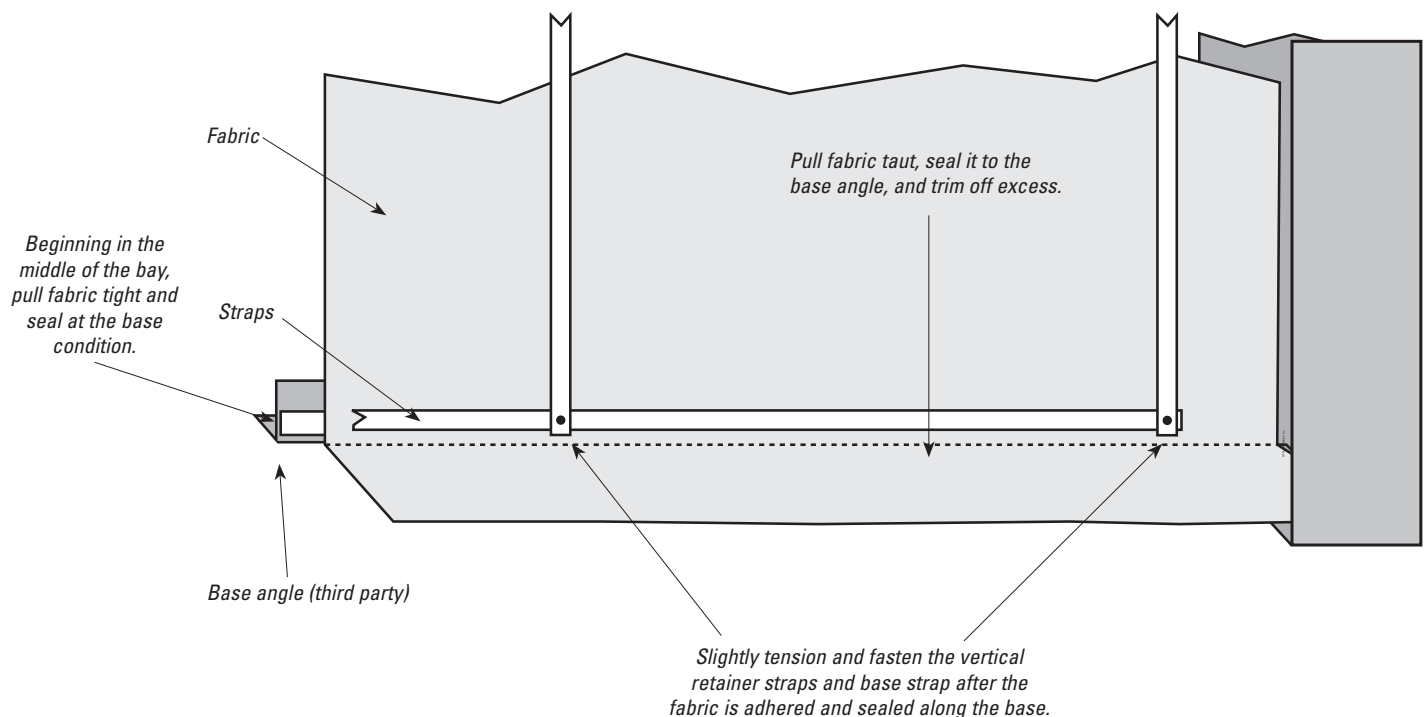


ENERGYCRAFT® INSULATION SYSTEM INSTALLATION INSTRUCTIONS BY THERMAL DESIGN

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.

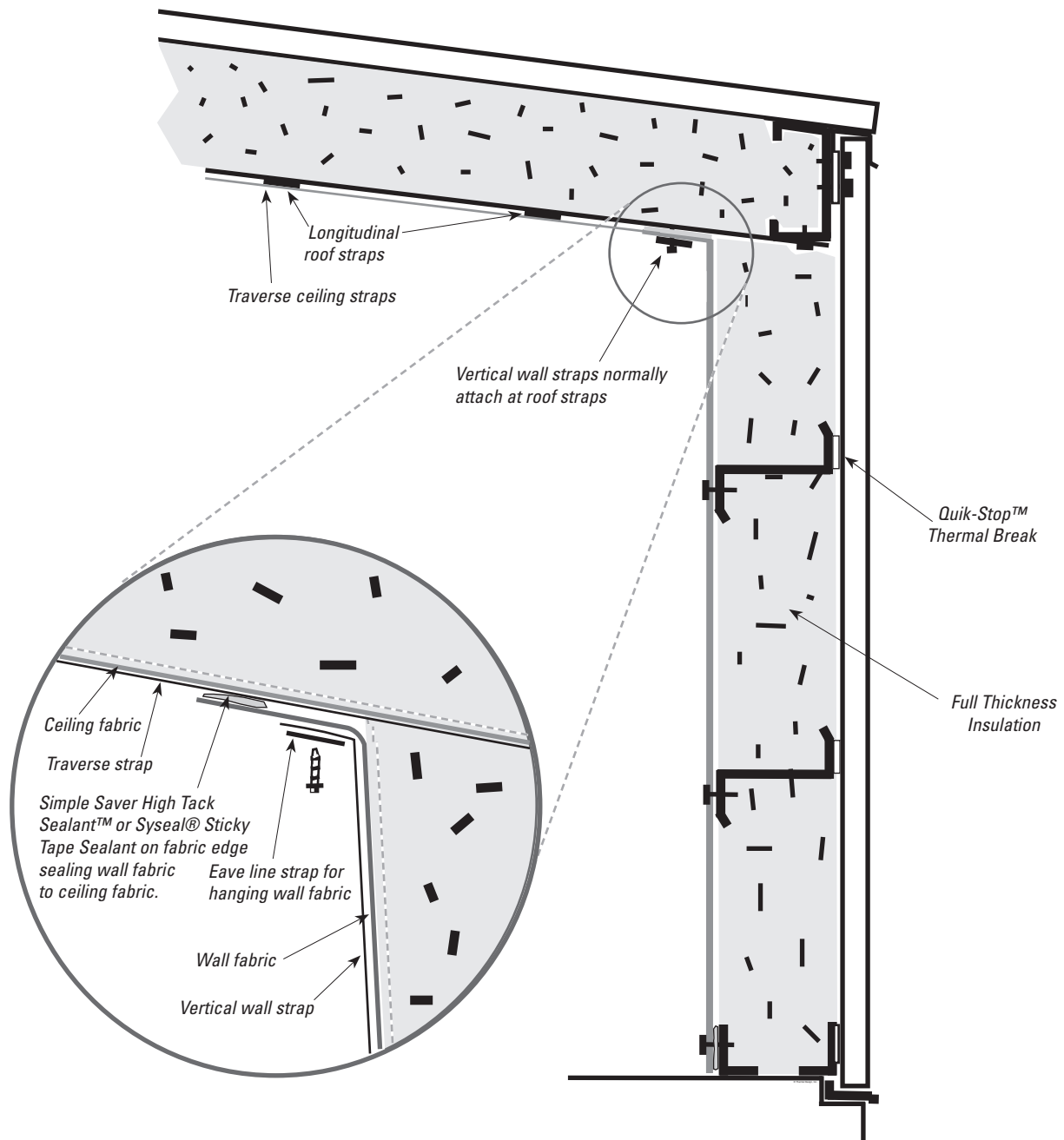
Figure 2-7.



ENERGYCRAFT® INSULATION SYSTEM INSTALLATION INSTRUCTIONS BY THERMAL DESIGN

PROPER INSTALLATION OF WALL STRAPS

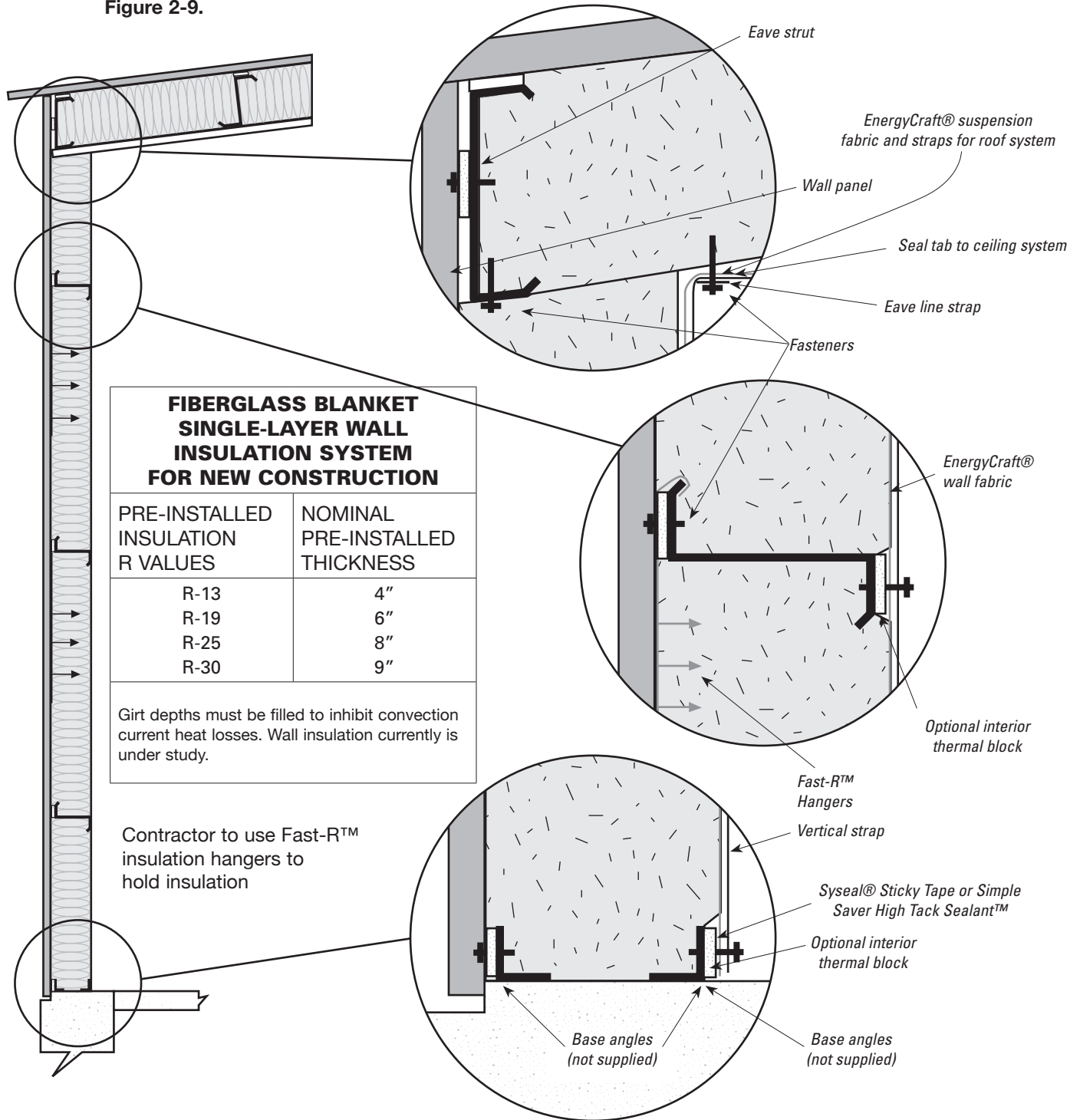
Figure 2-8.



ENERGYCRAFT® INSULATION SYSTEM INSTALLATION INSTRUCTIONS BY THERMAL DESIGN

SINGLE-LAYER WALL SYSTEM INSULATION IN STEEL FRAME BUILDINGS

Figure 2-9.

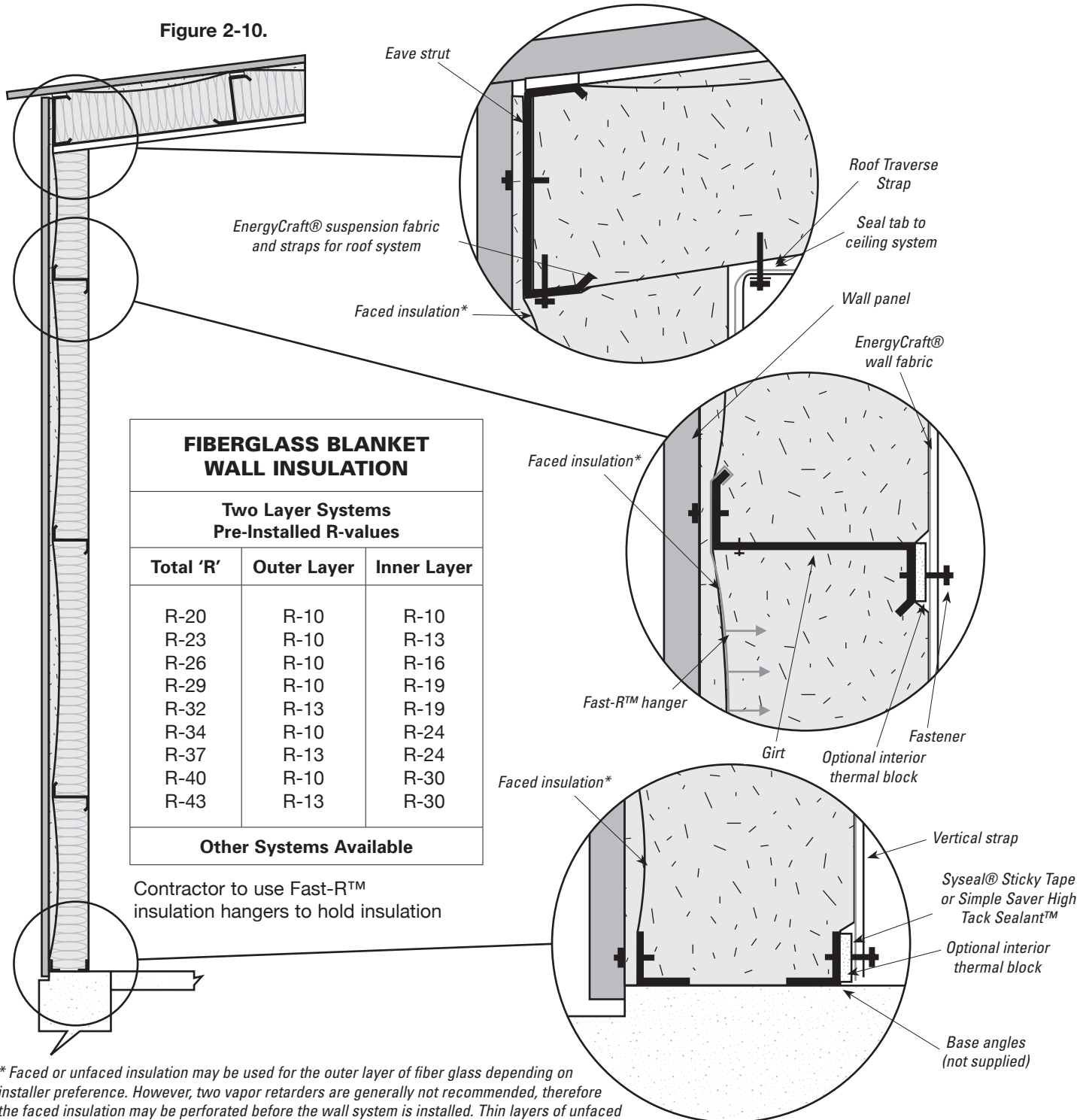


Notice: Vertical wall system performances are currently under research investigation.

ENERGYCRAFT® INSULATION SYSTEM INSTALLATION INSTRUCTIONS BY THERMAL DESIGN

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.

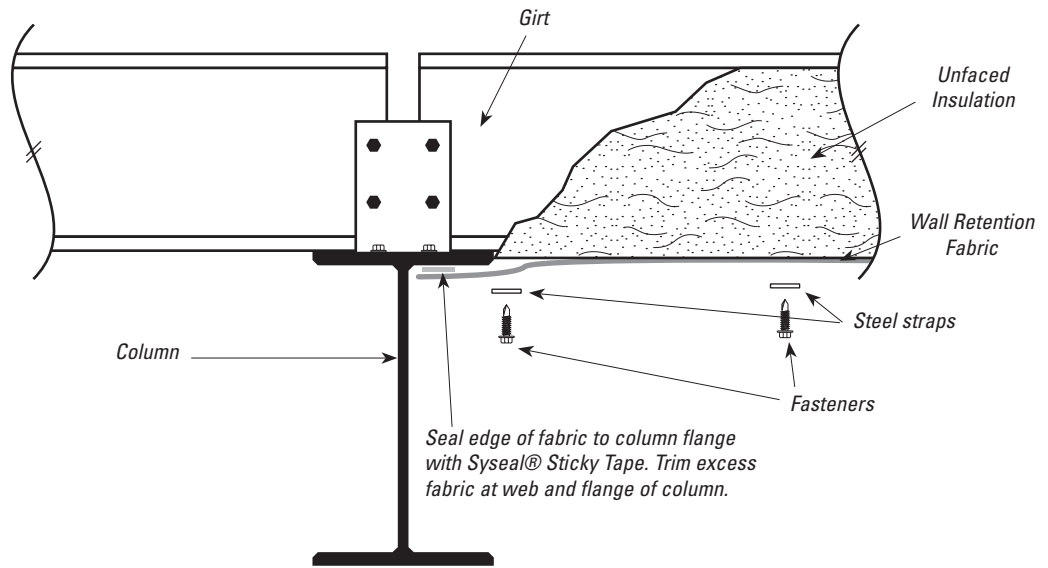
Notice: Vertical wall system performances are currently under research investigation.

ENERGYCRAFT® INSULATION SYSTEM INSTALLATION INSTRUCTIONS BY THERMAL DESIGN

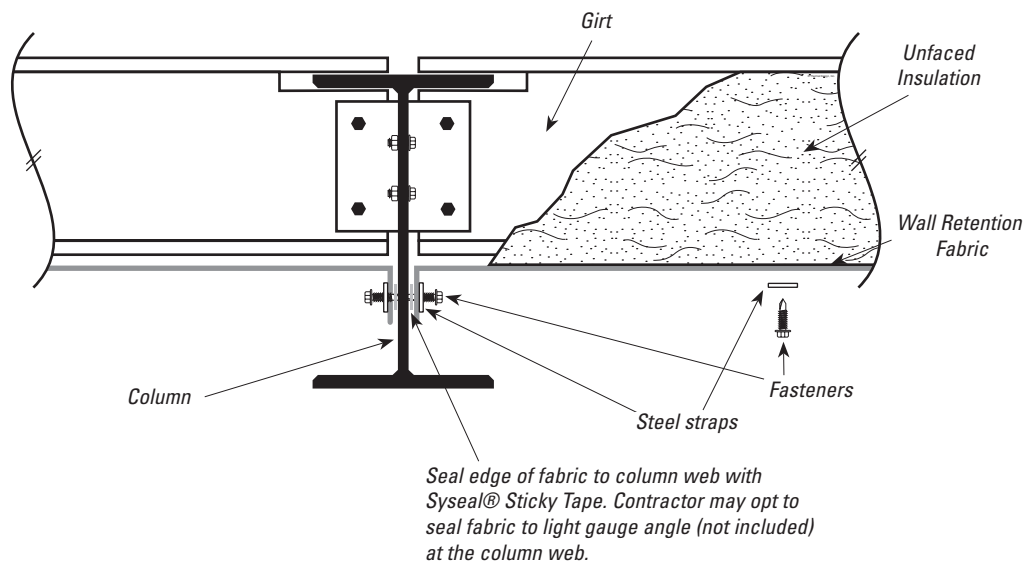
SECTIONAL DETAIL AT GIRT-TO-COLUMN CONNECTION

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

Figure 2-11.



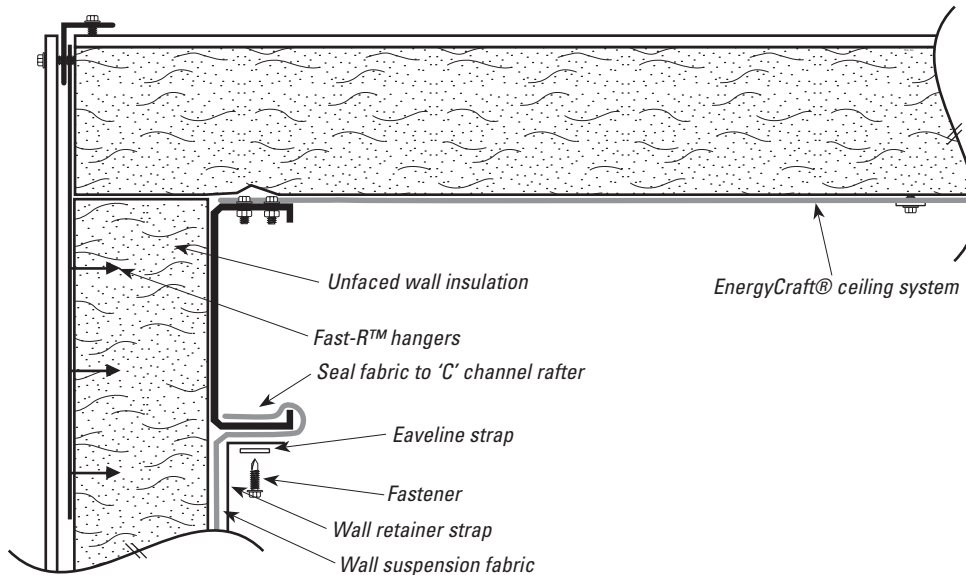
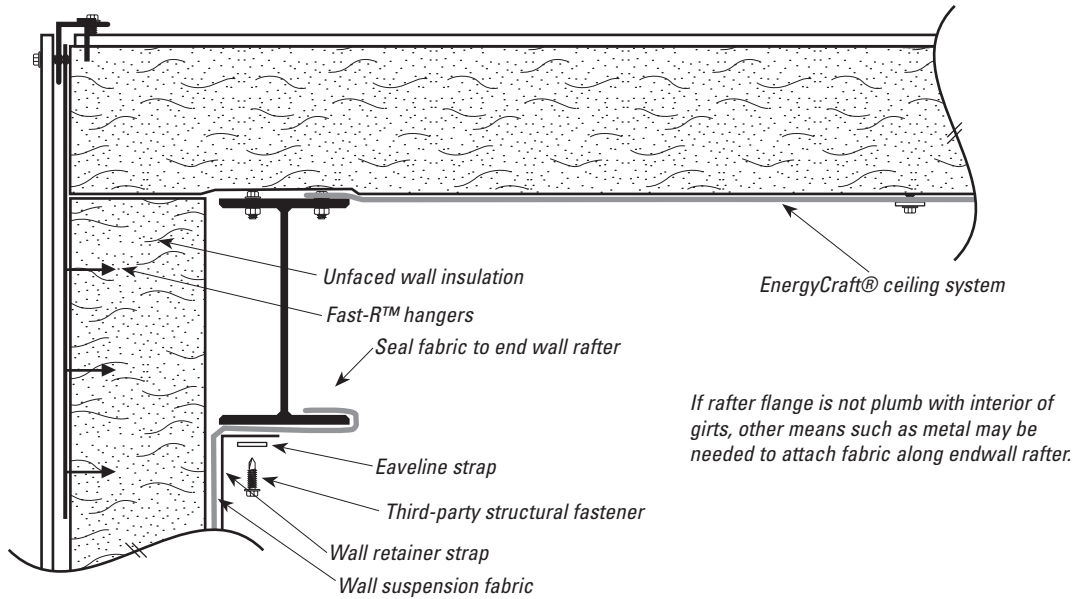
Inset Girt Condition



ENERGYCRAFT® INSULATION SYSTEM INSTALLATION INSTRUCTIONS BY THERMAL DESIGN

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 Thermal Design at 800-255-0776 or your distributor for recommendations.

ENERGYCRAFT® INSULATION SYSTEM INSTALLATION INSTRUCTIONS BY THERMAL DESIGN

SPECIAL EAVE AND WALL DETAILS

Figure 2-13.

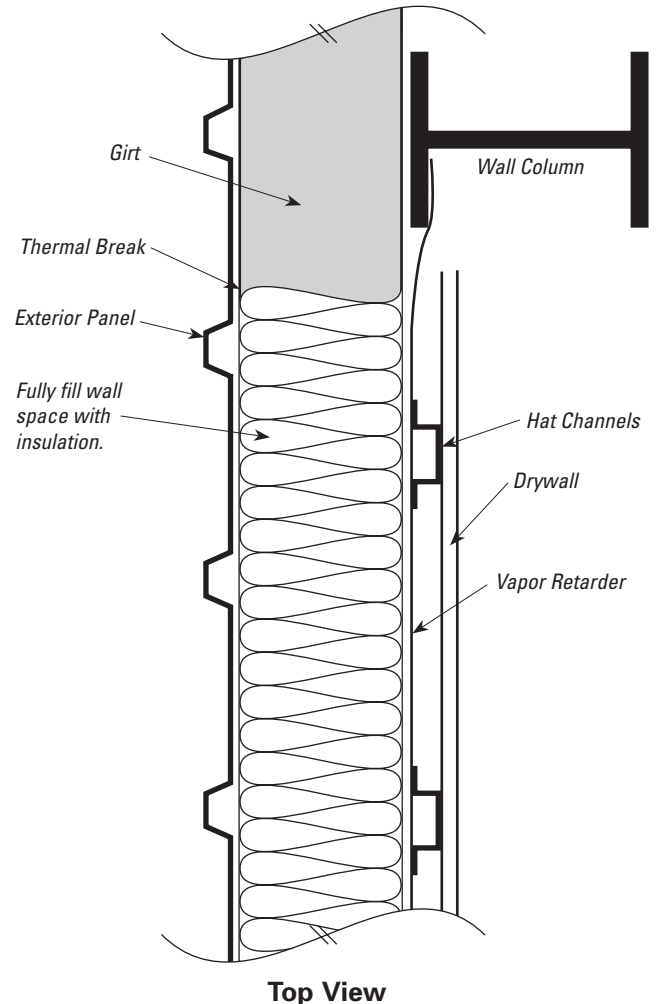
The detail to the right shows how a conventional pre-engineered wall with normal sized girts can be well insulated using the EnergyCraft® Insulation System. Either hat channels or steel studs can be installed vertically on 16" or 24" centers and the drywall applied to them.

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.)*

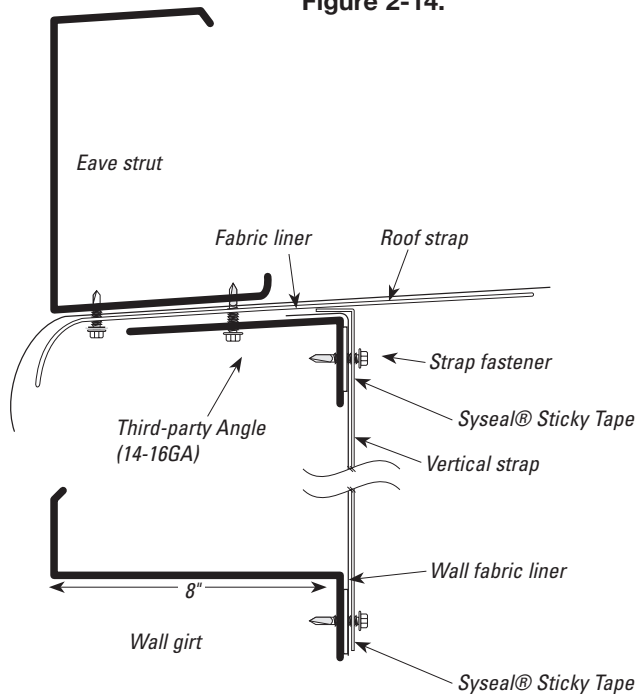
Limited holes can be drilled in the column webs (and in limited numbers) for the horizontal running wires. Contact your building manufacturer for limitations.

Wall Detail: Full Girt Cavity Insulation



Special Eave Detail

Figure 2-14.

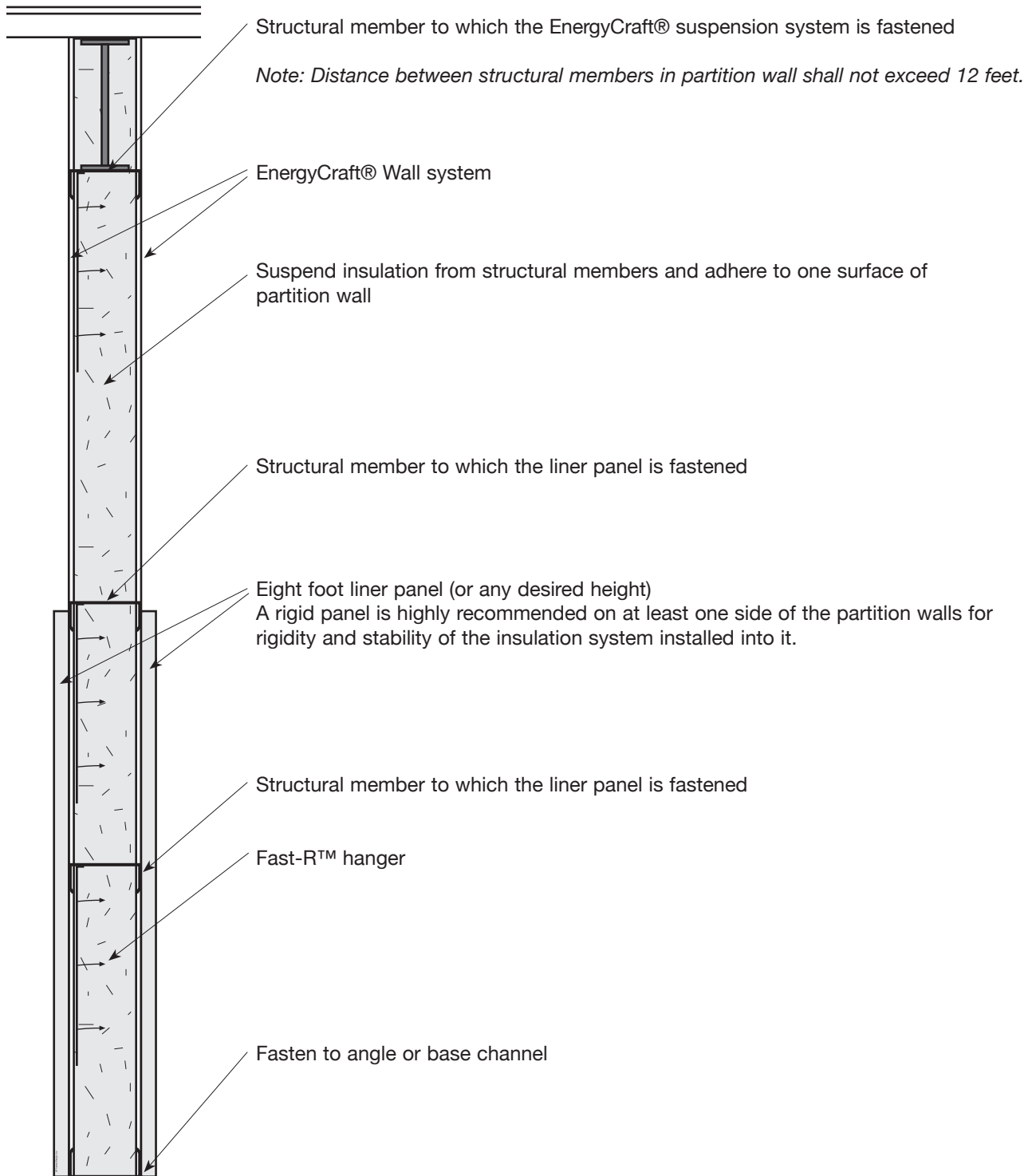


For use if a more finished look is desired where the roof and wall systems adjoin each other. Recommended when roof and wall systems are different colors.

ENERGYCRAFT® INSULATION SYSTEM INSTALLATION INSTRUCTIONS BY THERMAL DESIGN

INSULATED PARTITION WALL SYSTEM

Figure 2-15.





CAUTION!

This product does not provide fall protection

Limitation of Material Warranty: The EnergyCraft® Insulation System, its owners, licensees and distributors have no control over site conditions or its suitability for any particular purpose. Therefore, the EnergyCraft® Insulation 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 EnergyCraft® Insulation 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.

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EIS InstallInstructions.indd PM 01/10/12