SPECIALTY PRODUCTS & INSULATION

Metal Building Insulation (MBI) Fabrication Service

Laminated Product Overview

Fiberglass Metal Building Insulation provides thermal and acoustical insulation for the roof and sidewalls of pre-engineered metal buildings and post frame construction. Sustainable, Metal Building Insulation is composed of inorganic glass fibers bonded with a formaldehyde-free resin, formed as a flexible blanket with uniform texture. The face laminated insulation blanket is supplied in thicknesses to meet specified R-Value requirements for energy conservation and roll sizes to suit the construction and eliminate waste. Laminated on one side with suitable vapor retarder, Metal Building Insulation reduces transmission of exterior sound to the interior of the building and also absorbs building interior reverberant sound.

Features and Benefits

- Improves thermal energy efficiency of the building during heating and cooling seasons resulting in lower fuel bills and a cleaner environment.
- Reduces transmission of exterior sound to the interior of the building creating a better environment for occupants.
- Controls Condensation - The vapor retarder facing limits the passage of water vapor and prevents condensation within the insulation or on interior building surfaces.
- Bright white facing improves light reflectance and overall lighting efficiency for better working conditions.
- Absorbs reverberant sound within the building for a more comfortable environment.

Vapor Retarders

The vapor retarder used on metal building insulation must be strong enough to withstand installation handling and function as an aesthetically pleasing interior finish. The facing must be durable with good tensile and burst strength. it must be fire retardant, provide good light reflectivity and have low water vapor permeance. Note: the lower the permeance, the better the vapor retarder.

Typical Applications

Agricultural Buildings, Aircraft Hangars, Churches, Institutional and Sports Facilities, Office, Retail, Warehouse and Manufacturing space.

TECHNICAL DATA

Applicable Standards

- Model Building Codes:
  - ICC
- Material Standards:
  - ASTM C991, Type I
  - NAIMA 202-96 (Rev. 2000)

Fire Resistance

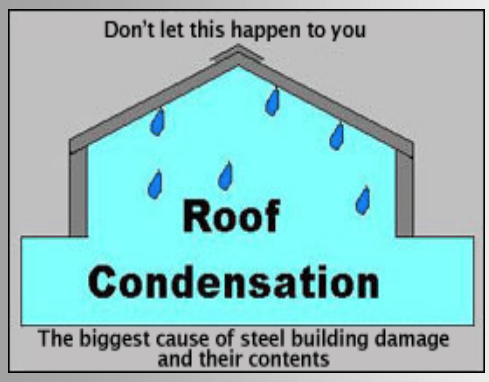
- Fire Hazard Classification:
  - UL 723, ASTM E84, NFPA 255
    Max. Flame Spread Index: 25
    Max. Smoke Developed Index: 50
  - CAN/ULC-S102-M88
- Non-combustible:
  - ASTM E136 / Meets requirements

Physical/Chemical Properties

- Thermal Resistance:
  - ASTM C518 and/or ASTM C177 at 75°F (24°C) mean temperature: see table at left
- Acoustical Performance: see tables on other side
- Water Vapor Sorption:
  - ASTM C1104 / No greater than 5.0% by weight
- Corrosiveness:
  - ASTM C665 / Meets requirements for steel, copper and aluminum
- Odor Emission:
  - ASTM C1304 / Pass
- Fungi Resistance:
  - ASTM C1338 / Pass Test

MBI products range from 3 3/8" to 9 1/4" thickness of NAIMA 202-96 Certified R Metal building insulation laminated to a variety of vapor retarders.

THERMAL PERFORMANCE			
Nominal Thickness (Pre-Lamination)		R-Value	
in.	mm	R	RSI
3⅜	86	10	1.76
3¾	95	11	1.94
4⅜	111	13	2.29
5¼	133	16	2.82
6⅜	162	19	3.35
6¾	171	21	3.70
8	203	25	4.40
9¼	235	30	5.30



Vapor Control - We offer a range of vapor retarder facings applied and ready for installation. Facings with a maximum permeance rating of 0.1 perm are recommended for optimum moisture condensation control. Detailed performance and physical property data concerning available facings is available from facing manufacturer.

Accessories— We supply a full line of metal building accessories including: tape, banding, insulation pins, clips, adhesive and sealants.

Acoustics Importance - Noisy buildings can be non productive for occupants. Our Insulation systems provide excellent STC ratings to reduce exterior noise transmission into interior spaces.

SOUND TRANSMISSION							
Construction Type	Transmission Loss in dB at the Octave Frequencies						STC Rating
	125	250	500	1000	2000	4000	
ROOFS							
No Insulation	12	13	19	24	30	32	24
R-10 Faced 202-96 Insulation Over the Purlins	12	16	26	37	45	49	29
R-19 Faced 202-96 Insulation Over the Purlins	13	20	30	41	49	51	32
202-96 Insulation Over & Between the Purlins to Fill the Cavity (R-25 Combined)	14	24	34	44	53	56	36
WALLS							
No Insulation	12	14	19	19	20	27	21
R-10 Faced 202-96 Insulation Over the Girts	13	16	25	32	37	46	28
R-13 Faced 202-96 Insulation Over the Girts	13	17	26	33	38	47	29
R-13 Faced 202-96 Insulation Over the Girts 3-5/8" Steel Studs on 24" Centers with 1/2" Gyp. Board on Interior	26	40	51	60	64	65	50
R-13 Faced 202-96 Insulation Over the Girts 3-5/8" Steel Studs on 24" Centers with R-11 Batts & 1/2" Gyp. Board on Interior	31	43	55	68	73	75	54

Sound Transmission Class (STC) in accordance with ASTM E90.
- Roof construction is 24ga. standing seam roof with 8" Z purlins on 5' centers.
- Wall construction is 26ga. wall panels screwed to 8" Z girts placed on 7' centers.
- Interior metal furring wall studs were 3-5/8" by 25ga. on 24' centers.

Note: Product properties reported are based on CertainTeed Metal Building Insulation 202-96

Site Recommendations

* Inspect insulation upon arrival at the job. Any issue should be reported immediately to SPI. **Do Not Install !**

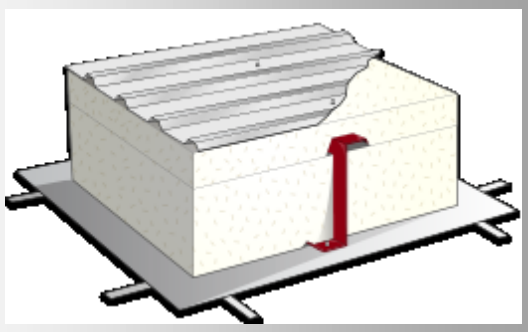
* Insulation must be stored in a dry, protected area until required for installation. NOTE: Insulation should be installed as soon as possible after delivery to minimize potential for site damage.

* Insulation should be elevated above grade, preferably on a flat surface to prevent contact with accumulating surface water. Protect insulation and facing from damage to maintain desired performance properties.

MBI Production Facilities

18270 Seagale Park Drive B	**970 Mason Way**	**2000 East Commercial**
Tukwila, WA (800) 825-6780	**Medford, OR (800) 456-3275**	**Meridian, ID (800) 752-4857**

Simple Saver Roofs



Simple Saver System will yield designed insulation values without excessive compression and voids, common with other methods of installation. The Simple Saver fabric liner system uses a strong, low permeance vapor retarder to create the required space for designed insulation thickness between the structural members while isolating conductive secondary framing members from inside conditioned air. Compare the structural differences between the Simple Saver System and traditional methods of insulating before you begin your next project..

The Simple Saver System is made to order and the durable Syseal®fabric spans the entire bay width and length in one piece. The Syseal fabric is supported by a grid pattern of color matched tensioned steel straps which are installed below purlins/joists. This creates the space for uncompressed, unfaced insulation. In multi-layer scenarios the upper layer of unfaced insulation may be installed over the structural members with minimal compression when roofing is attached. Once the patented liner system is installed, it provides installers and roofers with OSHA compliant means of through fall protection anywhere on the roof.

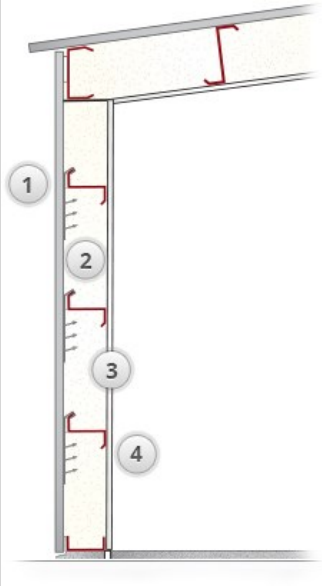
Simple Saver System®
with Patented OSHA Compliant Fall Protection

The Simple Saver System® offers OSHA compliant, fall protection for new pre-engineered metal building purlin roof systems. Perimeter protection within six feet of any edge is required using safety harness and lanyard. Please refer to installation instructions and fall protection certificate for complete details.

Simple Saver Walls

The Simple Saver wall insulation system is installed completely from the inside, out of the wind and weather. Unfaced insulation is simply cut to fit girt spacings and then impaled onto Fast-R™rigid insulation hangers which prevents the insulation from sagging. Similar to the roof, every piece of Syseal fabric is custom made to order and spans the bay width and height from column to column. The fabric liner/vapor retarder is installed on the inside plane of the wall to isolate the insulation and conductive girts from inside conditioned air.

Single layer Simple Saver wall systems help speed the wall sheeting process and a thick single layer of unfaced insulation and the Quik-Stop™ thermal break tape is preferred versus two layers of compressed laminated insulation. The Simple Saver single layer wall system prevents 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. Filling the full girt depth with insulation is highly recommended.



1) **Quik-Stop™ Thermal Break Tape and Fast-R™ Preformed Insulation Hangers**
Quik-Stop installed on the exterior flange of the girt prior to installing metal wall panels and Fast-R hangers installed within girt cavity to support and hold fiberglass wall insulation

2) **Uncompressed, Unfaced Fiberglass Insulation -** Insulation is cut to fit the full girt space and impaled onto Fast-R hangers

3) **Large Custom Sized Syseal® Fabric -** Syseal fabric spans entire bay and installed uninterrupted on the inside plane of girts and sealed around perimeter

4) **UVMAX® Steel Straps -**Installed on the inside plane of fabric that mechanical Syseal fabric to structure

Other Building Insulations Include:

Curtain Wall and Cavity Wall Insulation - Providing thermal, acoustic and fire protection insulation systems for commercial building construction including Custom “cut to size panels, shapes, laminations and composites, Firestop materials, tape and fasteners. This value add service reduces: direct labor expense, material waste, Inventory dollars, material storage & damage, injuries and claims.

PG Board TAF™ - Insulation system fro parking garage, mechanical, electrical rooms etc. Provides thermal insulation, acoustics and fire resistance per Code requirements. Provides energy savings while enhancing space lighting levels and acoustics. The stable R Value provides long term energy savings. The optional perforated facing offers excellent sound absorption to reduce space reverberant noise. PG Board TAF is produced with non-combustible mineral wool insulation that can withstand temperatures up to 2150 F.

Ask about our other Building Insulation Products and Value Added Fabrication Services

Serving Commercial, Industrial, Marine and OEM
Customers with Industry Leading Products and Value
Add Specialty Fabrication Services.

Learn more at spi-co.com

SPECIALTY PRODUCTS
& INSULATION

SPI LLC, Specialty Products & Insulation

2101 Rexford Road, Suite 300 E

Charlotte, NC 28211

(855) 519-4044

www.spi-co.com

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