



Specification sheets are available for:

## ■ New Buildings

- Skyliner<sup>®</sup> Insulation System for new metal building systems
- Division 7 – Thermal Protection; Section 07213 pre-engineered building insulation
- Division 13 – Special Construction; Section 13, 34, 19 metal building systems

## GET THE FEATURES THAT MATTER MOST



### Energy Efficient



### Smart Money



### Time Savings



### Leading-Edge Fall Protection

- NAIMA 202-96(R) (Rev 2000) Fiberglass or Metal Building Insulation Filler Blanket
- Tested Assemblies
- Meets or exceeds all codes and standards, including ASHRAE, IECC, California Title 24. Washington, Oregon, Florida
- Meets OSHA requirements for leading-edge fall protection
- Class A Fire Rated
- Bright white fabric covers purlins and girts
- Less banding
- Exclusive Safety Banding and Clip System
- Bay-wide and long-length fabric
- Strong tarp-like fabric
- 0.02 perm-rated vapor retardant fabric
- Local Bay Insulation Systems plant support
- Skyliner<sup>®</sup> XQ layout drawings
- Easy install instructions
- Fabric packaged in rolls, on a core, for easy dispensing on the roof
- Flange Brace Covers Facilitate Standard Connections

## PART I - GENERAL - ROOF (R-32)

Acceptable Liner System is Skyliner<sup>®</sup> FP or Skyliner<sup>®</sup> Insulation System from Bay Insulation Systems, a tested, high-performance insulation system. System achieves performance U Factor of 0.034 or installed R-value of 29.7 for metal building construction. System is provided complete, from one source (Bay Insulation Systems) and includes banding, clips, adhesive, fasteners, fabric, insulation, layout drawings and installation manual. Skyliner<sup>®</sup> FP System meets OSHA duty to have fall protection standard 29 CFR – 1926.501. This system also conforms to and complies with testing protocol for 29 CFR 1926.501(b)(4); 29 CFR 1926.502; 29 CFR 1926.502(c)(4)(i); and 29 CFR 1926.502(i)(2).

NAIMA 202-96(R) (Rev 2000) certified fiberglass insulation or Metal Building Filler Blanket insulation will fill **purlin cavity** (or wall cavity) and consist of 2 layers. Nominal 1" x 3" extruded polystyrene thermal blocks\* will be applied to the top of the purlins for double layer applications (minimum R-value 3.0). Thermal break tape will be applied to top of purlin **(roof)** or outside of girts – (walls) for single-layer applications. (Sky Hook™ (82 pcs/box) or Insul Hold HD (coils) required for walls.) Fabric will be 1 bay in width and attach underneath the purlin (inside girt), secured by a banding grid. Safety banding **(roof)** will be installed parallel to each frame and 16" from the frame, secured by safety clips.

The installed roof or wall system provides a continuous vapor retarder.

\*Thermal blocks are not included with the Skyliner Insulation System

## PART II – PRODUCTS – SYSTEM COMPONENT MINIMUM REQUIREMENTS

### A. Fabric

1. Bright White Material, Sky Blue Backing – light reflectance value – 84
2. Fabric Description: Woven, HPDE Scrim premium, low-permeance vapor retarder for thermal insulation. Coated both sides (1.2 mil average) bright white or colored polyethylene film.
  - a. Fabric supplied in full bay widths and custom lengths – Produced to fit large building areas with minimum field seaming required.
  - b. Can be supplied perforated.
3. Shipped folded and rolled onto a core for quick deployment on support grid.
  - a. Core ID 3" (76.2mm) or 4" (101.6mm)
4. Vapor retarder – 0.02 perm rating
5. Chemical resistance
  - a. HDPE – excellent chemical resistance. It is not attacked by strong acids or strong bases and is resistant to gentle oxidants and reducing agents.
  - b. HDPE with coating has excellent chemical resistance, superior strength, and long-term durability.
6. Tear Strength Warp 35 lb, 222 n/weft 45 lb 200 n (ASTM D2261)
7. Tensile (Strip) Strength Warp 100 lb/in (877) weft 90 lb/in (799) (ASTM D5034)
8. Tensile (grab) warp 136 lb 605 n/ weft 126 lb 559 n
9. Mullen burst 245 psi 1690 kPa (ASTM D3786)
10. Accelerated UV Weathering – >50% strength retention after 2000 hrs; exposure @ .77W/m<sup>2</sup>/nm, or 1200 hrs exposure @ 1.35 W/m<sup>2</sup>/nm
11. Thermal Stability – 20°F No cracks or delamination; 15°F No cracks or delamination. Weight 3.2 oz/yd<sup>2</sup> (108g/m<sup>2</sup>) +/- 10%
12. Fire Safety Rating – Class A, Flame Spread – 0; Smoke Developed – 28: (ASTM C1136; ASTM E84; UL723)
13. Fungi Resistance – No Growth (ATCC#'s 9642, 6205, 11797, 11730, and 9643)
14. Weight – 4.3 oz/yd<sup>2</sup> (149g/m<sup>2</sup>) +/- 5%
15. Thickness – Nominal 9 mil (0.22mm)

### 16. Sound Absorption\*† – NRC=0.70

| Insulation Total R-Value | Absorption Coefficients at Octave Band Frequencies |      |      |      |      |      | NRC  |
|--------------------------|--|------|------|------|------|------|------|
|                          | 125  | 250  | 500  | 1000 | 2000 | 4000 |      |
| 25                       | 0.59   | 1.09 | 0.83 | 0.59 | 0.31 | 0.11 | 0.70 |
| 30                       | 0.71   | 1.10 | 0.87 | 0.57 | 0.31 | 0.13 | 0.70 |
| 35                       | 0.80   | 1.10 | 0.90 | 0.56 | 0.30 | 0.14 | 0.70 |
| 40                       | 0.84   | 1.07 | 0.92 | 0.59 | 0.31 | 0.11 | 0.70 |
| 44                       | 0.68   | 0.98 | 0.92 | 0.58 | 0.31 | 0.13 | 0.70 |
| 49                       | 0.67   | 1.01 | 0.92 | 0.56 | 0.31 | 0.14 | 0.70 |

\*Sound Absorption Testing in accordance with ASTM C423.

†All testing conducted with the facing towards the soundfield as in actual use condition.

### 17. Sound Transmission Loss<sup>‡§</sup>

#### a. Roofs

| Construction Type | Clip Standoff (inches) | Top Layer Insulation R-Value | Bottom Layer Insulation R-Value | Transmission Loss - dB at Octave Band Frequencies |     |     |      |      |      | STC | OITC |
|-------------------|------------------------|------------------------------|---------------------------------|---|-----|-----|------|------|------|-----|------|
|                   |                        |                              |                                 | 125   | 250 | 500 | 1000 | 2000 | 4000 |     |      |
| Through Fastened  | NA                     | 10                           | 19                              | 14  | 26  | 35  | 40   | 49   | 51   | 37  | 36   |
| Through Fastened  | NA                     | 19                           | 30                              | 18  | 32  | 42  | 50   | 57   | 57   | 42  | 41   |
| Standing Seam     | 0.25                   | 10                           | 19                              | 14  | 26  | 34  | 44   | 52   | 53   | 36  | 36   |
| Standing Seam     | 1.25                   | 19                           | 30                              | 19  | 32  | 42  | 56   | 63   | 58   | 42  | 41   |
| Standing Seam     | 1.75                   | 19                           | 30                              | 20  | 32  | 42  | 56   | 62   | 58   | 42  | 42   |

#### b. Walls

| Construction Type | Foam Tape Thickness (inches) | Single Layer Insulation R-Value | Transmission Loss - dB at Octave Band Frequencies |     |     |      |      |      | STC | OITC |
|-------------------|------------------------------|---------------------------------|---|-----|-----|------|------|------|-----|------|
|                   |                              |                                 | 125   | 250 | 500 | 1000 | 2000 | 4000 |     |      |
| Through Fastened  | 0.125                        | 25                              | 15  | 26  | 35  | 41   | 50   | 53   | 37  | 36   |
| Through Fastened  | 0.375                        | 30                              | 17  | 29  | 38  | 45   | 54   | 54   | 39  | 38   |

‡Sound Transmission Loss Tested in accordance with ASTM E90.

§Values are given for design approximations only. Production and test variabilities will alter the results.

## B. Fall Protection

1. OSHA 1926.501 – Duty to have Fall Protection
2. OSHA 1926.501(b)(4) – Holes
3. OSHA 1926.502 – fall protection criteria and practices
4. OSHA 29 CFR 1926.502(c)(4)(i) – Standard for leading-edge fall protection. The Drop test shall consist of a 400 lb (180 kg) bag of sand 30 + or - 2" (76 + or - 5 cm) in diameter dropped into the net from the highest walking/working surface at which employees are exposed to fall hazards, but not from less than 42" (1.1 m) above that level.
5. OSHA 1926.502(i)(2) All other covers shall be capable of supporting, without failure, at least twice the weight of employees , equipment and materials that may be imposed on the cover at any one time.
6. OSHA 29 CFR 1926.754(e)(3) – covering roof and floor openings
7. OSHA 29 CFR 1926.754(e)(3)(i) – Covers for roof and floor openings shall be capable of supporting, without failure, twice the weight of the employees, equipment and materials that may be imposed on the cover at any one time.

## C. Banding

1. 1" x .023 continuous length white metal banding

## D. Fasteners & Clips

1. Safety Clip System includes exclusive offset clip + fastener + banding – 16" either side of each frame. (Required for fall protection installation.)
2. Tek 2 and Tek 4.5 (supplied with system)

## E. Adhesive

1. BayBond™ contact adhesive (methyl acetate / n-hexane); CA Compliant
2. Skyliner double faced tape

## F. Insulation

Meets Standard NAIMA 202-96 (R) (Rev 2000) certified flexible fiberglass insulation for use in metal buildings or Metal Building Insulation Filler Blanket. (Installed in One or Two Layers.)

## G. System Standards:

1. ASTM C991 – Standard for flexible fibrous glass insulation for metal buildings. (Applies to for NAIMA202-96 fiberglass insulation only.)
2. ASTM C 1136 – Standard specification for flexible, low permeance vapor retarders for thermal insulation.
3. ASTM E 84 (UL723), NFPA 255 – Standard for surface burning characteristics of building materials.
4. ASTM E 96 – Standard test method for water vapor transmission of materials in sheet form.
5. ASTM E 2178 -- Standard test method for air permeance of metal buildings.
6. NAIMA 202-96(R) (Rev 2000) –Standard for flexible fiberglass insulation for use in metal buildings or Metal Building Insulation Filler Blanket.

## H. Manufacturer Will Provide

1. Install Manual
2. Certification Sheets
3. Fabric Shop Drawings
4. Product Warranty

## I. Acceptable Manufacturers

1. Bay Insulation Systems
2. Owens Corning
3. CertainTeed

## J. Warranties

1. Fabric – limited 10-year material
2. Insulation – 1-year material
3. System – limited 10-year material

## PART III – INSTALLATION MANUALS PROVIDED

### A. New Buildings Fall Protection (FP)

### B. Existing Buildings

### C. Walls

### D. Specialty Buildings – Ice Arenas, etc.

Skyliner® Specification Sheets are also available for Existing Buildings & Specialty Buildings.

## ASHRAE-90.1 2013, 2016 & 2019 PRESCRIPTIVE SOLUTIONS (METAL BUILDING ROOFS)

### SS Roof + R-3 TB

|                    |           |
|--------------------|-----------|
| R-19 + R-11        | U = 0.037 |
| R-25 + R-8         | U = 0.037 |
| R-25 + R-11        | U = 0.031 |
| R-30 + R-11        | U = 0.029 |
| R-25 + R-11 + R-11 | U = 0.026 |

## ASHRAE-90.1 2016 & 2019 PRESCRIPTIVE SOLUTIONS (METAL BUILDING WALLS)

|                    |           |
|--------------------|-----------|
| R-25 + R-0.375 TBT | U = 0.059 |
| R-30 + R-0.75 TBT  | U = 0.052 |



[www.SkylinerSystems.com](http://www.SkylinerSystems.com)

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