CARLISLE SYNTEC SYSTEMS

SecurShield® HD Composite POLYISO Insulation

HFC-FREE

Overview

SecurShield HD Composite is a unique composite insulation panel comprised of ½" high-density polyiso cover board laminated to SecurShield rigid polyiso roof insulation. This product is ideal for commercial roofing projects that require high thermal efficiency combined with maximum durability in both new construction and retrofit applications. SecurShield HD Composite is approved for use in assemblies meeting FM's Very Severe Hail (VSH) Classification.

Features and Benefits

- SecurShield HD Composite is produced on-line creating a single component solution that eliminates the need for cover boards, reduces inter-ply adhesives and saves labor
- Achieves Factory Mutual's (FM) Very Severe Hail (VSH) rating
- Superior wind uplift performance: Achieves an FM 1-90 approval rating with only 6 fasteners
- FM uplift approval ratings up to 300psf over steel deck

Panel Characteristics

- Panel Sizes: 47.5" x 95.5" (1206 mm x 2425 mm) and 47.5" x 47.5" (1206 mm x 1206 mm)
- Panel Thickness: 1.5, 1.8, 2.0, 2.5, 3.0, 3.5, 3.6, 4.0

Sustainable Attributes

Carlisle SynTec Systems' focus has always been innovation - Innovation to solve problems, improve performance, reduce labor, and above all, improve sustainability. Carlisle is committed to driving sustainable and efficient processes in the design and manufacturing of our products.

- Highest R-value per inch providing maximum energy savings and CO^2 emissions avoidance
- PIMA Quality Mark(CM) Certification Program participant for Long-Term Thermal R-values (LTTR)
- CDPH Compliant for maximum allowable concentrations of target VOCs
- Carlisle Polyiso Roof Insulation and HD Cover Board EPDs available
- Contributes to LEED and Green Globes certification requirements
- End-of-life jobsite disposal options are available for re-use/re-purposing
- HFC- and HCFC-free formulation

Code and Compliances

- Coverboard-SecurShield HD: ASTM C 1289 Type II, Class 4, Grade 1 (109 psi max)
- Base Insulation-SecurShield: ASTM C 1289 Type II, Class 2, Grade 2 (20 psi)
- International Building Code (IBC) Chapter 26
- UL Standard 790, 263 and 1256: Component of Class A Roof Systems (refer to UL Roof Materials' system directory)
- FM Standards 4450/4470: Class 1 approval for steel roof-deck constructions (refer to FM RoofNav)
- Coverboard-SecurShield HD: CAN/ULC S704, Type 3, Class 2
- Base Insulation-SecurShield: CAN/ULC S704 Type 2, Class 2
- Florida Building Code Approval
- Miami-Dade County Product Control Approved

Installation

Single-Ply Systems

Mechanically Attached Single-Ply Systems

Each SecurShield HD Composite panel must be secured to the roof deck with fasteners and plates (appropriate to the deck type) or Carlisle's Flexible FAST™ Adhesive. Butt edges and stagger joints of adjacent panels. Install the single-ply roof system according to Carlisle's specifications.

CARLISLE SYNTEC SYSTEMS

SecurShield HD Composite POLYISO Insulation

Fully Adhered Single-Ply

Each SecurShield HD Composite panel must be secured to the roof deck with fasteners and plates (appropriate to the deck type) or Carlisle's Flexible FAST Adhesive. Maximum 47.5" x 47.5" (1206 mm x 1206 mm) panels of SecurShield HD Composite may be adhered to a prepared concrete deck. Application by cold adhesion also approved. Butt edges and stagger joints of adjacent panels. Install the single-ply roof system according to Carlisle's specifications.

Re-Roofing Single-Ply Systems

SecurShield HD Composite provides a singular solution in retrofit applications when existing insulation is left in place. To facilitate compliance with ASHRAE 90.1 Standards for energy efficiency, SecurShield HD Composite can be installed in a single layer on top of intact and dry insulation after the single-ply membrane is removed. Butt edges and stagger the joints in accordance with good roofing practice and fasten as per Carlisle's specifications. The new single-ply membrane can then be installed over an insulation assembly that complies with the latest energy code requirements.

Review Carlisle specifications and details for complete installation information.

Precautions

Insulation must be protected from open flame and kept dry at all times. Install only as much insulation as can be covered the same day by completed roof covering material. Protect installed product from excessive foot traffic. SecurShield HD Composite is not compatible with hot mop asphalt. Carlisle will not be responsible for specific building and roof design by others, for deficiencies in construction or workmanship, for dangerous conditions on the jobsite or for improper storage and handling. Technical specifications shown in this literature are intended to be used as general guidelines only and are subject to change without notice. Call Carlisle for more specific details, or refer to PIMA Technical Bulletin No. 109: Storage & Handling Recommendations for Polyiso Roof Insulation.

SecurShield HD Composite Thermal Values

Thickness (inches)	Thickness (MM)	R-value	Flute Spanability
1.50	38	8.2	7.5"
1.80	46	10.0	7.5"
2.00	51	11.1	7.5"
2.50	64	13.9	7.5"
3.00	76	16.9	7.5"
3.50	89	19.9	7.5"
3.60	91	20.5	7.5"
4.00	102	23.0	7.5"

SecurShield HD Composite R-value is calculated by adding together the R-values of SecurShield HD and LTTR of SecurShield.

LEED® Information

Pre-industrial Recycled Content	<9%	
Manufacturing Locations	Smithfield, PA Tooele, UT Lake City, FL Puyallup, WA	Franklin Park, IL Terrell, TX Montgomery, NY

SecurShield

Physical Property	Test Method	Value
Compressive Strength	ASTM D1621 ASTM D1289	20 psi minimum (138 kPa, Grade 2)
Dimensional Stability	ASTM D2126	<2% linear change (7 days)
Moisture Vapor Transmission	ASTM E96	< 1 perm (57.5ng/(Pa•s•m^2))
Water Absorption	ASTM C209	Passed (10)
Service Temperature		-100° to 250°F (-73°C to 122°C)

SecurShield HD

Physical Property	Test Method	Value
Compressive Strength	ASTM D1621 (modified)	109 psi max
Dimensional Stability	ASTM D2126	<0.5% linear change (7 days)
Water Absorption	ASTM C209	<1% volume
Resistance to Mold	ASTM D3273	Passed (10)
Service Temperature		-100° to 250°F (-73°C to 122°C)
R-value		2.5

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.

CLASSIFIED C UL US

Foamed plastic as roof deck construction material with resistance to an internal fire exposure only for use in construction no.(s) 120 and 123. See UL Directory of Products Certified for Canada and UL Roofing Materials and Systems Directory. 99DL.

PIMA QualityMark℠

Independent | Certified | LTTR +

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