CARLISLE SYNTEC SYSTEMS

SecurShield™ HD Composite POLYISO
Insulation

Productivity Boosting Features and Benefits:

- Cover board and insulation combined in a single product
- Eliminates adhesive layer between base insulation and cover board
- Industry-leading 6 fastener FM 1-90 approval rating

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.

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
- Passes ASTM resistance to mold test (D 3273)
- Achieves Factory Mutual Severe Hail rating - SH 1
- Available in thicknesses from 1.5" to 4.5" for a total R-value of 8.2 to 26.1 in a single layer
- Available in 4' x 4' (1220 mm x 1220 mm) and 4' x 8' (1220 mm x 2440 mm) panels
- Standard thicknesses: 1½", 2", 2½", 3", and 4"
- 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)

Code Approvals

- International Building Code (IBC) Chapter 26
- UL 790, 1256, 263 Hourly Rated P Series Roof Assemblies
- Insulated Metal Deck Construction Assemblies – No. 120, 123, 292
- Refer to UL Directory of Products Certified for Canada for more details
- FM 4450, FM 4470
- Approved for Class 1 insulated steel deck constructions for 1-60 to 1-270. Refer to FM Approval's RoofNav for details on specific systems

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). Butt edges and stagger joints of adjacent panels. Install the single-ply roof system according to Carlisle's specifications.

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). Maximum 4' x 4' (1220 mm x 1220 mm) panels of SecurShield HD Composite may be adhered to a prepared concrete deck with a full mopping of hot steep asphalt. 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.

CARLISLE SYNTEC SYSTEMS

SecurShield HD Composite POLYISO Insulation

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. 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)	LTTR R-value	Flute Spanability
1.50	38	8.2	4 3/8"
2.00	51	11.1	4 3/8"
2.50	64	13.9	4 3/8"
3.00	76	16.9	4 3/8"
3.50	89	19.9	4 3/8"
4.00	102	23.0	4 3/8"
4.50	114	26.1	4 3/8"

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

Fastening Ratings

FM Rating	Minimum Thickness	# of Fasteners per 4 x 8		
		Field	Perimeter	Corner
1-60	2.0"	6	16	20
1-75	2.0"	6	16	32
1-90	2.0"	6	20	30

*Refer to FM Global Property Loss Prevention Data Sheet 1-29, Table 1

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•m²))
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.

800-479-6832 | P.O. Box 7000 | Carlisle, PA 17013 | Fax: 717-245-7053 | **www.carlislesyntec.com**