H-SHIELD HD COMPOSITE CG

½" H-Shield HD Manufactured On-line to Premium Performance Polyiso
For New and Retrofit Low Slope Roofing Applications

TECHNICAL DATA SHEET

H-Shield HD Composite CG is composed of two products, H-Shield HD - a ½" high-density polyiso cover board – manufactured on-line to H-Shield CG - a premium performance faced polyiso - creating a monolithic composite panel (CGF). This product is ideal for commercial roofing projects that require high thermal efficiency combined with maximum durability in both new construction and retrofit applications. R-value is optimized with a thinner profile than other insulations available on the market.

APPLICATIONS

- To achieve optimal Thermal Performance, Hunter Panels recommends installation of a multi-layered system with staggered joints.

PANEL CHARACTERISTICS

- Top facer of ½" high-density polyiso Grade 1 (109 psi max)
- Foam core base layer provides 20 psi
- H-Shield HD Composite CG products available in 47.5" x 47.5" 1207mm x 1207mm) and 47.5" x 95.5" (1207mm x 2426mm) panels in thicknesses of 1.5", 1.8", 2.0", 2.5", 3.0", 3.5", 3.6", and 4.0"
- Manufactured with NexGen Chemistry: Contains no CFCs, HCFCs, HFCs, is Zero ODP, EPA Compliant, and has virtually no GWP
- H-Shield HD Composite CG is produced on-line to achieve a monolithic panel that eliminates the need for cover boards, reduces inter-ply adhesives and saves labor
- A 2" minimum thickness, approved for Class 1 insulated steel deck and UL Class A in virtually all roof assemblies
- A minimum 3.0" thickness installed directly over a combustible deck will achieve a UL Class A
- Passed (10) ASTM D 3273 Resistance to Mold Test
- Achieves Factory Mutual's (FM) Very Severe Hail (VSH) rating.

POTENTIAL LEED CREDITS FOR POLYISO USE

Energy and Atmosphere

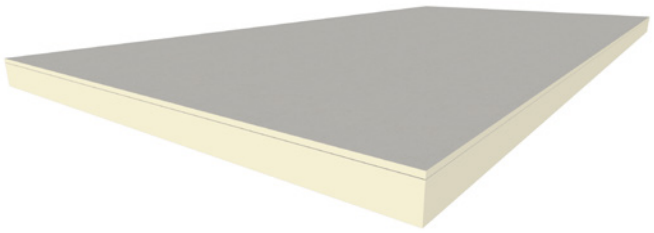
- Optimize Energy Performance

Materials & Resources

- Building Life-Cycle Impact Reduction
- Environment Product Declaration
- Material Reuse
- Pre-consumer Recycled Content
- Construction and Demolition Waste Management

Indoor Environmental Quality

- Thermal Comfort



H-SHIELD HD COMPOSITE CG THERMAL VALUES

Thickness (inches)	Thickness (mm)	LTTR R-Value	Flute Spanability
1.50	38	8.2	4 3/8"
1.80	46	10.0	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"
3.60	91	20.5	4 3/8"
4.00	102	23.0	4 3/8"

The H-Shield HD Composite CG R-value is calculated by adding together the R-values of H-Shield HD and the LTTR value of H-Shield CG.

CODES AND COMPLIANCES

- ASTM C 1289 Type IV
- International Building Code (IBC) Chapter 26
- Miami Dade County Product Control Approved
- State of Florida Product Approval No. FL 5968
- California Code of Regulations, Title 24, Insulation Quality
- Standard License #TI-1420

UNDERWRITERS LABORATORIES INC CLASSIFICATIONS

- UL 1256
- Insulated Steel Deck Construction Assemblies – No. 120, 123
- UL 790
- UL 263 Hourly Rated P Series Roof Assemblies

UL CLASSIFIED FOR USE IN CANADA

- Refer to UL Directory of Products Certified for Canada for more details
- UL Certified for Canada, CAN/ULC-S126, CAN/ULC- S107
- CAN/ULC-S704 Type 3 Class 2

FACTORY MUTUAL APPROVALS

- FM 4450, FM 4470
- Approved for Class 1 insulated steel deck construction. Refer to FM Approval's RoofNav for details on specific systems

H-SHIELD HD TYPICAL PHYSICAL PROPERTY DATA

Polyiso Foam Core Only

Physical Property	Test Method	Value
Compressive Strength	ASTM D 1621	Grade 1 (109 psi max)
Dimensional Stability	ASTM D 2126	<0.5% linear change (7 days)
Water Absorption	ASTM C 209	<1% volume
Flame Spread**	ASTM E 84	<75
Smoke Developed**	ASTM E 84	<450
Service Temperature		260° F or less
Recycled Content		9% pre-consumer

*Meets the requirements of the IBC code. For specific Flame Spread or Smoke Developed Ratings please contact the Hunter Panels Technical Department

H-SHIELD CG TYPICAL PHYSICAL PROPERTY DATA

Polyiso Foam Core Only

Physical Property	Test Method	Value
Compressive Strength	ASTM D 1621	20 psi (138kPa, Grade 2)
Dimensional Stability	ASTM D 2126	2% linear change (7 days)
Moisture Vapor Transmission	ASTM E 96	<1 perm (57.5ng/(Pa•s•m^2))
Water Absorption	ASTM C 209	<1% volume
Flame Spread*	ASTM E 84	<75
Smoke Developed*	ASTM E 84	<450
Service Temperature		-100° to 250° F (-73°C to 122°C)
Recycled Content		9% pre-consumer

*Meets the requirements of the IBC code.

WARNINGS AND LIMITATIONS

Insulation must be protected from open flame and kept dry at all times. Store above ground on pallets and cover with breathable tarpaulins. Install only as much Polyiso as can be covered the same day with the completed roofing system. Do not leave exposed. Hunter Panels will not be responsible for specific designs by others, for deficiencies in construction or workmanship, for dangerous conditions on the job site or for improper storage and handling.

INSTALLATION – SINGLE-PLY SYSTEMS

Ballasted Single-Ply Systems

Each H-Shield HD Composite CG panel is loosely laid on the roof deck. Butt edges and stagger joints of adjacent panels. Install the roof covering according to the manufacturer's specifications.

Mechanically Attached Single-Ply Systems

Each H-Shield HD Composite CG panel must be secured to the roof deck. Butt edges and stagger joints of adjacent panels. Install the roof covering according to the manufacturer's specifications.

Fully Adhered Single-Ply

Each H-Shield HD Composite CG panel must be secured to the roof deck. Maximum 47.5" x 47.5" (1207mm x 1207mm) panels of H-Shield HD Composite CG may be adhered to a prepared concrete deck or subsequent layers of insulation with a full mopping of hot steep asphalt, insulation adhesive or cold applied mastic. Butt edges and stagger joints of adjacent panels. Install the roof covering according to the manufacturer's specifications.

Re-Roofing Single-Ply Systems

H-Shield HD Composite CG provides a singular and sustainable solution in retrofit applications when existing insulation is left in place. To facilitate compliance with ASHRAE 90.1 Standards for energy efficiency, H-Shield HD Composite CG 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 manufacturer's specifications. The new Single-Ply membrane can then be installed over an insulation assembly that complies with the latest energy code requirements.

INSTALLATION – BUILT UP, COAL TAR AND MODIFIED BITUMEN SYSTEMS (APP, SBS)

Each H-Shield HD Composite CG panel must be secured to the roof deck. Maximum 47.5" x 47.5" (1207mm x 1207mm) panels of H-Shield HD Composite CG may be adhered to a prepared concrete deck or subsequent layers of insulation with a insulation adhesive or cold applied mastic. Butt edges and stagger joints of adjacent panels. Install the roof covering according to the manufacturer's specifications.

Review manufacturer's specifications and details for complete installation information.