

HP-H POLYISO

Insulation



Overview

HP-H is a rigid-roof insulation panel composed of a closed-cell polyisocyanurate foam core bonded on each side to fiber-reinforced paper facers.

Features and Benefits

- » HP-H polyiso insulation provides the highest R-value per inch of commercially available insulation products
- » Environmentally friendly construction with 0% ozone-depleting components and CFC free
- » Approved for direct application to steel decks

Panel Characteristics

- » Available in 4' x 4' (1220 mm x 1220 mm) and 4' x 8' (1220 mm x 2440 mm) panels in thickness of 1" (25 mm) to 4.5" (115 mm)
- » Available in two grades of compressive strengths per ASTM C1289-11, Type II, Class 1, Grade 2 (20 psi), Grade 3 (25 psi)

Applications

- » Constructions requiring FM Class 1 and UL Class A ratings
- » Single-Ply Roof Systems (Ballasted, Mechanically Attached, Fully Adhered)

HP-H Polyiso Thermal Values

Thickness (inches)	Thickness (MM)	LTR R-value**	Flute Spanability
1.00	25	5.7	2 5/8"
1.50	38	8.6	4 3/8"
1.75	44	10.0	4 3/8"
1.80	46	10.3	4 3/8"
2.00	51	11.4	4 3/8"
2.50	64	14.4	4 3/8"
2.60	66	15.0	4 3/8"
3.00	76	17.4	4 3/8"
3.50	89	20.5	4 3/8"
3.80	97	22.3	4 3/8"
4.00	102	23.6	4 3/8"
4.30	109	25.5	4 3/8"
4.50	114	26.8	4 3/8"

**Long-Term Thermal Resistance Values are based on ASTM C1289-11 effective January 1, 2014, predicting product R-value after five years, which is equivalent to a time-weighted thermal design R-value for 15 years.

Installation

Ballasted Single-Ply Systems

Each HP-H panel is loosely laid on the roof deck. Butt edges and stagger joints of adjacent panels. Install the roof membrane according to Carlisle's specifications.

Mechanically Attached Single-Ply Systems

Each HP-H 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 roof membrane according to Carlisle's specifications.

Fully Adhered Single-Ply Systems

Each HP-H panel must be secured to the roof deck with fasteners and plates (appropriate to deck type). Butt edges and stagger joints of adjacent panels. Install the roof membrane according to Carlisle's specifications.

HP-H 4' x 8' panels can be secured to the roof deck with Carlisle's FAST® Adhesive, either full coverage or bead spacing of no less than 6" on center.

HP-H 4' x 4' panels may be adhered to prepared concrete deck with a full mopping of Type III or IV asphalt.

Review Carlisle specifications and details for complete installation information.

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HP-H Codes and Compliances

- » ASTM C1289-11, Type II, Class 1, Grade 2 (20 psi), Grade 3 (25 psi)
- » International Building Code (IBC) Section 2603

NOTE: Please be aware the Federal Specification HH-I-1972/GEN has been replaced.

Underwriters Laboratories, Inc.

- » Component of Class A Roof Systems (UL 790)
- » Hourly Rated P series roof assemblies (UL 263) P 225, 230, 259, 302, 303, 508, 510, 514, 519, 701, 710, 713, 717, 718, 719, 720, 722, 723, 727, 728, 729, 730, 732, 734, 735, 739, 741, 742, 743, 819, 824, 827, 828
- » Insulated metal deck assemblies - (UL 1256) nos. 120, 123, 292
- » HP-H classified by ULC
- » R18846

Factory Mutual Research

- » FM Class 1 approval for steel roof-deck constructions, (FM 4450)
- » FM 4470
(Subject to the conditions of approval described in Roofnav.com)
- » FLORIDA BUILDING CODE APPROVAL FL#1296
- » MIAMI-DADE COUNTY, FLORIDA NOA NO: 04-1018.01

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 job site 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.

Typical Properties and Characteristics

Physical Property	Test Method	Value
Compressive Strength	ASTM D1621 ASTM 1289	20 psi* minimum (138 kPa, Grade 2)
Dimensional Stability	ASTM D2126	2% linear change (7 days)
Moisture Vapor Transmission	ASTM E96 12.10	<1 perm (57.5 ng/(Pa•s•m ²))
Water Absorption	ASTM C209	<1% volume
Service Temperature		-100°F to 250°F (-73°C to 122°C)

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.

* Polyiso Foam Core only

Other Polyiso Products by Carlisle

- » Tapered HP-H – Polyiso bonded to fiber-reinforced paper facers
- » Flat and Tapered SecurShield – Polyiso bonded to coated glass facers
- » SecurShield CD – 1" Class A Polyiso on a combustible deck
- » HP-NB – Polyiso bonded to Oriented Strand Board
- » HP-F – Polyiso bonded to foil
- » SecurShield HD Composite – Polyiso bonded on-line to ½" SecurShield HD coverboard
- » SecurShield HD – ½" Polyiso coverboard, 100 psi
- » SecurShield HD Plus – ½" Polyiso coverboard, 100 psi – FM 1-90 with reduced fastening

