

DensDeck® Roof Board



Overview

DensDeck Roof Board's patented design features a gypsum core with embedded glass mat facers on the top and bottom of the board. DensDeck can be used in a variety of commercial roof systems and provides an excellent thermal barrier as well as exceptional fire, moisture, and wind uplift resistance properties.

DensDeck is primarily used as a cover board over insulation in mechanically fastened roofing applications. Frequently used in wood deck construction to achieve UL code ratings. DensDeck reduces the potential for growth of mold and mildew per ASTM D 3273.

Features and Benefits

- » UL code ratings available for (class A, B, C) unlimited slopes and wood decks
- » FM Approved
- » Improves resistance to foot traffic
- » Excellent wind uplift ratings
- » Resistant to deterioration, warping, and jobsite damage
- » 5/8" DensDeck can replace any generic Type "X" gypsum board in any roof assembly in the UL Fire Resistance Directory under the prefix "P"

Installation

DensDeck may be secured with Flexible FAST™ Adhesive, fastened in accordance with an approved fastening pattern, or mopped with Type III or IV asphalt.

Maximum asphalt application temperatures of 425°F (218°C) to 450°F (232°C) are recommended. Application temperatures above these recommended temperatures may adversely affect roof system performance.

Edge joints should be located on and parallel to deck ribs. End joints of adjacent lengths should be staggered.

1. This material shall be installed with ends and edges butted tightly.
2. When installed over combustible wood decks or insulations, all joints should be staggered.
3. In accordance with approved shop drawings, FM Approved fasteners shall be installed with plates through the roof board, flush with the surface.

Review Carlisle specifications and details for complete installation information.

Precautions

- » Dens Deck is not suitable for adhered membrane roofing systems
- » Panels must be kept dry before, during and after installation. Apply only as much roof board as can be covered by roof membrane in the same day.
- » 1/4" DensDeck is not recommended for vertical parapet applications.
- » In ballasted roofing systems, DensDeck is not an acceptable membrane underlayment.
- » 1/4" DensDeck is not recommended for use with Type III and Type IV asphalt.

Ratings and Certifications

- » Manufactured to conform to ASTM C-1177
- » Tested in accordance with ASTM E-84 or CAN/ULC-S102
- » Non-combustible when tested in accordance with ASTM E-136
- » UL code approval for current class A, B, C approvals

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Typical Properties and Characteristics

Properties	¼" (6.4 mm)	½" (12.7 mm)	¾" (15.9 mm)
Thickness, nominal	¼" (6.4 mm) ± 1/16" (1.6 mm)	1/2" (12.7 mm) ± 1/32" (.8 mm)	5/8" (15.9 mm) ± 1/32" (.8 mm)
Width, standard	4' (1219 mm) ± 1/8" (3 mm)	4' (1219 mm) ± 1/8" (3 mm)	4' (1219 mm) ± 1/8" (3 mm)
Length, standard	8' (2438 mm) ± ¼" (6.4 mm)	8' (2438 mm) ± ¼" (6.4 mm)	8' (2438 mm) ± ¼" (6.4 mm)
Weight, nominal, lbs./sq. ft. (Kg/m²) ⁷	1.2 (5.9)	2.0 (9.8)	2.5 (12.2)
Surfacing	Fiberglass mat	Fiberglass mat	Fiberglass mat
Flexural Strength ¹ , parallel, lbf. min. (N)	≥40 (178)	≥80 (356)	≥100 (444)
Flute Spanability ²	2⅝" (67 mm)	5" (127 mm)	8" (203 mm)
Permeance ³ , perms (ng/Pa•S•m²)	>50 (2850)	>35 (1995)	>32 (1824)
R Value ⁴ , ft²•°F•hr/BTU (m²•K/W)	0.28	0.56	0.67
Linear Variation with Change in Temp., in/in °F (mm/mm/°C)	8.5 x 10 ⁻⁶ (15.3 x 10 ⁻⁶)	8.5 x 10 ⁻⁶ (15.3 x 10 ⁻⁶)	8.5 x 10 ⁻⁶ (15.3 x 10 ⁻⁶)
Linear Variation with Change in Moisture	6.25 x 10 ⁻⁶	6.25 x 10 ⁻⁶	6.25 x 10 ⁻⁶
Water Absorption ⁵ , %	5	5	5
Compressive Strength ⁶ , psi nominal	900	900	900
Surface Water Absorption, grams, nominal ¹	1.0	1.0	1.0
Flame Spread, Smoke Developed (ASTM E84)	0/0	0/0	0/0
Bending Radius	5' (1524 mm)	8' (2438 mm)	12' (3658 mm)

¹ Tested in accordance with ASTM C473 method B.

⁴ Tested in accordance with ASTM C518 (heat flow meter).

⁷ Represents approximate weight for design and shipping purposes. Actual weight may vary based on manufacturing location and other factors.

² Tested in accordance with ASTM E661.

⁵ Tested in accordance with ASTM C1177.

³ Tested in accordance with ASTM E96 (dry cup method).

⁶ Tested in accordance with ASTM C473.

LEED® Information

Manufacturing Location ¹	Total Recycled Content ²	Pre-Consumer Recycled Content ²	Post-Consumer Recycled Content ²
Acme, TX	0%	0%	0%
Antioch, CA	0%	0%	0%
Ft. Dodge, IA	0%	0%	0%
Las Vegas, NV	0%	0%	0%
Lovell, WY	0%	0%	0%
Newington, NH	30%	30%	0%
Savannah, GA	0%	0%	0%
Tacoma, WA	14%	14%	0%
Wheatfield, IN	94%	94%	0%

¹ Manufacturing locations subject to change. Please visit www.gpgypsum.com and click on Sustainability.

² Recycled content subject to change +/- 1.0%.

³ Based on ICC Evaluation Service Verification of Attributes Report for Dens® brand products issued August 1, 2009. www.saveprogram.icc-es.org