



G-P Gypsum

# DensDeck DuraGuard™ Roof Board

**Manufacturer** G-P Gypsum Corporation  
55 Park Place, 19th floor, Atlanta, GA 30303  
Technical Service Hotline 1-800-225-6119 or [www.densdeck.com](http://www.densdeck.com)

**Description** DensDeck DuraGuard™ is a new, enhanced roof board incorporating a low perm, integrated coating with all the features of DensDeck® Roof Board. Additionally, the durable DuraGuard coating provides an ideal substrate for a wide variety of adhered roofing systems, including self-adhered and hot-mopped membranes. The coated surface assures more uniform spreading of adhesives with an even better coverage rate than DensDeck Prime™ and can eliminate the need for field priming with a number of systems\*. Ideal for metal roof systems and fluid-applied membranes.

The patented DensDeck design employs glass mat facings front and back over a water- and moisture-resistant treated core, providing excellent fire resistance, moisture resistance and wind uplift properties. The unique construction of DensDeck DuraGuard provides superior flute spanning and will help stiffen and stabilize the roof deck. DensDeck DuraGuard also has been shown to withstand delamination, deterioration, warping and jobsite damage more effectively than roofing membrane substrates such as paper-faced gypsum board, fiberboard and perlite insulation. DensDeck DuraGuard resists the growth of mold when tested, as manufactured, per ASTM D 3273.

**Primary Uses** DensDeck DuraGuard has been found to be an ideal substrate for self-adhered, hot mopped, cold mastic and torched asphaltic systems as well as all fully adhered, single-ply systems. 1/2" and 5/8" DensDeck DuraGuard may also be used in vertical applications as a substrate board for the roof side of parapet walls. DensDeck DuraGuard allows the bonding of cold mastic and torching of modified bitumen membranes directly to its surface. *Consult with the system manufacturer for recommendations on this application.* DensDeck DuraGuard is compatible with bonding adhesives for fully-adhered singleply membrane applications and has been shown to extend adhesive uniformity and coverage even further than DensDeck Prime. DensDeck DuraGuard's exceptional moisture resistance makes it the preferred substrate for adhered vapor retarders. An excellent fire barrier, DensDeck DuraGuard features a noncombustible core and inorganic surface that offers greater fire protection than other conventional commercial roofing products when applied over combustible roof decks and steel decks. Tested in accordance with ASTM E 84, its surface burning characteristics are Flame Spread 15 and Smoke Developed 0. Also tested to E 108 and UL 790, DensDeck DuraGuard meets a comprehensive ASTM Class A rating at unlimited slope.

**Limitations** DensDeck DuraGuard is designed to act with a properly designed roof system. The actual use of DensDeck DuraGuard Roof Board as a roofing component is the responsibility of the roofing system's designing authority. G-P Gypsum does not offer roofing system design services.

The effect and positioning of DensDeck DuraGuard's low-perm coating must be considered in the design of the roofing assembly.

Conditions beyond the control of G-P Gypsum such as weather conditions, dew, application temperatures and techniques may cause adverse effects with adhered roofing systems. Always consult roofing system manufacturers for their specific instructions on applying their products to DensDeck DuraGuard roof board.

Panels must be kept dry before, during and after installation. Apply only as much DensDeck DuraGuard as can be covered by a roof membrane system in the same day. DensDeck DuraGuard should not be subjected to abnormal or excessive loads or foot traffic areas. Provide suitable roof protection where required.

Accumulation of water due to leaks or condensation in or on DensDeck DuraGuard roof board must be avoided during and after construction. Avoid over-use of nonvented, direct-fired heaters during winter months. Avoid application of DensDeck DuraGuard during rains, heavy fogs and other conditions that may deposit moisture on the surface.

When torching to DensDeck DuraGuard, maintain the majority of the torch flame on the mod-bit roll rather than on the surface of the board. Field priming should not be required.

When hot mopping asphalt or coal tar to DensDeck DuraGuard, follow system manufacturer's recommended application temperature guidelines and good roofing practices.

When applying solvent-based adhesives or primers, allow sufficient time for the solvent to flash off to avoid damage to roofing components.

Maximum flute span is 2 5/8" for 1/4" DensDeck DuraGuard; 5" for 1/2" DensDeck DuraGuard; and 8" for 5/8" DensDeck DuraGuard Fireguard® Type X. Consult membrane manufacturer for specific system installation instructions.

**Technical Data**

- Flame spread 15, smoke developed 0 when tested in accordance with ASTM E 84 or UL 723/ULC S102.
- Class A fire barrier rating per UL 790.
- Code-accepted thermal barrier alternate per UL 1256.

\* Confirm priming requirements with membrane manufacturer.

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SUBMITTAL APPROVALS: (Stamps or Signatures)

- 1/4" – 6.4mm
- 1/2" – 12.7mm
- 5/8" – 15.9mm, type X

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### Installation

- DensDeck DuraGuard should be used with fasteners and patterns specified in accordance with G-P Gypsum and roof membrane manufacturer's recommendations for DensDeck Prime.
- Follow installation guidelines and fastening rate as shown in current DensDeck Prime literature. For a copy of the most current DensDeck literature, call the G-P Gypsum Technical Hotline at 1-800-225-6119.
- In accordance with approved shop drawings, fasteners shall be installed through the DensDeck DuraGuard, penetrating the deck, with plates flush with the surface.
- Where DensDeck DuraGuard is installed over combustible wood decks or insulation, all joints should be staggered. The optional separator sheet should be installed prior to DensDeck DuraGuard installation.
- Edge joints should be located on, and parallel to, deck ribs. End joints of adjacent lengths of DensDeck DuraGuard should be staggered.
- DensDeck DuraGuard shall typically be installed with ends and edges butted.
- DensDeck DuraGuard is manufactured to conform to the applicable properties of ASTM C 1177.

Properties	1/4"	1/2"	5/8"
Thickness, nominal	1/4" + 1/16"	1/2" ± 1/32"	5/8" ± 1/32"
Width, standard	4' ± 1/8"	4' ± 1/8"	4' ± 1/8"
Length, standard	4' and 8' ± 1/4"	4' and 8' ± 1/4"	4' and 8' ± 1/4"
Weight, lbs./sq. ft., nominal	1.5	2.0	2.5
Surfacing Treatment to one side	Glass mat Durable, low perm coating	Glass mat Durable, low perm coating	Glass mat Durable, low perm coating
Flexural Strength <sup>1</sup> , parallel, lbs. min.	40	80	100
Flute Spanability <sup>2</sup>	2-5/8"	5"	8"
Permeance <sup>3</sup> , perms	<2	<2	<2
"R" Value <sup>4</sup>	.28	.56	.67
Linear Variation with Change in Temp., in/in °F	8.5x10 <sup>-6</sup>	8.5x10 <sup>-6</sup>	8.5x10 <sup>-6</sup>
Linear Variation with Change in Moisture, in/in %RH	6.25x10 <sup>-6</sup>	6.25x10 <sup>-6</sup>	6.25x10 <sup>-6</sup>
Water Absorption <sup>5</sup> , % max	10.0	10.0	10.0
Compression Strength, psi nominal	1500	500 - 900	500 - 900
Surface Water Absorption <sup>5</sup> , grams, nominal	< 1.0	< 1.0	< 1.0
Flame Spread, Smoke Developed (ASTM E 84)	15/0	15/0	15/0
Fire Classification	UL 1256, ULC S-126 UL Class A (UL 790) ULC S-107 FM Class 1 (as overlayment)	UL 1256, ULC S-126 UL Class A (UL 790) ULC S-107 FM Class 1 (as overlayment)	UL 1256, ULC S-126 Class A (UL 790) ULC S-107 FM Class 1 (as overlayment)
Mold Resistance per ASTM D 3273 <sup>6</sup>	Mold resistant	Mold resistant	Mold resistant
Bending Radius	8'	12'	16'
FM Approvals <sup>7</sup>	60 and 90 psf uplift/ FM Class 1-90 as an overlayment	FM 1-60, 1-90	FM 1-60, 1-90

1. Tested in accordance with ASTM C 473.

2. Tested in accordance with ASTM E 661 (400 lb. conc. load only for 1/2" and 5/8").

3. Tested in accordance with ASTM E-96 (dry cup method).

4. Tested in accordance with ASTM C 518 (heat flow meter).

5. ASTM C 1177 minimums.

6. When tested as manufactured in accordance with ASTM D 3273.

7. Higher wind uplift ratings have been achieved by numerous membrane manufacturers using DensDeck, DensDeck Prime or DensDeck DuraGuard roof boards in their FM-Approved construction designs.



### Sales Information and Order Placement:

USA - Midwest: 1.800.876.4746; South: 1.800.327.2344; Northeast: 1.800.947.4497; West: 1.800.824.7503  
 CANADA - 1.800.387.6823; Quebec: 1.800.361.0486