

## DENSDECK®

DISTRIBUTED BY CARLISLE

### DensDeck Prime™/DensDeck®

#### Description

DensDeck and DensDeck Prime are exceptional fire barriers, thermal barriers and recover boards used in various commercial roofing systems. The patented design employs glass mat facings front and back. They are embedded into a water resistant gypsum core providing excellent fire resistance, moisture resistance and wind uplift properties. They have also been shown to withstand deterioration, warping and jobsite damage.

These products are FM tested and approved as the only 1/2" gypsum product to meet the calorimeter requirements for conventionally insulated decks. Tested in accordance with ASTM E84, its surface burning characteristics are Flame Spread-0 and Smoke Developed-0. DensDeck or DensDeck Prime (5/8" thick) can replace any generic Type X gypsum board in any roof assembly in the UL Fire Resistance Directory under the prefix "P".

#### Primary Usage

DensDeck Prime is typically used in fully adhered EPDM and TPO applications as an overlayment board in lieu of high-density wood fiberboard over insulations such as extruded polystyrene or EPS. It is compatible with solvent based bonding adhesives and over polyisocyanurate insulation when additional compressive strength is desired. Additionally, DensDeck Prime is used as a base layer for Carlisle's 725 Air and Vapor Retarder, in conjunction with Carlisle CCW-702 Primer, on applications where Carlisle FAST™ Adhesive is used to attach insulation and a vapor retarder is specified. It is also compatible with hot asphalt and can be used as a membrane underlayment on the Hot Mopped Roofing System or as a parapet wall substrate for all systems.

DensDeck is used primarily in mechanically fastened roofing applications as an overlayment board in lieu of high density wood fiberboard over insulations such as extruded polystyrene or EPS and over polyisocyanurate insulation when additional compressive strength is desired for roofs subjected to increased foot traffic or for increased resistance to hail damage. It is also heavily used in wood deck constructions to achieve UL/FM fire ratings. DensDeck reduces the growth of mold and mildew per ASTM D 3273.

#### Benefits/Features

- Codes - Higher slopes, wood deck approvals
- Cover Board - Foot traffic, hail damage
- Reduced Fastening
- FM uplift approvals - 1/4" thick - Meets 60 and 90 psf Uplift; 1/2" and 5/8" thick - Meets FMRC 1-60, 1-90

#### Limitations

- Panels must be kept dry before, during and after installation. Apply only as much roof board as can be covered by the roof membrane system in the same day
- When applying solvent-based adhesives or primers, allow sufficient time for the solvent to flash off to avoid damage to polystyrene roofing components
- 1/4" thick DensDeck is not recommended for vertical parapet applications
- DensDeck or DensDeck Prime is not recommended for ballasted roofing systems

#### Technical Data

- 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
- DensDeck Prime Fireguard: UL Classified when tested in accordance with ASTM E 119

#### Installation

DensDeck or DensDeck Prime may be fastened in accordance with an approved fastening pattern (see reverse) or secured with FAST Adhesive, VersiGrip™ Insulation Adhesive or mopped with Type III or IV Asphalt. Ribbon or spot mopping is recommended with Type IV Asphalt.

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

1. Shall be installed with ends and edges butted tightly
2. Where 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
4. When attaching Carlisle 725 Air and Vapor Retarder, use only DensDeck Prime in conjunction with CCW



**ROOFING AMERICA: OVER 40 YEARS AND 10 BILLION SQUARE FEET™**

**800-4-SYNTec**  
[www.carlisle-syntec.com](http://www.carlisle-syntec.com)

Carlisle SynTec Incorporated  
P.O. Box 7000 • Carlisle, PA 17013  
International: 717-245-7000  
Fax: 717-245-7143  
[market@syntec.carlisle.com](mailto:market@syntec.carlisle.com)



Carlisle SynTec Incorporated

## DENSDECK®

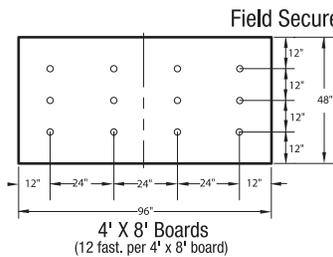
DISTRIBUTED BY CARLISLE

### DensDeck/ DensDeck Prime fastening criteria to conform with factory mutual (FM) 1-90 ratings on Carlisle Fully Adhered Roofing Systems<sup>(1)(2)(3)</sup>

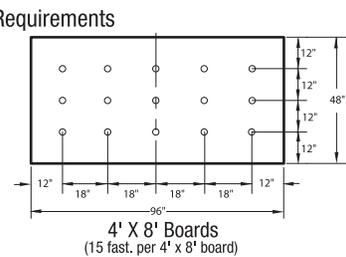
**Notes:**

1. For wind uplift/FMRC compliance where dens-deck or dens-deck prime is mechanically attached to metal decks. These products shall be installed to the specifics of the FMRC design assembly.
2. Contact Carlisle for fastening density requirements for other FM ratings available.
3. Metal insulation fastener plates must be used with their corresponding FM approved fastener.
4. If parapets are min. 3' continuous around entire building, a 50% fastening increase is acceptable at corners. See pattern.

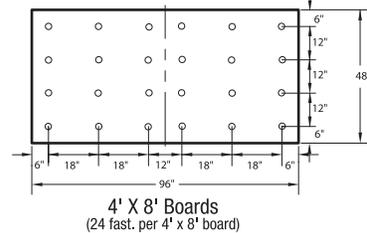
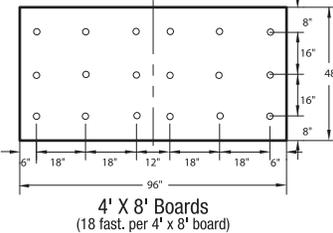
#### 1/4" or 1/2" DensDeck Prime



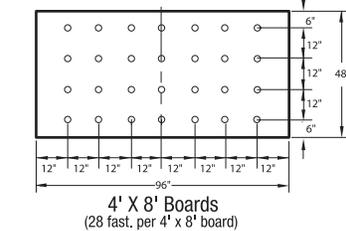
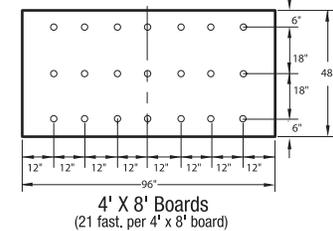
#### 1/4" or 1/2" DensDeck



#### Perimeter Securement Requirements - 50% Increase



#### Corner Securement Requirements - 75% Increase



### Physical Properties:

Property	ASTM (method)	DensDeck or DensDeck Prime		
<b>Thickness, nominal inches</b>		<b>1/4"</b>	<b>1/2"</b>	<b>5/8"</b>
Width, standard		4'	4'	4'
Length, standard		8' ±1/4"	8' ±1/4"	8' ±1/4"
Weight, lbs/sq. nominal		1.1	1.95	2.5
Surfacing		Glass Mat*	Glass Mat*	Glass Mat*
Flexural Strength, Parallel, lbs. min.	C 473 E 1177 minimums	40	80	100
Flexural Strength, Perpendicular, lbs. min.	C 473 E 1177 minimums	50	100	140
Flute Spanability	E 661 (400 lb. conc. load)	2-5/8"	5"	8"
Permeance Perms	C 335 (dry cup method)	50	35	32
R-Value	C 518 (heat flow meter)	.28	.56	.67
Coefficient of Thermal Expansion in/ in/ °F		8.5 x 10 <sup>-6</sup>	8.5 x 10 <sup>-6</sup>	8.5 x 10 <sup>-6</sup>
Linear Variation with Change in Moisture in / in / % / RH		6.25 x 10 <sup>-6</sup>	6.25 x 10 <sup>-6</sup>	6.25 x 10 <sup>-6</sup>
Absorption, % max.	C 473	10.0	10.0	10.0
Compression, psi		500	500	500
Surface Water Absorption, grams	C 473	2.5	2.5	2.5
Flame Spread - Smoke Developed	D 84	0	0	0
Fire Classification		UL Class A ULC S-102 UL 1256 ULC S-126 UL 790	FMRC Class 1 UL Class A ULC S-102 UL 1256 ULC S-126 UL 790	FMRC Class 1 UL Classified "P" Assemblies ULC S-101

\* DensDeck Prime incorporates a glass mat/primed surface.



**ROOFING AMERICA: OVER 40 YEARS AND 10 BILLION SQUARE FEET™**

**800-4-SYNTEC**  
www.carlisle-syntec.com

Carlisle and FAST are Carlisle trademarks. VersiGrip is a trademark of Versico Incorporated. DensDeck and DensDeck Prime are trademarks of Georgia Pacific.

**REPRINT REQUEST CODE**  
601486 - "DensDeck Briefolio" - 042505

© 2005 Carlisle SynTec Incorporated  
Printed In U.S.A.



Carlisle SynTec Incorporated