

TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION RC-243

Effective March 1, 2010
Revised January 1, 2011

*The following product has been evaluated for compliance with the wind loads specified in the **International Residential Code (IRC)** and the **International Building Code (IBC)**. This product shall be subject to reevaluation **March 2011**.*

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

IB Roof Systems Single Ply Roofing Systems manufactured by

IB Roof Systems
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Dallas, TX 75261
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will be accepted in designated catastrophe zones along the Texas Gulf Coast when installed in accordance with the manufacturer's installation instructions and this product evaluation.

PRODUCT DESCRIPTION

IB PVC is a polyester fabric reinforced, plasticized polyvinyl chloride membrane manufactured in nominal 50 mil thickness, in 72 inch wide by 100 foot long rolls. The products included in this report are as follows:

IB Single Ply is a 50-mil, polyester reinforced PVC membrane intended for use in fully adhered or mechanically attached systems.

IB Single Ply Fleecebacked is a 50-mil, polyester reinforced PVC membrane with a non-woven polyester fleeceback intended for use in fully adhered or mechanically attached systems.

LIMITATIONS and INSTALLATION

GENERAL INSTALLATION REQUIREMENTS:

All International Residential Code (IRC) and the International Building Code (IBC) requirements must be satisfied and manufacturer's installation instructions followed, unless otherwise specified by this product evaluation.

For All Applications: The roof shall have a minimum slope of $\frac{1}{4}$:12.

APPENDIX 1: ATTACHMENT REQUIREMENTS FOR WIND UPLIFT RESISTANCE					
Table	Deck	Application	Type	Description	Page
1	Wood	New	C	Mechanically Attached Insulation, Bonded Roof Cover	4
2	Wood	New	D	Insulated, Mechanically Attached Roof Cover	4
3	Wood	New	E	Non-Insulated, Mechanically Attached Roof Cover	5

The following notes apply to the systems outlined herein:

- Roof decks shall be in accordance with the requirements of the International Residential Code and the International Building Code along with applicable Texas Revisions and this product evaluation report.
- Roof framing members (rafters or trusses) shall be spaced a maximum of 24" o.c.
- Unless otherwise noted, fasteners and stress plates for insulation attachment shall be as follows. Fasteners shall be of sufficient length for the following engagements:
 - Wood Deck: IB Standard #12 (Thread diameter: 0.245"; head diameter: 0.435" and head style: #3 Phillips Truss head) or IB Heavy Duty #14 (Thread diameter: 0.245", head diameter: 0.435" and head style: #3 Phillips Truss head) with IB Insulation Plates. Minimum ¾-inch penetration into and through the roof deck or minimum 1-inch wood plank embedment.
- Unless otherwise noted, insulation may be any one layer or combination of polyisocyanurate, polystyrene, wood fiberboard, perlite, DensDeck, DensDeck Prime, DensDeck DuraGuard or Securock that meets the requirements of the IRC and IBC with Texas Revisions.
- Preliminary insulation attachment for System Type D = Minimum four fasteners per 4 x 8 ft board or minimum two fasteners per 4 x 4 ft board.
- For System Types D and E:
 - In-Seam Fastened Systems involve a 5-inch lap with the stress plates or batten strips and fasteners installed along the fastener-line preprinted on the membrane, finished with a 1½-inch field weld. Attachment is expressed as follows: In-Seam: <max fastener spacing> x <max lap spacing>.
 - In-Field Fastened Systems involve stress plate or batten strips and fastener placement through the field of the membrane and covered with a min. 5-inch wide PVC cover strip with 1½-inch field welds on both sides. Attachment is expressed as follows: In-Field: <max fastener spacing> x <max row spacing>.
- For adhered membrane systems, side laps shall be minimum 3-inch wide sealed with min. 1.5-inch heat weld. Membrane adhesive application rates:

<u>Membrane</u>	<u>Adhesive</u>	<u>Application</u>	<u>Rate</u>
IB Single-Ply	IB Water Borne Adhesive	Substrate only	0.357 gal/sq.
IB Single-Ply	Pliobond 7008	Substrate only	0.357 gal/sq.
IB Single-Ply Fleeceback	IB Water Borne Adhesive	Substrate only	0.40 gal/sq.
IB Single-Ply Fleeceback	Pliobond 7008	Substrate only	0.40 gal/sq.

TABLE 1: WOOD DECKS - NEW CONSTRUCTION							
SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER							
Assembly No.	Deck (See Note 1)	Base Insulation Layer(s)		Top Insulation Layer		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach
W-1	Min. 15/32-inch, APA rated CDX, 5-ply plywood to roof framing members spaced max. 24" o.c.	(Optional) One or more layers, any combination	Loose Laid	Min. 1.5-inch R-Max FA3 or Atlas ACFoam II	See Note 3	IB Single-Ply or IB Single-Ply Fleecebacked	IB Water Based Adhesive at 0.5 gal/sq.
Design Pressure (psf)		Insulation Attachment					
		Density (ft2 / fastener)		Parts per 4 x 4 ft board		Parts per 4 x 8 ft board	
0 < P ≤ 45.0		1.6		10		20	
45.0 < P ≤ 50.0		1.4		12		24	
50.0 < P ≤ 60.0		1.2		14		28	
60.0 < P ≤ 70.0		1.0		16		32	
70.0 < P ≤ 80.0		0.9		18		36	
80.0 < P ≤ 90.0		0.8		20		40	

TABLE 2A: WOOD DECKS - NEW CONSTRUCTION						
SYSTEM TYPE D: PRELIMINARILY ATTACHED INSULATION, MECHANICALLY ATTACHED ROOF COVER						
Assembly No.	Deck (See Note 1)	Thermal Barrier	Insulation Layer(s)		Roof Cover	
			Type	Attach	Membrane	Fastener ¹
W-2	Min. 19/32-inch, APA rated CDX, 5 ply plywood attached to roof framing members spaced max. 24" o.c.	(Optional) Any thermal barrier to obtain fire classification	One or more layers, any combination	Prelim. attach	IB Single-Ply	IB Heavy Duty Fasteners #14, minimum 3" long, with IB 2" Galvalume Barbed Plates
Design Pressure (psf)			Roof Cover Attachment (In Seam)			
0 < P ≤ 30			12-inch o.c. within 5" sidelaps spaced 67-inch o.c.			
30 < P ≤ 45.0			6-inch o.c. within 5" sidelaps spaced 67-inch o.c.			
45 < P ≤ 52.5			4-inch o.c. within 5" sidelaps spaced 67-inch o.c.			
52.5 < P ≤ 60			3-inch o.c. within 5" sidelaps spaced 67-inch o.c.			

Note: ¹ IB Standard #12 (Thread diameter: 0.245"; head diameter: 0.435" and head style: #3 Phillips Truss head) or IB Heavy Duty #14 (Thread diameter: 0.245", head diameter: 0.435" and head style: #3 Phillips Truss head).

TABLE 2B: WOOD DECKS - NEW CONSTRUCTION						
SYSTEM TYPE D: PRELIMINARILY ATTACHED INSULATION, MECHANICALLY ATTACHED ROOF COVER						
Assembly No.	Deck (See Note 1)	Thermal Barrier	Insulation Layer(s)		Roof Cover	
			Type	Attach	Membrane	Fastener ¹
W-3	Min. 15/32-inch, APA rated CDX, 5-ply plywood attached to roof framing members spaced max. 24" o.c.	(Optional) Any thermal barrier to obtain fire classification	One or more layers, any combination	Prelim. attach	IB Single-Ply	IB #12 or IB Heavy Duty Fasteners #14, minimum 3" long, with IB 2" Galvalume Barbed Plates
Design Pressure (psf)			Roof Cover Attachment (In Seam)			
0 < P ≤ 37.5			6-inch o.c. within 5" sidelaps spaced 67-inch o.c.			

Note: ¹ IB Standard #12 (Thread diameter: 0.245"; head diameter: 0.435" and head style: #3 Phillips Truss head) or IB Heavy Duty #14 (Thread diameter: 0.245", head diameter: 0.435" and head style: #3 Phillips Truss head).

TABLE 3A: WOOD DECKS - NEW CONSTRUCTION					
SYSTEM TYPE E: NON-INSULATED, MECHANICALLY ATTACHED ROOF COVER					
Assembly No.	Deck (See Note 1)	Thermal Barrier		Roof Cover	
		Type	Attach	Membrane	Fasteners ¹
W-4	Min. 19/32-inch, APA rated CDX, 5 ply plywood attached to roof framing members spaced max. 24" o.c.	(Optional) Any thermal barrier to obtain fire classification	Loose laid	IB Single-Ply	IB Heavy Duty Fasteners #14, minimum 3" long, with IB 2" Galvalume Barbed Plates
Design Pressure (psf)		Roof Cover Attachment (In Seam)			
0 < P ≤ 30		12-inch o.c. within 5" sidelaps spaced 67-inch o.c.			
30 < P ≤ 45		6-inch o.c. within 5" sidelaps spaced 67-inch o.c.			
45 < P ≤ 52.5		4-inch o.c. within 5" sidelaps spaced 67-inch o.c.			
52.5 < P ≤ 60.0		3-inch o.c. within 5" sidelaps spaced 67-inch o.c.			

Note: ¹ IB Standard #12 (Thread diameter: 0.245"; head diameter: 0.435" and head style: #3 Phillips Truss head) or IB Heavy Duty #14 (Thread diameter: 0.245", head diameter: 0.435" and head style: #3 Phillips Truss head).

Note: The manufacturer's installation instructions shall be on the job site during the installation. All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC) and the International Building Code (IBC).