

# Florida Building Code Online Product Approval

## Information Sheet

Updated: 6/09



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## Product Approval

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FL #	FL3443-R2
Application Type	Revision
Code Version	2007
Application Status	Approved
Comments	
Archived	<input type="checkbox"/>
Product Manufacturer	GAF Materials Corporation
Address/Phone/Email	1361 Alps Road Wayne, NJ 07470 (973) 872-4421 bmcsorley@gaf.com
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Quality Assurance Representative  
Address/Phone/Email

Category Roofing  
Subcategory Single Ply Roof Systems

Compliance Method Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer  
 Evaluation Report - Hardcopy Received

Florida Engineer or Architect Name who developed the Evaluation Report Robert Nieminen  
Florida License PE-59166  
Quality Assurance Entity Underwriters Laboratories Inc.  
Quality Assurance Contract Expiration Date 10/01/2011  
Validated By John W. Knezevich, PE  
 Validation Checklist - Hardcopy Received

Certificate of Independence [FL3443\\_R2\\_COI\\_Trinity\\_ERD\\_Certificaiton\\_of\\_Independence.pdf](#)

Referenced Standard and Year (of Standard)	<b><u>Standard</u></b>	<b><u>Year</u></b>
	ASTM D4434	2004
	FM 4470	1992
	TAS 114	1995

Equivalence of Product Standards  
Certified By



**Codes and Standards**

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**Product Approval Accepts:**





EXTERIOR RESEARCH & DESIGN, LLC.  
 Certificate of Authorization #9503  
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 Oxford, CT 06478  
 PHONE: (203) 262-9245  
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**EVALUATION REPORT**

**GAF Materials Corporation**  
**1361 Alps Road**  
**Wayne, NJ 07470**

**Evaluation Report 01506.09.04-R5**  
**FL3443-R2**  
**Date of Issuance: 07/20/2005**  
**Revision 2: 07/10/2008**

**SCOPE:**

This Evaluation Report is issued under Rule 9B-72 and the applicable rules and regulations governing the use of construction materials in the State of Florida. The documentation submitted has been reviewed by Robert Nieminen, P.E. for use of the product under the Florida Building Code. The product described herein has been designed to comply with the 2007 Florida Building Code.

**DESCRIPTION: EverGuard® PVC Single-Ply Roof Membrane Systems**

**LABELING:** Each unit shall bear labeling in accordance with the requirements of the Accredited Quality Assurance Agency noted herein.

**CONTINUED COMPLIANCE:** This Evaluation Report is valid until such time as the named product(s) changes, the referenced Quality Assurance documentation changes, or provisions of the Code that relate to the product change. Acceptance of this Evaluation Report by the named client constitutes agreement to notify Robert Nieminen, P.E. if the product changes or the referenced Quality Assurance documentation changes. Trinity|ERD requires a complete review of this Evaluation Report relative to updated Code requirements with each Code Cycle.

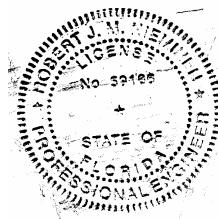
**ADVERTISEMENT:** The Evaluation Report number preceded by the words "TRINITY|ERD Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

**INSPECTION:** Upon request, a copy of this entire Evaluation Report shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This Evaluation Report consists of pages 1 through 4, plus a 13-page Appendix.

**Prepared by:**

**Robert J.M. Nieminen, P.E.**  
 Florida Registration No. 59166, Florida DCA ANE1983



The facimile seal appearing was authorized by Robert Nieminen, P.E. on 07/10/2008. This does not serve as an electronically signed document. Signed, sealed hardcopies have been transmitted to the Product Approval Administrator and to the named client.

**CERTIFICATION OF INDEPENDENCE:**

1. Exterior Research & Design, LLC. d/b/a Trinity|ERD does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products it evaluates.
2. Exterior Research & Design, LLC. d/b/a Trinity|ERD is not owned, operated or controlled by any company manufacturing or distributing products it evaluates.
3. Robert Nieminen, P.E. does not have nor will acquire, a financial interest in any company manufacturing or distributing products for which the evaluation reports are being issued.
4. Robert Nieminen, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.

**ROOFING SYSTEMS EVALUATION:**

**1. SCOPE:**

**Product Category:** Roofing  
**Sub-Category:** Single Ply Roof Systems  
**Compliance Statement:** EverGuard® PVC Single-Ply Roof Membrane Systems, as produced by GAF Materials Corporation, have demonstrated compliance with the following sections of the Florida Building Code through testing in accordance with the following Standards. Compliance is subject to the Installation Requirements and Limitations / Conditions of Use set forth herein.

**2. STANDARDS:**

<u>Section</u>	<u>Property</u>	<u>Standard</u>	<u>Year</u>
1504.3.1	Wind	FM 4470 / 4450	1992
1504.7	Impact	FM 4470	1992
1507.13.2	Physical Properties	ASTM D4434	2004
1523.6.2	Wind	TAS 114	1995

**3. REFERENCES:**

<u>Entity</u>	<u>Examination</u>	<u>Reference</u>	<u>Date</u>
ATI	ASTM D4434	52825.01-106-31	06/15/2005
ACRC	TAS 114	06-047	12/21/2006
ACRC	TAS 114	07-001	01/12/2007
ACRC	TAS 114	07-002	01/12/2007
ACRC	TAS 114	07-007	01/19/2007
ACRC	TAS 114	07-029	03/08/2007
ACRC	TAS 114	07-031	05/09/2007
ACRC	TAS 114	08-031	05/05/2008
Florida Engineering & Consulting, Inc.	TAS 114	08-050182	06/26/2008
FM Approvals	FM 4470 / 4450	3003956	02/18/2000
FM Approvals	FM 4470 / 4450	3003955	03/05/2002
FM Approvals	FM 4470 / 4450	3014692	08/05/2003
FM Approvals	FM 4470 / 4450	3024709	10/21/2005
FM Approvals	FM 4470 / 4450	3023368	03/20/2006
FM Approvals	FM 4470 / 4450	3028606	02/23/2007
FM Approvals	FM 4470 / 4450	3026964	07/25/2007
FM Approvals	FM 4470 / 4450	3031127	10/01/2007
IRT	TAS 114(J)	04-006	02/16/2004
Underwriters Laboratories	Quality Control	R1306	Current

**4. PRODUCT DESCRIPTION:**

This Evaluation Report covers EverGuard® PVC Single-Ply Roof Membrane Systems installed in accordance with GAF published installation instructions and the Limitations / Conditions of Use herein.

- **EverGuard® PVC** membranes are nominal 50-mil (1.3 mm), 60-mil (1.5-mm) or 80-mil (2.0 mm) thick, internally reinforced thermoplastic (PVC) roof covers. EverGuard® PVC membrane is supplied in rolls 81 in. or 40.5 in. wide. Side and end laps are sealed using hot air welding. The roof cover is mechanically attached or fully-adhered to Approved substrates.
- **EverGuard® EGFB** membranes are nominal 60-mil (1.5-mm) or 80-mil (2.0 mm) thick, internally reinforced thermoplastic (PVC) roof covers with a fleece backing. EverGuard® PVC FB membrane is supplied in rolls 81 in. wide. Side and end laps are sealed using hot air welding. The roof cover is fully-adhered to Approved substrates.

## 5. LIMITATIONS:

- 5.1 This Evaluation Report is not for use in HVHZ.
- 5.2 Refer to a current Roofing Materials Directory for fire ratings of this product.
- 5.3 For steel deck installations, foam plastic insulation shall be separated from the building interior in accordance with FBC 2603.4 unless the exceptions stated in FBC 2603.4.1 or 2603.6 apply.
- 5.4 Unless otherwise noted in Appendix 1, roof decking and its attachment shall be specified and installed to meet project design criteria to the satisfaction of the AHJ.
- 5.5 For recover installations, the existing roof shall be examined in accordance with FBC 1510.
- 5.6 For mechanically attached insulation or membrane or strip-bonded insulation, the maximum design pressure for the selected assembly shall meet or exceed the Zone 1 design pressure determined in accordance with FBC Chapter 16. Zones 2 and 3 shall employ an attachment density designed by a qualified design professional to resist the elevated pressure criteria. Commonly used methods are RAS 117, RAS 137 and FM LPDS 1-29.
- 5.7 For fully-adhered insulation, the maximum design pressure for the selected assembly shall meet or exceed critical design pressure determined in accordance with FBC Chapter 16. No rational analysis is permitted for these systems.
- 5.8 For mechanically attached insulation or membrane over existing roof decks, fasteners shall be tested in the existing deck for withdrawal resistance. A qualified design professional shall review the data for comparison to the minimum requirements for the system. Testing and analysis shall be in accordance with TAS 105.
- 5.9 For bonded insulation or membrane over existing substrates in a re-roof (tear off) or recover installation, the existing deck or existing roof surface shall be examined for compatibility with the adhesive to be installed. If any surface conditions exist that bring system performance into question, field uplift testing in accordance with ASTM E907 or FM LPDS 1-52 shall be conducted on mock-ups of the proposed new roof assembly.
- 5.10 For bonded insulation or membrane over existing substrates in a recover installation, the existing roof system shall be capable of resisting project design pressures on its own merit to the satisfaction of the AHJ, as documented through field uplift testing in accordance with ASTM E907 or FM LPDS 1-52.
- 5.11 Metal edge attachment (except gutters), shall be designed and installed for wind loads in accordance with FBC Chapter 16 and tested for resistance in accordance with ANSI/SPRI ES-1 or RAS 111, except the basic wind speed shall be determined from FBC Figure 1609.
- 5.12 All products in the roof assembly shall have quality assurance audit in accordance with the FBC and F.A.C. Rule 9B-72.

## 6. INSTALLATION:

- 6.1 EverGuard® PVC Single-Ply Roof Membrane Systems shall be installed in accordance with GAF published installation instructions, subject to the Limitations / Conditions of Use noted herein.
- 6.2 System attachment requirements for wind load resistance are set forth in Appendix 1.
- 6.3 For mechanically fastened membrane systems (Type D) over profiled steel deck, membrane shall be installed running perpendicular to steel deck flutes.





**7. BUILDING PERMIT REQUIREMENTS:**

As required by the Building Official or Authority Having Jurisdiction in order to properly evaluate the installation of this product.

**8. MANUFACTURING PLANTS:**

EverGuard PVC: Mountain Top, PA  
EverGuard EGFB: Pawtucket, RI

**9. QUALITY ASSURANCE ENTITY:**

Underwriters Laboratories – QUA1743

**- THE 13-PAGES THAT FOLLOW FORM PART OF THIS EVALUATION REPORT -**

**APPENDIX 1: ATTACHMENT REQUIREMENTS FOR WIND UPLIFT RESISTANCE**

Table	Deck	Application	Type	Description	Page
1A	Wood	New, Reroof (Tear-Off) or Recover	C	Mech. Attached Insulation, Bonded Roof Cover	3
1B	Wood	New, Reroof (Tear-Off) or Recover	D	Mech. Attached Roof Cover	3
2A	Steel or Conc.	New, Reroof (Tear-Off) or Recover	B	Mech. Attached Base Insulation, Bonded Top Insulation, Bonded Roof Cover	4
2B	Steel or Conc.	New, Reroof (Tear-Off) or Recover	C	Mech. Attached Insulation, Bonded Roof Cover	4-5
2C	Steel	New, Reroof (Tear-Off) or Recover	D	Mech. Attached Roof Cover	6
3A	Concrete	New or Reroof (Tear-Off)	A-1	Bonded Insulation, Bonded Roof Cover	7
3B	Concrete	New or Reroof (Tear-Off)	F	Non-Insulated, Bonded Roof Cover	8
4A	LWIC	New or Reroof (Tear-Off)	A-1	Bonded Insulation, Bonded Roof Cover	9
4B	LWIC	New or Reroof (Tear-Off)	F	Non-Insulated, Bonded Roof Cover	10
5A	CWF	New or Reroof (Tear-Off)	A-1	Bonded Insulation, Bonded Roof Cover	11
6A	Gypsum	Reroof (Tear-Off)	A-1	Bonded Insulation, Bonded Roof Cover	12
7A	Various	Recover	A-1	Bonded Insulation, Bonded Roof Cover	13
7B	Concrete	Recover	F	Non-Insulated, Bonded Roof Cover	13

**The following notes apply to the systems outlined herein:**

1. Roof decks shall be in accordance with FBC requirements to the satisfaction of the AHJ. Wind load resistance of the roof deck shall be documented through proper codified and/or FBC Approval documentation.
2. 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: Drill-Tec #12 or #14 with Drill-Tec 3" Metal Plates. Min. ¾-inch plywood penetration or minimum 1-inch wood plank embedment.
  - Steel Deck: Drill-Tec #12 or #14 with Drill-Tec 3" Metal Plates. Minimum ¾-inch steel penetration, engage the top flute of the steel deck.
  - Concrete Deck: Drill-Tec #14 with Drill-Tec 3" Metal Plates. Minimum 1-inch embedment. Fasteners installed with a pilot hole in accordance with the fastener manufacturer's published installation instructions.
3. 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 QA requirements of F.A.C. Rule 9B-72 and is documented as meeting FBC 1505.1 and, for foam plastic, FBC 2603.4.1 or 2603.6, when installed with the roof cover.
4. Minimum 200 psi, minimum 2-inch thick lightweight insulating concrete may be substituted for rigid insulation board for System Type D (mechanically attached membrane), whereby the membrane fasteners are installed through the LWIC to engage the structural steel or concrete deck. The structural deck shall be of equal or greater configuration to the steel and concrete deck listings.
5. 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.

6. Unless otherwise noted, insulation adhesive application rates are as follows. Ribbon or bead width is at the time of application; the ribbons/beads shall expand as noted in the manufacturer's published instructions.
  - Hot Asphalt (HA): Full mopping, 25-30 lbs/square.
  - OMG OlyBond Adhesive Fastener (Classic): Full coverage, 1 gal/square.
  - OMG OlyBond 500: Continuous  $\frac{3}{4}$  to 1-inch wide ribbons, 12-inch o.c. (Note: SpotShot or OlyBond Green may be used wherever OlyBond 500 is referenced)
  - Polyfoam TITESET Insulation Adhesive: Continuous 2½ to 3½-inch ribbons, 12-inch o.c.
7. Tapered polyisocyanurate may be substituted for the flat stock board with the following Maximum Design Pressure (MDP) limitations:
  - OMG OlyBond 500 or OlyBond Green: Maximum Design Pressure -120.0 psf
  - Polyfoam TITESET Insulation Adhesive: Maximum Design Pressure -117.5 psf
8. Bonded polyisocyanurate insulation boards shall be maximum 4 x 4 ft.
9. For mechanically attached components or partially bonded insulation, the maximum design pressure for the selected assembly shall meet or exceed the Zone 1 design pressure determined in accordance with FBC Chapter 16, and Zones 2 and 3 shall employ an attachment density designed by a qualified design professional to resist the elevated pressure criteria.
10. For fully bonded assemblies, the maximum design pressure for the selected assembly shall meet or exceed critical design pressure determined in accordance with FBC Chapter 16, and no rational analysis is permitted.
11. For mechanically attached components over existing decks, fasteners shall be tested in the existing deck for withdrawal resistance. A qualified design professional shall review the data for comparison to the minimum requirements for the system. Testing shall be in accordance with TAS 105.
12. For existing substrates in a bonded recover installation, the existing roof system shall be capable of resisting project design pressures on its own merit to the satisfaction of the AHJ, as documented through field uplift testing in accordance with ASTM E907 or FM LPDS 1-52.
13. For System Type D, steel deck applications, the roof membrane shall be run with its length perpendicular to the steel deck flutes.

TABLE 1A: NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER – WOOD DECKS							
SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER							
System No.	Deck (See Note 1)	Base Insulation Layer	Top Insulation Layer			Roof Cover / Adhesive	Max. Design Pressure (psf)
			Type	Fasteners	Attach		
W-1.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	One or more layers, min. 1.5" ASTM C1289 insulation	Min. ¼" DensDeck or SECUROCK	Tru-Fast DP with Tru-Fast MP3 or OMG 3 in. Round or AcccuTrac Plates with OMG #12 Standard	1 per 2 ft <sup>2</sup>	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-45.0

TABLE 1B: NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER - WOOD DECKS							
SYSTEM TYPE D: MECHANICALLY ATTACHED ROOF COVER							
System No.	Deck (See Note 1)	Insulation		Roof Cover			Max. Design Pressure (psf)
		Type	Attach	Membrane	Fasteners	Attachment	
W-2.	Min. 23/32" plywood attached 6" o.c. to wood supports at max. 2 ft o.c. using 8d common nails	(Optional) One or more layers, any combination	Prelim. Attach	EverGuard PVC	Tru-Fast EHD with Tru-Fast 2.4" Barbed Seam Plates	Fastened 12" o.c. within 5.5" wide laps spaced 75.5" o.c. and sealed with a 1.5" heat weld.	-37.5

**TABLE 2A: NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER – STEEL OR CONCRETE DECKS**  
**SYSTEM TYPE B: MECHANICALLY ATTACHED BASE INSULATION, BONDED TOP INSULATION, BONDED ROOF COVER**

System No.	Deck (See Note 1)	Base Insulation Layer			Top Insulation Layer		Roof Cover / Adhesive	Max. Design Pressure (psf)
		Type	Fasteners	Attach	Type	Attach		
S-1.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	Min. 2" EnergyGuard RA, EnergyGuard RN	See Note 2	1 per 1.33 ft <sup>2</sup>	Min. ¼" Securock	OlyBond 500 or TITASET, 12" o.c.	EverGuard PVC / EverGuard PVC Bonding Adhesive applied to substrate and roof cover at 0.83 gal/square/surface	-45.0

**TABLE 2B: NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER – STEEL OR CONCRETE DECKS**  
**SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER**

System No.	Deck (See Note 1)	Base Insulation Layer	Top Insulation Layer			Roof Cover / Adhesive	Max. Design Pressure (psf)
			Type	Fasteners	Attach		
S-2.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 1.5" EnergyGuard RA or ACFoam III	See Note 2	1 per 3.2 ft <sup>2</sup>	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-30.0
S-3.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 1.5" EnergyGuard, EnergyGuard RM, EnergyGuard RN, EnergyGuard Ultra	Tru-Fast DP (steel only) or HD with Tru-Fast MP3	1 per 3.2 ft <sup>2</sup>	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-30.0
S-4.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 1.5" EnergyGuard, EnergyGuard RA, EnergyGuard RM, EnergyGuard RN, EnergyGuard Ultra, ACFoam III	See Note 2	1 per 2.7 ft <sup>2</sup>	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-37.5
S-5.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 1.5" EnergyGuard RA	See Note 2	1 per 4 ft <sup>2</sup>	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-37.5
S-6.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 2" EnergyGuard, EnergyGuard RA, EnergyGuard RM, EnergyGuard Ultra, ACFoam III	See Note 2	1 per 4 ft <sup>2</sup>	EverGuard PVC / Henkel 3738T applied to substrate and roof cover at 0.42 gal/square/surface	-37.5
S-7.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 1.5" EnergyGuard RA or ACFoam III	See Note 2	1 per 2 ft <sup>2</sup>	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-45.0
S-8.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 2" EnergyGuard RN or ACFoam III	See Note 2	1 per 4 ft <sup>2</sup>	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-45.0

**TABLE 2B: NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER – STEEL OR CONCRETE DECKS**  
**SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER**

System No.	Deck (See Note 1)	Base Insulation Layer	Top Insulation Layer			Roof Cover / Adhesive	Max. Design Pressure (psf)
			Type	Fasteners	Attach		
S-9.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 2" EnergyGuard, EnergyGuard RM, EnergyGuard Ultra	See Note 2	1 per 4 ft <sup>2</sup>	EverGuard PVC / HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-45.0
S-10.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	One or more layers, min. 1.5" ASTM C1289 insulation	Min. ¼" DensDeck or SECUROCK	See Note 2	1 per 2 ft <sup>2</sup>	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-45.0
S-11.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	One or more layers, min. 1.5" ASTM C1289 insulation	Min. ¼" SECUROCK	See Note 2	1 per 2 ft <sup>2</sup>	EverGuard PVC / EverGuard PVC Bonding Adhesive applied to substrate and roof cover at 0.83 gal/square/surface	-45.0

**TABLE 2C: NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER - STEEL DECKS**  
**SYSTEM TYPE D: MECHANICALLY ATTACHED ROOF COVER**

System No.	Deck (See Note 1)	Insulation		Roof Cover			Max. Design Pressure (psf)
		Type	Attach	Membrane	Fasteners	Attachment	
S-12.	Min. 22 ga., type B, Grade 80 steel at max. 6 ft spans attached 6" o.c. with Traxx/5. Side laps attached 24" o.c. with Traxx/1.	One or more layers, min. 1.5" ASTM C1289 insulation with optional ¼" DensDeck	Prelim. Attach	EverGuard PVC	Drill-Tec XHD with Drill-Tec 2-3/8" Barbed XHD Plates	Fastened 18" o.c. within 5.5" wide laps spaced 75.5" o.c. and sealed with a 1.5" heat weld.	-30.0
S-13.	Min. 22 ga., type B, Grade 33 steel at max. 6 ft spans attached 6" o.c. with Traxx/5. Side laps attached 24" o.c. with Traxx/1.	One or more layers, min. 1.5" ASTM C1289 insulation with optional ¼" DensDeck	Prelim. Attach	EverGuard PVC	Drill-Tec XHD with Drill-Tec 2-3/8" Barbed XHD Plates	Fastened 12" o.c. within 5.5" wide laps spaced 75.5" o.c. and sealed with a 1.5" heat weld.	-37.5
S-14.	Min. 22 ga., type B, Grade 80 steel at max. 6 ft spans attached 6" o.c. with Traxx/5. Side laps attached 24" o.c. with Traxx/1.	One or more layers, min. 1.5" ASTM C1289 insulation with optional ¼" DensDeck	Prelim. Attach	EverGuard PVC	Drill-Tec XHD with Drill-Tec 2-3/8" Barbed XHD Plates	Fastened 12" o.c. within 5.5" wide laps spaced 75.5" o.c. and sealed with a 1.5" heat weld.	-45.0
S-15.	Min. 22 ga., type B, Grade 33 steel at max. 7 ft spans attached 12" o.c. with 5/8" puddle welds	One or more layers, min. 1.5" ASTM C1289 insulation with optional ¼" DensDeck	1 per 1.45 ft <sup>2</sup>	EverGuard PVC	Drill-Tec XHD with Drill-Tec 2" Barbed Plates	Fastened 6" o.c. within 6" wide laps spaced 75" o.c. and sealed with a 1.5" heat weld.	-52.5
S-16.	Min. 22 ga., type B, Grade 80 steel at max. 6 ft spans attached 6" o.c. with Traxx/5. Side laps attached 24" o.c. with Traxx/1.	One or more layers, min. 1.5" ASTM C1289 insulation with optional ¼" DensDeck	Prelim. Attach	EverGuard PVC	Drill-Tec XHD with Drill-Tec 2-3/8" Barbed XHD Plates	Fastened 6" o.c. within 5.5" wide laps spaced 75.5" o.c. and sealed with a 1.5" heat weld.	-75.0

**TABLE 3A: NEW CONSTRUCTION or REROOF (Tear-Off) – CONCRETE DECKS**  
**SYSTEM TYPE A-1: BONDED INSULATION, BONDED ROOF COVER**

System No.	Deck (See Note 1 above, and Note A below)	Base Insulation Layer		Top Insulation Layer		Roof Cover / Adhesive	Max. Design Pressure (psf)
		Type	Attach	Type	Attach		
C-1.	Structural concrete (primed)	Min. 1.5" EnergyGuard RA	Hot asphalt	(Optional) Additional layers of base insulation	Hot asphalt	EverGuard EGFB / Hot asphalt at 25 lbs/square	-390.0
C-2.	Structural concrete	Min. 1.5" EnergyGuard, EnergyGuard RA, EnergyGuard RM, EnergyGuard RN, EnergyGuard Ultra, ACFoam III	OlyBond 500, 12" o.c.	(Optional) Additional layers of base insulation	OlyBond 500, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-135.0
C-3.	Structural concrete	Min. 1.5" EnergyGuard, EnergyGuard RA, EnergyGuard RM, EnergyGuard RN, EnergyGuard Ultra, ACFoam III, Min. 2" Styrofoam Deckmate Plus FA or Min. 1" Foamular 250	OlyBond 500, 12" o.c.	Min. ¼" DensDeck or SECUROCK	OlyBond 500, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-240.0
C-4.	Structural concrete	Min. 1.5" thick EnergyGuard, EnergyGuard RA, EnergyGuard RM or ACFoam III	TITSESET, 12" o.c.	(Optional) Additional layer of Base Insulation	TITSESET, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-135.0
C-5.	Structural concrete	Min. 1.5" EnergyGuard, EnergyGuard RA, EnergyGuard RM, EnergyGuard RN, ACFoam III	TITSESET, 12" o.c.	Min. ¼" DensDeck or SECUROCK	TITSESET, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-240.0
C-6.	Structural concrete	Min. 1.5" EnergyGuard RA	TITSESET, 12" o.c.	None	TITSESET, 12" o.c.	EverGuard EGFB / Hot asphalt at 25 lbs/square	-360.0
C-7.	Structural concrete	Min. 1.5" EnergyGuard RA, EnergyGuard RN	OlyBond 500 or TITSESET, 12" o.c.	Min. ¼" SECUROCK	OlyBond 500 or TITSESET, 12" o.c.	EverGuard PVC / EverGuard PVC Bonding Adhesive applied to substrate and roof cover at 0.83 gal/square/surface	-247.5

A. The following are options for installation of an optional vapor barrier / temporary roof on the concrete deck prior to insulation placement. If vapor barrier / temp roof is installed, concrete deck shall be primed with ASTM D41 primer prior to its installation. Maximum design pressure (MDP) shall be the lesser of that for the system in Table 3A, and that for the vapor barrier / insulation adhesive noted below.

1. For use with OlyBond 500 or SpotShot applied insulation:
  - One or two plies asphalt-applied GAF base and/or ply sheet: MDP -352.5 psf
  - Ruberoid 20 adhered in Matrix 102 in full coverage: MDP -202.5 psf
  - Ruberoid Torch Smooth heat welded: MDP -142.5 psf
  - Ruberoid Heat Weld Smooth heat welded: MDP -232.5 psf
2. For use with TITSESET applied insulation:
  - One or two plies asphalt-applied GAF base and/or ply sheet: MDP -262.5 psf
  - Optional asphalt-applied GAF base or ply sheet or base membrane with asphalt-applied GAF cap membrane: MDP -270.0 psf
  - Optional asphalt-applied GAF base or ply sheet or base membrane or heat-welded GAF base membrane with heat-welded GAF cap membrane: MDP -169.0 psf
  - Optional self-adhering Liberty base membrane with Liberty cap membrane: MDP - 250.0 psf





**TABLE 3B: NEW CONSTRUCTION or REROOF (Tear-Off) – CONCRETE DECKS**  
**SYSTEM TYPE F: NON-INSULATED, BONDED ROOF COVER**

<b>System No.</b>	<b>Roof Deck</b>	<b>Roof Cover / Adhesive</b>	<b>Max. Design Pressure (psf)</b>
C-8.	Structural concrete	EverGuard EGFB / EverGuard H2O Bonding Adhesive at 0.83 gallons/square	-300.0
C-9.	Structural concrete	EverGuard EGFB / EverGuard H2O Bonding Adhesive at 1 to 2 gallons/square	-352.5
C-10.	Structural concrete	EverGuard EGFB / Hot asphalt at 25 lbs/square	-495.0

**TABLE 4A: NEW CONSTRUCTION or REROOF (Tear-Off) – LIGHTWEIGHT CONCRETE DECKS**  
**SYSTEM TYPE A-1: BONDED INSULATION, BONDED ROOF COVER**

System No.	Deck (See Note 1)		Base Insulation Layer		Coverboard		Roof Cover / Adhesive	Max. Design Pressure (psf)
	Roof Deck	LWC	Type	Attachment	Type	Attachment		
LWC-1.	Struct. concrete	Min. 225 psi, min. 2-inch thick Celcore MF. Celcore PVA Curing Compound.	Min. 1.5" EnergyGuard RA	Hot asphalt	(Optional) Additional layers of base insulation	Hot asphalt	EverGuard EGFB / Hot asphalt at 25 lbs/square	-120.0
LWC-2.	Struct. concrete	Min. 200 psi, min. 2" thick Elastizell	Min. 1.5" EnergyGuard, EnergyGuard RA, EnergyGuard RM, EnergyGuard RN, EnergyGuard Ultra, ACFoam III	OlyBond 500, 12" o.c.	(Optional) Additional layers of base insulation	OlyBond 500, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-135.0
LWC-3.	Struct. concrete	Min. 200 psi, min. 2" thick Elastizell	Min. 1.5" EnergyGuard, EnergyGuard RA, EnergyGuard RM, EnergyGuard RN, EnergyGuard Ultra, ACFoam III, Min. 2" Styrofoam Deckmate Plus FA or Min. 1" Foamular 250	OlyBond 500, 12" o.c.	Min. ¼" DensDeck or SECUROCK	OlyBond 500, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-225.0
LWC-4.	Struct. concrete	Min. 200 psi, min. 2" thick Celcore, Elastizell or Mearlcrete	Min. 1.5" thick EnergyGuard, EnergyGuard RA, EnergyGuard RM or ACFoam III	TITASET, 12" o.c.	(Optional) Additional layer of Base Insulation	TITASET, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-135.0
LWC-5.	Struct. concrete	Min. 200 psi, min. 2" thick Elastizell	Min. 1.5" EnergyGuard, EnergyGuard RA, EnergyGuard RM, EnergyGuard RN, ACFoam III	TITASET, 12" o.c.	Min. ¼" DensDeck or SECUROCK	TITASET, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-180.0
LWC-6.	Struct. concrete	Min. 200 psi, min. 2" thick Celcore	Min. 1.5" EnergyGuard, EnergyGuard RA, EnergyGuard RM, EnergyGuard RN, ACFoam III	TITASET, 12" o.c.	Min. ¼" DensDeck or SECUROCK	TITASET, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-222.5
LWC-7.	Struct. concrete	Min. 200 psi, min. 2" thick Mearlcrete	Min. 1.5" EnergyGuard, EnergyGuard RA, EnergyGuard RM, EnergyGuard RN, ACFoam III	TITASET, 12" o.c.	Min. ¼" DensDeck or SECUROCK	TITASET, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-240.0

**TABLE 4B: NEW CONSTRUCTION or REROOF (Tear-Off) – LIGHTWEIGHT CONCRETE DECKS**  
**SYSTEM TYPE F: NON-INSULATED, BONDED ROOF COVER**

System No.	Roof Deck		Roof Cover / Adhesive	Max. Design Pressure (psf)
	Structural Deck	Lightweight Concrete		
LWC-8.	Min. 20 ga., type B, Grade 33 vented steel at max. 6 ft 6 in spans attached 6" o.c. with 5/8" puddle welds	Min. 250 psi, min. 2-inch thick Celcore Cellular Concrete with min. 1" thick, min. 1.0 pcf EPS board	EverGuard EGFB / EverGuard H2O Bonding Adhesive at 2 to 3 gallons/square	-22.5
LWC-9.	Min. 22 ga., type B, Grade 33 vented steel at max. 5 ft spans attached 6" o.c. with 1/2" puddle welds	Min. 225 psi, min. 2-inch thick Celcore MF Cellular Concrete with min. 1" thick, min. 1.0 pcf EPS board. Celcore PVA Curing Compound is applied to the top surface and allowed to dry.	EverGuard EGFB / Hot asphalt at 25 lbs/square	-60.0
LWC-10.	Min. 22 ga., type B, Grade 33 vented steel at max. 5 ft spans attached 6" o.c. with 5/8" puddle welds	Min. 200 psi, min. 2-inch thick Celcore Cellular Concrete.	EverGuard EGFB / EverGuard H2O Bonding Adhesive at 1 to 2 gallons/square	-67.5
LWC-11.	Structural concrete	Min. 250 psi, min. 2-inch thick Celcore Cellular Concrete	EverGuard EGFB / EverGuard H2O Bonding Adhesive at 2 to 3 gallons/square	-77.5
LWC-12.	Structural concrete	Min. 250 psi, min. 2-inch thick Celcore Cellular Concrete	EverGuard EGFB / EverGuard H2O Bonding Adhesive at 1 to 2 gallons/square	-117.5
LWC-13.	Structural concrete	Min. 225 psi, min. 2-inch thick Celcore MF Cellular Concrete with min. 1" thick, min. 1.0 pcf EPS board. Celcore PVA Curing Compound is applied to the top surface and allowed to dry.	EverGuard EGFB / Hot asphalt at 25 lbs/square	-150.0
LWC-14.	Structural concrete	Min. 250 psi, min. 2-inch thick Elastizell Lightweight Insulating Concrete	EverGuard EGFB / EverGuard H2O Bonding Adhesive at 2 to 3 gallons/square	-292.5
LWC-15.	Structural concrete	Min. 250 psi, min. 2-inch thick Concrecel Lightweight Insulating Concrete	EverGuard EGFB / EverGuard H2O Bonding Adhesive at 1.5 gallons/square	-417.5
LWC-16.	Structural concrete	Min. 300 psi, min. 2-inch thick Mearlcrete cellular LWC	EverGuard EGFB / EverGuard H2O Bonding Adhesive at 1.5 gallons/square	-452.5

**TABLE 5A: NEW CONSTRUCTION or REROOF (Tear-Off) – CEMENTITIOUS WOOD FIBER DECKS**  
**SYSTEM TYPE A-1: BONDED INSULATION, BONDED ROOF COVER**

System No.	Deck (See Note 1)	Base Insulation Layer		Top Insulation Layer		Roof Cover / Adhesive	Max. Design Pressure (psf)
		Type	Attach	Type	Attach		
CWF-1.	Min. 2" Tectum Plank or Tectum LS Plank	Min. 1.5" EnergyGuard, EnergyGuard RA, EnergyGuard RM, EnergyGuard RN, EnergyGuard Ultra, ACFoam III	OlyBond 500, 12" o.c.	(Optional) Additional layers of base insulation	OlyBond 500, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-45.0
CWF-2.	Min. 2" Tectum Plank or Tectum LS Plank	Min. 1.5" EnergyGuard, EnergyGuard RA, EnergyGuard RM, EnergyGuard RN, EnergyGuard Ultra, ACFoam III, Min. 2" Styrofoam Deckmate Plus FA or Min. 1" Foamular 250	OlyBond 500, 12" o.c.	Min. ¼" DensDeck or SECUROCK	OlyBond 500, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-45.0
CWF-3.	Min. 2" Tectum Plank or Tectum LS Plank or Fibroplank	Min. 1.5" thick EnergyGuard, EnergyGuard RA, EnergyGuard RM or ACFoam III	TITSESET, 12" o.c.	(Optional) Additional layer of Base Insulation	TITSESET, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-52.5
CWF-4.	Min. 2" Tectum Plank or Tectum LS Plank or Fibroplank	Min. 1.5" EnergyGuard, EnergyGuard RA, EnergyGuard RM, EnergyGuard RN, ACFoam III	TITSESET, 12" o.c.	Min. ¼" DensDeck or SECUROCK	TITSESET, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-52.5

**TABLE 6A: REROOF (Tear-Off) – GYPSUM DECKS**  
**SYSTEM TYPE A-1: BONDED INSULATION, BONDED ROOF COVER**

System No.	Deck (See Note 1)	Base Insulation Layer		Top Insulation Layer		Roof Cover / Adhesive	Max. Design Pressure (psf)
		Type	Attach	Type	Attach		
G-1.	Existing poured gypsum or gypsum plank	Min. 1.5" EnergyGuard, EnergyGuard RA, EnergyGuard RM, EnergyGuard RN, EnergyGuard Ultra, ACFoam III	OlyBond 500, 12" o.c.	(Optional) Additional layers of base insulation	OlyBond 500, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-112.5
G-2.	Existing poured gypsum or gypsum plank	Min. 1.5" EnergyGuard, EnergyGuard RA, EnergyGuard RM, EnergyGuard RN, EnergyGuard Ultra, ACFoam III, Min. 2" Styrofoam Deckmate Plus FA or Min. 1" Foamular 250	OlyBond 500, 12" o.c.	Min. ¼" DensDeck or SECUROCK	OlyBond 500, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-112.5
G-3.	Existing poured gypsum or gypsum plank	Min. 1.5" thick EnergyGuard, EnergyGuard RA, EnergyGuard RM or ACFoam III	TITSESET, 12" o.c.	(Optional) Additional layer of Base Insulation	TITSESET, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-135.0
G-4.	Existing poured gypsum or gypsum plank	Min. 1.5" EnergyGuard, EnergyGuard RA, EnergyGuard RM, EnergyGuard RN, ACFoam III	TITSESET, 12" o.c.	Min. ¼" DensDeck or SECUROCK	TITSESET, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-240.0
G-5.	Existing poured gypsum or gypsum plank	Min. 1.5" EnergyGuard RA, EnergyGuard RN	TITSESET, 12" o.c.	Min. ¼" SECUROCK	TITSESET, 12" o.c.	EverGuard PVC / EverGuard PVC Bonding Adhesive applied to substrate and roof cover at 0.83 gal/square/surface	-247.5

TABLE 7A: RECOVER APPLICATIONS							
SYSTEM TYPE A-1: BONDED INSULATION, BONDED ROOF COVER							
System No.	Substrate (See Note 12)	Base Insulation Layer		Top Insulation Layer		Roof Cover / Adhesive	Max. Design Pressure (psf)
		Type	Attach	Type	Attach		
R-1.	Existing asphaltic BUR or mineral surface cap sheet	Min. 1.5" EnergyGuard, EnergyGuard RA, EnergyGuard RM, EnergyGuard RN, EnergyGuard Ultra, ACFoam III	OlyBond 500, 12" o.c.	(Optional) Additional layers of base insulation	OlyBond 500, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-120.0
R-2.	Existing asphaltic BUR or mineral surface cap sheet	Min. 1.5" EnergyGuard, EnergyGuard RA, EnergyGuard RM, EnergyGuard RN, EnergyGuard Ultra, ACFoam III, Min. 2" Styrofoam Deckmate Plus FA or Min. 1" Foamular 250	OlyBond 500, 12" o.c.	Min. ¼" DensDeck or SECUROCK	OlyBond 500, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-120.0
R-3.	Existing asphaltic BUR or mineral surface cap sheet	Min. 1.5" thick EnergyGuard, EnergyGuard RA, EnergyGuard RM or ACFoam III	TITESET, 12" o.c.	(Optional) Additional layer of Base Insulation	TITESET, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-135.0
R-4.	Existing asphaltic BUR or mineral surface cap sheet	Min. 1.5" EnergyGuard, EnergyGuard RA, EnergyGuard RM, EnergyGuard RN, ACFoam III	TITESET, 12" o.c.	Min. ¼" DensDeck or SECUROCK	TITESET, 12" o.c.	EverGuard PVC / Henkel 3738T or HPG LA432M applied to substrate and roof cover at 0.42 gal/square/surface	-240.0
R-5.	Existing asphaltic BUR or mineral surface cap sheet	Min. 1.5" EnergyGuard RA, EnergyGuard RN	TITESET, 12" o.c.	Min. ¼" SECUROCK	TITESET, 12" o.c.	EverGuard PVC / EverGuard PVC Bonding Adhesive applied to substrate and roof cover at 0.83 gal/square/surface	-247.5
R-6.	Existing asphaltic BUR or mineral surface cap sheet	Min. 1.5" EnergyGuard RA	TITESET, 12" o.c.	None	TITESET, 12" o.c.	EverGuard EGFB / Hot asphalt at 25 lbs/square	-262.5

TABLE 7B: RECOVER APPLICATIONS			
SYSTEM TYPE F: NON-INSULATED, BONDED ROOF COVER			
System No.	Substrate (See Note 12)	Roof Cover / Adhesive	Max. Design Pressure (psf)
R-7.	Existing mineral surface modified bitumen roof assembly over concrete deck	EverGuard EGFB / Hot asphalt at 25 lbs/square	-495.0