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## Product Approval

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FL #	FL5293-R4										
Application Type	Revision										
Code Version	2010										
Application Status	Approved										
Comments											
Archived	<input type="checkbox"/>										
Product Manufacturer	GAF										
Address/Phone/Email	1361 Alps Road Wayne, NJ 07470 (973) 872-4421 lindareith@trinityerd.com										
Authorized Signature	Beth McSorley lindareith@trinityerd.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 <input checked="" type="checkbox"/> 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	04/13/2012										
Validated By	John W. Knezevich, PE <input checked="" type="checkbox"/> Validation Checklist - Hardcopy Received										
Certificate of Independence	<a href="#">FL5293_R4_COI_Trinity_ERD_CI_-_Nieminen.pdf</a>										
Referenced Standard and Year (of Standard)	<table> <thead> <tr> <th><b>Standard</b></th> <th><b>Year</b></th> </tr> </thead> <tbody> <tr> <td>ASTM D6878</td> <td>2006</td> </tr> <tr> <td>FM 4470</td> <td>1992</td> </tr> <tr> <td>FM 4474</td> <td>2004</td> </tr> <tr> <td>TAS 114</td> <td>2011</td> </tr> </tbody> </table>	<b>Standard</b>	<b>Year</b>	ASTM D6878	2006	FM 4470	1992	FM 4474	2004	TAS 114	2011
<b>Standard</b>	<b>Year</b>										
ASTM D6878	2006										
FM 4470	1992										
FM 4474	2004										
TAS 114	2011										
Equivalence of Product Standards											

Certified By

Sections from the Code

Product Approval Method Method 1 Option D

Date Submitted 11/30/2011  
 Date Validated 12/05/2011  
 Date Pending FBC Approval 12/21/2011  
 Date Approved 01/31/2012

Summary of Products		
FL #	Model, Number or Name	Description
5293.1	EverGuard TPO Single-Ply Roof Membrane Systems	Single-ply, thermoplastic polyolefin roofing systems
<b>Limits of Use</b> <b>Approved for use in HVHZ:</b> No <b>Approved for use outside HVHZ:</b> Yes <b>Impact Resistant:</b> N/A <b>Design Pressure:</b> +N/A/-490 <b>Other:</b> 1.) The design pressure noted in this application relates to one specific assembly in the ER Appendix. Refer to the ER Appendix for all systems and associated max. design pressures. 2.) Refer to ER Section 5 for Limits of Use		<b>Installation Instructions</b> <a href="#">FL5293_R4_IL_A1_er113011FINAL_GAF_TPO_FL5293-R4.pdf</a> Verified By: Robert Nieminen PE-59166 Created by Independent Third Party: Yes <b>Evaluation Reports</b> <a href="#">FL5293_R4_AE_er113011FINAL_GAF_TPO_FL5293-R4.pdf</a> Created by Independent Third Party: Yes



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Product Approval Accepts:





EXTERIOR RESEARCH & DESIGN, LLC.  
Certificate of Authorization #9503  
353 Christian Street, Unit 13  
Oxford, CT 06478  
PHONE: (203) 262-9245  
FAX: (203) 262-9243

## EVALUATION REPORT

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

**Evaluation Report 01506.09.05-R5**  
**FL5293-R4**  
**Date of Issuance: 11/09/2005**  
**Revision 5: 11/30/2011**

### SCOPE:

This Evaluation Report is issued under Rule 9N-3 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 2010 Florida Building Code.

### DESCRIPTION: EverGuard® TPO 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 30-page Appendix.

### Prepared by:

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



The facillie seal appearing was authorized by Robert Nieminen, P.E. on 11/30/2011. 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® TPO Single-Ply Roof Membrane Systems, as produced by GAF, 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 4474	2004
1504.7	Impact	FM 4470	1992
1507.13.2	Physical Properties	ASTM D6878	2006
1523.6.2	Wind	TAS 114	2011

### 3. REFERENCES:

<u>Entity</u>	<u>Exam</u>	<u>Reference</u>	<u>Date</u>	<u>Entity</u>	<u>Exam</u>	<u>Reference</u>	<u>Date</u>
ACRC (TST4671)	TAS 114	06-035	10/18/2006	FM App (TST1867)	FM 4470	3016068	04/02/2004
ACRC (TST4671)	TAS 114	07-005	01/17/2007	FM App (TST1867)	FM 4470	3013861	05/21/2004
ACRC (TST4671)	TAS 114	07-024	03/01/2007	FM App (TST1867)	FM 4470	3105578	05/12/2004
ACRC (TST4671)	TAS 114	07-016	04/19/2007	FM App (TST1867)	FM 4470	3014955	01/28/2005
ACRC (TST4671)	TAS 114	07-017	04/19/2007	FM App (TST1867)	FM 4470	3022136	03/17/2005
ACRC (TST4671)	TAS 114	07-025	05/02/2007	FM App (TST1867)	FM 4470	3020681	09/01/2005
ACRC (TST4671)	TAS 114	07-026	05/03/2007	FM App (TST1867)	FM 4470	3024051	03/28/2006
ACRC (TST4671)	TAS 114	07-027	05/04/2007	FM App (TST1867)	FM 4470	3023458	07/18/2006
ACRC (TST4671)	TAS 114	07-042	08/31/2007	FM App (TST1867)	FM 4470	3028039	09/11/2006
ACRC (TST4671)	TAS 114	07-043	09/05/2007	FM App (TST1867)	FM 4470	3027159	10/03/2006
ACRC (TST4671)	TAS 114	07-045	09/06/2007	FM App (TST1867)	FM 4470	3026149	02/05/2007
ACRC (TST4671)	TAS 114	07-046	09/06/2007	FM App (TST1867)	FM 4470	3026964	07/25/2007
ACRC (TST4671)	TAS 114	07-048	09/07/2007	FM App (TST1867)	FM 4470	3028857	11/02/2007
ACRC (TST4671)	TAS 114	07-049	09/10/2007	FM App (TST1867)	FM 4470	3030199	11/05/2007
ACRC (TST4671)	TAS 114	07-080	01/03/2008	FM App (TST1867)	FM 4470	3030813	11/05/2007
ACRC (TST4671)	TAS 114	08-022	04/17/2008	FM App (TST1867)	FM 4470	3031262	11/30/2007
ACRC (TST4671)	TAS 114	08-030	04/05/2008	FM App (TST1867)	FM 4470	3030292	02/25/2008
ACRC (TST4671)	TAS 114	08-023	04/17/2008	FM App (TST1867)	FM 4470	3034749	10/16/2008
ACRC (TST4671)	TAS 114	08-033	04/19/2008	FM App (TST1867)	FM 4470	3032856	11/24/2008
ACRC (TST4671)	TAS 114	08-032	04/19/2008	FM App (TST1867)	FM 4470	3033135	11/24/2008
ERD (TST6049)	Physicals	01513.12.07	12/18/2007	FM App (TST1867)	FM 4470	3033862	12/24/2008
F-TEC (TST7393)	TAS 114	08-050183	06/26/2008	FM App (TST1867)	FM 4470	3034394	02/27/2009
F-TEC (TST7393)	TAS 114	08-050184	06/26/2008	FM App (TST1867)	FM 4470	3033121	04/13/2009
F-TEC (TST7393)	TAS 114	08-070133	08/04/2008	FM App (TST1867)	FM 4470	3036614	06/09/2009
F-TEC (TST7393)	TAS 114	08-050185	10/14/2008	FM App (TST1867)	FM 4470	3034310	06/15/2009
F-TEC (TST7393)	TAS 114	08-072805	02/16/2009	FM App (TST1867)	FM 4470	3036141	08/10/2009
FM App (TST1867)	FM 4470	3003617	12/20/1999	FM App (TST1867)	FM 4470	3037820	04/30/2010
FM App (TST1867)	FM 4470	3009026	06/18/2002	FM App (TST1867)	FM 4470	3038215	09/02/2010
FM App (TST1867)	FM 4470	3013861	03/28/2003	FM App (TST1867)	FM 4470	3038318	12/10/2010
FM App (TST1867)	FM 4470	3014692	08/05/2003	IRT (TST7408)	TAS 114	02-008	01/18/2002
FM App (TST1867)	FM 4470	3014955	01/22/2004	IRT (TST7408)	TAS 114	03-0728	02/17/2004
FM App (TST1867)	FM 4470	3012721	02/11/2004	IRT (TST7408)	TAS 114	04-012	02/18/2004
FM App (TST1867)	FM 4470	3015029	02/19/2004	IRT (TST7408)	TAS 114	04-019	04/26/2004
FM App (TST1867)	FM 4470	3020588	03/24/2004	PRI (TST5878)	Physicals	GAF-289-02-01	09/07/2011
FM App (TST1867)	FM 4470	3019881	03/20/2004	PRI (TST5878)	Physicals	GAF-290-02-01	09/21/2011
				UL (QUA1743)	QA	Inspection R1306	04/13/2011

### 4. PRODUCT DESCRIPTION:

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

- **EverGuard® TPO** membranes are nominal 45-mil (1.1 mm), 60-mil (1.52-mm) or 80-mil (2.0 mm) thick, internally reinforced thermoplastic polyolefin roof covers supplied in rolls 60 or 120 inch wide by 100 ft long. Side and end laps are sealed using hot air welding. The roof cover is mechanically attached or fully-adhered to Approved substrates.



- **EverGuard® Extreme TPO** membranes are nominal 60-mil (1.52-mm) or 80-mil (2.0 mm) thick, internally reinforced thermoplastic polyolefin roof covers supplied in rolls 60 or 120 inch wide by 100 ft long. Side and end laps are sealed using hot air welding. The roof cover is mechanically attached or fully-adhered to Approved substrates.
- **EverGuard® Steep Slope TPO** membranes are nominal 45-mil (1.1 mm) or 60-mil (1.52-mm) thick, internally reinforced thermoplastic polyolefin roof covers supplied in rolls 60 or 120 inch wide by 100 ft long. Side and end laps are sealed using hot air welding. The roof cover is mechanically attached or fully-adhered to Approved substrates.
- **EverGuard® TPO FB Ultra 450, 600 or 800** membranes are nominal 45-mil (1.1 mm), 60-mil (1.52-mm) or 80-mil (2.0 mm) thick, internally reinforced thermoplastic (TPO) roof covers with a polyester fleece backing, supplied in rolls 60 or 120 inch wide by 100 ft long. Side and end laps are sealed using hot air welding. The roof cover is mechanically attached or fully-adhered to Approved substrates.
- **EverGuard® Extreme TPO FB Ultra 600 or 800** membranes are nominal 60-mil (1.52-mm) or 80-mil (2.0 mm) thick, internally reinforced thermoplastic (TPO) roof covers with a polyester fleece backing, supplied in rolls 60 or 120 inch wide by 100 ft long. Side and end laps are sealed using hot air welding. The roof cover is mechanically attached or fully-adhered to Approved substrates.
- **EverGuard® Freedom™ TPO** membranes are nominal 45-mil (1.1 mm) or 60-mil (1.52-mm) thick, internally reinforced thermoplastic (TPO) roof covers with a self-adhering backing, supplied in rolls 60 or 120 inch wide by 50 or 100 ft long. Freedom TPO HW laps are sealed using hot air welding. Freedom TPO with Rapid Seam Technology laps are self-adhering. The roof cover is self-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, FM LPDS 1-29 and ANSI/SPRI WD1. Assemblies marked with an asterisk\* carry the limitations set forth in Section 2.2.1.5.1(a) of FM LPDS 1-29 for Zone 2/3 enhancements.
- 5.7 For assemblies with all components fully bonded in place, 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 or ANSI/SPRI FX-1.
- 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, FM LPDS 1-52 or ANSI/SPRI IA-1 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, FM LPDS 1-52 or ANSI/SPRI IA-1.
- 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 9N-3.

#### **6. INSTALLATION:**

- 6.1 EverGuard® TPO 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. "MDP" = Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads. Refer to FBC 1609.1.5 for determination of design wind loads.
- 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:**

Contact named QA entity for details on manufacturing facilities covered for QA under F.A.C. Rule 9N-3 requirements.

#### **9. QUALITY ASSURANCE ENTITY:**

Underwriters Laboratories – QUA1743; (847) 664-3281

**- THE 30-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 or Reroof (Tear-Off)	A-1	Bonded Insulation, Bonded Roof Cover	4
1B	Wood	New, Reroof (Tear-Off) or Recover	D	Insulated, Mechanically Attached Roof Cover	4
1C	Wood	New, Reroof (Tear-Off) or Recover	E	Non-Insulated, Mechanically Attached Base Sheet, Bonded Roof Cover	4
2A-1	Steel or Conc.	New, Reroof (Tear-Off) or Recover	B-1	Mech. Attached Base Insulation, Bonded Top Insulation, Bonded Roof Cover	5-6
2A-2	Steel or Conc.	New, Reroof (Tear-Off) or Recover	B-2	Mech. Attached Thermal Barrier, Bonded Temp Roof, Bonded Insulation, Bonded Roof Cover	7
2B-1	Steel or Conc.	New, Reroof (Tear-Off) or Recover	C-1	Mechanically Attached Insulation, Bonded Roof Cover	7-11
2B-2	Steel or Conc.	New, Reroof (Tear-Off) or Recover	C-2	Mechanically Attached Insulation, Plate-Bonded Roof Cover	12
2C	Steel or Conc.	New, Reroof (Tear-Off) or Recover	D-1	Insulated, Mechanically Attached Roof Cover	13-14
2D	Steel or Conc.	New, Reroof (Tear-Off) or Recover	D-2	Insulated, Mechanically Attached Base Sheet, Bonded Roof Cover	14
3A	Concrete	New or Reroof (Tear-Off)	A-1	Bonded Insulation, Bonded Roof Cover	15-18
3B	Concrete	New, Reroof (Tear-Off) or Recover	F	Non-Insulated, Bonded Roof Cover	18
4A	LWIC	New or Reroof (Tear-Off)	A-1	Bonded Insulation, Bonded Roof Cover	19-21
4B	LWIC	New or Reroof (Tear Off)	E	Non-Insulated, Mechanically Attached Base Sheet, Bonded Roof Cover	22
4C	LWIC	New or Reroof (Tear Off)	F	Non-Insulated, Bonded Roof Cover	23
5A	CWF	New or Reroof (Tear-Off)	A-1	Bonded Insulation, Bonded Roof Cover	24
6A	Gypsum	Reroof (Tear-Off)	A-1	Bonded Insulation, Bonded Roof Cover	25-26
6B	Gypsum	Reroof (Tear-Off)	A-2	Mechanically Attached Anchor Sheet, Bonded Insulation, Bonded Roof Cover	27
6C	Gypsum	Reroof (Tear-Off)	F	Non-Insulated, Bonded Roof Cover	27
7A	Various	Recover	A-1	Bonded Insulation, Bonded Roof Cover	28-30
7B	Various	Recover	F	Non-Insulated, Bonded Roof Cover	30



**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 or base sheet attachment shall be as follows. Fasteners shall be of sufficient length for the following engagements:
  - Wood Deck: Drill-Tec #12 Fastener or Drill-Tec #14 Fastener with Drill-Tec 3" Standard Steel Plate, Drill-Tec 3" Steel Plate or Drill-Tec Accutrac Plate, Drill-Tec ASAP 3S or Drill-Tec Heavy Duty ASAP 3S. Min. 0.75-inch plywood penetration or minimum 1-inch wood plank embedment.
  - Steel Deck: Drill-Tec #12 Fastener, Drill-Tec #14 Fastener or Drill-Tec XHD Fastener with Drill-Tec 3" Standard Steel Plate, Drill-Tec 3" Steel Plate or Drill-Tec Accutrac Plate. Minimum 0.75-inch steel penetration, engage the top flute of the steel deck.
  - Concrete Deck: Drill-Tec #14 Fastener or Drill-Tec CD-10 with Drill-Tec 3" Standard Steel Plate, Drill-Tec 3" Steel Plate or Drill-Tec Accutrac Plate or Drill-Tec Heavy Duty ASAP 3S. 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, MonoBoard, TopRock DD, SECUROCK Gypsum-Fiber Roof Board or SECUROCK Glass-Mat Roof Board that meets the QA requirements of F.A.C. Rule 9N-3 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.
  - OlyBond Adhesive Fastener (Classic): Full coverage, 1 gal/square.
  - OlyBond 500 (OB500): Continuous 0.75 to 1-inch wide ribbons, 12-inch o.c. using PaceCart or SpotShot. *Note: OlyBond Classic or OlyBond 500 Green may be used where OlyBond 500 is referenced.*
  - 3M CR-20: Continuous 2.5 to 3.5-inch ribbons, 12-inch o.c. *Note: TITSESET may be used where 3M CR-20 is referenced.*
  - *Note: When multiple layer(s) of insulation and/or coverboard are installed in ribbon-applied adhesive, adhesive ribbons shall be staggered from layer-to-layer a distance of one-half the ribbon spacing.*
  - *Note: The maximum edge distance from the adhesive ribbon to the edge of the insulation board shall be not less than one-half the specified ribbons spacing.*
7. Unless otherwise noted, all insulations are flat stock or taper board of the minimum thickness noted. Tapered polyisocyanurate at the following thickness limitations may be substituted with the following Maximum Design Pressure (MDP) limitations. In no case shall these values be used to 'increase' the MDP listings in the tables; rather if MDP listing below meets or exceeds that listed for a particular system in the tables, then the thinner board listed below may be used as a drop-in for the equivalent thicker material listed in the table.
  - Hot Asphalt (HA): MDP = -240.0 psf (Min. 0.5-inch thick)
  - OlyBond 500 (OB500): MDP = 45.0 psf (Min. 0.5-inch thick EnergyGuard RM)
  - OlyBond 500 (OB500): MDP = -187.5 psf (Min. 0.5-inch thick EnergyGuard)
  - OlyBond 500 (OB500): MDP = -315.0 psf (Min. 0.5-inch thick EnergyGuard RN)
  - OlyBond 500 (OB500): MDP = -487.5 psf (Min. 0.5-inch thick EnergyGuard RA)
  - 3M CR-20: MDP = -117.5 psf (Min. 1.0-inch thick)
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. Commonly used methods are RAS 117, FM LPDS 1-29 and ANSI/SPRI WD1. Assemblies marked with an asterisk\* carry the limitations set forth in Section 2.2.1.5.1(a) of FM LPDS 1-29 for Zone 2/3 enhancements.
10. For assemblies with all components fully bonded in place, 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 and analysis shall be in accordance with TAS 105 or ANSI/SPRI FX-1.
12. For existing substrates in a bonded recover or re-roof installation, the existing roof surface or existing roof deck shall be examined for compatibility and bond performance with the selected adhesive, and the existing roof system (for recover) 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, FM LPDS 1-52 or ANSI/SPRI IA-1.
13. For System Type D, steel deck applications, the roof membrane shall be run with its length perpendicular to the steel deck flutes.
14. For Recover Applications using System Type D, the insulation is optional. Alternatively, min. 0.5-inch EnergyGuard High Density Fiberboard or min. 0.25-inch DensDeck, DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board or SECUROCK Glass-Mat Roof Board, or min. 1.0-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or EnergyGuard Ultra may be used as a separator board, preliminarily attached prior to roof cover installation. The existing roof system shall be suitable for a recover application.
15. Side laps for EverGuard Freedom TPO with Rapid Seam Technology are self-adhering. Side laps for EverGuard TPO HW are heat welded. Unless otherwise noted, reference to EverGuard Freedom TPO in this Appendix relates to either method.
16. For adhesive-applied membrane systems, side laps shall be minimum 3-inch wide sealed with min. 1.5-inch heat weld. Unless otherwise noted, membrane adhesive application rates are as follows:
  - EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive: Applied to both the substrate and roof cover underside at 0.8 to 1.0 gal/square/surface. For use over SECUROCK Gypsum-Fiber Roof Board, the application rate changes to 1.2 to 1.67 gal/sq/surface.
  - EverGuard TPO / EverGuard WB 181 Bonding Adhesive: Applied to substrate of approved polyisocyanurate insulation or Structodek High Density Fiberboard Roof Insulation, Fiber Base HD1, Fiber Base HD6 or Georgia-Pacific High Density Roof Fiberboard at 0.63 gal/square and roof cover underside at 0.21 gal/square. Applied to substrate of DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board at 0.63 to 0.75 gal/square and roof cover underside at 0.21 to 0.25 gal/square.
  - EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive: Applied to both the substrate and roof cover underside at 0.46 gal/square/surface.
  - EverGuard Steep Slope TPO / EverGuard Steep Slope Solvent Based Adhesive: Applied to both the substrate and roof cover underside at 0.55 gal/square/surface.
  - EverGuard TPO FB Ultra 450, 600 or 800 / EverGuard WB 181 Bonding Adhesive: Applied to the substrate of approved polyisocyanurate at 0.84 gal/square.
  - EverGuard TPO FB Ultra 450, 600 or 800 / Hot asphalt: Applied to the substrate 25 lbs/square.
17. The "Triposite Roofing System" noted herein consists of loose-laid GAFGLAS Stratavent Eliminator Venting Base Sheet (Perforated), followed by asphalt-applied two (2) plies of Ruberoid 20 or three (3) plies of GAFGLAS FlexPly 6, followed by asphalt-applied EverGuard TPO FB Ultra 800 with 1-5/8" heat welded side laps.
18. The "Hybrid Roofing System" noted herein consists of asphalt-applied Ruberoid 20, Ruberoid Mop Smooth, Ruberoid Mop Smooth 1.5, Ruberoid Dual Smooth, GAFGLAS #75 Base Sheet, Tri-Ply #75 Base Sheet or GAFGLAS #80 Ultima Base Sheet followed by asphalt-applied EverGuard TPO FB Ultra 450, 600 or 800.
19. 60-80 mil EverGuard Extreme TPO may be used as an alternate to 45 – 80 mil EverGuard TPO. EverGuard Extreme TPO FB Ultra 600 may be used as an alternate to EverGuard TPO FB Ultra 450 and Ultra 600. EverGuard Extreme TPO FB Ultra 800 may be used as an alternate to EverGuard TPO FB Ultra 800.
20. **MDP" = Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads. Refer to FBC 1609.1.5 for determination of design wind loads.**



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

System No.	Deck (See Note 1)	Base Insulation Layer		Top Insulation Layer		Roof Cover / Adhesive	MDP (psf)
		Type	Attach	Type	Attach		
W-1.	Min. 19/32-inch plywood or OSB attached 6-inch o.c. to wood supports at max. 2 ft o.c. using 8d common nails	One or more layers min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layers base insulation, flat or tapered	CR-20	EverGuard Freedom TPO / self adhered	-52.5
W-2.	Min. 19/32-inch plywood or OSB attached 6-inch o.c. to wood supports at max. 2 ft o.c. using 8d common nails	One or more layers min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layers base insulation, flat or tapered	CR-20	EverGuard TPO / EverGuard TPO #1121, EverGuard WB 181 Bonding Adhesive	-52.5

**TABLE 1B: WOOD DECKS - NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER**  
**SYSTEM TYPE D: MECHANICALLY ATTACHED ROOF COVER**

System No.	Deck (See Note 1)	Insulation		Roof Cover			MDP (psf)
		Type	Attach	Membrane	Fasteners	Attachment	
W-3.	Min. 19/32-inch plywood attached 6-inch o.c. to wood supports at max. 2 ft o.c. using 8d common nails	(Optional) One or more layers, any combination	Prelim. attached	EverGuard TPO	Drill-Tec XHD with Drill-Tec 2 in. Double Barbed XHD Plates	Fastened 6-inch o.c. within 5.5-inch wide laps spaced 114.5-inch o.c. and sealed with a 1.75-inch heat weld.	-45.0
W-4.	Min. 19/32-inch plywood attached 6-inch o.c. to wood supports at max. 2 ft o.c. using 8d common nails	(Optional) One or more layers, any combination	Prelim. attached	EverGuard TPO	Drill-Tec XHD with Drill-Tec 2 in. Double Barbed XHD Plates	Fastened 6-inch o.c. within 5-inch wide laps spaced 55-inch o.c. and sealed with a 1.75-inch heat weld.	-52.5
W-5.	Min. 19/32-inch plywood atop supports spaced 2 ft o.c. in the grain-direction and blocked 4 ft o.c. in the cross-grain direction. Attached 6-inch o.c. with 8d ring shank nails in the field of the sheets and 4-inch o.c. with 10d ring shank nails at the perimeter of the sheets.	(Optional) One or more layers, any combination	Prelim. attached	EverGuard TPO	Drill-Tec #14 Fasteners with Drill-Tec AccuTrac Flat Plates	Fastened 6-inch o.c. within 12-inch wide laps spaced 48-inch o.c. and sealed with a 1.5-inch heat weld. Fasteners penetrate through the plywood to engage the cross-blocking of the deck	-97.5

**TABLE 1C: WOOD DECKS – NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER**  
**SYSTEM TYPE E: NON-INSULATED, MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER**

System No.	Roof Deck	Base Sheet			Roof Cover	MDP (psf)
		Base	Fasteners	Attach		
W-6.	Min. 19/32-inch plywood at max. 24-inch spans attached 6-inch o.c. with #8 wood screws	GAF STORMSAFE (Max. 40-inch wide or lapped to produce max. 36-inch wide lap-to-lap spacing)	32 ga., 1-5/8-inch diameter tin caps with 11 ga. annular ring shank nails (new or reroof only; no recover)	9-inch o.c. at min. 4-inch lap and 9-inch o.c. at two, equally spaced, staggered center rows	EverGuard Freedom TPO / self adhered	-45.0
W-7.	Min. 19/32-inch plywood at max. 24-inch spans attached 6-inch o.c. with #10 wood screws	GAF STORMSAFE (Max. 40-inch wide or lapped to produce max. 36-inch wide lap-to-lap spacing)	Drill-Tec #12 with Drill-Tec 3" Steel Plates	8-inch o.c. at min. 4-inch lap and 8-inch o.c. at three, equally spaced, staggered center rows	EverGuard Freedom TPO / self adhered	-105.0



**TABLE 2A-1: STEEL OR CONCRETE DECKS - NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER**  
**SYSTEM TYPE B-1: 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	MDP (psf)
		Type	Fasteners	Attach	Type	Attach		
S-1.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	Min 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or H-Shield	See Note 2	1 per 2 ft <sup>2</sup>	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500 or CR-20	EverGuard Freedom TPO/ self adhered	-45.0*
S-2.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	Min 2-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or H-Shield	See Note 2	1 per 4 ft <sup>2</sup>	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500 or CR-20	EverGuard Freedom TPO/ self adhered	-45.0*
S-3.	Min. 22 ga., Type B, Grade 33 steel at max. 6 ft spans attached 6-inch o.c. with Traxx/5 screws or structural concrete	Min. 2-inch EnergyGuard RA EnergyGuard RN or H-Shield	See Note 2	1 per 1.6 ft <sup>2</sup>	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500 or CR-20	EverGuard Freedom TPO/ self adhered	-60.0
S-4.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	Min. 1.5-inch EnergyGuard RA or EnergyGuard RN	See Note 2	1 per 2 ft <sup>2</sup>	Additional layers of base insulation	Hot asphalt	EverGuard TPO / EverGuard TPO #1121, EverGuard WB 181 Bonding Adhesive	-45.0*
S-5.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	Min. 2.0-inch EnergyGuard RA or EnergyGuard RN	See Note 2	1 per 4 ft <sup>2</sup>	Additional layers of base insulation	Hot asphalt	EverGuard TPO / EverGuard TPO #1121, EverGuard WB 181 Bonding Adhesive	-45.0*
S-6.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	Min. 1.5-inch EnergyGuard	See Note 2	1 per 2 ft <sup>2</sup>	One or more layers of Base Insulation or min. 0.5-inch thick DensDeck	OB500 or CR-20	EverGuard TPO / EverGuard TPO #1121	-45.0*
S-7.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	Min. 0.5-inch DensDeck	See Note 2	1 per 2 ft <sup>2</sup>	One or more layers, min. 1.5-inch EnergyGuard	OB500 or CR-20	EverGuard TPO / EverGuard TPO #1121, EverGuard WB 181 Bonding Adhesive	-45.0*
S-8.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	Min 2-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or H-Shield	See Note 2	1 per 4 ft <sup>2</sup>	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500 or CR-20	EverGuard TPO / EverGuard TPO #1121 or EverGuard Low VOC TPO Bonding Adhesive	-45.0*
S-9.	Min. 22 ga., Type B, Grade 33 steel at max. 6 ft spans attached 6-inch o.c. with Traxx/4 or 5 screws or structural concrete	Min. 2-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or H-Shield	See Note 2	1 per 1.6 ft <sup>2</sup>	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500 or CR-20	EverGuard TPO / EverGuard TPO #1121, EverGuard H20, EverGuard WB 181 or EverGuard Low VOC TPO Bonding Adhesive	-60.0



**TABLE 2A-1: STEEL OR CONCRETE DECKS - NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER**  
**SYSTEM TYPE B-1: 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	MDP (psf)
		Type	Fasteners	Attach	Type	Attach		
S-10.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	Min 1.5-inch EnergyGuard, EnergyGuard RA or EnergyGuard RN	See Note 2	1 per 2 ft <sup>2</sup>	Optional layers of base insulation (flat or tapered) followed by Min. 0.25-inch DensDeck, DensDeck Prime, DensDeck DuraGuard or SECUROCK Gypsum-Fiber Roof Board	OB500 or TITSET or CR-20	Hybrid System / See Note 17	-45.0*
S-11.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	Min 2.0-inch EnergyGuard, EnergyGuard RA or EnergyGuard RN	See Note 2	1 per 4 ft <sup>2</sup>	Optional layers of min. 1.5-inch base insulation (flat or tapered) followed by Min. 0.25-inch DensDeck, DensDeck Prime, DensDeck DuraGuard or SECUROCK Gypsum-Fiber Roof Board	OB500 or TITSET or CR-20	Hybrid System / See Note 17	-45.0*
S-12.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	Min 1.5-inch EnergyGuard	See Note 2	1 per 2 ft <sup>2</sup>	Optional layers of base insulation (flat or tapered) followed by Min. 0.25-inch DensDeck, DensDeck Prime, DensDeck DuraGuard or SECUROCK Gypsum-Fiber Roof Board	Hot asphalt	Hybrid System / See Note 17	-45.0*
S-13.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	Min 1.5-inch EnergyGuard RA, EnergyGuard RN or EnergyGuard RM	See Note 2	1 per 4 ft <sup>2</sup>	Optional layers of base insulation (flat or tapered) followed by Min. 0.25-inch DensDeck, DensDeck Prime, DensDeck DuraGuard or SECUROCK Gypsum-Fiber Roof Board	Hot asphalt	Hybrid System / See Note 17	-45.0*
S-14.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	Min 2.0-inch EnergyGuard	See Note 2	1 per 4 ft <sup>2</sup>	Optional layers of min. 1.5-inch base insulation (flat or tapered) followed by Min. 0.25-inch DensDeck, DensDeck Prime, DensDeck DuraGuard or SECUROCK Gypsum-Fiber Roof Board	Hot asphalt	Hybrid System / See Note 17	-45.0*
S-15.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	Min 2.0-inch EnergyGuard RA	See Note 2	1 per 5.3 ft <sup>2</sup>	Optional layers of min. 1.5-inch base insulation (flat or tapered) followed by Min. 0.25-inch DensDeck, DensDeck Prime, DensDeck DuraGuard or SECUROCK Gypsum-Fiber Roof Board	Hot asphalt	Hybrid System / See Note 17	-45.0*



TABLE 2A-2: STEEL DECKS - NEW CONSTRUCTION, REROOF (Tear-Off)										
SYSTEM TYPE B-2: MECHANICALLY ATTACHED THERMAL BARRIER, BONDED TEMP ROOF, BONDED TOP INSULATION, BONDED ROOF COVER										
System No.	Deck (See Note 1)	Thermal Barrier			Temp Roof		Top Insulation Layer(s)		Roof Cover / Adhesive	MDP (psf)
		Type	Fasteners	Attach	Type	Attach	Type	Attach		
S-16.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	Min. 0.625-inch DensDeck	See Note 2	1 per 4 ft <sup>2</sup>	Two plies GAFGLAS Ply 4	Hot asphalt	Min. 1.5-inch EnergyGuard RA or ACfoam IV	Hot asphalt or OB500	EverGuard TPO / EverGuard TPO #1121 or EverGuard Low VOC TPO Bonding Adhesive	-45.0*

TABLE 2B-1: STEEL OR CONCRETE DECKS - NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER							
SYSTEM TYPE C-1: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER							
System No.	Deck (See Note 1)	Base Insulation Layer	Top Insulation Layer			Roof Cover / Adhesive	MDP (psf)
			Type	Fasteners	Attach		
<b>EVERGUARD FREEDOM TPO:</b>							
S-17.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.25-inch DensDeck DuraGuard Roof Board	See Note 2	1 per 2.7 ft <sup>2</sup>	EverGuard Freedom TPO / self adhered	-45.0*
S-18.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 2-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN, EnergyGuard RM, or EnergyGuard Ultra	See Note 2	1 per 3.2 ft <sup>2</sup>	EverGuard Freedom TPO / self adhered	-45.0*
S-19.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 2-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN, EnergyGuard RM, or EnergyGuard Ultra	See Note 2	1 per 1.3 ft <sup>2</sup>	EverGuard Freedom TPO / self adhered	-52.5
S-20.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 2-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN, EnergyGuard RM, or EnergyGuard Ultra	See Note 2 (#14 only)	1 per 2 ft <sup>2</sup>	EverGuard Freedom TPO / self adhered	-52.5
<b>EVERGUARD TPO / EVERGUARD TPO #1121 BONDING ADHESIVE:</b>							
S-21.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.25-inch DensDeck Prime	See Note 2	1 per 2 ft <sup>2</sup>	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-45.0*
S-22.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.5-inch DensDeck or DensDeck Prime	See Note 2	1 per 3.2 ft <sup>2</sup>	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-45.0*
S-23.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.625-inch DensDeck or DensDeck Prime	See Note 2	1 per 4 ft <sup>2</sup>	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-45.0*



**TABLE 2B-1: STEEL OR CONCRETE DECKS - NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER**  
**SYSTEM TYPE C-1: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER**

System No.	Deck (See Note 1)	Base Insulation Layer	Top Insulation Layer			Roof Cover / Adhesive	MDP (psf)
			Type	Fasteners	Attach		
S-24.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	See Note 2	1 per 2 ft <sup>2</sup>	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-45.0*
S-25.	Min. 22 ga., Type B, Grade 80 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.625-inch SECUROCK Gypsum-Fiber Roof Board	See Note 2 (#14 only)	1 per 4 ft <sup>2</sup>	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-45.0*
S-26.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 7/16-inch OSB	Drill-Tec XHD with Drill-Tec 3" Metal Plates.	1 per 4 ft <sup>2</sup>	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-45.0*
S-27.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 7/16-inch OSB	See Note 2	1 per 2 ft <sup>2</sup>	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-45.0*
S-28.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN, EnergyGuard RM, H-Shield or EnergyGuard Ultra	See Note 2	1 per 2 ft <sup>2</sup>	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-45.0*
S-29.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 2-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN, EnergyGuard RM, H-Shield or EnergyGuard Ultra	See Note 2	1 per 4 ft <sup>2</sup>	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-45.0*
S-30.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 2-inch ACFoam IV	TruFast HD with MP3	1 per 5.3 ft <sup>2</sup>	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-45.0*
S-31.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.25-inch DensDeck Prime	See Note 2	1 per 1.45 ft <sup>2</sup>	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-52.5
S-32.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	See Note 2	1 per 1.6 ft <sup>2</sup>	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-52.5
S-33.	Min. 22 ga., Type B, Grade 80 steel or structural concrete	(Optional) One or more layers, any combination	Min. 2-inch ACFoam IV	TruFast HD with MP3	1 per 2.67 ft <sup>2</sup>	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-60.0
S-34.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.5-inch Structodek High Density Roof Fiberboard	See Note 2	1 per 1.0 ft <sup>2</sup>	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-67.5
S-35.	Min. 22 ga., Type B, Grade 80 steel or structural concrete	(Optional) One or more layers, any combination	Min. 2-inch ACFoam IV	TruFast HD with MP3	1 per 2 ft <sup>2</sup>	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-75.0



**TABLE 2B-1: STEEL OR CONCRETE DECKS - NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER**  
**SYSTEM TYPE C-1: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER**

System No.	Deck (See Note 1)	Base Insulation Layer	Top Insulation Layer			Roof Cover / Adhesive	MDP (psf)
			Type	Fasteners	Attach		
S-36.	Min. 22 ga., Type B, Grade 80 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.5-inch SECUROCK Gypsum-Fiber Roof Board	See Note 2 (#14 only)	1 per 1.33 ft <sup>2</sup>	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-105.0
S-37.	Min. 22 ga., Type B, Grade 80 steel or structural concrete	(Optional) One or more layers, any combination	Min. 2-inch ACFoam IV	TruFast HD with MP3	1 per 1.33 ft <sup>2</sup>	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-120.0
S-38.	Min. 22 ga., Type B, Grade 80 steel or structural concrete	(Optional) One or more layers, any combination	Min. 2-inch ACFoam IV	TruFast HD with MP3	1 per 1 ft <sup>2</sup>	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-172.5
<b>EVERGUARD TPO / EVERGUARD WB 181 BONDING ADHESIVE:</b>							
S-39.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 1.5-inch EnergyGuard	See Note 2	1 per 2.67 ft <sup>2</sup>	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-45.0*
S-40.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.25-inch DensDeck Prime	See Note 2	1 per 2 ft <sup>2</sup>	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-45.0*
S-41.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.5-inch DensDeck Prime	See Note 2	1 per 3.2 ft <sup>2</sup>	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-45.0*
S-42.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.625-inch DensDeck Prime	See Note 2	1 per 4 ft <sup>2</sup>	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-45.0*
S-43.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	See Note 2	1 per 2 ft <sup>2</sup>	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-45.0*
S-44.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or H-Shield	See Note 2	1 per 2 ft <sup>2</sup>	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-45.0*
S-45.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 2-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or H-Shield	See Note 2	1 per 4 ft <sup>2</sup>	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-45.0*
S-46.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.25-inch DensDeck Prime	See Note 2	1 per 1.45 ft <sup>2</sup>	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-52.5
S-47.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	See Note 2	1 per 1.6 ft <sup>2</sup>	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-52.5



**TABLE 2B-1: STEEL OR CONCRETE DECKS - NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER**  
**SYSTEM TYPE C-1: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER**

System No.	Deck (See Note 1)	Base Insulation Layer	Top Insulation Layer			Roof Cover / Adhesive	MDP (psf)
			Type	Fasteners	Attach		
S-48.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.5-inch Structodek High Density Fiberboard Roof Insulation, Fiber Base HD1, Fiber Base HD6 or Georgia-Pacific High Density Roof Fiberboard	See Note 2	1 per 1.0 ft <sup>2</sup>	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-67.5
<b>EVERGUARD TPO / EVERGUARD LOW VOC TPO BONDING ADHESIVE:</b>							
S-49.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.25-inch DensDeck Prime	See Note 2	1 per 2 ft <sup>2</sup>	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-45.0*
S-50.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.5-inch DensDeck Prime	See Note 2	1 per 3.2 ft <sup>2</sup>	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-45.0*
S-51.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.625-inch DensDeck Prime	See Note 2	1 per 4 ft <sup>2</sup>	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-45.0*
S-52.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	See Note 2	1 per 2 ft <sup>2</sup>	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-45.0*
S-53.	Min. 22 ga., Type B, Grade 80 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.625-inch SECUROCK Gypsum-Fiber Roof Board	See Note 2 (#14 only)	1 per 4 ft <sup>2</sup>	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-45.0*
S-54.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.25-inch DensDeck Prime	See Note 2	1 per 1.45 ft <sup>2</sup>	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-45.0
S-55.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN, EnergyGuard RM, H-Shield or EnergyGuard Ultra	See Note 2	1 per 2 ft <sup>2</sup>	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-45.0*
S-56.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 2-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN, EnergyGuard RM, H-Shield or EnergyGuard Ultra	See Note 2	1 per 4 ft <sup>2</sup>	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-45.0*
S-57.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	See Note 2	1 per 1.6 ft <sup>2</sup>	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-52.5
S-58.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.5-inch Structodek High Density Roof Fiberboard	See Note 2	1 per 1.0 ft <sup>2</sup>	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-67.5



**TABLE 2B-1: STEEL OR CONCRETE DECKS - NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER**  
**SYSTEM TYPE C-1: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER**

System No.	Deck (See Note 1)	Base Insulation Layer	Top Insulation Layer			Roof Cover / Adhesive	MDP (psf)
			Type	Fasteners	Attach		
<b>TRIPOSITE ROOFING SYSTEM:</b>							
S-59.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN, EnergyGuard RM or EnergyGuard Ultra	See Note 2	1 per 2.0 ft <sup>2</sup>	Triposite System / See Note 17	-45.0*
S-60.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 2-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN, EnergyGuard RM or EnergyGuard Ultra	See Note 2	1 per 3.2 ft <sup>2</sup>	Triposite System / See Note 17	-45.0*
S-61.	Min. 22 ga., Type B, Grade 33 steel at max. 6 ft spans attached 6-inch o.c. with Traxx/4 or 5 screws or structural concrete	(Optional) One or more layers, any combination	Min. 2-inch EnergyGuard Ultra	See Note 2	1 per 2 ft <sup>2</sup>	Triposite System / See Note 17	-60.0
S-62.	Min. 22 ga., Type B, Grade 33 steel at max. 6 ft spans attached 6-inch o.c. with Traxx/4 or 5 screws or structural concrete	(Optional) One or more layers, any combination	Min. 2-inch EnergyGuard Ultra	See Note 2	1 per 1.45 ft <sup>2</sup>	Triposite System / See Note 17	-75.0
<b>EVERGUARD STEEP SLOPE TPO IN EVERGUARD STEEP SLOPE SOLVENT BASED ADHESIVE:</b>							
S-63.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.25-inch DensDeck Prime	See Note 2	1 per 2.0 ft <sup>2</sup>	EverGuard Steep Slope TPO / EverGuard Steep Slope Solvent Based Adhesive	-45.0*
<b>HYBRID ROOFING SYSTEM:</b>							
S-64.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.25-inch DensDeck DuraGuard	See Note 2	1 per 2.67 ft <sup>2</sup>	Hybrid System / See Note 18	-45.0*
S-65.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.25-inch DensDeck, DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	See Note 2	1 per 4.0 ft <sup>2</sup>	Hybrid System / See Note 18	-45.0*
<b>EVERGUARD TPO FB ULTRA:</b>							
S-66.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 0.25-inch DensDeck Prime	See Note 2	1 per 1.8 ft <sup>2</sup>	EverGuard TPO FB Ultra 450, 600 or 800 / Hot asphalt	-45.0*
S-67.	Min. 22 ga., Type B, Grade 33 steel or structural concrete	(Optional) One or more layers, any combination	Min. 2-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN, EnergyGuard RM or EnergyGuard Ultra	See Note 2	1 per 4.0 ft <sup>2</sup>	EverGuard TPO FB Ultra 450, 600 or 800 / Hot asphalt	-45.0*



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

System No.	Deck (See Note 1)	Insulation Layer	Attachment		Roof Cover / Adhesive	MDP (psf)
			Fasteners	Density		
S-68.	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi concrete	One or more layers, any combination, 4 x 8 ft board	Drill-Tec XHD fasteners and Drill-Tec RhinoBond TPO XHD plates	1 per 5.3 ft <sup>2</sup> (6 parts per 4 x 8 ft board) Fasteners located in each of the four corners of the board and at mid-span of the 96-inch length. Fasteners are 12-inch from the board edges.	EverGuard TPO bonded to Drill-Tec RhinoBond TPO plates with RhinoBond Portable Bonding Tool. Weighted cooling magnets are placed over the bonded membrane/plates for minimum 45 seconds.	-45.0*
S-69.	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi concrete	One or more layers, 4 x 4 ft TopRock DD (unfaced)	Drill-Tec XHD fasteners and Drill-Tec RhinoBond TPO XHD plates	1 per 4 ft <sup>2</sup> (6 parts per 4 x 8 ft board) Fasteners located in each of the four corners of the board. Fasteners are 12-inch from the board edges.	EverGuard TPO bonded to Drill-Tec RhinoBond TPO plates with RhinoBond Portable Bonding Tool. Weighted cooling magnets are placed over the bonded membrane/plates for minimum 45 seconds.	-45.0*
S-70.	Min. 22 ga., type B, Grade 80 steel or min. 2,500 psi concrete	One or more layers, any combination, preliminarily attached	Drill-Tec SXHD fasteners and Drill-Tec RhinoBond TPO SXHD or Drill-Tec RhinoBond TPO XHD plates	24 x 24 inch grid	EverGuard TPO bonded to Drill-Tec RhinoBond TPO plates with RhinoBond Portable Bonding Tool. Weighted cooling magnets are placed over the bonded membrane/plates for minimum 45 seconds.	-60.0



**TABLE 2C: STEEL or CONCRETE DECKS - NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER**  
**SYSTEM TYPE D-1: MECHANICALLY ATTACHED ROOF COVER**

System No.	Deck (See Note 1)	Insulation		Roof Cover			MDP (psf)
		Type	Attach	Membrane	Fasteners	Attachment	
S-71.	Min. 22 ga., type B, Grade 33 steel at max. 6 ft spans attached 6-inch o.c. with Traxx/4 or 5 screws	One or more layers, any combination, min. 1.5-inch	Prelim. attach	EverGuard Steep Slope TPO	Drill-Tec XHD with Drill-Tec 2-3/8 in. Barbed XHD Plates	Fastened 12-inch o.c. within 6-inch wide laps spaced 90-inch o.c. and sealed with a 1.75-inch heat weld.	-30.0
S-72.	Min. 22 ga., type B, Grade 33 steel at max. 6 ft spans attached 6-inch o.c. with Traxx/4 or 5 screws	One or more layers, any combination, min. 1.5-inch	Prelim. attach	EverGuard Steep Slope TPO	Drill-Tec XHD with Drill-Tec 2 3/8 in. Barbed XHD Plates	Fastened 6-inch o.c. within 6-inch wide laps spaced 114-inch o.c. and sealed with a 1.75-inch heat weld.	-37.5
S-73.	Min. 22 ga., type B, Grade 80 steel at max. 6 ft spans attached 6-inch o.c. with Traxx/4 or 5 screws	One or more layers, any combination, min. 1.5-inch	Prelim. attach	EverGuard Steep Slope TPO	Drill-Tec XHD or SXHD with Drill-Tec 2 3/4 in. Barbed SXHD Plates	Fastened 12-inch o.c. within 6-inch wide laps spaced 114-inch o.c. and sealed with a 1.75-inch heat weld.	-37.5
S-74.	Min. 22 ga., type B, Grade 33 steel at max. 6 ft spans attached 6-inch o.c. with Traxx/4 or 5 screws	One or more layers, any combination, min. 1.5-inch	Prelim. attach	EverGuard Steep Slope TPO	Drill-Tec SXHD fasteners with Drill-Tec 2 3/4 in. Barbed SXHD Plates	Fastened 12-inch o.c. within 6-inch wide laps spaced 90-inch o.c. and sealed with a 1.75-inch heat weld.	-37.5
S-75.	Min. 22 ga., type B, Grade 80 steel at max. 6 ft spans attached 6-inch o.c. with Traxx/4 or 5 screws	One or more layers, any combination, min. 1.5-inch	Prelim. attach	EverGuard Steep Slope TPO	Drill-Tec SXHD or XHD fasteners with Drill-Tec 2 3/4 in. Barbed SXHD Plates	Fastened 12-inch o.c. within 6-inch wide laps spaced 114-inch o.c. and sealed with a 1.75-inch heat weld.	-37.5
S-76.	Min. 22 ga., type B, Grade 80 steel at max. 6 ft spans attached 6-inch o.c. with Traxx/4 or 5 screws	One or more layers, any combination, min. 1.5-inch	Prelim. attach	EverGuard TPO	Drill-Tec XHD with Drill-Tec 2 3/8 in. Barbed XHD Plates	Fastened 6-inch o.c. within 5-inch wide laps spaced 114.5-inch o.c. and sealed with a 1.75-inch heat weld.	-45.0
S-77.	Min. 22 ga., type B, Grade 33 steel at max. 6 ft spans attached 6-inch o.c. with Traxx/4 or 5 screws	One or more layers, any combination, min. 1.5-inch	Prelim. attach	EverGuard TPO	Drill-Tec XHD with Drill-Tec 2 3/8 in. Barbed XHD Plates	Fastened 6-inch o.c. within 6-inch wide laps spaced 90-inch o.c. and sealed with a 1.5-inch heat weld.	-45.0
S-78.	Min. 22 ga., type B, Grade 33 steel at max. 6 ft spans attached 6-inch o.c. with Traxx/4 or 5 screws	One or more layers, any combination, min. 1.5-inch	Prelim. attach	EverGuard TPO	Drill-Tec XHD with Drill-Tec 2 3/8 in. Barbed XHD Plates; or Drill-Tec SXHD with Drill-Tec 2 3/4 in. Barbed SXHD Plates	Fastened 12-inch o.c. within 6-inch wide laps spaced 54-inch o.c. and sealed with a 1.5-inch heat weld.	-45.0
S-79.	Min. 22 ga., type B, Grade 33 steel at max. 6 ft spans attached 6-inch o.c. with Traxx/4 or 5 screws	One or more layers, any combination, min. 1.5-inch	Prelim. attach	EverGuard TPO	Drill-Tec SXHD with Drill-Tec 2 3/4 in. Barbed SXHD Plates	Fastened 12-inch o.c. within 6-inch wide laps spaced 90-inch o.c. and sealed with a 1.5-inch heat weld.	-45.0
S-80.	Min. 22 ga., type B, Grade 80 steel at max. 6 ft spans attached 6-inch o.c. with Traxx/4 or 5 screws	One or more layers, any combination, min. 1.5-inch	Prelim. attach	EverGuard TPO	Drill-Tec SXHD with Drill-Tec 2 3/4 in. Barbed SXHD Plates	Fastened 12-inch o.c. within 5.5-inch wide laps spaced 114.5-inch o.c. and sealed with a 1.5-inch heat weld.	-45.0
S-81.	Min. 22 ga., type B, Grade 33 steel at max. 6 ft spans attached 6-inch o.c. with Traxx/4 or 5 screws	One or more layers, any combination, min. 1.5-inch	Prelim. attach	EverGuard TPO	Drill-Tec XHD with Drill-Tec 2-3/8 in. Barbed XHD Plates or Drill-Tec Eyehook AccuSeam Plates	Fastened 6-inch o.c. within 6-inch wide laps spaced 114-inch o.c. and sealed with a 1.625-inch heat weld.	-52.5



**TABLE 2C: STEEL or CONCRETE DECKS - NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER**  
**SYSTEM TYPE D-1: MECHANICALLY ATTACHED ROOF COVER**

System No.	Deck (See Note 1)	Insulation		Roof Cover			MDP (psf)
		Type	Attach	Membrane	Fasteners	Attachment	
S-82.	Structural concrete	One or more layers, any combination, min. 1.5-inch	Prelim. attach or OB500	EverGuard TPO	Drill-Tec #14 or Drill-Tec CD-10 fasteners with Drill-Tec 2 in. Double Barbed XHD Plates, Drill-Tec 2-3/8 in. Barbed XHD Plates or Drill-Tec Eyehook AccuSeam Plates	Fastened 6-inch o.c. within 6-inch wide laps spaced 114-inch o.c. and sealed with a 1.5-inch heat weld.	-52.5
S-83.	Min. 22 ga., type B, Grade 80 steel at max. 6 ft spans attached 6-inch o.c. with Traxx/4 or 5 screws	One or more layers, any combination, min. 1.5-inch	Prelim. attach	EverGuard TPO FB Ultra 450, 600 or 800	Drill-Tec XHD with Drill-Tec 2 3/8 in. Barbed XHD Plates	Fastened 6-inch o.c. within 6-inch wide laps spaced 112.5-inch o.c. and sealed with a 1.625-inch heat weld.	-52.5
S-84.	Min. 22 ga., type B, Grade 80 steel at max. 6 ft spans attached 6-inch o.c. with Traxx/4 or 5 screws	One or more layers, any combination, min. 1.5-inch	Prelim. attach	EverGuard TPO	Drill-Tec XHD with Drill-Tec 2 3/8 in. Barbed XHD Plates or Drill-Tec 2 in. Double Barbed XHD Plates	Fastened 6-inch o.c. within 5-inch wide laps spaced 115-inch o.c. and sealed with a 1.5-inch heat weld.	-52.5
S-85.	Min. 22 ga., type B, Grade 33 steel at max. 6 ft spans attached 6-inch o.c. with Traxx/4 or 5 screws	One or more layers, any combination, min. 1.5-inch	Prelim. attach	EverGuard TPO	Drill-Tec XHD with Drill-Tec 2 3/8 in. Barbed XHD Plates	Fastened 6-inch o.c. within 6-inch wide laps spaced 54-inch o.c. and sealed with a 1.5-inch heat weld.	-60.0
S-86.	Min. 22 ga., type B, Grade 80 steel at max. 6 ft spans attached 6-inch o.c. with Traxx/4 or 5 screws	One or more layers, any combination, min. 1.5-inch	Prelim. attach	EverGuard TPO	Drill-Tec XHD with Drill-Tec 2 3/4 in. Barbed SXHD Plates	Fastened 6-inch o.c. within 6-inch wide laps spaced 114-inch o.c. and sealed with a 1.5-inch heat weld.	-60.0
S-87.	Min. 22 ga., type B, Grade 33 steel at max. 6 ft spans attached 6-inch o.c. with Traxx/4 or 5 screws	One or more layers, any combination, min. 1.5-inch	Prelim. attach	EverGuard TPO	Drill-Tec SXHD with Drill-Tec 2 3/4 in. Barbed SXHD Plates	Fastened 6-inch o.c. within 6-inch wide laps spaced 114-inch o.c. and sealed with a 1.875-inch heat weld.	-60.0
S-88.	Min. 18 ga., type B, Grade 33 steel at max. 7 ft spans attached 6-inch o.c. with 5/8-inch puddle welds	One or more layers, min. 1.5-inch EnergyGuard	Five (5) fasteners /plates per 4 x 4 ft board	EverGuard TPO	Drill-Tec XHD Fasteners with Drill-Tec 2 in. Double Barbed XHD Plates	Fastened 6-inch o.c. within 6-inch wide laps spaced 114-inch o.c. and sealed with a 1.5-inch heat weld.	-90.0

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

System No.	Deck (See Note 1)	Insulation Layer(s)		Base or Anchor Sheet			Roof Cover	MDP (psf)
		Type	Attach	Base	Fasteners	Attach		
S-89.	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structural concrete	One or more layers, any combination	Loose-laid	GAF STORMSAFE	See Note 2	12-inch o.c. at min. 4-inch laps and 12-inch o.c. in two, equally spaced, staggered center rows	EverGuard Freedom TPO / self adhered	-45.0



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

System No.	Deck (See Note 1)	Vapor Barrier	Base Insulation Layer		Top Insulation Layer		Roof Cover / Adhesive	MDP (psf)
			Type	Attach	Type	Attach		
<b>EVERGUARD FREEDOM TPO</b>								
C-1.	Structural concrete	(Optional) See Note A below	(Optional) Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or EnergyGuard Ultra or min. 1.5-inch , FM Approved Premier Industries / Insulfoam EPS Board	OB500	Min. 0.25-inch DensDeck DuraGuard	OB500	EverGuard Freedom TPO / self adhered	-45.0
C-2.	Structural concrete	(Optional) See Note A below	(Optional) Min. 1.5-inch EnergyGuard, EnergyGuard RA or EnergyGuard Ultra	OB500	Min. 0.5-inch EnergyGuard High Density Fiberboard	OB500	EverGuard Freedom TPO / self adhered	-50.0
C-3.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch EnergyGuard	OB500	(Optional) Additional layer of base insulation	OB500	EverGuard Freedom TPO / self adhered	-142.5
C-4.	Structural concrete	(Optional) See Note A below	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500	None	-	EverGuard Freedom TPO / self adhered	-230.0
C-5.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or H-Shield	OB500	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500	EverGuard Freedom TPO / self adhered	-382.5
C-6.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard Freedom TPO / self adhered	-142.5
C-7.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or H-Shield	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard Freedom TPO / self adhered	-382.5
<b>EVERGUARD TPO / EVERGUARD TPO #1121 BONDING ADHESIVE</b>								
C-8.	Structural concrete (primed)	(Optional) GAFGLAS Ply 4 or GAFGLAS FlexPly6 in hot asphalt	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN, EnergyGuard RM, or H-Shield	Hot Asphalt	(Optional) Min. 0.25-inch DensDeck Prime or min. 7/16-inch OSB	Hot asphalt	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-45.0
C-9.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch , FM Approved Premier Industries / Insulfoam EPS Board	OB500	Min. 0.25-inch DensDeck Prime	OB500	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-45.0
C-10.	Structural concrete	(Optional) See Note A below	Min. 2.0-inch, min. 1.0 pcf, ASTM C578 expanded polystyrene	OB500	Min. 0.25-inch DensDeck or DensDeck Prime	OB500	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-120.0
C-11.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch EnergyGuard or Min. 1-inch Foamular 250	OB500	Min. 0.25-inch DensDeck or DensDeck Prime	OB500	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-130.0



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

System No.	Deck (See Note 1)	Vapor Barrier	Base Insulation Layer		Top Insulation Layer		Roof Cover / Adhesive	MDP (psf)
			Type	Attach	Type	Attach		
C-12.	Structural concrete	(Optional) See Note A below	Min. 2-inch EnergyGuard RA, EnergyGuard RN or H-Shield	OB500	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-247.5
C-13.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch EnergyGuard or EnergyGuard Ultra	OB500	(Optional) Additional layer of base insulation	OB500	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-270.0
C-14.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch thick, min. 1.25 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-87.5
C-15.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch EnergyGuard or Min. 1.5-inch thick, min. 1.5 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch DensDeck or DensDeck Prime	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-130.0
C-16.	Structural concrete	(Optional) See Note A below	One or more layers, min. 1.5-inch thick, min. 1.5 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-180.0
C-17.	Structural concrete	(Optional) See Note A below	One or more layers, min. 1.5-inch thick, min. 2.0 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-240.0
C-18.	Structural concrete	(Optional) See Note A below	Min. 2-inch EnergyGuard RA, EnergyGuard RN or H-Shield	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-247.5
C-19.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-270.0
<b>EVERGUARD TPO / EVERGUARD WB 181 BONDING ADHESIVE</b>								
C-20.	Structural concrete (primed)	None	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or EnergyGuard RM	Hot asphalt	(Optional) Additional layer of base insulation	Hot asphalt	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-135.0
C-21.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch , FM Approved Premier Industries / Insulfoam EPS Board	OB500	Min. 0.25-inch DensDeck Prime	OB500	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-45.0
C-22.	Structural concrete	(Optional) See Note A below	Min. 2.0-inch, min. 1.0 pcf, ASTM C578 expanded polystyrene	OB500	Min. 0.25-inch DensDeck Prime	OB500	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-120.0
C-23.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch EnergyGuard or Min. 1-inch Foamular 250	OB500	Min. 0.25-inch DensDeck Prime	OB500	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-130.0
C-24.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or EnergyGuard RM	OB500	Min. 0.25-inch DensDeck Prime	OB500	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-135.0



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

System No.	Deck (See Note 1)	Vapor Barrier	Base Insulation Layer		Top Insulation Layer		Roof Cover / Adhesive	MDP (psf)
			Type	Attach	Type	Attach		
C-25.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch EnergyGuard or EnergyGuard Ultra	OB500	(Optional) Additional layer of base insulation	OB500	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-270.0
C-26.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch thick, min. 1.25 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch DensDeck Prime	CR-20	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-87.5
C-27.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch EnergyGuard or Min. 1.5-inch thick, min. 1.5 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch DensDeck Prime	CR-20	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-130.0
C-28.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-270.0
<b>EVERGUARD TPO / EVERGUARD LOW VOC TPO BONDING ADHESIVE</b>								
C-29.	Structural concrete (primed)	(Optional) GAFGLAS Ply 4 or GAFGLAS FlexPly6 in hot asphalt	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN, EnergyGuard RM, or H-Shield	Hot Asphalt	(Optional) Min. 0.25-inch DensDeck Prime	Hot asphalt	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-45.0
C-30.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch EnergyGuard, min. 2.0-inch, min. 1.0 pcf, ASTM C578 expanded polystyrene or Min. 1-inch Foamular 250 or min. 1.5-inch, FM Approved Premier Industries / Insulfoam EPS Board	OB500	Min. 0.25-inch DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	OB500	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-45.0
C-31.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch EnergyGuard or EnergyGuard Ultra	OB500	(Optional) Additional layer of base insulation	OB500	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-270.0
C-32.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch EnergyGuard or min. 1.5-inch thick, min. 1.25 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-45.0
C-33.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-270.0
<b>TRIPOSITE ROOFING SYSTEM</b>								
C-34.	Structural concrete (primed)	(Optional) 1 or 2 plies GAFGLAS Ply 4 or FlexPly 6 in hot asphalt	Min. 1.5-inch EnergyGuard RA, EnergyGuard RN, or EnergyGuard Ultra	Hot Asphalt	(Optional) Additional layers of base insulation	Hot asphalt	Triposite System. See Note 17	-172.5
<b>EVERGUARD TPO FB ULTRA:</b>								



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

System No.	Deck (See Note 1)	Vapor Barrier	Base Insulation Layer		Top Insulation Layer		Roof Cover / Adhesive	MDP (psf)
			Type	Attach	Type	Attach		
C-35.	Structural concrete (primed)	(Optional) See Note A below	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN, EnergyGuard RM, H-Shield or EnergyGuard Ultra	Hot Asphalt	Min. 0.25-inch DensDeck	Hot asphalt	EverGuard TPO FB Ultra 450, 600 or 800 / Hot asphalt	-45.0
C-36.	Structural concrete	(Optional) See Note A below	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN, EnergyGuard RM, H-Shield or EnergyGuard Ultra	OB500	Min. 0.25-inch DensDeck	OB500	EverGuard TPO FB Ultra 450, 600 or 800 / Hot asphalt	-45.0

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 OB500 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 SBS Heat Weld Smooth heat welded: MDP -232.5 psf
2. For use with CR-20 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: CONCRETE DECKS - NEW CONSTRUCTION or REROOF (Tear-Off)**  
**SYSTEM TYPE F: NON-INSULATED, BONDED ROOF COVER**

System No.	Deck (See Note 1)	Roof Cover / Adhesive	MDP (psf)
C-37.	Min. 3,000 psi structural concrete primed with GAF Top-Coat Surface Seal SB	EverGuard Freedom TPO / self adhered	-410.0



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

System No.	Deck (See Note 1)		Base Insulation Layer		Coverboard		Roof Cover / Adhesive	MDP (psf)
	Struct Deck	LWC Deck (See Note 1)	Type	Attach	Type	Attach		
<b>EVERGUARD FREEDOM TPO</b>								
LWC-1.	Concrete	Min. 250 psi Mearlcrete	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500	None	N/A	EverGuard Freedom TPO / self adhered	-75.0
LWC-2.	Concrete	Min. 200 psi, min. 2-inch thick Elastizell	Min. 1.5-inch EnergyGuard	OB500	(Optional) Additional layer of base insulation	OB500	EverGuard Freedom TPO / self adhered	-142.5
LWC-3.	Concrete	Min. 200 psi, min. 2-inch thick Elastizell	(Optional) Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or H-Shield	OB500	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500	EverGuard Freedom TPO / self adhered	-225.0
LWC-4.	Concrete	Min. 200 psi, min. 2-inch thick Celcore, Elastizell or Mearlcrete	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard Freedom TPO / self adhered	-142.5
LWC-5.	Concrete	Min. 200 psi, min. 2-inch thick Elastizell	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or H-Shield	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard Freedom TPO / self adhered	-180.0
LWC-6.	Concrete	Min. 200 psi, min. 2-inch thick Celcore	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or H-Shield	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard Freedom TPO / self adhered	-222.5
LWC-7.	Concrete	Min. 200 psi, min. 2-inch thick Mearlcrete	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or H-Shield	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard Freedom TPO / self adhered	-240.0
<b>EVERGUARD TPO / EVERGUARD TPO #1121 BONDING ADHESIVE</b>								
LWC-8.	Concrete	Min. 200 psi, min. 2-inch thick Elastizell	Min. 2.0-inch, min. 1.0 pcf, ASTM C578 expanded polystyrene	OB500	Min. 0.25-inch DensDeck, DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	OB500	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-120.0
LWC-9.	Concrete	Min. 200 psi, min. 2-inch thick Elastizell	(Optional) Min. 1.5-inch EnergyGuard or Min. 1.0-inch Foamular 250	OB500	Min. 0.25-inch DensDeck or DensDeck Prime	OB500	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-130.0
LWC-10.	Concrete	Min. 200 psi, min. 2-inch thick Elastizell	Min. 1.5-inch EnergyGuard	OB500	(Optional) Additional layer of base insulation	OB500	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-180.0
LWC-11.	Concrete	Min. 200 psi, min. 2-inch thick Elastizell	(Optional) Min. 1.5-inch EnergyGuard	OB500	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-180.0
LWC-12.	Concrete	Min. 200 psi, min. 2-inch thick Elastizell	Min. 1.0-inch Foamular 250	OB500	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-225.0
LWC-13.	Concrete	Min. 200 psi, min. 2-inch thick Celcore, Elastizell or Mearlcrete	Min. 1.5-inch thick, min. 1.25 pcf density ASTM C578 expanded or extruded EPS board	CR-20	Min. 0.25-inch DensDeck, DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-87.5



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

System No.	Deck (See Note 1)		Base Insulation Layer		Coverboard		Roof Cover / Adhesive	MDP (psf)
	Struct Deck	LWC Deck (See Note 1)	Type	Attach	Type	Attach		
LWC-14.	Concrete	Min. 200 psi, min. 2-inch thick Celcore, Elastizell or Mearlcrete	(Optional) Min. 1.5-inch EnergyGuard or Min. 1.5-inch thick, min. 1.5 pcf density ASTM C578 expanded or extruded EPS board	CR-20	Min. 0.25-inch DensDeck or DensDeck Prime	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-130.0
LWC-15.	Concrete	Min. 200 psi, min. 2-inch thick Elastizell	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-180.0
LWC-16.	Concrete	Min. 200 psi, min. 2-inch thick Elastizell	(Optional) Min. 1.5-inch EnergyGuard or Min. 1.5-inch thick, min. 1.5 pcf density ASTM C578 expanded or extruded EPS board	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-180.0
LWC-17.	Concrete	Min. 200 psi, min. 2-inch thick Celcore	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-222.5
LWC-18.	Concrete	Min. 200 psi, min. 2-inch thick Celcore	(Optional) Min. 1.5-inch EnergyGuard or Min. 1.5-inch thick, min. 2.0 pcf density ASTM C578 expanded or extruded EPS board	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-222.5
LWC-19.	Concrete	Min. 200 psi, min. 2-inch thick Mearlcrete	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-240.0
LWC-20.	Concrete	Min. 200 psi, min. 2-inch thick Mearlcrete	(Optional) Min. 1.5-inch EnergyGuard or Min. 1.5-inch thick, min. 2.0 pcf density ASTM C578 expanded or extruded EPS board	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-240.0
<b>EVERGUARD TPO / EVERGUARD WB 181 BONDING ADHESIVE:</b>								
LWC-21.	Concrete	Min. 200 psi, min. 2-inch thick Elastizell	Min. 2.0-inch, min. 1.0 pcf, ASTM C578 expanded polystyrene	OB500	Min. 0.25-inch DensDeck Prime	OB500	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-120.0
LWC-22.	Concrete	Min. 200 psi, min. 2-inch thick Elastizell	(Optional) Min. 1.5-inch EnergyGuard or Min. 1.0-inch Foamular 250	OB500	Min. 0.25-inch DensDeck Prime	OB500	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-130.0
LWC-23.	Concrete	Min. 200 psi, min. 2-inch thick Elastizell	Min. 1.5-inch EnergyGuard	OB500	(Optional) Additional layer of base insulation	OB500	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-180.0
LWC-24.	Concrete	Min. 200 psi, min. 2-inch thick Celcore, Elastizell or Mearlcrete	Min. 1.5-inch thick, min. 1.25 pcf density ASTM C578 expanded or extruded EPS board	CR-20	Min. 0.25-inch DensDeck Prime	CR-20	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-87.5



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

System No.	Deck (See Note 1)		Base Insulation Layer		Coverboard		Roof Cover / Adhesive	MDP (psf)
	Struct Deck	LWC Deck (See Note 1)	Type	Attach	Type	Attach		
LWC-25.	Concrete	Min. 200 psi, min. 2-inch thick Celcore, Elastizell or Mearlcrete	(Optional) Min. 1.5-inch EnergyGuard or Min. 1.5-inch thick, min. 1.5 pcf density ASTM C578 expanded or extruded EPS board	CR-20	Min. 0.25-inch DensDeck Prime	CR-20	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-130.0
LWC-26.	Concrete	Min. 200 psi, min. 2-inch thick Elastizell	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-180.0
LWC-27.	Concrete	Min. 200 psi, min. 2-inch thick Celcore	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-222.5
LWC-28.	Concrete	Min. 200 psi, min. 2-inch thick Mearlcrete	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-240.0
<b>EVERGUARD TPO / EVERGUARD LOW VOC TPO BONDING ADHESIVE</b>								
LWC-29.	Concrete	Min. 200 psi, min. 2-inch thick Elastizell	(Optional) Min. 1.5-inch EnergyGuard, min. 2.0-inch, min. 1.0 pcf, ASTM C578 expanded polystyrene or Min. 1.0-inch Foamular 250	OB500	Min. 0.25-inch DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	OB500	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-45.0
LWC-30.	Concrete	Min. 200 psi, min. 2-inch thick Elastizell	Min. 1.5-inch EnergyGuard	OB500	(Optional) Additional layer of base insulation	OB500	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-180.0
LWC-31.	Concrete	Min. 200 psi, min. 2-inch thick Celcore, Elastizell or Mearlcrete	(Optional) Min. 1.5-inch EnergyGuard, min. 1.5-inch thick, min. 1.25 pcf density ASTM C578 expanded or extruded EPS board	CR-20	Min. 0.25-inch DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-45.0
LWC-32.	Concrete	Min. 200 psi, min. 2-inch thick Elastizell	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-180.0
LWC-33.	Concrete	Min. 200 psi, min. 2-inch thick Celcore	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-222.5
LWC-34.	Concrete	Min. 200 psi, min. 2-inch thick Mearlcrete	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-240.0



**TABLE 4B: LIGHTWEIGHT CONCRETE DECKS - NEW CONSTRUCTION or REROOF (Tear-Off)**  
**SYSTEM TYPE E: MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER**

System No.	Roof Deck (See Note 1)		Base Sheet			Roof Cover / Adhesive	MDP (psf)
	Structural Deck	LWC (See Note 1)	Type	Fasteners	Attach		
LWC-35.	Min. 22 ga., type B, Grade 33 vented steel at max. 6 ft spans attached 6-inch o.c. with 5/8-inch puddle welds.	Min. 250-300 psi, min. 2-inch thick cellular lightweight concrete	GAF STORMSAFE	Drill-Tec #12 screws and 3" Drill-Tec AccuTrac Plates (engage steel deck)	12-inch o.c. at the 4-inch lap and 12-inch o.c. in three, equally spaced, staggered rows in the center of the sheet	EverGuard Freedom TPO / self adhered	-45.0
LWC-36.	Min. 22 ga., type B, Grade 33 vented steel at max. 5 ft spans attached 6-inch o.c. with puddle welds & washers or Traxx/4 or 5 screws	Min. 200 psi, min. 2-inch thick Celcore	Tri-Flex 30	Drill-Tec CR Base Sheet Fasteners	9-inch o.c. in the 4-inch lap and 9-inch o.c. in three, equally spaced, staggered rows in the center of the sheet	EverGuard Freedom TPO / self adhered	-52.5
LWC-37.	Min. 22 ga., type B, Grade 33 vented steel at max. 6 ft spans attached 6-inch o.c. with puddle welds & washers or Traxx/4 or 5 screws	Min. 300 psi, min. 2-inch thick Mearlcrete	GAF STORMSAFE	Drill-Tec Locking Impact Nail, min. 1.8-inch	7.5-inch o.c. in the 4-inch lap and 12-inch o.c. in three, equally spaced, staggered rows in the center of the sheet	EverGuard Freedom TPO / self adhered	-52.5*



**TABLE 4C: LIGHTWEIGHT CONCRETE DECKS - NEW CONSTRUCTION or REROOF (Tear-Off)**  
**SYSTEM TYPE F: BONDED ROOF COVER**

System No.	Roof Deck (See Note 1)			Roof Cover / Adhesive	MDP (psf)
	Structural Deck	LWC (See Note 1)	Primer / Treatment		
LWC-38.	Min. 22 ga., type B, Grade 33 vented steel at max. 6 ft spans attached 6-inch o.c. with puddle welds & washers. Side laps 6-inch o.c. with #10 TEK screws.	Min. 300 psi, min. 2-inch thick Lite-Crete Plus	TOPCOAT Surface Seal SB at 0.83 gal/sq.	EverGuard Freedom TPO / self adhered	-67.5
LWC-39.	Min. 22 ga., type B, Grade 33 vented steel at max. 6 ft spans attached 6-inch o.c. with puddle welds & washers. Side laps 6-inch o.c. with #10 TEK screws.	Min. 300 psi, min. 2-inch thick Mearlcrete	TOPCOAT Surface Seal SB at 1.5 gal/sq.	EverGuard Freedom TPO / self adhered	-142.5
LWC-40.	3,000 psi structural concrete	Min. 250 - 300 psi, min. 2-inch thick Concrecel	TOPCOAT Surface Seal SB at 1.5 gal/sq.	EverGuard Freedom TPO / self adhered	-150.0
LWC-41.	3,000 psi structural concrete, GAF SBS Torch Grade granulated modified cap, heat welded to deck	Min. 300 psi, min. 2-inch thick LWC Products Lightweight Insulating Concrete	TOPCOAT Surface Seal SB at 1.5 gal/sq.	EverGuard Freedom TPO / self adhered	-172.5
LWC-42.	3,000 psi structural concrete	Min. 250 - 300 psi, min. 2-inch thick Celcore	TOPCOAT Surface Seal SB at 1.5 gal/sq.	EverGuard Freedom TPO / self adhered	-217.5
LWC-43.	2,500 psi structural concrete	Min. 300 psi, min. 2-inch thick Mearlcrete cellular LWC	TOPCOAT Surface Seal SB at 1.5 gal/sq.	EverGuard Freedom TPO / self adhered	-270.0
LWC-44.	3,000 psi structural concrete	Min. 300 psi, min. 2-inch thick LWC Products Lightweight Insulating Concrete	TOPCOAT Surface Seal SB at 1.5 gal/sq.	EverGuard Freedom TPO / self adhered	-325.0
LWC-45.	3,000 psi structural concrete	Min. 250 - 300 psi, min. 2-inch thick Elastizell	TOPCOAT Surface Seal SB at 1.5 gal/sq.	EverGuard Freedom TPO / self adhered	-382.5
LWC-46.	3,000 psi structural concrete	Min. 200 psi, min. 2-inch thick Celcore	None	EverGuard TPO FB Ultra 450, 600 or 800 / EverGuard TPO #1121 Bonding Adhesive at 1 gal/square.	-67.5



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

System No.	Deck (See Note 1)	Base Insulation Layer		Top Insulation Layer		Roof Cover / Adhesive	MDP (psf)
		Type	Attach	Type	Attach		
CWF-1.	Min. 2-inch Tectum Plank or Tectum LS Plank	Min. 1.5-inch EnergyGuard	OB500	(Optional) Additional layers base insulation, flat or tapered	OB500	EverGuard Freedom TPO / self adhered	-45.0
CWF-2.	Min. 2-inch Tectum Plank or Tectum LS Plank	Min. 1.5-inch EnergyGuard	OB500	(Optional) Additional layers base insulation, flat or tapered	OB500	EverGuard TPO / EverGuard TPO #1121, EverGuard WB 181 Bonding Adhesive	-45.0
CWF-3.	Min. 2-inch Tectum Plank or Tectum LS Plank or Fibroplank	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layers base insulation, flat or tapered	CR-20	EverGuard Freedom TPO / self adhered	-52.5
CWF-4.	Min. 2-inch Tectum Plank or Tectum LS Plank or Fibroplank	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layers base insulation, flat or tapered	CR-20	EverGuard TPO / EverGuard TPO #1121, EverGuard H2O, or EverGuard WB 181 Bonding Adhesive	-52.5



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

System No.	Deck (See Note 1)	Base Insulation Layer		Top Insulation Layer		Roof Cover	MDP (psf)
		Type	Attach	Type	Attach		
<b>EVERGUARD FREEDOM TPO</b>							
G-1.	Existing poured gypsum or gypsum plank	(Optional) Min. 1.5-inch EnergyGuard, EnergyGuard RA or EnergyGuard Ultra	OB500	Min. 0.5-inch EnergyGuard High Density Fiberboard	OB500	EverGuard Freedom TPO / self adhered	-50.0
G-2.	Existing poured gypsum or gypsum plank	Min. 1.5-inch EnergyGuard	OB500	(Optional) Additional layer of base insulation	OB500	EverGuard Freedom TPO / self adhered	-135.0
G-3.	Existing poured gypsum or gypsum plank	(Optional) Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or H-Shield	OB500	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500	EverGuard Freedom TPO / self adhered	-135.0
G-4.	Existing poured gypsum or gypsum plank	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard Freedom TPO / self adhered	-142.5
G-5.	Existing poured gypsum or gypsum plank	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or H-Shield	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard Freedom TPO / self adhered	-257.5
<b>EVERGUARD TPO / EVERGUARD TPO #1121 BONDING ADHESIVE</b>							
G-6.	Existing poured gypsum or gypsum plank	Min. 0.5-inch EnergyGuard High Density Fiberboard	OB500	None	N/A	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-215.0
G-7.	Existing poured gypsum or gypsum plank	Min. 2.0-inch, min. 1.0 pcf, ASTM C578 expanded polystyrene	OB500	Min. 0.25-inch DensDeck or DensDeck Prime	OB500	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-120.0
G-8.	Existing poured gypsum or gypsum plank	Min. 1.5-inch EnergyGuard or Min. 1.0-inch Foamular 250	OB500	Min. 0.25-inch DensDeck or DensDeck Prime	OB500	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-130.0
G-9.	Existing poured gypsum or gypsum plank	Min. 2-inch EnergyGuard RA, EnergyGuard RN or H-Shield	OB500	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-135.0
G-10.	Existing poured gypsum or gypsum plank	Min. 1.5-inch EnergyGuard	OB500	(Optional) Additional layer of base insulation	OB500	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-135.0
G-11.	Existing poured gypsum or gypsum plank	Min. 1.5-inch thick, min. 1.25 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-87.5
G-12.	Existing poured gypsum or gypsum plank	Min. 1.5-inch EnergyGuard or Min. 1.5-inch thick, min. 1.5 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch DensDeck or DensDeck Prime	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-130.0
G-13.	Existing poured gypsum or gypsum plank	One or more layers, min. 1.5-inch thick, min. 1.5 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-180.0
G-14.	Existing poured gypsum or gypsum plank	One or more layers, min. 1.5-inch thick, min. 2.0 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-240.0



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

System No.	Deck (See Note 1)	Base Insulation Layer		Top Insulation Layer		Roof Cover	MDP (psf)
		Type	Attach	Type	Attach		
G-15.	Existing poured gypsum or gypsum plank	Min. 2-inch EnergyGuard RA, EnergyGuard RN or H-Shield	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-247.5
G-16.	Existing poured gypsum or gypsum plank	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-257.5
<b>EVERGUARD TPO / EVERGUARD WB 181 BONDING ADHESIVE:</b>							
G-17.	Existing poured gypsum or gypsum plank	Min. 2.0-inch, min. 1.0 pcf, ASTM C578 expanded polystyrene	OB500	Min. 0.25-inch DensDeck Prime	OB500	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-120.0
G-18.	Existing poured gypsum or gypsum plank	Min. 1.5-inch EnergyGuard or Min. 1-inch Foamular 250	OB500	Min. 0.25-inch DensDeck Prime	OB500	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-130.0
G-19.	Existing poured gypsum or gypsum plank	Min. 1.5-inch EnergyGuard	OB500	(Optional) Additional layer of base insulation	OB500	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-135.0
G-20.	Existing poured gypsum or gypsum plank	Min. 1.5-inch thick, min. 1.25 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch DensDeck Prime	CR-20	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-87.5
G-21.	Existing poured gypsum or gypsum plank	Min. 1.5-inch EnergyGuard or Min. 1.5-inch thick, min. 1.5 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch DensDeck Prime	CR-20	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-130.0
G-22.	Existing poured gypsum or gypsum plank	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-257.5
<b>EVERGUARD TPO / EVERGUARD LOW VOC TPO BONDING ADHESIVE</b>							
G-23.	Existing poured gypsum or gypsum plank	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN, EnergyGuard RM or EnergyGuard Ultra, min. 2.0-inch, min. 1.0 pcf, ASTM C578 expanded polystyrene or Min. 1.0-inch Foamular 250	OB500	Min. 0.25-inch DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	OB500	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-45.0
G-24.	Existing poured gypsum or gypsum plank	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN, EnergyGuard RM or EnergyGuard Ultra	OB500	(Optional) Additional layer of base insulation	OB500	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-135.0
G-25.	Existing poured gypsum or gypsum plank	Min. 0.5-inch EnergyGuard High Density Fiberboard	OB500	None	N/A	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-215.0
G-26.	Existing poured gypsum or gypsum plank	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN, EnergyGuard RM or min. 1.5-inch thick, min. 1.25 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-45.0
G-27.	Existing poured gypsum or gypsum plank	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN, EnergyGuard RM	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-257.5



**Table 6B: GYPSUM DECKS - NEW CONSTRUCTION or REROOF (Tear-Off)**

**SYSTEM TYPE A-2: MECHANICALLY ATTACHED ANCHOR SHEET, BONDED INSULATION, BONDED ROOF COVER**

System No.	Deck (See Note 1)	Anchor Sheet			Temp Roof	Base Insulation		Top Insulation		Roof Cover / Adhesive	MDP (psf)
		Type	Fasteners	Attach		Type	Attach	Type	Attach		
G-28.	Existing poured gypsum or gypsum plank	GAFGLAS #75 Base Sheet or Tri-Ply #75 Base Sheet	Drill-Tec Base Sheet Fastener (1.2 in.)	9-inch o.c. in the min. 2-inch laps and 18-inch o.c. in two, equally spaced center rows	Ruberoid SBS Heat Weld 25, SBS Heat Weld Smooth, Torch Smooth or Tri-Ply TP-4	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN, EnergyGuard RM	OB500	Min. 0.25-inch DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board or min. 0.5-inch Structodek HD Fiberboard Roof Insulation	OB500	EverGuard TPO / EverGuard TPO #1121, EverGuard H2O, EverGuard WB 181 or EverGuard Low VOC TPO Bonding Adhesive	-45.0*

**TABLE 6C: GYPSUM DECKS - REROOF (Tear-Off)**

**SYSTEM TYPE F: NON-INSULATED, BONDED ROOF COVER**

System No.	Roof Deck	Primer / Treatment	Roof Cover / Adhesive	MDP (psf)
G-29.	Existing poured gypsum or gypsum plank	TOPCOAT Surface Seal SB	EverGuard Freedom TPO / self adhered	-490.0



**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	MDP (psf)
		Type	Attach	Type	Attach		
<b>EVERGUARD FREEDOM TPO</b>							
R-1.	Existing asphalt BUR or mineral surface cap sheet	(Optional) Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or EnergyGuard Ultra or min. 1.5-inch, FM Approved Premier Industries / Insulfoam EPS Board	OB500	Min. 0.25-inch DensDeck DuraGuard	OB500	EverGuard Freedom TPO / self adhered	-45.0
R-2.	Existing asphalt BUR or mineral surface cap sheet	(Optional) Min. 1.5-inch EnergyGuard, EnergyGuard RA or EnergyGuard Ultra	OB500	Min. 0.5-inch EnergyGuard High Density Fiberboard	OB500	EverGuard Freedom TPO / self adhered	-50.0
R-3.	Existing asphalt BUR or mineral surface cap sheet	Min. 1.5-inch EnergyGuard	OB500	(Optional) Additional layer of base insulation	OB500	EverGuard Freedom TPO / self adhered	-120.0
R-4.	Existing asphalt BUR or mineral surface cap sheet	(Optional) Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or H-Shield	OB500	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500	EverGuard Freedom TPO / self adhered	-120.0
R-5.	Existing smooth surface BUR, sand surfaced modified bitumen or granule surface modified bitumen	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard Freedom TPO / self adhered	-142.5
R-6.	Existing sand-surfaced modified bitumen	(Optional) Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or H-Shield	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard Freedom TPO / self adhered	-222.5
R-7.	Existing smooth surface BUR or granule surface modified bitumen	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	None	N/A	EverGuard Freedom TPO / self adhered	-245.0
R-8.	Existing smooth surface BUR	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or H-Shield	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard Freedom TPO / self adhered	-262.5
R-9.	Existing granule surfaced modified bitumen	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or H-Shield	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard Freedom TPO / self adhered	-270.0
<b>EVERGUARD TPO / EVERGUARD TPO #1121 BONDING ADHESIVE</b>							
R-10.	Existing asphalt BUR or mineral surface cap sheet	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN, EnergyGuard RM, or H-Shield	Hot Asphalt	(Optional) Min. 0.25-inch DensDeck Prime or min. 7/16-inch OSB	Hot asphalt	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-45.0
R-11.	Existing asphalt BUR or mineral surface cap sheet	Min. 1.5-inch, FM Approved Premier Industries / Insulfoam EPS Board	OB500	Min. 0.25-inch DensDeck Prime	OB500	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-45.0
R-12.	Existing asphalt BUR or mineral surface cap sheet	(Optional) Min. 1.5-inch EnergyGuard, min. 2.0-inch, min. 1.0 pcf, ASTM C578 expanded polystyrene or min. 1-inch Foamular 250	OB500	Min. 0.25-inch DensDeck or DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	OB500	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-120.0
R-13.	Existing asphalt BUR or mineral surface cap sheet	Min. 1.5-inch EnergyGuard or EnergyGuard Ultra	OB500	(Optional) Additional layer of base insulation	OB500	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-120.0
R-14.	Existing smooth surface BUR, sand surfaced modified bitumen or granule surface modified bitumen	Min. 1.5-inch thick, min. 1.25 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-87.5



**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	MDP (psf)
		Type	Attach	Type	Attach		
R-15.	Existing smooth surface BUR, sand surfaced modified bitumen or granule surface modified bitumen	Min. 1.5-inch EnergyGuard or Min. 1.5-inch thick, min. 1.5 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch DensDeck or DensDeck Prime	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-130.0
R-16.	Existing smooth surface BUR, sand surfaced modified bitumen or granule surface modified bitumen	One or more layers, min. 1.5-inch thick, min. 1.5 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-180.0
R-17.	Existing sand surfaced modified bitumen	(Optional) One or more layers, min. 1.5-inch thick, min. 2.0 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-222.5
R-18.	Existing sand surfaced modified bitumen	(Optional) Min. 2-inch EnergyGuard RA, EnergyGuard RN or H-Shield	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-222.5
R-19.	Existing sand surfaced modified bitumen	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-222.5
R-20.	Existing smooth surface BUR or granule surface modified bitumen	One or more layers, min. 1.5-inch thick, min. 2.0 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-240.0
R-21.	Existing smooth surface BUR or granule surface modified bitumen	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	None	N/A	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-245.0
R-22.	Existing smooth surface BUR or granule surface modified bitumen	Min. 2-inch EnergyGuard RA, EnergyGuard RN or H-Shield	CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-247.5
R-23.	Existing smooth surface BUR	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-262.5
R-24.	Existing granule surface modified bitumen	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-270.0
<b>EVERGUARD TPO / EVERGUARD WB 181 BONDING ADHESIVE:</b>							
R-25.	Existing asphalt BUR or mineral surface cap sheet	Min. 1.5-inch , FM Approved Premier Industries / Insulfoam EPS Board	OB500	Min. 0.25-inch DensDeck Prime	OB500	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-45.0
R-26.	Existing asphalt BUR or mineral surface cap sheet	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN or EnergyGuard RM, min. 2.0-inch, min. 1.0 pcf, ASTM C578 expanded polystyrene or min. 1-inch Foamular 250	OB500	Min. 0.25-inch DensDeck Prime	OB500	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-120.0
R-27.	Existing asphalt BUR or mineral surface cap sheet	Min. 1.5-inch EnergyGuard or EnergyGuard Ultra	OB500	(Optional) Additional layer of base insulation	OB500	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-120.0
R-28.	Existing asphalt BUR or mineral surface cap sheet	Min. 1.5-inch thick, min. 1.25 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch DensDeck Prime	CR-20	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-87.5



**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	MDP (psf)
		Type	Attach	Type	Attach		
R-29.	Existing smooth surface BUR, sand surfaced modified bitumen or granule surface modified bitumen	(Optional) Min. 1.5-inch EnergyGuard or Min. 1.5-inch thick, min. 1.5 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch DensDeck Prime	CR-20	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-130.0
R-30.	Existing sand surfaced modified bitumen	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-222.5
R-31.	Existing smooth surface BUR	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-245.0
R-32.	Existing granule surface modified bitumen	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard WB 181 Bonding Adhesive	-270.0
<b>EVERGUARD TPO / EVERGUARD LOW VOC TPO BONDING ADHESIVE</b>							
R-33.	Existing asphalt BUR or mineral surface cap sheet	Min. 1.5-inch EnergyGuard, EnergyGuard RA, EnergyGuard RN, EnergyGuard RM, or H-Shield	Hot Asphalt	(Optional) Min. 0.25-inch DensDeck Prime	Hot asphalt	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-45.0
R-34.	Existing asphalt BUR or mineral surface cap sheet	(Optional) Min. 1.5-inch EnergyGuard, min. 2.0-inch, min. 1.0 pcf, ASTM C578 expanded polystyrene or Min. 1-inch Foamular 250 or min. 1.5-inch , FM Approved Premier Industries / Insulfoam EPS Board	OB500	Min. 0.25-inch DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	OB500	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-45.0
R-35.	Existing asphalt BUR or mineral surface cap sheet	Min. 1.5-inch EnergyGuard or EnergyGuard Ultra	OB500	(Optional) Additional layer of base insulation	OB500	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-120.0
R-36.	Existing smooth surface BUR, sand surfaced modified bitumen or granule surface modified bitumen	(Optional) Min. 1.5-inch EnergyGuard or min. 1.5-inch thick, min. 1.25 pcf ASTM C578 EPS board	CR-20	Min. 0.25-inch DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	CR-20	EverGuard TPO / EverGuard Low VOC TPO Bonding Adhesive	-45.0
R-37.	Existing sand surfaced modified bitumen	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-222.5
R-38.	Existing smooth surface BUR	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-245.0
R-39.	Existing granule surface modified bitumen	Min. 1.5-inch EnergyGuard	CR-20	(Optional) Additional layer of base insulation	CR-20	EverGuard TPO / EverGuard TPO #1121 Bonding Adhesive	-270.0

**TABLE 7B: RECOVER APPLICATIONS**  
**SYSTEM TYPE F: NON-INSULATED, BONDED ROOF COVER**

System No.	Substrate (See Note 12)	Primer / Treatment	Roof Cover / Adhesive	MDP (psf)
R-40.	Existing asphaltic granule surface cap sheet	None	EverGuard TPO FB Ultra 450, 600 or 800 / Hot Asphalt	-405.0