



**BUILDING CODE COMPLIANCE OFFICE (BCCO)
PRODUCT CONTROL DIVISION**

**MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING
140 WEST FLAGLER STREET, SUITE 1603
MIAMI, FLORIDA 33130-1563
(305) 375-2901 FAX (305) 375-2908**

NOTICE OF ACCEPTANCE (NOA)

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

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by the BCCO and accepted by the Building Code and Product Review Committee to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Division (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: GAF EverGuard® Freedom™ TPO SA Single Ply Roofing System over Concrete Decks.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA 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 NOA revises NOA No. 04-0611.01 and consists of pages 1 through 13.
The submitted documentation was reviewed by Jorge L. Acebo.



**NOA No: 06-0620.07
Expiration Date: 05/27/09
Approval Date: 12/14/06
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ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	TPO, Self-Adhered Single Ply Roofing
Deck Type:	Concrete
Maximum Design Pressure	-285 psf
Fire Classification:	See General Limitation #1

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
EverGuard® Freedom™ TPO SA Membrane	Various	ASTM D 6878	Self-Adhered thermoplastic olefin reinforced membrane.
EverGuard® Freedom™ HW TPO Membrane	Various	ASTM D 6878	Self-Adhered thermoplastic olefin reinforced membrane.
EverGuard® Freedom™ EZ TPO Membrane	Various	ASTM D 6878	Self-Adhered thermoplastic olefin reinforced membrane.
Liberty™ Base/Ply Sheet	39.375" x 66'	ASTM D 5147	Self-adhering, SBS modified, fiberglass reinforced membrane for base or ply sheet applications.
TPO-45 mil Utility Flashing Strips	Various	ASTM D 6878	Thermoplastic olefin reinforced flashing membrane.
UN-55 Detailing Membrane	Various	ASTM D 6878	Thermoplastic olefin reinforced flashing membrane.
Coated Metal Sheets	4' x 10' sheets	US CS-245-62	TPO membrane laminated to 25 gauge galvanized sheet metal.
Preformed Corners	4" x 4" with 6" Flange 20 pcs. crtn.	ASTM D 6878	Prefabricated molded one piece corners.
Preformed Vent Boots	1" - 6" o.d. 6 pcs. crtn.	ASTM D 6878	Pre molded vent pipe boots.
Cut Edge Sealant	1 quart squeeze tube	Proprietary	Solvent based sealant for TPO cut edges.
Prefabricated Expansion Joint Cover	4"-8" x 50'	Proprietary	Low profile expansion joint cover.
Topcoat® Precote	1 gallon	Proprietary	Clear, solvent-based liquid applied as a primer/sealer coat.



<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Walkway Pads & Rolls	Pads - 1/8" x 30" x 36", Rolls – 1/8"x30"x50'	Proprietary	Standard duty walkway pads & rolls.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
EnergyGuard™ PolyIso, RA, RN, Ultra	Polyisocyanurate foam insulation	BMCA
EnergyGuard™ High Density Fiberboard	High density wood fiberboard insulation.	BMCA
EnergyGuard™ Perlite	Perlite insulation board.	BMCA
EnergyGuard™ Composite, RA, RN	Polyisocyanurate foam insulation with high density fiberboard or perlite insulation.	BMCA
Dens Deck®, Dens Deck Prime™	Water-resistant gypsum board	Georgia Pacific
Securock™	Fiber reinforced roof board	USG Corporation
Wood Fiberboard	Regular wood fiber insulation	Generic
High Density Wood Fiberboard	High Density Wood Fiber insulation board.	Generic
Perlite Insulation Board	Perlite Insulation	Generic
Type X Gypsum	Gypsum Wallboard	Generic

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Drill-Tec™ # 12 & #14 HD Roofing Fasteners	Insulation fastener for steel, wood & concrete decks.	Various	BMCA
2.	Drill-Tec™ Extra Heavy Duty # 15 Roofing Fastener (XHD)	Self tapping coated screw w/#3 Phillips head.	Various	BMCA
3.	Drill-Tec™ Super Extra Heavy Duty # 21 Roofing Fastener (SXHD)	Self tapping coated carbon steel screw w/#3 Phillips head.	Various	BMCA



APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
4.	Drill-Tec™ Spikes	Insulation fastener for concrete decks.	Various	BMCA
5.	Drill-Tec™ Extra Heavy Duty ASAP	AZ55 Galvalume coated barber steel plate used with fastener.	Plate Diameter: 2- ³ / ₈ "	BMCA
6.	Drill-Tec™ HD Plate	AZ55 Galvalume coated barber steel plate used with fastener.	Plate Diameter: 2"	BMCA
7.	Drill-Tec™ Plastic Plates	Round plastic plate.	Plate Diameter: 3"	BMCA
8.	Drill-Tec™ Metal Plates	Round galvalume plate.	Plate Diameter: 3"	BMCA
9.	Drill-Tec™ Membrane Plates	Round nylon reinforced seam plate.	Plate Diameter: 2"	BMCA.
11.	OlyBond Adhesive Fastener	Dual component adhesive fastener	N/A	Olympic Mfg. Group, Inc.

EVIDENCE SUBMITTED:

<u>Test Agency/Identifier</u>	<u>Name</u>	<u>Report</u>	<u>Date</u>
Underwriters Laboratory, Inc.	03CA38009	UL 790	01/21/04
Factory Mutual Research Corp.	3020588	FM 4470	03/24/04
IRT-Arcon, Inc.	04-003	TAS 114	03/09/04
	04-021	TAS 114	05/13/04
	04-022	TAS 114	05/13/04
	04-023	TAS 114	05/13/04
Exterior Research and Design, LLC	TAS 114-D	G4280LAB.10.06	10/20/06



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APPROVED ASSEMBLIES

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete.

System Type A(1): All layers of insulation are adhered to the deck. Membrane fully or partially adhered.

All General and System Limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ PolyIso, EnergyGuard™ Ultra Minimum 1.5" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in ¾" to 1" wide beads 6" o.c. of Olympic OlyBond500™ Adhesive Fastener or OlyBond Adhesive at a rate of 1 gal./sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: EverGuard® Freedom™ TPO SA or Freedom™ TPO EZ adhered to insulation with a minimum 6" side lap fully self-adhered or Freedom™ HW (self-adhered) with a minimum 3" side lap heat welded with a minimum 1.75" weld.

Maximum Design

Pressure: -122.5 psf (For EnergyGuard™ Ultra) (See General Limitation #9.)
-142.5 psf (For EnergyGuard™ PolyIso) (See General Limitation #9.)



Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete.

System Type A(2): Optional anchor sheet fully adhered. One or more layers of insulation adhered with OlyBond500™ Adhesive. Membrane fully adhered.

All General and System Limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ PolyIso, EnergyGuard™ Ultra Minimum 1.5" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in ¾" to 1" wide beads 6" o.c. of Olympic OlyBond500™ Adhesive Fastener or OlyBond at a rate of 1 gal./sq.. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Anchor sheet: (Optional) One or more plies of GAFGLAS® #75 Base Sheet, GAFGLAS® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Base Sheet, Ruberoid® Mop Smooth or Ruberoid® 20 adhere to deck with approved mopping asphalt applied at a rate of 20-40 lbs./sq.

Membrane: EverGuard® Freedom™ TPO SA or Freedom™ TPO EZ adhered to insulation or anchor sheet with a minimum 6" side lap fully self-adhered or Freedom™ HW (self-adhered) with a minimum 3" side lap heat welded with a minimum 1.75" weld.

Maximum Design Pressure: -102.5 psf (See General Limitation #9.)



Membrane Type: SBS, Self-Adhered
Deck Type 3I: Concrete Decks, Insulated, New Construction or Re-roof
Deck Description: 2500 psi structural concrete or concrete plank
System Type A(3): Insulation is adhered to the deck with approved adhesive. Membrane is subsequently fully adhered.

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Dens Deck® Minimum 1/4" thick	N/A	N/A

Note: Insulation shall be adhered to the deck with OlyBond500™ adhesive applied in continuous 3/4" to 1" wide beads at a maximum spacing of 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One layer of Liberty™ Base/Ply Sheet, self-adhered
Membrane: EverGuard® Freedom™ TPO SA or Freedom™ TPO EZ adhered to insulation with a minimum 6" side lap fully self-adhered or Freedom™ HW (self-adhered) with a minimum 3" side lap heat welded with a minimum 1.75" weld.
Maximum Design Pressure: -122.5 psf (See General Limitation #9)



Membrane Type: SBS, Self-Adhered
Deck Type 3I: Concrete Decks, Insulated, New Construction or Re-roof
Deck Description: 2500 psi structural concrete or concrete plank
System Type A(4): Insulation adhered to deck with approved adhesive. Membrane is subsequently fully adhered.

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Securock™ Minimum 1/4" thick	N/A	N/A

Note: Insulation shall be adhered to the deck with OlyBond500™ adhesive applied in continuous 3/4" to 1" wide beads at a maximum spacing of 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One layer of Liberty™ Base/Ply Sheet, self-adhered
Membrane: EverGuard® Freedom™ TPO SA or Freedom™ TPO EZ adhered to insulation with a minimum 6" side lap fully self-adhered or Freedom™ HW (self-adhered) with a minimum 3" side lap heat welded with a minimum 1.75" weld.
Maximum Design Pressure: -270 psf (See General Limitation #9)



Membrane Type: SBS, Self-Adhered
Deck Type 3I: Concrete Decks, Insulated, New Construction or Re-roof
Deck Description: 2500 psi structural concrete or concrete plank
System Type A(5): Insulation adhered to deck with approved adhesive. Membrane is subsequently fully adhered.

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Dens Deck® Minimum 1/4" thick	N/A	N/A

Note: Insulation shall be adhered to the deck with OlyBond500™ adhesive applied in continuous 3/4" to 1" wide beads at a maximum spacing of 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation shall be primed with ASTM D-41 Asphalt Primer and allowed to dry prior to application of base sheet.

Base Sheet: One layer of Liberty™ Base/Ply Sheet, self-adhered
Membrane: EverGuard® Freedom™ TPO SA or Freedom™ TPO EZ adhered to insulation with a minimum 6" side lap fully self-adhered or Freedom™ HW (self-adhered) with a minimum 3" side lap heat welded with a minimum 1.75" weld.
Maximum Design Pressure: -167.5 psf (See General Limitation #9)



Membrane Type: SBS, Self-Adhered
Deck Type 3I: Concrete Decks, Insulated, New Construction or Re-roof
Deck Description: 2500 psi structural concrete or concrete plank
System Type A(6): Insulation adhered to deck with approved adhesive. Membrane is subsequently fully adhered.

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Securock™ Minimum 1/4" thick	N/A	N/A

Note: Insulation shall be adhered to the deck with OlyBond500™ adhesive applied in continuous 3/4" to 1" wide beads at a maximum spacing of 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation shall be primed with ASTM D-41 Asphalt Primer and allowed to dry prior to application of base sheet.

Base Sheet: One layer of Liberty™ Base/Ply Sheet, self-adhered
Membrane: EverGuard® Freedom™ TPO SA or Freedom™ TPO EZ adhered to insulation with a minimum 6" side lap fully self-adhered or Freedom™ HW (self-adhered) with a minimum 3" side lap heat welded with a minimum 1.75" weld.
Maximum Design Pressure: -285 psf (See General Limitation #9)



Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete.

System Type B: Base layer of insulation mechanically attached to roof deck. Any subsequent layers are then adhered to base layer of insulation. Membrane is subsequently adhered to insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ PolyIso Minimum 2" thick	1, 2 or 3	1:2 ft²

Note: Base layers of insulation shall be mechanically attached using the fastener density listed. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ PolyIso Minimum 1.5" thick	N/A	N/A

Note: Apply optional top layer of insulation in ¾" to 1" wide beads 6" o.c. of Olympic OlyBond500™ Adhesive Fastener or OlyBond Adhesive at a rate of 1 gal./sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: EverGuard® Freedom™ TPO SA or Freedom™ TPO EZ adhered to insulation with a minimum 6" side lap fully self-adhered or Freedom™ HW (self-adhered) with a minimum 3" side lap heat welded with a minimum 1.75" weld.

Maximum Design Pressure: -52.5 psf (See General Limitation #7.)



Deck Type 3: Concrete Decks, Non-insulated

Deck Description: 2500 psi structural concrete.

System Type F(1): Membrane fully adhered directly to deck.

All General and System Limitations apply.

Primer: Topcoat® Precote at an application rate of 1gal./100 ft².

Membrane: EverGuard® Freedom™ TPO SA or Freedom™ TPO EZ adhered to insulation with a minimum 6” side lap fully self-adhered or Freedom™ HW (self-adhered) with a minimum 3” side lap heat welded with a minimum 1.75” weld.

Maximum Design

Pressure: -242.5 psf. (See General Limitation #9)

Deck Type 3: Concrete Decks, Non-insulated

Deck Description: 2500 psi structural concrete.

System Type F(2): Membrane fully adhered directly to the primed deck.

All General and System Limitations apply.

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of base sheet.

Base Sheet: One layer of Liberty™ Base/Ply Sheet, self-adhered

Membrane: EverGuard® Freedom™ TPO SA or Freedom™ TPO EZ adhered to insulation with a minimum 6” side lap fully self-adhered or Freedom™ HW (self-adhered) with a minimum 3” side lap heat welded with a minimum 1.75” weld.

Maximum Design

Pressure: -220 psf. (See General Limitation #9)



CONCRETE DECK SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117, calculations shall be signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant.

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each side lap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform with Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9B-72 of the Florida Administrative Code.

END OF THIS ACCEPTANCE



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