MIAMI-DADE

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 Wood 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. 05-0830.15 and consists of pages 1 through 9.
The submitted documentation was reviewed by Jorge L. Acebo.

ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: TPO, Self-Adhered Single Ply Roofing

Deck Type: Wood
Maximum Design Pressure -105 psf
Fire Classification: See General Limitation #1

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
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.
TPO-45 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 25 Ga. galvanized sheet metal.
TPO Preformed Corners	4" x 4" x 4" 20 pcs. crtn.	ASTM D 6878	Prefabricated molded one piece corners.
TPO Preformed Vent Boots	1" - 8" 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.
Walkway Pads & Rolls	Pads - 1/8" x 30" x 36", Rolls – 1/8"x30"x50'	Proprietary	Standard duty walkway pads & rolls.
Anchor Safe™ (P015 Underlayment)	40" wide	Proprietary	Synthetic Underlayment

Product	Dimensions	Test Specification	Product Description
FireOut™ Fire Barrier Coating	N/A	N/A	Low VOC, water-based coating system that provides outstanding flame spread and penetration to combustible roof decks in the event of fire.

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	G-P Gypsum Corp.
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 Standard & #14 HD Roofing Fasteners	Insulation fastener for steel, wood & concrete decks.	various	BMCA.
2.	Drill-Tec™ ASAP	Pre-assembled fasteners and metal and plastic plates.	various	BMCA..

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
3.	Drill-Tec™ Plastic Polypropylene Plates	Round Polypropylene plate.	Plate Diameter: 3" & 3-½"	BMCA.
4.	Drill-Tec™ Metal Insulation Plates	Round galvalume plate.	Plate Diameter: 3" & 3-½"	BMCA.
5.	Annular Ring Shank Nails & Tin Caps	Galvanized steel roofing nails with tin caps.	Nail: Various lengths Tin Caps: 1"	Others (Dade County Approved)
6.	OlyBond500™ & OlyBond Adhesive Fastener	Dual component adhesive fastener	N/A	Olympic Mfg. Group, Inc.
7.	Tite-Set® Adhesive	Two component self-leveling elastomeric polyurethane froth adhesive	N/A	Polyfoam N/A

EVIDENCE SUBMITTED:

Test Agency/Identifier	Name	Report	Date
Underwriters Laboratory, Inc.	UL 790	03CA38009	01/21/04
Factory Mutual Research Corp.	FM 4470	3B9Q1.AM	01/08/98
	FM 4470	3020588	03/24/04
IRT-ARCON	TAS 114	02-005	01/18/01
	TAS 114	04-025	07/13/04
Exterior Research and Design, LLC	TAS 114	02762.03.05	03/20/05
	TAS 114	01515.02.06	02/8/06

APPROVED ASSEMBLIES:

Deck Type 1I: Wood, Insulated

Deck Description: $^{19}/_{32}$" or greater plywood or wood plank

System Type A(1): (Optional) FireOut™ Fire Barrier Coating over the deck . All layers of insulation are adhered to a mechanically attached anchor sheet. Membrane fully or partially adhered.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
EnergyGuard™ PolyIso, RA, RN Minimum 1" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2 or ¾" to 1" wide beads spaced at 6" o.c. of Olympic OlyBond500™ Adhesive or Olympic Adhesive Fastener at a rate of 1 gal/100 ft^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Anchor sheet: GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® # 75 Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Base Sheet, Ruberoid® 20 or Ruberoid® Mop Smooth mechanically fastened to deck as described; Anchor sheet attached to deck with approved annular ring shank nails and tin caps at a fastener spacing of 9" o.c. at the lap staggered and in two rows 12" o.c. in the field.

Membrane: EverGuard® Freedom™ TPO SA or Freedom™ TPO EZ adhered to insulation with a minimum 6" side lap
or
EverGuard® Freedom™ HW with a minimum 3" side lap. Laps are heat welded with a minimum 1.75" weld
or
EverGuard® Freedom™ EZ fully adhered to the insulation with a minimum 21"self-adhered laps.

Maximum Design Pressure: -45 psf (See General Limitation #7)

Deck Type 1I: Wood, Insulated

Deck Description: Min. 19/32" plywood or OSB attached 6" o.c. to wood supports at max. 2' o.c. using 8d common nails.

System Type A(2): (Optional) FireOut™ Fire Barrier Coating over the deck . All insulation layers are adhered to the deck. Membrane is subsequently fully adhered to the insulation.

All General and System Limitations apply.

Base Insulation Layer (Table 2)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
One or more layers of EnergyGuard™ PolyIso Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer (Optional) (Table 2)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Dens Deck®, Dens Deck Prime™ or Securock™ Minimum ¼"	**N/A**	**N/A**
EnergyGuard™ High Density Fiberboard Minimum ½"	**N/A**	**N/A**

Note: All insulation shall be adhered to the deck in Tite-Set® adhesive in 3" – 3-1/2" ribbons spaced at 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: EverGuard® Freedom™ TPO SA or EverGuard® Freedom™ with RapidSeam™ TPO 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 # 9.)

Deck Type 1I: Wood, Insulated

Deck Description: $^{19}/_{32}$" or greater plywood or wood plank

System Type C: (Optional) FireOut™ Fire Barrier Coating over the deck . One or more layers of insulation simultaneously attached; Base layer(s) optional.

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/ft^2**
EnergyGuard™ PolyIso, RA, RN Minimum 1" thick	**N/A**	**N/A**
Dens Deck®, Dens Deck Prime™ Minimum ¼ " thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
EnergyGuard™ PolyIso, RA, RN Minimum 1.5" thick	**1**	**1:3 ft^2**

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. 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.

Membrane: EverGuard® Freedom™ TPO SA or Freedom™ TPO EZ adhered to insulation with a minimum 6" side lap
or
EverGuard™ Freedom™ HW with a minimum 3" side lap. Laps are heat welded with a minimum 1.75" weld
or
EverGuard™ Freedom™ EZ fully adhered to the insulation with a minimum 21" self-adhered laps.

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

Deck Type 1I:	Wood, Non-Insulated
Deck Description:	Minimum $^{19}/_{32}$" plywood to supports max. 24" o.c. with # 10 wood screws max. 6" o.c.
System Type E:	(Optional) FireOut™ Fire Barrier Coating over the deck. Underlayment is mechanically attached to the deck. Membrane fully or partially adhered to the underlayment.
Underlayment:	Anchor Safe™ (P015 Underlayment) is mechanically fastened to deck as described below;
Fastening Options:	Underlayment is attached to the deck with FBC HVHZ tin-caps and nails at 9" o.c. in the 4" laps and 9" o.c. in two staggered rows in the field. ***(Maximum Design Pressure -45 psf, see General Limitation # 7)***
	Underlayment is attached to the deck with Drill-Tec™ # 12 Fastener & 3" Plates at 8" o.c. in the 4" laps and 8" o.c. in three staggered rows in the field. ***(Maximum Design Pressure -105 psf, see General Limitation # 7)***
Membrane:	EverGuard® Freedom™ TPO SA or EverGuard® Freedom™ with RapidSeam™ TPO 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:	See fastening options above.

WOOD DECK SYSTEM LIMITATIONS:

1 A slip sheet is required with Ply 4 and Ply 6 when used as a mechanically fastened base or anchor sheet.

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