MIAMI-DADE COUNTY
BUILDING AND NEIGHBORHOOD COMPLIANCE DEPARTMENT (BNC)
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
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NOTICE OF ACCEPTANCE (NOA)

Firestone Building Products Company
250 West 96th Street
Indianapolis, IN 46260

SCOPE:
This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County BNC - Product Control Section 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 Section (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. BNC reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section 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 and the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Firestone UltraPly TPO & TPO XR Single Ply Roof Systems over Recover 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. 08-0508.06 and consists of pages 1 through 15.
The submitted documentation was reviewed by Jorge L. Acebo.

MIAMI-DADE COUNTY APPROVED

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Single Ply Roofing
Materials:	TPO
Deck Type:	Recover
Maximum Design Pressure	See specific deck type

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specifications	Product Description
UltraPly TPO	Various	TAS 131-95	Reinforced TPO 0.045" to 0.080" thick membrane.
UltraPly TPO XR 100	Various	TAS 131-95	Reinforced TPO.
UltraPly TPO XR 115	Various	TAS 131-95	Reinforced TPO.
TPO QuickSeam Flashing	5-3/4" x 100'	Proprietary	Flashing material with pre-applied adhesive.
UltraPly QuickSeam R.M.A. Strip	10" x 100'	Proprietary	Strip of UltraPly TPO with QuickSeam Tape for anchoring membrane to substrate.
Single-Ply QuickPrime	1 gallon & # gallon	Proprietary	Primer for TPO QuickSeam Flashing.
EdgeGard System	Various	Various	Flashing materials and assemblies.
XR Bonding Adhesive	5 gal. pail	Proprietary	Solvent based adhesive.
UltraPly Bonding Adhesive	5 gal. pail	Proprietary	Solvent based adhesive.
Firestone I.S.O Stick Adhesive	5 gal	Proprietary	A dual component polyurethane adhesive.
Firestone I.S.O Twin Pack	5 gal	Proprietary	A dual component polyurethane adhesive.
Firestone I.S.O Fix II Adhesive	5 gal	Proprietary	A single component polyurethane adhesive.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ISO 95+ GL	Polyisocyanurate foam insulation	Firestone Bldg. Products
ISOGARD HD	Polyisocyanurate with a coated fiberglass facer	Firestone Bldg. Products
ISOGARD HD Composite	Polyisocyanurate with a coated fiberglass facer composite insulation.	Firestone Bldg. Pro. Co.
DensDeck Prime	Silicon treated gypsum	G-P Products

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Firestone HD Fastener	#15 Fastener for steel, Wood, concrete decks	N/A	Firestone Bldg. Products
2.	Firestone AP Fastener	#14 Fastener for steel, Wood, concrete decks	N/A	Firestone Bldg. Products
3.	UltraPly TPO 2-3/8" Barbed Seam Plate	Membrane seam attachment plate	2-3/8" diameter	Firestone Bldg. Products
4.	Pre-Assembled AP fastener & plate	#14 w/insulation plate for steel, Wood, concrete decks	N/A	Firestone Bldg. Products
5.	Pre-Assembled HD fastener & plate	#15 w/insulation plate for steel, Wood, concrete decks	N/A	Firestone Bldg. Products
6.	Firestone HD Plus Fastener	Insulation and membrane fastener	Various	Firestone Bldg. Products
7.	Firestone HD HailGard Fastener	Insulation and membrane fastener	Various	Firestone Bldg. Products
8.	Firestone Concrete Drive Fastener	Structural concrete fastener	Various	Firestone Bldg. Products
9.	Firestone Purlin Fasteners		Various	Firestone Bldg. Products
10.	Firestone Insulation Fastening Plate	Galvalume insulation plate	3" diameter	Firestone Bldg. Products
11.	Firestone HD Plus Seam Plate	Galvalume insulation plate	2¾" diameter	Firestone Bldg. Products
12.	HD Seam Plates	AZ55 or AZ50 galvalume insulation plate.	2-3/8" diameter	Firestone Bldg. Pro. Co.
14.	Firestone Coiled Metal Batten Bar	Galvalume AZ55 batten strip	220' long, 1" wide	Firestone Bldg. Pro. Co.

EVIDENCE SUBMITTED:

Test Agency	Test Identifier	Description	Date
Underwriters Laboratories Inc.	01NK17982	UL 790	06/05/01
	00NK43467	UL 790	01/22/01
	03NK34486	UL 790	03/22/05
Factory Mutual Research Corporation	3032272	FM 4470	05/22/09
	3036642	FM 4470	10/09/09
	3030650	FM 4470	05/16/08
	3035560	FM 4470	01/11/10
	3019991	FM 4470	09/20/05
	3017120	FM 4470	04/30/04
Trinity|ERD	F8300.07.08	TAS 131/ ASTM D6878	07/30/08
	F8300.11.08-R3	TAS 131/ ASTM D6878	02/25/11

APPROVED ASSEMBLIES

Membrane Type: Single Ply, TPO, Reinforced

Deck Type 7I: Recover, Insulated

Deck Description: Steel/Concrete

System Type A(1): One or more layers of insulation adhered with approved adhesive; membrane fully adhered.

All General and System Limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
DensDeck Prime Minimum ¼" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the deck in full mopping of aproved asphalt within the EVT range and at a rate of 20-25 lbs/sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Firestone UltraPly TPO XR 100 or UltraPly TPO XR I15 fully adhered to insulation layer with hot asphalt applied at a rate of 20-25 lbs/sq. The minimum 3" roof cover laps are sealed with a minimum 1.5 in. heat weld along the outside edge.

Maximum Design Pressure: -457.5 psf (See General Limitation #9)

Membrane Type: Single Ply, TPO, Reinforced

Deck Type 7I: Recover, Insulated

Deck Description: Steel/Concrete

System Type A(2): One or more layers of insulation adhered with approved adhesive; membrane fully adhered.

All General and System Limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
DensDeck Prime Minimum ¼" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the deck in full mopping of aproved asphalt within the EVT range and at a rate of 20-25 lbs/sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Firestone UltraPly TPO XR 100 or UltraPly TPO XR 115 fully adhered to insulation layer with Firestone XR Bonding Adhesive at a rate of 70-90 ft^2/gal. The minimum 3" roof cover laps are sealed with a minimum 1.5 in. heat weld along the outside edge.

Maximum Design Pressure: -300 psf (See General Limitation #9)

Membrane Type: Single Ply, TPO, Reinforced

Deck Type 7I: Recover, Insulated

Deck Description: Steel/Concrete

System Type A(3): One or more layers of insulation adhered with approved adhesive; membrane fully adhered.

All General and System Limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ISOGARD HD Minimum ½" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the deck in full mopping of aproved asphalt within the EVT range and at a rate of 20-25 lbs/sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Firestone UltraPly TPO XR 100 or UltraPly TPO XR 115 fully adhered to insulation layer with Firestone XR Bonding Adhesive at a rate of 70-90 ft^2/gal. The minimum 3" roof cover laps are sealed with a minimum 1.5 in. heat weld along the outside edge.

Maximum Design Pressure: -420 psf (See General Limitation #9)

Membrane Type: Single Ply, TPO, Reinforced

Deck Type 7I: Recover, Insulated

Deck Description: Steel/Concrete

System Type B(1): Base layer of insulation mechanically fastened, optional top layer fully adhered.

All General and System Limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ISOGARD HD Composite Minimum 1" thick	**1 or 2 (steel only) with 10** **8 (concrete only) with 10**	**1: 1.33 ft^2**

Note: Base layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density. See Roofing Application Standard RAS 117 for fastening details.

Membrane: Firestone UltraPly TPO membrane fully adhered to the top insulation layer with Firestone UltraPly Bonding Adhesive applied to both the substrate and the underside of the roof cover for a combined rate of 120 ft^2/gal. The roof cover side and end laps are sealed with a minimum 1.5 in. heat weld along the outside edge.

Maximum Design Pressure: -60.0 psf (See General Limitation #7)

Membrane Type: Single Ply, TPO, Reinforced

Deck Type 7I: Recover, Insulated

Deck Description: Concrete

System Type B(2): Base layer of insulation mechanically fastened, optional top layer fully adhered.

All General and System Limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ISOGARD HD Composite Minimum 1.5" thick	**8 with 10**	**1: 1.33 ft^2**

Note: Base layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density. See Roofing Application Standard RAS 117 for fastening details.

Membrane: Firestone UltraPly TPO membrane fully adhered to the top insulation layer with Firestone UltraPly Bonding Adhesive applied to both the substrate and the underside of the roof cover for a combined rate of 120 ft^2/gal. The roof cover side and end laps are sealed with a minimum 1.5 in. heat weld along the outside edge.

Maximum Design Pressure: -112.5 psf (See General Limitation #7)

Membrane Type: Single Ply, TPO, Reinforced

Deck Type 7I: Recover, Insulated

Deck Description: Concrete

System Type B(3): Base layer of insulation mechanically fastened, optional top layer fully adhered.

All General and System Limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ISOGARD HD Composite Minimum 2" thick	**8 with 10**	**1: 1.33 ft^2**

Note: Base layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density. See Roofing Application Standard RAS 117 for fastening details.

Membrane: Firestone UltraPly TPO membrane fully adhered to the top insulation layer with Firestone UltraPly Bonding Adhesive applied to both the substrate and the underside of the roof cover for a combined rate of 120 ft^2 /gal. The roof cover side and end laps are sealed with a minimum 1.5 in. heat weld along the outside edge.

Maximum Design Pressure: -120.0 psf (See General Limitation #7)

Membrane Type: Single Ply, TPO, Reinforced

Deck Type 7I: Recover, Insulated

Deck Description: Concrete

System Type B(4): Base layer of insulation mechanically fastened, optional top layer fully adhered.

All General and System Limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ISO 95+ GL Minimum 2" thick	**8 with 10**	**1:1 ft^2**

Top Insulation Layer (cover board)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ISOGARD HD Minimnm ½" thick	**N/A**	**N/A**

Note: Base layer shall be mechanically attached with fasteners and density described. Top layer of iusulation shall be adhered to base insulations with Firestone I.S.O. Twin Pack Insulation Adhesive in continuous ½" – ¾" wide beads spaced 12" o.c. or Firestone I.S.O. FIX II Adhesive or I.S.O. Stick Adhesive Fastener applied in continuous ¾" – 1" wide ribbons spaced 12" o.c. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Membrane: Firestone UltraPly TPO membrane fully adhered to the top insulation layer with Firestone UltraPly Bonding Adhesive applied to both the substrate and the underside of the roof cover for a combined rate of 120 ft^2/gal. The roof cover side and end laps are sealed with a minimum 1.5 in. heat weld along the outside edge.

Maximum Design Pressure: -90.0 psf (See General Limitation #7)

Membrane Type: Single Ply, TPO, Reinforced

Deck Type 7I: Recover, Insulated

Deck Description: Steel/Concrete

System Type C(1): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ISO 95+ GL **Minimum 1.5" thick**	**N/A**	**N/A**

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.

Top Insulation Layer (cover board)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ISOGARD HD **Minimum ½" thick**	**1 or 2 (steel only) with 10** **8 (concrete only) with 10**	**1: 1.33 ft^2**

Membrane: Firestone UltraPly TPO membrane fully adhered to the top insulation layer with Firestone UltraPly Bonding Adhesive applied to both the substrate and the underside of the roof cover for a combined rate of 120 ft^2/gal. The roof cover side and end laps are sealed with a minimum 1.5 in. heat weld along the outside edge.

Maximum Design Pressure: -60.0 psf (See General Limitation #7)

Membrane Type: Single Ply, TPO, Reinforced

Deck Type 7I: Recover, Insulated

Deck Description: Steel/Concrete

System Type C(2): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ISO 95+ GL **Minimum 1.5" thick**	**N/A**	**N/A**

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.

Top Insulation Layer (cover board)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ISOGARD HD **Minimum 1" thick**	**1 or 2 (steel only) with 10** **8 (concrete only) with 10**	**1: 1.8 ft^2**

Membrane: Firestone UltraPly TPO membrane fully adhered to the top insulation layer with Firestone UltraPly Bonding Adhesive applied to both the substrate and the underside of the roof cover for a combined rate of 120 ft^2/gal. The roof cover side and end laps are sealed with a minimum 1.5 in. heat weld along the outside edge.

Maximum Design Pressure: -45.0 psf (See General Limitation #7)

Membrane Type:	Single Ply, TPO, Reinforced
Deck Type 7:	Recover
Deck Description:	Steel (Verified to meet ASTM SS Grade 80) / Concrete
System Type E(1):	Membrane Mechanically Fastened

All General and System Limitations apply.

Barrier:	None.
Membrane:	Firestone UltraPly TPO XR 100 or UltraPly TPO XR 115 attached to deck as described below.
Fastening #1:	Membrane is mechanically attached using Firestone HD Plus Fasteners and HD Plus Seam Plates spaced 12" o.c. within minimum 6" wide laps in rows spaced 114" o.c. and sealed with minimum 1.5" heat weld along the outside edge.
Fastening #2:	Membrane is mechanically attached using Firestone HD Fasteners and HD Seam Plates spaced 6" o.c. within minimum 6" wide laps in rows spaced 114" o.c. and sealed with minimum 1.5" heat weld along the outside edge.
Maximum Design Pressure:	-45 psf (See General Limitation #7)

Membrane Type:	Single Ply, TPO, Reinforced
Deck Type 7:	Recover
Deck Description:	Steel
System Type E(2):	Membrane Mechanically Fastened

All General and System Limitations apply.

Barrier:	None.
Membrane:	Firestone UltraPly TPO XR 100 or UltraPly TPO XR 115 attached to deck as described below. Membrane is mechanically attached using Firestone HD Plus Fasteners and HD Plus Seam Plates spaced 6" o.c. within minimum 6" wide laps in rows spaced 114" o.c. and sealed with minimum 1.5" heat weld along the outside edge.
Maximum Design Pressure:	-67.5 psf (See General Limitation #7)

Membrane Type:	Single Ply, TPO, Reinforced
Deck Type 7:	Recover
Deck Description:	Steel/Concrete
System Type F:	Membrane adhered to substrate

All General and System Limitations Apply.

Membrane:	One ply of UltraPly TPO XR 100 or UltraPly TPO XR 115 adhered with hot asphalt at a rate of 20-25 lb/sq. Minimum 3" roof cover laps are sealed with a minimum 1.5" heat weld along the outside edge.
Maximum Design Pressure:	-495 psf;(See General Limitation #9)

RECOVER SYSTEM LIMITATIONS:

1. All System Limitations and General Limitations shall apply. See specific deck type Notice of Acceptance for deck type System Limitations.

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 and or RAS 137. 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 to 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