



MIAMI-DADE COUNTY
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)

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 by Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) 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 and the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Firestone UltraPly TPO and TPO XR Single Ply Roof Systems over Recover Deck

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 new NOA consists of pages 1 through 12.

The submitted documentation was reviewed by Jorge L. Acebo



NOA No.: 08-0508.06
Expiration Date: 02/03/15
Approval Date: 02/03/10
Page 1 of 12

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

<u>Product</u>	<u>Dimensions</u>	<u>Test Specifications</u>	<u>Product Description</u>
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.
UltraPly TPO Unsupported Flashing	.060 x 24" x 50'	TAS 131-95	Un-reinforced TPO.
UltraPly TPO T-joint Cover	.060 x 4" x 4"	TAS 131-95	Un-reinforced TPO.
UltraPly TPO Cut Edge Sealant	11 oz. Tube	Proprietary	Synthetic Rubber.
Pourable Sealer S-10 Part A & B	1 can of Part A to 1 can of Part B	Proprietary	Two part Polyurethane sealant.
Water Block Seal (S-20)	10 oz. Tube	Proprietary	Water Sealant.
UltraPly TPO General Purpose Sealant	10.3 oz. Tube	Proprietary	Butyl Rubber Sealant.
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.
UltraPly TPO QuickPrime	1 gallon & # gallon	Proprietary	Primer for TPO QuickSeam Flashing.
UltraPly TPO Small and Large Pipe Flashing	Small and large	TAS 131-95	Un-reinforced TPO molded TPO pipe flashing.
UltraPly TPO Inside & Outside Corners	Pre-molded corners	TAS 131-95	Un-reinforced TPO molded TPO inside and outside corners.
UltraPly TPO Coated Metal	4' x 10' sheets	Proprietary	TPO coated metal.
Metal Insulation Plate	.017 - .023 x 3"	FM 4450	Round Batten Plate.



Termination Bar	.087 x 1.08" x 10'	3003-H14, 3105-H14 or 6063-T5, or T6 Aluminum	Aluminum bar for flashing terminations.
Edgegard System	Various	Various	Flashing materials and assemblies.
UltraPly TPO Walkway Pad	X 50'	Proprietary	Recycled thermoplastic Walkway Pads.
Splice Wash SW-100	5 gallon pail	Proprietary	Cleaning and prep solution for TPO.
XR Bonding Adhesive	5 gal. pail	Proprietary	Solvent based adhesive.
Water Based Bonding Adhesive S	5 gal. pail	Proprietary	Water 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.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ISO 95+ GL	Polyisocyanurate foam insulation	Firestone Bldg. Products
ISO 95+ GL Woodfiber Composite	Polyisocyanurate / wood fiber insulation	Firestone Bldg. Products
ISO 95+ GL Perlite Composite	Polyisocyanurate / perlite insulation	Firestone Bldg. Products
Firestone 3/8" Dens-Deck	Fire resistant rated gypsum	Firestone Bldg. Products
FiberTop, FiberTop C	Woodfiber insulation board	Firestone Bldg. Products
HailGard	Polyisocyanurate insulation with a 7/16" OSB on the top side	Firestone Bldg. Products
ISOGARD HD	Polyisocyanurate with a coated fiberglass facer	Firestone Bldg. Products
High Density Wood Fiberboard	Non-Asphaltic fiberboard Insulation	Generic
Sturdi-Top / high density Wood fiberboard	Non-Asphaltic fiberboard Insulation	G-P Products
Dens Deck, Dens Deck 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.	Hex Insulation Plate	AZ 50 Galvalume steel stress plate	3-1/4"x 2-7/8"	Firestone Bldg. Products
5.	Pre-Assembled AP fastener & plate	#14 w/insulation plate for steel, Wood, concrete decks	N/A	Firestone Bldg. Products
6.	Pre-Assembled HD fastener & plate	#15 w/insulation plate for steel, Wood, concrete decks	N/A	Firestone Bldg. Products
7.	Firestone HD Plus Fastener	Insulation and membrane fastener	Various	Firestone Bldg. Products
8.	Firestone HD HailGard Fastener	Insulation and membrane fastener	Various	Firestone Bldg. Products
9.	Firestone Concrete Drive Fastener	Structural concrete fastener	Various	Firestone Bldg. Products
10.	UltraPly TPO InvisiWeld Plates	Adhesive coated metal plates	3" diameter	Firestone Bldg. Products
11.	Firestone Purlin Fasteners		Various	Firestone Bldg. Products
12.	Firestone Insulation Fastening Plate	Galvalume insulation plate	3" diameter	Firestone Bldg. Products

EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
Factory Mutual Research Corporation	3032272	FM 4470	05/22/09
	3036642	FM 4470	10/09/09
	3030650	FM 4470	05/16/08
Trinity ERD	F8300.07.08	Physical Property	07/30/08
	F8300.03.09-R2	TAS 131/ ASTM D6878	03/25/09
	F8960.04.08	TAS-114(D)/ TAS-114(F)	04/15/08



APPROVED ASSEMBLIES

- Membrane Type:** Single Ply, TPO, Reinforced
- Deck Type 7I:** Recover, Insulated
- Deck Description:** Steel/Concrete/Gypsum/CWF/ Treated Wood
- 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/ft²
DensDeck Prime Minimum ¼” thick	N/A	N/A

Note: All insulation shall be adhered to the deck in full mopping of approved 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 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.

Maximum Design Pressure:
 -457.5 psf; steel and concrete decks (See General Limitation #9)
 -45 psf; all other deck types (See General Limitation #9)



Membrane Type: Single Ply, TPO, Reinforced
Deck Type 7I: Recover, Insulated
Deck Description: Steel/Concrete/Gypsum/CWF/ Treated Wood
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/ft²
DensDeck Prime Minimum ¼" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in full mopping of approved 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 ft²/gal. The minimum 3" roof cover laps are sealed with a minimum 1.5 in. heat weld.

Maximum Design Pressure:
 -300 psf; steel and concrete decks (See General Limitation #9)
 -45 psf; all other deck types (See General Limitation #9)



Membrane Type: Single Ply, TPO, Reinforced
Deck Type 7I: Recover, Insulated
Deck Description: Steel/Concrete/Gypsum/CWF/ Treated Wood
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/ft²
ISOGARD HD Minimum ½" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in full mopping of approved 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 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.

Maximum Design Pressure: -45 psf (See General Limitation #9)



Membrane Type: Single Ply, TPO, Reinforced
Deck Type 7I: Recover, Insulated
Deck Description: Steel/Concrete/Gypsum/CWF/ Treated Wood
System Type A(4): 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/ft²
ISOGARD HD Minimum ½" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in full mopping of approved 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 ft²/gal. The minimum 3" roof cover laps are sealed with a minimum 1.5 in. heat weld.

Maximum Design Pressure:
 -420 psf; steel and concrete decks (See General Limitation #9)
 -45 psf; all other deck types (See General Limitation #9)



Membrane Type: Single Ply, TPO, Reinforced
Deck Type 7I: Recover, Insulated
Deck Description: Steel, Concrete
System Type D: All layers of insulation and base sheet simultaneously attached.

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: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

- Membrane:** Firestone UltraPly TPO mechanically fastened to the deck through the insulation as described below:
- Fastening #1:** Steel - 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 142" o.c. Side laps are sealed with a minimum 1.5" heat weld.
Maximum Design Pressure: -60 psf (See General Limitation #7)
- Fastening #2:** Steel - Membrane is mechanically attached using Firestone HD Plus Fasteners and 1" wide Firestone Coiled Metal Batten Strip with fasteners spaced 6" o.c. along the batten bar within minimum 6" wide laps in rows spaced 142" o.c. Side laps are sealed with a minimum 5" heat weld.
Maximum Design Pressure: -60 psf (See General Limitation #7)
- Fastening #3:** Steel - 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. Side laps are sealed with a minimum 1.5" heat weld.
Maximum Design Pressure: -67.5 psf (See General Limitation #7)
- Fastening #4:** Steel - Membrane is mechanically attached using Firestone HD Plus Fasteners and 1" wide Firestone Coiled Metal Batten Strip with fasteners spaced 6" o.c. along the batten bar within minimum 6" wide laps in rows spaced 114" o.c. Side laps are sealed with a minimum 5" heat weld.
Maximum Design Pressure: -67.5 psf (See General Limitation #7)
- Fastening #5:** Steel and Concrete - Membrane is mechanically attached using Firestone HD Fasteners and HD Seam Plates spaced 12" o.c. within minimum 6" wide laps in rows spaced 142" o.c. Side laps are sealed with a minimum 1.5" heat weld.
Maximum Design Pressure: -52.5 psf (See General Limitation #7)
- Fastening #6:** Steel and Concrete - Membrane is mechanically attached using Firestone HD Fasteners and 1" wide Firestone Coiled Metal Batten Strip with fasteners spaced 6" o.c. along the batten bar within minimum 6" wide laps in rows spaced 142" o.c. Side laps are sealed with a minimum 5" heat weld.
Maximum Design Pressure: -52.5 psf (See General Limitation #7)
- Maximum Design Pressure:** See Fastening Options Above



Membrane Type: Single Ply, TPO, Reinforced
Deck Type 7: Recover
Deck Description: Steel or Concrete
System Type E(1): Base Sheet Mechanically Fastened

All General and System Limitations apply.

Barrier: None.
Membrane: Firestone UltraPly TPO XR 100 or UltraPly TPO XR 115 attached to deck through the preliminary attached insulation 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.
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.
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): Base Sheet Mechanically Fastened

All General and System Limitations apply.

Barrier: None.
Membrane: Firestone UltraPly TPO XR 100 or UltraPly TPO XR 115 attached to deck through the preliminary attached insulation as described below.
Fastening #1: 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.
Maximum Design Pressure: -67.5 psf (See General Limitation #7)



Membrane Type: Single Ply, TPO, Reinforced
Deck Type 7: Recover
Deck Description: Steel/Concrete/CWF/Gypsum/Treated Wood
System Type F(1): 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.

Maximum Design Pressure: -495 psf; steel and concrete decks (See General Limitation #9)
-45 psf; all other deck types (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



NOA No.: 08-0508.06
Expiration Date: 02/03/15
Approval Date: 02/03/10
Page 12 of 12