



**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
310 E. 96th Street
Indianapolis, IN. 46240**

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 TPO Single Ply Roof Systems over Steel 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 NOA renews NOA No. 05-0803.02 and consists of pages 1 through 10.
The submitted documentation was reviewed by Jorge L. Acebo



**NOA No.: 07-0813.07
Expiration Date: 11/27/12
Approval Date: 10/18/07
Page 1 of 10**

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Single Ply Roofing
Materials:	TPO
Deck Type:	Steel
Maximum Design Pressure	-97.5 psf

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 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		Synthetic Rubber
Pourable Sealer S-10 Part A & B	1 can of Part A to 1 can of Part B		Two part Polyurethane sealant
Water Block Seal (S-20)	10 oz. Tube		Water Sealant
UltraPly TPO General Purpose Sealant	10.3 oz. Tube		Butyl Rubber Sealant
TPO QuickSeam Flashing	5-3/4" x 100'		Flashing material with pre-applied adhesive
UltraPly TPO QuickPrime	1 gallon & # gallon		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		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'		Recycled thermoplastic Walkway Pads
Splice Wash SW-100	5 gallon pail		Cleaning and prep solution for TPO



NOA No.: 07-0813.07
 Expiration Date: 11/27/12
 Approval Date: 10/18/07
 Page 2 of 10

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ISO 95+ GL	Polyisocyanurate foam insulation	Firestone Bldg. Pro. Co.
ISO 95+ GL Woodfiber Composite	Polyisocyanurate / woodfiber insulation	Firestone Bldg. Pro. Co.
ISO 95+ GL Perlite Composite	Polyisocyanurate / perlite insulation	Firestone Bldg. Pro. Co.
Firestone 3/8" Dens-Deck	Fire resistant rated gypsum	Firestone Bldg. Pro. Co.
FiberTop	Woodfiber insulation board	Firestone Bldg. Pro. Co.
ACFoam II	Polyisocyanurate foam insulation	Atlas Energy Products
High Density Wood Fiberboard	Non-Asphaltic fiberboard Insulation	Generic
Sturdi-Top / high density Wood fiberboard	Non-Asphaltic fiberboard Insulation	Georgia-Pacific
E'NRG'Y 2	Polyisocyanurate foam insulation	Johns Manville
Multi-Max FA	Polyisocyanurate Insulation	RMAX

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. Pro. Co.
2.	Firestone AP Fastener	#14 Fastener for steel, Wood, concrete decks	N/A	Firestone Bldg. Pro. Co.
3.	UltraPly TPO 2-3/8" Barbed Seam Plate	Membrane seam attachment plate	2-3/8" diameter	Firestone Bldg. Pro. Co.
4.	Hex Insulation Plate	AZ 50 Galvalume steel stress plate	3-1/4"x 2-7/8"	Firestone Bldg. Pro. Co.
5.	Pre-Assembled AP fastener & plate	#14 w/insulation plate for steel, Wood, concrete decks	N/A	Firestone Bldg. Pro. Co.
6.	Pre-Assembled HD fastener & plate	#15 w/insulation plate for steel, Wood, concrete decks	N/A	Firestone Bldg. Pro. Co.



EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
Underwriters Laboratories Inc.	01NK17982	Fire Classifications-see current directory	June 5, 2001
	00NK43467	Fire Classifications-see current directory	January 22, 2001
	99NK5401	Fire Classifications-see current directory	August 17, 1999
	99NK3276	Fire Classifications-see current directory	March 30, 1999
	98NK39140	Fire Classifications-see current directory	May 13, 1999
	98NK25593	Fire Classifications-see current directory	September 1998
Factory Mutual Research Corporation	J. I. 3006983	Wind Uplift	February 8, 2000
	J. I. 3004249	Wind Uplift	November 3, 1999
	J. I. 3003830	Wind Uplift	May 26, 1999
	J. I. 3001925	Wind Uplift	May 24, 1999
	3014031	4470	07/22/02
	3014918	4470	12/17/03
	3012931	Wind Uplift	04/04/04
	3016670	4470	04/29/04
	3017120	4470	04/30/04
	3020394	4470	09/03/04
	3022988	4470	01/28/05



APPROVED ASSEMBLIES:

- Membrane Type:** Single Ply, TPO, Reinforced
- Deck Type 2I:** Steel, Insulated
- Deck Description:** Minimum 22 gauge Grade C steel deck secured to supports space a maximum 6' o.c. with ITW Buildex Traxx/5 spaced 6" o.c. Side laps fastened with ITW Buildex Traxx/1 spaced 24" o.c.
- System Type C(1):** All layers of insulation simultaneously attached, membrane fully adhered.

All General and System Limitations apply.

- Barrier:** None.
- Membrane:** Firestone UltraPly TPO (45-80 mils) Reinforced Membrane fully adhered to the mechanically attached insulation as described below.
- Fastening #1:** Membrane is fully adhered with Firestone UltraPly Bonding Adhesive at a rate of 60 sq. ft./gal. (Coverage area is for adhesive application to both mating surfaces) to minimum 7/16" Oriented Strand Board that has been placed on top of minimum 1.5" ISO 95+ GL. Oriented Strand Board is attached to deck with Firestone AP or HD fasteners and insulation plates at a density of 1 per 2 sq. ft. *(Maximum Design Pressure:-75 psf; See General Limitation #7.)*
- Fastening #2:** Membrane is fully adhered with Firestone UltraPly Bonding Adhesive at a rate of 60 sq. ft./gal. (Coverage area is for adhesive application to both mating surfaces) to minimum 1.5" Firestone HailGard Insulation that has been attached with Firestone AP or HD Fasteners and Insulation Plates at a density of 1 per 2 sq. ft. *(Maximum Design Pressure:-75 psf; See General Limitation #7.)*
- Fastening #3:** Membrane is fully adhered with Firestone UltraPly Bonding Adhesive at a rate of 60 sq. ft./gal. (Coverage area is for adhesive application to both mating surfaces). To minimum 1.5" Firestone ISO 95+ GL that has been attached with Firestone AP or HD Fasteners and Insulation Plates at a density of 1 per 1.78 sq. ft. *(Maximum Design Pressure:-60 psf; See General Limitation #7.)*
- Maximum Design Pressure:** See Fastening Options Above



Membrane Type: Single Ply, TPO, Reinforced

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga. Grade E steel deck secured to supports space at maximum 6 ft o.c. with ITW Buildex Traxx/5 spaced at 6" o.c. Side lap fastened with ITW Buildex Traxx/1 spaced at 24" o.c

System Type D(1): Membrane mechanically attached over preliminary fastened 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
ISO 95+ GL, ACFoam II, E'NRG'Y II, Multi-Max FA Minimum 1.5" thick	N/A	N/A
(Optional) Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Dens Deck Minimum ¼" thick	N/A	N/A
FiberTop C or E, High Density Wood Fiber, Sturdi-Top/High Density Wood Fiber Minimum ½" thick	N/A	N/A

Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane 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.

Barrier: None.

Membrane: Firestone UltraPly TPO (45-80 mils) Reinforced Membrane attached to deck through the preliminary attached insulation as specified below.

Fastening #1: Membrane is mechanically attached using Firestone HD+ Fasteners and HD+Seam Plates spaced 12" o.c. within minimum 6" wide laps in rows 9'-6" o.c. Laps sealed with a minimum 5" wide hot air heat weld.
(Maximum Design Pressure:-45 psf; See General Limitation #7.)

Fastening #2: Membrane is mechanically attached using Firestone HD Fasteners and UltraPly TPO Wide Weld Seam Plates spaced 12" o.c. within minimum 6" wide laps in rows 7'-6" o.c. Laps sealed with a minimum 5" wide hot air heat weld.
(Maximum Design Pressure:-45 psf; See General Limitation #7.)

Fastening #3: Membrane is mechanically attached using Firestone HD Fasteners and 1" wide Metal Batten Bars centered within the 6" wide side laps. Fasteners spaced 6" o.c. along the batten bar. Batten bar rows were spaced 9'-6" o.c. Laps sealed with a minimum 5" wide hot air heat weld.
(Maximum Design Pressure:-75 psf; See General Limitation #7.)



- Fastening #4:** Membrane is mechanically attached using Firestone HD Fasteners and 3/4" wide Polymer Batten Strips centered within the 6" wide side laps. Fasteners spaced 6" o.c. along the batten bar. Batten bar rows were spaced 9'-6" o.c. Laps sealed with a minimum 5" wide hot air heat weld.
(Maximum Design Pressure:-60 psf; See General Limitation #7.)
- Fastening #5:** Membrane is mechanically attached using Firestone HD+ Fasteners and 3/4" wide Polymer Batten Strips centered within the 6" wide side laps. Fasteners spaced 6" o.c. along the batten bar. Batten bar rows were spaced 9'-6" o.c. Laps sealed with a minimum 5" wide hot air heat weld.
(Maximum Design Pressure:-75 psf; See General Limitation #7.)
- Fastening #6:** Membrane is mechanically attached using Firestone HD Fasteners and HD Seam Plates 12" o.c. within minimum 6" wide laps. Laps are spaced 90" o.c. and sealed with minimum 1.5" heat weld.
(Maximum Design Pressure:-45 psf; See General Limitation #7.)
- Fastening #7:** Membrane is mechanically attached using Firestone HD Plus Fasteners and HD Plus Seam Plates spaced 12" o.c. within minimum 6" wide laps. Laps are spaced a maximum 114" o.c. and sealed with minimum 1.5" heat weld.
(Maximum Design Pressure:-45 psf; See General Limitation #7.)
- Fastening #8:** Membrane is mechanically attached using Firestone HD Plus Fasteners and HD Plus Seam Plates spaced 6" o.c. within minimum 6" wide laps. Laps are spaced at maximum 90" o.c. and sealed with minimum 5" heat weld.
(Maximum Design Pressure:-90 psf; See General Limitation #7.)
- Fastening #9:** Membrane is mechanically attached using Firestone HD Plus Fastener and 1" Metal Battens centered with the minimum 6" wide laps. Fasteners are spaced 6" o.c. along the batten bars. Batten rows are spaced at maximum 90" o.c. and sealed with minimum 5" heat weld.
(Maximum Design Pressure:-97.5 psf; See General Limitation #7.)
- Maximum Design Pressure:** See Fastening Options Above



Membrane Type: Single Ply, TPO, Reinforced

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga. Grade E steel deck secured to supports space at maximum 6 ft o.c. with ITW Buildex Traxx/5 spaced at 6" o.c. Side lap fastened with ITW Buildex Traxx/1 spaced at 24" o.c

System Type D(2): Membrane mechanically attached over preliminary fastened 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
ISO 95+ GL, ACFoam II, E'NRG'Y II, Multi-Max FA Minimum 2" thick	N/A	N/A
(Optional) Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Dens Deck Minimum ¼" thick	N/A	N/A
FiberTop C or E, High Density Wood Fiber, Sturdi-Top/High Density Wood Fiber Minimum ½" thick	N/A	N/A

Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane 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.

Barrier: None.

Membrane: Firestone UltraPly TPO (45-80 mils) Reinforced Membrane attached to deck through the preliminary attached insulation as specified below.

Fastening: Membrane is mechanically attached using Firestone HD Fasteners and HD Seam Plates spaced 6" o.c. within minimum 6" wide laps. Laps are spaced at maximum 114" o.c. and sealed with a minimum 1.5" wide heat weld.

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



Membrane Type: Single Ply, TPO, Reinforced
Deck Type 2I: Steel, Insulated
Deck Description: Minimum 22 gauge Grade C steel deck secured to supports space at maximum 6 ft. o.c. with ITW Buildex Traxx/5 spaced 6" o.c. Side laps fastened with ITW Buildex Traxx/1 spaced 24" o.c.
System Type D(3): Membrane mechanically attached over preliminary fastened insulation.

All General and System Limitations apply.

Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four (4) fasteners for any insulation board having no dimension greater than 8 ft.

Barrier: None.
Membrane: Firestone UltraPly TPO (45-80 mils) Reinforced Membrane attached 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. Laps are spaced at maximum 90" o.c. and sealed with a minimum 1.5" heat weld.
(Maximum Design Pressure:-45 psf; See General Limitation #7.)
Fastening #2: Membrane is mechanically attached using Firestone HD Plus Fasteners and 1" metal batten centered within minimum 6" wide laps. Fasteners are spaced 6" o.c. along the batten bar. Batten bar rows are spaced 90" o.c. and sealed with a minimum 5" heat weld.
(Maximum Design Pressure:-82.5 psf; See General Limitation #7.)
Fastening #3: Membrane is mechanically attached using Firestone HD Plus Fasteners and HD Plus Seam Plates spaced 6" o.c. within minimum 6" wide laps. Laps are spaced at maximum 90" o.c. and sealed with a minimum 5" heat weld.
(Maximum Design Pressure:-82.5 psf; See General Limitation #7.)
Maximum Design Pressure: See Fastening Options Above



STEEL 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 137, calculations shall be signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant.
2. For steel deck application where specific deck construction is not referenced: The deck shall be a minimum 22 gage attached with 5/8" puddle welds with weld washers at every flute with maximum deck spans of 5 ft. o.c.

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 Professional Engineer, Registered 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 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.)**

END OF THIS ACCEPTANCE



NOA No.: 07-0813.07
Expiration Date: 11/27/12
Approval Date: 10/18/07
Page 10 of 10