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)

Firestone Building Product Company
525 Congressional Boulevard
Carmel, IN. 46032-5607

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 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 revises NOA# 02-0520.01 consists of pages 1 through 9.
The submitted documentation was reviewed by Jorge Acebo, RC.

ROOFING SYSTEM APPROVAL

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

Deck Type: Steel
Maximum Design Pressure -75 psf
Fire Classification: See General Limitation #1

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" or 0.060" 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" round	FM 4450	
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 Pas	X 50'		Recycled thermoplastic Walkway Pads
Splice Wash SW-100	5 gallon pail		Cleaning and prep solution for TPO

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ISO 95+ GL	Polyisocyanurate foam insulation	Firestone Bld. Pro. Co.
ISO 95+ GL Woodfiber Composite	Polyisocyanurate / woodfiber insulation	Firestone Bld. Pro. Co.
ISO 95+ GL Perlite Composite	Polyisocyanurate / perlite insulation	Firestone Bld. Pro. Co.
Firestone 3/8" Dens-Deck	Fire resistant rated gypsum	Firestone Bld. Pro. Co.
FiberTop	Woodfiber insulation board	Firestone Bld. 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 Bld. Pro. Co.
2.	Firestone AP Fastener	#14 Fastener for steel, Wood, concrete decks	N/A	Firestone Bld. Pro. Co.
3.	UltraPly TPO 2-3/8" Barbed Seam Plate	Membrane seam attachment plate	2-3/8" diameter	Firestone Bld. Pro. Co.
4.	Hex Insulation Plate	AZ 50 Galvalume steel stress plate	3-¼"x 2-7/8"	Firestone Bld. Pro. Co.
5.	Pre-Assembled AP fastener & plate	#14 w/insulation plate for steel, Wood, concrete decks	N/A	Firestone Bld. Pro. Co.
6.	Pre-Assembled HD fastener & plate	#15 w/insulation plate for steel, Wood, concrete decks	N/A	Firestone Bld. Pro. Co.

EVIDENCE SUBMITTED:

Test Agency	Test Identifier	Description	Date
Underwriters Laboratories Inc.	01NK17982	Fire Classifications-see current directory	June 5, 2001
Underwriters Laboratories Inc.	00NK43467	Fire Classifications-see current directory	January 22, 2001
Underwriters Laboratories Inc.	99NK5401	Fire Classifications-see current directory	August 17, 1999

Test Agency	Test Identifier	Description	Date
Underwriters Laboratories Inc.	99NK3276	Fire Classifications-see current directory	March 30, 1999
Underwriters Laboratories Inc.	98NK39140	Fire Classifications-see current directory	May 13, 1999
Underwriters Laboratories Inc.	98NK25593	Fire Classifications-see current directory	September 1998
Factory Mutual Research Corporation	J. I. 3006983	Wind Uplift	February 8, 2000
Factory Mutual Research Corporation	J. I. 3004249	Wind Uplift	November 3, 1999
Factory Mutual Research Corporation	J. I. 3003830	Wind Uplift	May 26, 1999
Factory Mutual Research Corporation	J. I. 3001925	Wind Uplift	May 24, 1999
Factory Mutual Research Corporation	J. I. 3012931	Wind Uplift	April 04, 2004

APPROVED ASSEMBLIES:

Membrane Type: Single Ply, TPO, Reinforced

Deck Type 2I: Steel, Insulated, New Construction, Reroof

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/ft^2**
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/ft^2**
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 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.)

Maximum Design Pressure: See Fastening options above

Membrane Type: Single Ply, TPO, Reinforced

Deck Type 2I: Steel, Insulated, New Construction, Reroof

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/ft^2**
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/ft^2**
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 Reinforced Membrane attached to deck through the preliminary attached insulation as specified below.

Fastening: Membrane is mechanically attached using Firestone HD Fasteners and HD Barbed 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)

MANUFACTURING LOCATION

1. Firestone Building Product Company
   320 Innovation Way
   Wellford, SC 29385

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 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 Engineer, 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 sidelap 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 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.)**

END OF THIS ACCEPTANCE