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
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 High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Firestone TPO Single Ply Roof Systems over Lightweight Concrete 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 consists of pages 1 through 9.
The submitted documentation was reviewed by Jorge L. Acebo

ROOFING SYSTEM APPROVAL

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

Deck Type: Lightweight Insulating Concrete
Maximum Design Pressure -135 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" 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

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	3-¼"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:

Test Agency	Test Identifier	Description	Date
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
Atlantic & Caribbean Roof Consulting, LLC	ACRC 05-002	TAS 114	01/18/05
	ACRC 02-002	TAS 114	01/07/03

APPROVED ASSEMBLIES:

Membrane Type: Single Ply, TPO Reinforced

Deck Type 4I: Lightweight Concrete, Insulated

Deck Description: Cellular Lightweight Concrete

System Type A(1): Membrane Fully Adhered

All General and System Limitations apply.

Base Insulation Layer	Insulation Fasteners	Fastener Density / ft^2
Expanded Polystyrene placed within the Lightweight concrete Minimum 1" thickness	**N/A**	**N/A**

Membrane: Fully adhere the Firestone UltraPly TPO (45-80 mil) Reinforced Membrane to the minimum 2" top layer of Lightweight Concrete with Firestone UltraPly Bonding Adhesive at a rate of 60 sq. ft./gal. (coverage area is for adhesive application to both mating surfaces).

Maximum Design Pressure: -67.5 psf (See General Limitation #9).

Membrane Type:	Single Ply, TPO Reinforced
Deck Type 4I:	Lightweight Concrete, Insulated
Deck Description:	Cellular Lightweight Concrete
System Type A(2):	Membrane Fully Adhered

All General and System Limitations apply.

Base Insulation Layer	**Insulation Fasteners**	**Fastener Density / ft^2**
Expanded Polystyrene placed within the Lightweight Concrete Minimum 1" thickness	**N/A**	**N/A**
Lightweight Concrete Minimum 2" over the EPS	**HD**	**1 per 2 sq. ft.**

Membrane:	Fully adhere the Firestone UltraPly TPO (45-80 mil) Reinforced Membrane to the minimum 2" top layer of Lightweight Concrete with Firestone UltraPly Bonding Adhesive at a rate of 60 sq. ft./gal. (coverage area is for adhesive application to both mating surfaces).
Maximum Design Pressure:	-135 psf (See General Limitation #7).

Membrane Type:	Single Ply, TPO Reinforced
Deck Type 4:	Lightweight Concrete, Non-insulated
Deck Description:	Cellular Lightweight Concrete
System Type F(1):	Membrane Fully Adhered

All General and System Limitations apply.

Membrane:	Fully adhere the Firestone UltraPly TPO (45-80 mils) Reinforced Membrane to the minimum 2" top layer of Lightweight Concrete with Firestone UltraPly Bonding Adhesive at a rate of 60 sq. ft./gal. (coverage area is for adhesive application to both mating surfaces).
Maximum Design Pressure:	-67.5 psf (See General Limitation #9).

Membrane Type:	Single Ply, TPO Reinforced
Deck Type 4:	Lightweight Concrete, Non-insulated
Deck Description:	Cellular Lightweight Concrete
System Type F(2):	Membrane Fully Adhered

All General and System Limitations apply.

Base Insulation Layer	**Insulation Fasteners**	**Fastener Density / ft^2**
Lightweight Concrete Minimum 2" over deck	**HD**	**1 per 2 sq. ft.**

Membrane:	Fully adhere the Firestone UltraPly TPO (45-80 mil) Reinforced Membrane to the minimum 2" top layer of Lightweight Concrete with Firestone UltraPly Bonding Adhesive at a rate of 60 sq. ft./gal. (coverage area is for adhesive application to both mating surfaces).
Maximum Design Pressure:	-135 psf (See General Limitation #7).

LIGHTWEIGHT CONCRETE 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.

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