



**DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION
NOTICE OF ACCEPTANCE (NOA)**

**MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION**
11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
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www.miamidade.gov/economy

**Gaco a div. of Firestone Building Products Company, LLC
200 4th Ave. South
Nashville, TN 37201**

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 RER -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. RER 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 including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: GacoRoofFoam™ over Lightweight Concrete Decks.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city and state of manufacturing facility, 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 14.
The submitted documentation was reviewed by Hamley Pacheco, P.E.



**NOA No.: 18-1206.12
Expiration Date: 02/20/25
Approval Date: 02/20/20
Page 1 of 14**

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Spray Applied Polyurethane Roof System
Materials:	Polyurethane
Deck Type	Lightweight Concrete
Maximum Design Pressure:	-187.5 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>
GacoRoofFoam™ 2733	2.5 to 3.0 lbs./ft ³ density	TAS 110	Polyurethane spray applied foam that utilizes an HFC blowing agent intended for roofing applications.
GacoFlex® A-31	3 coats, 3.75gal/100ft ² min. total	ASTM D6083	Acrylic one-component elastomeric coating
GacoFlex® S-21	1 or 2 coats, 1.5gal/100ft ² min. total	ASTM D6694	Silicone one-component, solvent-free, moisture-cured, elastomeric coating
GacoFlex® S-20	1 or 2 coats, 1.5gal/100ft ² min. total	ASTM D6694	Silicone one-component, solvent-free, moisture-cured, elastomeric coating
GacoFlex® S-42	1 or 2 coats, 1.25gal/100ft ² min. total	ASTM D6694	Silicone one-component, solvent-free, moisture-cured, elastomeric coating
GacoRoof® GR-16	1 or 2 coats, 2.0gal/100ft ² min. total	ASTM D6694	Silicone one-component elastomeric coating
GacoFlex® S-10	1 or 2 coats, 2.2gal/100ft ² min. total	ASTM D6694	Silicone one-component elastomeric coating
Firestone SBS Base	39.4" x 50'	ASTM D 6163	Fiberglass reinforced SBS modified bitumen ply with sanded surfaces.
Firestone MB Base	36" x 108'	ASTM D 4601	Fiberglass reinforced base sheet; asphalt coated on both sides.
Firestone I.S.O. Twin Pack Insulation Adhesive	Dual 750 ml cartridges	Proprietary	A two-component polyurethane insulation adhesive.



APPROVED INSULATIONS:

TABLE 2

<u>Product Name</u>	<u>Product Description</u>	<u>Manufacturer (With Current NOA)</u>
SECUROCK Gypsum-Fiber Roof Board	Gypsum roof board with fiber reinforcement	United States Gypsum Corporation
DensDeck Prime	Silicon treated gypsum	Georgia-Pacific Gypsum, LLC

APPROVED FASTENERS:

TABLE 3

<u>Fastener Number</u>	<u>Product Name</u>	<u>Product Description</u>	<u>Dimensions</u>	<u>Manufacturer (With Current NOA)</u>
1.	Firestone Insulation Fastening Plate	Insulation plate for use with Firestone Fasteners	3” round	Firestone Building Products
2.	Firestone All-Purpose	Insulation and membrane fastener for the attachment of roofing insulation and base sheets	Various	Firestone Building Products
3.	Firestone Heavy-Duty	#15 Fastener for steel, Wood, concrete decks	Various	OMG, Inc.
4.	Firestone 1.7” Assembled LWC Base Ply Fastener	Fastener and Plate	2.7” head 1.7” length	Altenloh, Brinck & Co. U.S., Inc.
5.	Firestone 1.8” Two-Piece Impact Nail	Base Ply fastening systems for lightweight concrete deck	Various	Altenloh, Brinck & Co. U.S., Inc.



EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Test Name/Report</u>	<u>Date</u>
Intertek	102219761MID-001	TAS 110 SPUF Physical Properties	07/22/15
	102206114MID-001	ASTM C273/D1622	07/22/15
PRI Construction Materials	GWI-024-02-02	ASTM D6694	06/01/16
	GWI-026-02-01	ASTM D6694	12/11/15
	GWI-042-02-01	ASTM D6694	01/09/18
	GWI-044-02-01	ASTM D6694	01/09/18
	GWI-045-02-01	ASTM D6083	07/21/17
	GWI-046-02-01	Proprietary	05/24/17
	GWI-050-02-01	Proprietary	05/22/18
	GWI-067-02-01	FM 4474 / TAS 114 C	04/03/19
	GWI-060-02-04.1	FM 4474 / TAS 114 J	09/11/19
	GWI-075-02-01	FM 4474 / TAS 114 D	05/09/19
	GWI-075-02-02	FM 4474 / TAS 114 J	05/09/19
	GWI-071-02-01	ASTM D6694	09/12/19
	FBP-058-02-01	ASTM D 4601	01/28/11
	FBP-059-02-01.6	Various	03/15/18
	FBP-063-02-01	TAS 114 E	07/12/12
	FBP-067-02-01.1	FM 4474 / TAS 114 J	08/02/12
	FBP-177-02-01B	FM 4474 / TAS 114 J	07/15/14
	FBP-177-02-02	FM 4474 / TAS 114 D	05/02/14
	FBP-271-02-01	FM 4474 / TAS 114 J	02/04/16
	FBP-283-02-02A	FM 4474 / TAS 114 J	05/02/16
	FBP-352-02-01.1	TAS 114 D	06/05/17
	FBP-357-02-01	TAS 114 D	09/08/17

DECK STRESS ANALYSIS CALCULATIONS/REPORTS

<u>Engineer/Agency</u>	<u>Identifier</u>	<u>Assemblies</u>	<u>Date</u>
Zachary R. Priest, P.E.	Signed/Sealed Calculations	C(1)	12/07/18
		C(2)	05/09/19
		E(1)	10/10/17
		E(2), E(4), E(6)	02/04/16
		E(3)	02/09/16
		E(5)	05/02/16



Deck Type 4I: Lightweight Concrete, Insulated
Deck Description: Min. 770 psi lightweight concrete composed of Concrecel foam concentrate, Portland cement and water.
System Type A: Sprayed polyurethane foam applied directly to cover board and covered with the specified Miami-Dade Approved roof coating.

All General and System Limitations apply.

Cover Board: Min. ½” DensDeck Prime adhered to deck with Firestone I.S.O. Twin Pack Insulation Adhesive in ½” wide beads spaced 6” o.c.

Surface Preparation: Substrate shall be free of loose dirt, grease, oil or other contaminants prior to priming or foam application. Remove all loose dirt or debris by use of compressed air, vacuum or brooming. No washing shall be permitted. Oil, grease, release agents or other contaminants shall be removed with proper cleaning solutions.

Polyurethane Foam Application: **GacoRoofFoam™ 2733** shall be applied uniformly over the entire surface at the specified thickness in compliance with the requirements set forth in Roofing Application Standard RAS 109, but in no case shall it be less than 1 in. thick. The sprayed polyurethane foam shall be feathered at the edges to produce a smooth transition.

Protective Coating Application: **GacoFlex® A-31, GacoFlex® S-21, GacoFlex® S-20, GacoRoof® GR-16, GacoFlex® S-10 or GacoFlex® S-42** shall be applied according to the coating manufacturer’s current published application instructions.
Polyurethane foam surface shall be free of moisture, dust, debris, oils, tars, grease or other materials that will impair adhesion of the protective coverings. Any damage or defects to the polyurethane foam surface shall be repaired prior to the coating application. The coating shall be applied the same day as the foam when possible. If more than 72 hours elapse prior to the application of the coatings, the polyurethane foam shall be inspected for UV degradation.

Maximum Design Pressure: -187.5 psf. (See General Limitation #9.)



Deck Type 4I: Lightweight Concrete, Insulated

System Type C(1): Sprayed polyurethane foam applied over lightweight concrete poured over steel deck covered with the specified Miami-Dade Approved roof coating.

Deck Description: Min. 22 ga., Grade 33, Type B steel deck installed over structural supports spaced 6 ft. o.c. with 5/8" diameter puddle welds at each flute. Deck side laps stitched 18" o.c. with 1/4'-14 x 7/8" HWH screws.

This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

All General and System Limitations apply.

Lightweight Concrete: Min. 460 psi Concrecel lightweight concrete poured over steel deck. Min. 1/4" thick slurry coat followed by min. 1" thick EPS Holey Board and a min. 2" thick top coat.

Cover Board: Min. 1/2" thick SECUROCK Gypsum-Fiber Roof Board

Fastening: Attach cover board using approved Firestone All Purpose fasteners and Insulation Fastening Plates spaced at a rate of 16 fasteners per 4-ft x 8-ft board (1 fastener per 2 ft²).

Surface Preparation: Substrate shall be free of loose dirt, grease, oil or other contaminants prior to priming or foam application. Remove all loose dirt or debris by use of compressed air, vacuum or brooming. No washing shall be permitted. Oil, grease, release agents or other contaminants shall be removed with proper cleaning solutions.

Polyurethane Foam Application: **GacoRoofFoam™ 2733** shall be applied uniformly over the entire surface at the specified thickness in compliance with the requirements set forth in Roofing Application Standard RAS 109, but in no case shall it be less than 1 in. thick. The sprayed polyurethane foam shall be feathered at the edges to produce a smooth transition.

Protective Coating Application: **GacoFlex® A-31, GacoFlex® S-21, GacoFlex® S-20, GacoRoof® GR-16, GacoFlex® S-10 or GacoFlex® S-42** shall be applied according to the coating manufacturer's current published application instructions.

Polyurethane foam surface shall be free of moisture, dust, debris, oils, tars, grease or other materials that will impair adhesion of the protective coverings. Any damage or defects to the polyurethane foam surface shall be repaired prior to the coating application. The coating shall be applied the same day as the foam when possible. If more than 72 hours elapse prior to the application of the coatings, the polyurethane foam shall be inspected for UV degradation.

Maximum Design Pressure: -60 psf. (See General Limitation #7.)



Deck Type 4I: Lightweight Concrete, Insulated

System Type C(2): Sprayed polyurethane foam applied over lightweight concrete poured over steel deck covered with the specified Miami-Dade Approved roof coating.

Deck Description: Min. 22 ga. Grade 33 Type B, steel deck installed over structural supports spaced 6 ft. o.c. with 5/8" diameter puddle welds at each flute. Deck side laps stitched 18" o.c. with 1/4'-14 x 7/8" HWH screws.

This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

All General and System Limitations apply.

Lightweight Concrete: Min. 520 psi Concrecel lightweight concrete poured over steel deck. Min. 1/8" thick slurry coat followed by min. 1" thick EPS Holey Board and a min. 2" thick top coat.

Cover Board: Min. 1/2" thick DensDeck Prime

Fastening: Attach cover board using approved Firestone Heavy Duty fasteners and Insulation Fastening Plates spaced at a rate of 20 fasteners per 4-ft x 8-ft board (1 fastener per 1.6 ft²).

Surface Preparation: Substrate shall be free of loose dirt, grease, oil or other contaminants prior to priming or foam application. Remove all loose dirt or debris by use of compressed air, vacuum or brooming. No washing shall be permitted. Oil, grease, release agents or other contaminants shall be removed with proper cleaning solutions.

Polyurethane Foam Application: **GacoRoofFoam™ 2733** shall be applied uniformly over the entire surface at the specified thickness in compliance with the requirements set forth in Roofing Application Standard RAS 109, but in no case shall it be less than 1in. thick. The sprayed polyurethane foam shall be feathered at the edges to produce a smooth transition.

Protective Coating Application: **GacoFlex® A-31, GacoFlex® S-21, GacoFlex® S-20, GacoRoof® GR-16, GacoFlex® S-10 or GacoFlex® S-42** shall be applied according to the coating manufacturer's current published application instructions.

Polyurethane foam surface shall be free of moisture, dust, debris, oils, tars, grease or other materials that will impair adhesion of the protective coverings. Any damage or defects to the polyurethane foam surface shall be repaired prior to the coating application. The coating shall be applied the same day as the foam when possible. If more than 72 hours elapse prior to the application of the coatings, the polyurethane foam shall be inspected for UV degradation.

Maximum Design Pressure: -82.5 psf. (See General Limitation #7.)



Deck Type 4I: Lightweight Concrete, Insulated

Deck Description : Min. 22 ga. Grade 33, Type B steel deck attached to supports spaced 5 ft. o.c. or concrete deck. Steel deck attached at each flute with 5/8" diameter puddle welds. Side laps stitched 12" o.c. with #1/4" – 14 x 7/8" HWH screws.

This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type E(1): Sprayed polyurethane foam applied over lightweight concrete poured over steel deck or concrete deck covered with the specified Miami-Dade Approved roof coating.

All General and System Limitations apply.

Lightweight Concrete: Min. 210 psi Elastizell lightweight concrete with Zell-Crete Fibers poured over steel or concrete deck deck. Min. 1/4" thick slurry coat followed by min. 1" thick EPS Holey Board and a min. 2" thick top coat.

Base Sheet: Firestone SBS Base with min. 3" wide side laps.

Fastening: Attached with Firestone 1.7" Assembled LWC Base Ply Fasteners spaced 9" o.c. in the laps and 9" o.c. in two (2) equally spaced, staggered rows in the field.

Surface Preparation: Substrate shall be free of loose dirt, grease, oil or other contaminants prior to priming or foam application. Remove all loose dirt or debris by use of compressed air, vacuum or brooming. No washing shall be permitted. Oil, grease, release agents or other contaminants shall be removed with proper cleaning solutions.

Polyurethane Foam Application: **GacoRoofFoam™ 2733** shall be applied uniformly over the entire surface at the specified thickness in compliance with the requirements set forth in Roofing Application Standard RAS 109, but in no case shall it be less than 1in. thick. The sprayed polyurethane foam shall be feathered at the edges to produce a smooth transition.

Protective Coating Application: **GacoFlex® A-31, GacoFlex® S-21, GacoFlex® S-20, GacoRoof® GR-16, GacoFlex® S-10 or GacoFlex® S-42** shall be applied according to the coating manufacturer's current published application instructions.

Polyurethane foam surface shall be free of moisture, dust, debris, oils, tars, grease or other materials that will impair adhesion of the protective coverings. Any damage or defects to the polyurethane foam surface shall be repaired prior to the coating application. The coating shall be applied the same day as the foam when possible. If more than 72 hours elapse prior to the application of the coatings, the polyurethane foam shall be inspected for UV degradation.

Maximum Design Pressure: -45 psf. (See General Limitation #7.)



Deck Type 4I: Lightweight Concrete, Insulated

Deck Description: Min. 22 ga., Grade 33, Type B steel deck attached to supports spaced 6 ft. o.c. or concrete deck. Steel deck attached at each flute with 5/8" diameter puddle welds. Side laps stitched 18" o.c. with #1/4" – 14 x 7/8" HWH screws.

This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type E(2): Sprayed polyurethane foam applied over lightweight concrete poured over steel deck or concrete deck covered with the specified Miami-Dade Approved roof coating.

All General and System Limitations apply.

Lightweight Concrete: Min. 410 psi Celcore MF with Celcore HS Rheology Modifying Admixture poured over steel or concrete deck. Steel deck treated with Celcore S-1 prior to pouring the lightweight. Min. 1/4" thick slurry coat followed by min. 1" thick EPS Holey Board and a min. 2" thick top coat. Curing compound applied at a rate of 300 ft²/gal. after setting of top coat.

Base Sheet: Firestone SBS Base with min. 3" wide side laps.

Fastening: Attached with Firestone 1.8" Two-Piece Impact Nails spaced 8" o.c. in the laps and 8" o.c. in two (2) equally spaced, staggered rows in the field.

Surface Preparation: Substrate shall be free of loose dirt, grease, oil or other contaminants prior to priming or foam application. Remove all loose dirt or debris by use of compressed air, vacuum or brooming. No washing shall be permitted. Oil, grease, release agents or other contaminants shall be removed with proper cleaning solutions.

Polyurethane Foam Application: **GacoRoofFoam™ 2733** shall be applied uniformly over the entire surface at the specified thickness in compliance with the requirements set forth in Roofing Application Standard RAS 109, but in no case shall it be less than 1in. thick. The sprayed polyurethane foam shall be feathered at the edges to produce a smooth transition.

Protective Coating Application: **GacoFlex® A-31, GacoFlex® S-21, GacoFlex® S-20, GacoRoof® GR-16, GacoFlex® S-10 or GacoFlex® S-42** shall be applied according to the coating manufacturer's current published application instructions.

Polyurethane foam surface shall be free of moisture, dust, debris, oils, tars, grease or other materials that will impair adhesion of the protective coverings. Any damage or defects to the polyurethane foam surface shall be repaired prior to the coating application. The coating shall be applied the same day as the foam when possible. If more than 72 hours elapse prior to the application of the coatings, the polyurethane foam shall be inspected for UV degradation.

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



Deck Type 4I: Lightweight Concrete, Insulated

Deck Description: Min. 22 ga. Grade 33, Type B steel deck attached to supports spaced 5 ft. o.c. or concrete deck. Steel deck attached at each flute with #12-24 x 1-1/4" HWH self-drilling screws with 1/2" washers. Side laps stitched 12" o.c. with #1/4" - 14 x 7/8" HWH screws with 1/2" washers. *Lightweight Concrete should record a Minimum Characteristic Resistance Force (MCRF) of 176 lbf. when tested with 1.7" Assembled LWC Base Ply fasteners in accordance with TAS 105.

This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type E(3): Sprayed polyurethane foam applied over lightweight concrete poured over steel deck or concrete deck covered with the specified Miami-Dade Approved roof coating.

All General and System Limitations apply.

Lightweight Concrete: Min. 342 psi Cellular lightweight concrete poured over steel or concrete deck deck. Min. 1/8" thick slurry coat followed by min. 1" thick EPS Holey Board and a min. 2" thick top coat.

Base Sheet: Firestone MB Base or Firestone SBS Base with min. 3" wide side laps.

Fastening: Attached with Firestone 1.7" Assembled LWC Base Ply Fasteners spaced 7" o.c. in the laps and 7" o.c. in two (2) equally spaced, staggered rows in the field.

Surface Preparation: Substrate shall be free of loose dirt, grease, oil or other contaminants prior to priming or foam application. Remove all loose dirt or debris by use of compressed air, vacuum or brooming. No washing shall be permitted. Oil, grease, release agents or other contaminants shall be removed with proper cleaning solutions.

Polyurethane Foam Application: **GacoRoofFoam™ 2733** shall be applied uniformly over the entire surface at the specified thickness in compliance with the requirements set forth in Roofing Application Standard RAS 109, but in no case shall it be less than 1in. thick. The sprayed polyurethane foam shall be feathered at the edges to produce a smooth transition.

Protective Coating Application: **GacoFlex® A-31, GacoFlex® S-21, GacoFlex® S-20, GacoRoof® GR-16, GacoFlex® S-10 or GacoFlex® S-42** shall be applied according to the coating manufacturer's current published application instructions.

Polyurethane foam surface shall be free of moisture, dust, debris, oils, tars, grease or other materials that will impair adhesion of the protective coverings. Any damage or defects to the polyurethane foam surface shall be repaired prior to the coating application. The coating shall be applied the same day as the foam when possible. If more than 72 hours elapse prior to the application of the coatings, the polyurethane foam shall be inspected for UV degradation.

Maximum Design Pressure: -60 psf. (See General Limitation #7.)



Deck Type 4I: Lightweight Concrete, Insulated

Deck Description: Min. 22 ga. Grade 33, Type B steel deck attached to supports spaced 6 ft. o.c. or concrete deck. Steel deck attached at each flute with 5/8" diameter puddle welds. Side laps stitched 18" o.c. with #1/4" – 14 x 7/8" HWH screws.

This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type E(4): Sprayed polyurethane foam applied over lightweight concrete poured over steel deck or concrete deck covered with the specified Miami-Dade Approved roof coating.

All General and System Limitations apply.

Lightweight Concrete: Min. 410 psi Celcore MF with Celcore HS Rheology Modifying Admixture poured over steel or concrete deck. Steel deck treated with Celcore S-1 prior to pouring the lightweight. Min. 1/4" thick slurry coat followed by min. 1" thick EPS Holey Board and a min. 2" thick top coat. Curing compound applied at a rate of 300 ft²/gal. after setting of top coat.

Base Sheet: MB Base or SBS Base with min. 3" wide side laps.

Fastening: Attached with Firestone 1.7" Assembled LWC Base Ply Fasteners spaced 8" o.c. in the laps and 8" o.c. in two (2) equally spaced, staggered rows in the field.

Surface Preparation: Substrate shall be free of loose dirt, grease, oil or other contaminants prior to priming or foam application. Remove all loose dirt or debris by use of compressed air, vacuum or brooming. No washing shall be permitted. Oil, grease, release agents or other contaminants shall be removed with proper cleaning solutions.

Polyurethane Foam Application: **GacoRoofFoam™ 2733** shall be applied uniformly over the entire surface at the specified thickness in compliance with the requirements set forth in Roofing Application Standard RAS 109, but in no case shall it be less than 1in. thick. The sprayed polyurethane foam shall be feathered at the edges to produce a smooth transition.

Protective Coating Application: **GacoFlex® A-31, GacoFlex® S-21, GacoFlex® S-20, GacoRoof® GR-16, GacoFlex® S-10 or GacoFlex® S-42** shall be applied according to the coating manufacturer's current published application instructions.

Polyurethane foam surface shall be free of moisture, dust, debris, oils, tars, grease or other materials that will impair adhesion of the protective coverings. Any damage or defects to the polyurethane foam surface shall be repaired prior to the coating application. The coating shall be applied the same day as the foam when possible. If more than 72 hours elapse prior to the application of the coatings, the polyurethane foam shall be inspected for UV degradation.

Maximum Design Pressure: -60 psf. (See General Limitation #7.)



Deck Type 4I:	Lightweight Concrete, Insulated
Deck Description:	Min. 22 ga., Grade 33, Type B steel deck attached to supports spaced 6 ft. o.c. or concrete deck. Steel deck attached at each flute with 5/8" diameter puddle welds. Side laps stitched 18" o.c. with #1/4" – 14 x 7/8" HWH screws. This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.
System Type E(5):	Sprayed polyurethane foam applied over lightweight concrete poured over steel deck or concrete deck covered with the specified Miami-Dade Approved roof coating.
All General and System Limitations apply.	
Lightweight Concrete:	Min. 360 psi Celcore MF with Celcore HS Rheology Modifying Admixture poured over steel or concrete deck. Steel deck treated with Celcore S-1 prior to pouring the lightweight. Min. 1/4" thick slurry coat followed by min. 1" thick EPS Holey Board and a min. 2" thick top coat. Curing compound applied at a rate of 300 ft ² /gal. after setting of top coat.
Base Sheet:	SBS Base with min. 3" wide side laps.
Fastening:	Attached with Firestone 1.8" Two-Piece Impact Nails spaced 7" o.c. in the laps and 7" o.c. in two (2) equally spaced, staggered rows in the field.
Surface Preparation:	Substrate shall be free of loose dirt, grease, oil or other contaminants prior to priming or foam application. Remove all loose dirt or debris by use of compressed air, vacuum or brooming. No washing shall be permitted. Oil, grease, release agents or other contaminants shall be removed with proper cleaning solutions.
Polyurethane Foam Application:	GacoRoofFoam™ 2733 shall be applied uniformly over the entire surface at the specified thickness in compliance with the requirements set forth in Roofing Application Standard RAS 109, but in no case shall it be less than 1in. thick. The sprayed polyurethane foam shall be feathered at the edges to produce a smooth transition.
Protective Coating Application:	GacoFlex® A-31, GacoFlex® S-21, GacoFlex® S-20, GacoRoof® GR-16, GacoFlex® S-10 or GacoFlex® S-42 shall be applied according to the coating manufacturer's current published application instructions. Polyurethane foam surface shall be free of moisture, dust, debris, oils, tars, grease or other materials that will impair adhesion of the protective coverings. Any damage or defects to the polyurethane foam surface shall be repaired prior to the coating application. The coating shall be applied the same day as the foam when possible. If more than 72 hours elapse prior to the application of the coatings, the polyurethane foam shall be inspected for UV degradation.
Maximum Design Pressure:	-67.5 psf. (See General Limitation #7.)



Deck Type 4I: Lightweight Concrete, Insulated

Deck Description: Min. 22 ga. Grade 33, Type B steel deck attached to supports spaced 6 ft. o.c. or concrete deck. Steel deck attached at each flute with 5/8" diameter puddle welds. Side laps stitched 18" o.c. with #1/4" – 14 x 7/8" HWH screws.

This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type E(6): Sprayed polyurethane foam applied over lightweight concrete poured over steel deck or concrete deck covered with the specified Miami-Dade Approved roof coating.

All General and System Limitations apply.

Lightweight Concrete: Min. 420 psi Celcore MF with Celcore HS Rheology Modifying Admixture poured over steel or concrete deck. Steel deck treated with Celcore S-1 prior to pouring the lightweight. Min. 1/4" thick slurry coat followed by min. 1" thick EPS Holey Board and a min. 2" thick top coat. Curing compound applied at a rate of 300 ft²/gal. after setting of top coat.

Base Sheet: MB Base or SBS Base with min. 3" wide side laps.

Fastening: Attached with Firestone 1.7" Assembled LWC Base Ply Fasteners spaced 7" o.c. in the laps and 7" o.c. in two (2) equally spaced, staggered rows in the field.

Surface Preparation: Substrate shall be free of loose dirt, grease, oil or other contaminants prior to priming or foam application. Remove all loose dirt or debris by use of compressed air, vacuum or brooming. No washing shall be permitted. Oil, grease, release agents or other contaminants shall be removed with proper cleaning solutions.

Polyurethane Foam Application: **GacoRoofFoam™ 2733** shall be applied uniformly over the entire surface at the specified thickness in compliance with the requirements set forth in Roofing Application Standard RAS 109, but in no case shall it be less than 1in. thick. The sprayed polyurethane foam shall be feathered at the edges to produce a smooth transition.

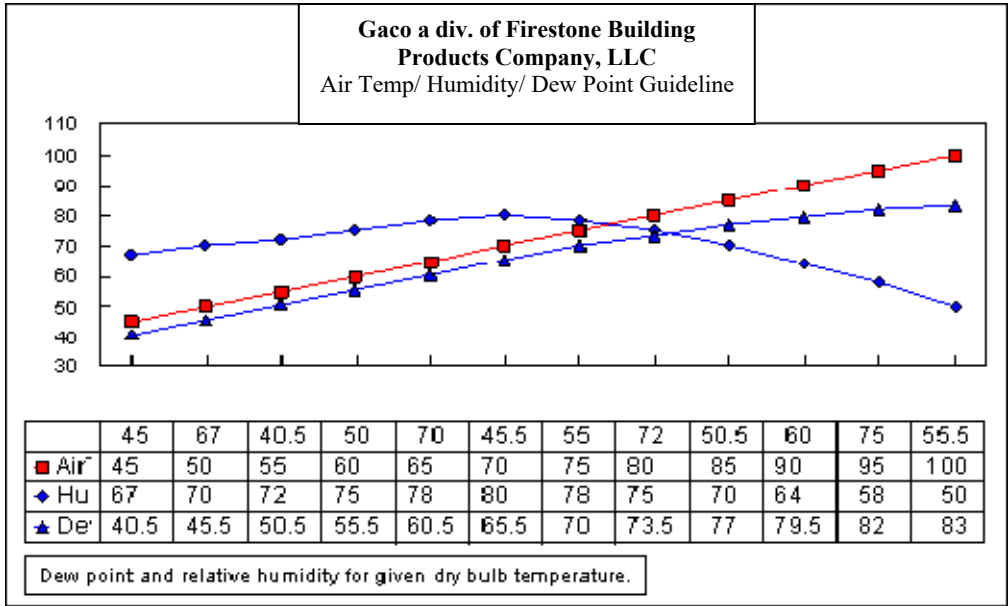
Protective Coating Application: **GacoFlex® A-31, GacoFlex® S-21, GacoFlex® S-20, GacoRoof® GR-16, or GacoFlex® S-10 or GacoFlex® S-42** shall be applied according to the coating manufacturer's current published application instructions.

Polyurethane foam surface shall be free of moisture, dust, debris, oils, tars, grease or other materials that will impair adhesion of the protective coverings. Any damage or defects to the polyurethane foam surface shall be repaired prior to the coating application. The coating shall be applied the same day as the foam when possible. If more than 72 hours elapse prior to the application of the coatings, the polyurethane foam shall be inspected for UV degradation.

Maximum Design Pressure: -75 psf. (See General Limitation #7.)



**AMBIENT HUMIDITY APPLICATION LIMITS
SPRAYED POLYURETHANE FOAM**



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. Spray polyurethane foam shall not be sprayed when ambient temperature is within 5 degrees of the dew point. Ambient humidity applications limits shall be as listed in Table 1 herein. Contractor shall monitor and record environmental conditions in the Job Log in compliance with RAS 109. Job Log shall be maintained at the job site and accessible to The Building Official.
3. Flashings and waterproof coverings for expansion joints shall be of compatible materials and according to the sprayed polyurethane foam manufacture’s published literature.
4. Miscellaneous materials such as adhesives, elastomeric caulking compounds, metal, vents and drains shall be a composite part of the roof system and shall be compatible with the foam and coating.
5. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
6. 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.
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

