

Tremco CPG, Inc. 3735 Green Road Beachwood, OH 44122

#### 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:** TremPly KEE Roof Systems over Lightweight Concrete Decks

**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 No. 20-0731.06 and consists of pages 1 through 22. The submitted documentation was reviewed by Alex Tigera.

Sturge



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### **ROOFING SYSTEM APPROVAL**

Category:	Roofing
Sub-Category:	Single Ply
Material:	KEE
<u>Deck Type:</u>	Lightweight Concrete
Maximum Design Pressure	<b>-</b> 405.00 psf

### TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT: TABLE 1

<b>Product</b>	<b>Dimensions</b>	Test <u>Specification</u>	Product <u>Description</u>
TremPly KEE	Various	ASTM D 6754	KEE, polyester reinforced, single ply membrane.
TremPly KEE FB	Various	ASTM D 6754	KEE, fleece-backed, polyester reinforced, single ply membrane.
TremPly KEE LV Bonding Adhesive	5 gal. pails	Proprietary	Solvent based bonding adhesive
TremPly KEE FB Bonding Adhesive	5 gal. pails	Proprietary	One side "substrate only" fleece back solvent based adhesive
TremPly KEE Walkway & Protection Materials	0.080" x 28" or 56" x 43' ¼" x 24" x 48"	N/A	Vinyl walk way Vinyl protection pad
TremPly KEE FB WB II Bonding Adhesive	5 gal. pails	Proprietary	One side "substrate only" fleece backed water based adhesive

#### **APPROVED INSULATIONS:**

TABLE 2			
Product Name	<b>Product Description</b>	<u>Manufacturer</u> (With Current NOA)	
ACFoam-II	Isocyanurate Insulation	Atlas Roofing Corporation	
DensDeck	Silicon treated gypsum	Georgia-Pacific Gypsum LLC	
DensDeck Prime	Silicon treated gypsum	Georgia-Pacific Gypsum LLC	
H-Shield	Polyisocyanurate Insulation	Hunter Panels, LLC	
ENRGY 3	Isocyanurate Insulation	Johns Manville Corporation	
Multi-Max FA-3	Polyisocyanurate foam insulation	Rmax Operating, LLC	
SECUROCK Gypsum-Fiber Roof Board	Gypsum Coverboard	United States Gypsum Corporation	
Insulfoam EPS	Expanded polystyrene insulation	Insulfoam, a Div. of Carlisle Const. Materials	

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## **APPROVED FASTENERS / ADHESIVES:**

TABLE 3				
<u>Fastener</u> Number	<u>Product</u> <u>Name</u>	<u>Product</u> <u>Description</u>	<b>Dimensions</b>	<u>Manufacturer</u> (With Current NOA)
1.	Dekfast DF-#15-PH3	Membrane fastener	Various	SFS Group USA, Inc.
2.	Dekfast PLT-O-2-1/2-12B	Galvalume AZ50 stress plate	1.5" x 2.5"	SFS Group USA, Inc.
3.	Dekfast PLT-R-2-3/8-6B	Barbed, Galvalume AZ50 stress plate	2-3/8" Dia.	SFS Group USA, Inc.
4.	isofast PLT-R-2-3/8-BL	Galvalume AZ50 stress plate, #15 belted fastener system	2-3/8" Dia.	SFS Group USA, Inc.
5.	Dekfast DF-#14-PH3	Insulation and membrane fastener	Various	SFS Group USA, Inc.
6.	Dekfast PLT-H-2-7/8	Galvalume AZ50 steel plate	2-7/8" x 3¼"	SFS Group USA, Inc.
7.	TremPly Plus Stress Plate	Oval stress plate	1½" x 2¾"	SFS Group USA, Inc.
8.	ICP Adhesive CR-20	Polyurethance adhesive		ICP Adhesives and Sealants, Inc.

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### **EVIDENCE SUBMITTED:**

Test Agency/Identifier	Name	<u>Report</u>	<u>Date</u>
Factory Mutual Research Corp.	FM 4470	1Z3A8.AM	08/13/97
	FM 4470	0D2A8.AM	01/12/98
	FM 4470	4D5A4.AM	10/05/99
	FM 4470	3013068	09/23/03
	FM 4470	3028651	04/17/08
	FM 4470	3033396	09/04/09
	FM 4470	3036192	11/23/09
	FM 4470	3051608	10/23/16
	FM 4470	SMCP-006-02-01	03/28/16
Underwriters Laboratories	UL 790	94NK40647	10/15/94
	UL 790	95NK20862	11/17/95
Trinity   ERD	TAS 114	02767.09.05-82	09/27/05
	TAS 114	4015.10.96-1-R1	07/20/10
	FM 4470 / TAS 114	S32410.09.10	09/21/10
	FM 4470 / TAS 114	S6220.03.07-R1	05/13/11
	ASTM D 6754	S34070.06.11-R3	06/16/11
	ASTM D 6754	S47410.12.14	12/15/14
	TAS 114	4006.07.97-1-R2	11/25/15
	FM 4474 / TAS 114	S43840.11.15	11/30/15
	FM 4474 / TAS 114	SMN-SC11005.06.16	06/30/16
PRI Construction Materials Technologies LLC	ASTM D 3747	HGC-142-02-03-R1	06/21/16

## **DECK STRESS ANALYSIS CALCULATIONS/REPORTS:**

Engineer/Agency	<u>Identifier</u>	Assemblies	<u>Date</u>
Robert Nieminen, P.E.	Signed/Sealed Calculations	E(1), E(2), F(2), F(3)	12/11/15
Zachary Priest, P.E.	Signed/Sealed Calculations	F(1)	03/28/16



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#### **APPROVED ASSEMBLIES**

Membrane Type:	Single Ply, KEE
Deck Type 4I:	Lightweight Concrete, Insulated
Deck Description:	Min. 272 psi Mearlcrete, or min. 240 psi Elastizell LWIC cast over min 2500 psi structural concrete
System Type A(1):	One or more layers of insulation adhered with approved adhesive, membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of the following insulations:

<b>Base Insulation Layer</b>	Insulation Fasteners (Table 3)	<u>Fastener</u> <u>Density/ft<sup>2</sup></u>
ACFoam-II, Multi-Max FA-3, H-Shield, ENRGY 3 Minimum: 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	<u>Fastener</u> <u>Density/ft<sup>2</sup></u>
ACFoam-II, Multi-Max FA-3, H-Shield, ENRGY 3 Minimum: 1.5" thick (Tapered)	N/A	N/A

Note: All insulation shall be adhered to the deck in ICP Adhesive CR-20 applied in continuous 3-inch ribbons spaced 12" o.c. Refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane:	<ul> <li>TremPly KEE FB roof cover adhered with TremPly KEE FB Bonding Adhesive at 1 gal/sq. or TremPly KEE FB WB II Bonding Adhesive at 100 ft²/gal. Laps are sealed with 1.5-inch heat weld.</li> <li><i>Maximum Design Pressure: -105 psf (See General Limitation #9.)</i> Or</li> <li>TremPly KEE roof cover adhered with TremPly KEE LV Bonding Adhesive applied at a rate of 1 gal/sq. to the back side of the membrane and to the substrate. Laps are sealed with 1.5-inch heat weld.</li> <li><i>Maximum Design Pressure: -117 psf (See General Limitation #9.)</i></li> </ul>
Maximum Design	See Membrane Options above.

Pressure:



Membrane Type:	Single Ply, KEE
Deck Type 4I:	Lightweight Concrete, Insulated
Deck Description:	Min. 272 psi Mearlcrete, or min 240 psi Elastizell LWIC cast over min 2500 psi structural concrete
System Type A(2):	One or more layers of insulation adhered with approved adhesive, membrane adhered.

One or more layers of the following insulations:

<b>Base Insulation Layer</b>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener</u> <u>Density/ft<sup>2</sup></u>
ACFoam-II, Multi-Max FA-3, H-Shield, ENRGY 3 Minimum: 1.5" thick	N/A	N/A
Top Insulation Layer	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener</u> Density/ft <sup>2</sup>
ACFoam-II, Multi-Max FA-3, H-Shield, ENRGY 3 Minimum: 1.5 " thick	N/A	N/A

Note: All insulation shall be adhered to the deck in ICP Adhesive CR-20 applied in continuous 3-inch ribbons spaced 12" o.c. Refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane: TremPly KEE FB roof cover adhered with TremPly KEE FB Bonding Adhesive at 1 gal/sq or TremPly KEE FB WB II Bonding Adhesive at 100 ft<sup>2</sup>/gal. Laps are sealed with 1.5-inch heat weld

Maximum Design Pressure: -105 psf (See General Limitation #9.)

Or

TremPly KEE roof cover adhered with TremPly KEE LV Bonding Adhesive applied at a rate of 1 gal/sq. to the back side of the membrane and to the substrate. Laps are sealed with 1.5-inch heat weld

Maximum Design Pressure: -180 psf for Elastizell (See General Limitation #9.) Maximum Design Pressure: -210 psf for Mearlcrete (See General Limitation #9.)

Maximum DesignSee Membrane Options AbovePressure:



Membrane Type:	Single Ply, KEE
Deck Type 4I:	Lightweight Concrete, Insulated
Deck Description:	Min. 272 psi Mearlcrete, or min 240 psi Elastizell LWIC cast over min 18-22 ga, 33 ksi steel deck
System Type A(3):	One or more layers of insulation adhered with approved adhesive, membrane adhered.

One or more layers of the following insulations:

<b>Base Insulation Layer</b>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener</u> Density/ft <sup>2</sup>
ACFoam-II, Multi-Max FA-3, H-Shield, ENRGY 3 Minimum: 1.5" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in ICP Adhesive CR-20 applied in continuous 3-inch ribbons spaced 12" o.c. Refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane:	TremPly KEE FB roof cover adhered with hot asphalt at 25 lbs/sq., with TremPly KEE FB Bonding Adhesive at 1 gal/sq. or with TremPly KEE FB WB II Bonding Adhesive at 100 ft <sup>2</sup> /gal Laps are sealed with 1.5-inch heat weld. <i>Maximum Design Pressure: -105.0 psf (See General Limitation #9.)</i>
	Or
	TremPly KEE roof cover adhered with TremPly KEE LV Bonding Adhesive applied at a rate of 1 gal/sq. to the back side of the membrane and to the substrate. Laps are sealed with 1.5-inch heat weld. <i>Maximum Design Pressure: -117.0 psf (See General Limitation #9.)</i>
Maximum Design Pressure:	Roof Cover/Insulation Maximum Pressure per Memebrane Option Above. (See General Limitation #9.)
	Refer to LWIC Deck manufacturer's current NOA for maximum design pressure in steel deck applications.



Membrane Type:	Single Ply, KEE
Deck Type 4I:	Lightweight Concrete, Insulated
Deck Description:	Min. 272 psi Mearlcrete, or min 240 psi Elastizell LWIC cast over min 2500 psi structural concrete
System Type A(4):	One or more layers of insulation adhered with approved adhesive, membrane adhered.

One or more layers of the following insulations:

<b>Base Insulation Layer</b>	Insulation Fasteners (Table 3)	<u>Fastener</u> <u>Density/ft<sup>2</sup></u>
Insulfoam EPS Minimum: 1.5" thick	N/A	N/A
Top Insulation Layer	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener</u> Density/ft <sup>2</sup>
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum: ¼ " thick	N/A	N/A

Note: All insulation shall be adhered to the deck in ICP Adhesive CR-20 applied in continuous 3-inch ribbons spaced 12" o.c. Refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane: TremPly KEE roof cover adhered with TremPly KEE LV Bonding Adhesive applied at a rate of 1 gal/sq. to the back side of the membrane and to the substrate. Laps are sealed with 1.5-inch heat weld.

Maximum Design -180.00 psf (See General Limitation #9.) Pressure:



Membrane Type:	Single Ply, KEE
Deck Type 4I:	Lightweight Concrete, Insulated
Deck Description:	Min. 272 psi Mearlcrete, or min 240 psi Elastizell LWIC cast over min 2500 psi structural concrete
System Type A(5):	One or more layers of insulation adhered with approved adhesive, membrane adhered.

One or more layers of the following insulations:

<b>Base Insulation Layer (Optional)</b>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener</u> Density/ft <sup>2</sup>
ACFoam-II, Multi-Max FA-3, H-Shield, ENRGY 3,		
Insulfoam EPS		
Minimum: 1.5" thick	N/A	N/A
<u>Top Insulation Layer</u>	<b>Insulation Fasteners</b>	<b>Fastener</b>
	<u>(Table 3)</u>	Density/ft <sup>2</sup>
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board		
Minimum: <sup>1</sup> / <sub>4</sub> " thick	N/A	N/A

Note: All insulation shall be adhered to the deck in ICP Adhesive CR-20 applied in continuous 3-inch ribbons spaced 12" o.c. Refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane:	TremPly KEE roof cover adhered with TremPly KEE LV Bonding Adhesive applied at a rate of 1 gal/sq. to the back side of the membrane and to the substrate. Laps are sealed with 1.5-inch heat weld.	
	Or	
	TremPly KEE FB roof cover adhered with hot asphalt at 25 lbs/sq. or TremPly KEE FB WB II Bonding Adhesive at 100 ft <sup>2</sup> /gal. Laps are sealed with 1.5-inch heat weld.	
Maximum Design Pressure:	-180.00 psf for Elastizell(See General Limitation #9.)-240.00 psf for Mearlerete(See General Limitation #9.)	



Membrane Type:	Single Ply, KEE
Deck Type 4I:	Lightweight Concrete, Insulated
<b>Deck Description:</b>	Min. 240 psi Elastizell LWIC cast over min 18-22ga, 33 ksi steel deck
System Type A(6):	One or more layers of insulation adhered with approved adhesive, membrane adhered.

One or more layers of the following insulations:

<b>Base Insulation Layer (Optional)</b>	Insulation Fasteners (Table 3)	<u>Fastener</u> Density/ft <sup>2</sup>
ACFoam-II, Multi-Max FA-3, H-Shield, ENRGY 3, Insulfoam EPS Minimum: 1.5" thick	<u>N/A</u>	<u>N/A</u>
Top Insulation Layer	<u>Insulation Fasteners</u> (Table 3)	<u>Fastener</u> Density/ft <sup>2</sup>
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum: ¼" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in ICP Adhesive CR-20 applied in continuous 3-inch ribbons spaced 12" o.c. Refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane:	TremPly KEE roof cover adhered with TremPly KEE LV Bonding Adhesive applied at a rate of 1 gal/sq. to the back side of the membrane and to the substrate. Laps are sealed with 1.5-inch heat weld.
	Or
	TremPly KEE FB roof cover adhered with hot asphalt at 25 lbs/sq. or TremPly KEE FB WB II Bonding Adhesive at 100 ft <sup>2</sup> /gal. Laps are sealed with 1.5-inch heat weld.
Maximum Design	Roof Cover/Insulation Maximum Pressure
Pressure:	-180.00 psf for Elastizell (See General Limitation #9.)
	Refer to LWIC Deck manufacturer's current NOA for maximum design pressure in steel deck applications.



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Membrane Type:	Single Ply, KEE
Deck Type 4:	Lightweight Concrete, Non-Insulated
Deck Description:	Minimum 228 psi, Elastizell cellular lightweight concrete deck applied with a minimum 1/8" slurry coat followed by an optional minimum 1" thick Holey Board and a minimum 2" thick top coat over steel deck (see steel deck description below).
System Type E(1):	Membrane mechanically attached to steel deck.

Steel Deck Description:	Minimum 18-22 ga. Type B, Grade 80 steel decking placed over minimum 0.25" thick structural supports having maximum 5 ft spans. Deck shall be anchored with min. 5/8" puddle welds or ITW Buildex Traxx/4 or Traxx/5 fasteners spaced at maximum 6" o.c. at supports. Deck side laps shall be secured with ITW Buildex Traxx/1 fasteners spaced at a maximum 18" o.c.	
	This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.	
Vapor Barrier: (Optional)	Any UL or FM approved vapor barrier applied to the roof deck.	
Fire Barrier: (Optional)	Min. <sup>1</sup> / <sub>4</sub> " DensDeck or DensDeck Prime attached with 4 fasteners per 4' x 8' sheet.	
Membrane:	TremPly KEE roof cover attached through lightweight concrete to the steel deck using Dekfast DF-#15-PH3 fasteners and Dekfast PLT-O-2-1/2-12B plates spaced 12" o.c. through the tabs spaced 51" o.c. Laps are sealed with 1.5-inch heat weld.	
Maximum Design Pressures:	-75.00 psf (See General Limitation #7.)	



Membrane Type:	Single Ply, KEE
Deck Type 4:	Lightweight Concrete, Non-Insulated
Deck Description:	Minimum 228 psi, Elastizell cellular lightweight concrete deck applied with a minimum 1/8" slurry coat followed by an optional minimum 1" thick Holey Board and a minimum 2" thick top coat over min. 2500 psi concrete deck or steel deck (see steel deck description below).
System Type E(2):	Membrane mechanically attached to steel/concrete deck.

Steel Deck Description:	Minimum 22 ga., type B, Grade 80 steel decking placed over minimum 0.25" thick structural supports having maximum 5 ft spans. Deck shall be anchored with min. 5/8" puddle welds or ITW Buildex Traxx/4 or Traxx/5 fasteners spaced at maximum 6" o.c. at supports. Deck side laps shall be secured with ITW Buildex Traxx/1 fasteners spaced at a maximum 18" o.c.
	This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.
Vapor Barrier: (Optional)	Any UL or FM approved vapor barrier applied to the roof deck.
Fire Barrier: (Optional)	Min. <sup>1</sup> / <sub>4</sub> " DensDeck or DensDeck Prime attached with 4 fasteners per 4' x 8' sheet.
Membrane:	TremPly KEE roof cover attached through the presecured insulation to the deck using Dekfast DF-#15-PH3 fasteners and Dekfast PLT-O-2-1/2-12B plates spaced 6" o.c. through the tabs spaced a maximum of 51" o.c. Laps are sealed with 1.5-inch heat weld.
Maximum Design Pressures:	-75.00 psf (See General Limitation #7.)



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Membrane Type:	Single Ply, KEE
Deck Type 4:	Lightweight Concrete, Non-insulated
Deck Description:	Minimum 190 psi, Elastizell cellular lightweight concrete deck applied with a minimum 1/8" slurry coat followed by minimum 1" thick Holey Board and a minimum 2" thick top coat over steel deck (see steel deck description below).
System Type F(1):	Membrane adhered to deck.

Steel Deck Description:	Minimum 22 ga., Type B, Grade 33 vented steel deck placed over structural supports having maximum 6 ft spans. Deck shall be anchored with min. $5/8$ " puddle welds at each flute along intermediate supports. Deck side laps secured 24" o.c. with $14x7/8$ HWH fasteners.
	This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.
Membrane:	TremPly KEE FB roof cover spatter-applied at a rate of 3.75 lbs/sq. with ICP Adhesive CR-20. The outside 1.5" of the lap is heat welded.
	Or
	TremPly KEE FB roof cover adhered to the insulation with approved asphalt at 20-25 lbs./sq. or TremPly KEE FB Bonding Adhesive at 1 gal. per 100 ft <sup>2</sup> TremPly KEE FB WB II Bonding Adhesive at 100 ft <sup>2</sup> /gal. The outside 1.5" of the lap is heat welded.
Maximum Design Pressure:	-45.00 psf; (See General Limitation #9.)



Membrane Type:	Single Ply, KEE
Deck Type 4:	Lightweight Concrete, Non-insulated
Deck Description:	Minimum 317 psi, Mearlcrete cellular lightweight concrete deck applied with a minimum 1/8" slurry coat followed by an optional minimum 1" thick Apache Corrugated EPS Board and a minimum 2" thick top coat over steel deck (see steel deck description below).
System Type F(2):	Membrane adhered to deck.

Steel Deck Description:	Minimum 22 ga., type B, Grade 33 steel decking placed over minimum 0.25" thick structural supports having maximum 5 ft spans. Deck shall be anchored with min. 5/8" puddle welds or Traxx/4 or Traxx/5 fasteenrs spaced at maximum 6" o.c. at supports. Deck side laps shall be secured with ITW Buildex Traxx/1 fasteners spaced at a maximum 18" o.c.
	This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.
Treatment:	Polyvinyl Alcohol (PVA) applied to the deck top surface when walkable.
Membrane:	TremPly KEE FB roof cover adhered to the insulation with approved asphalt at 20-25 lbs./sq., TremPly KEE FB Bonding Adhesive at 1 gal. per 100 ft <sup>2</sup> or TremPly KEE FB WB II Bonding Adhesive at 100 ft <sup>2</sup> /gal. The outside 1.5" of the lap is heat welded.
Maximum Design Pressure:	-67.50 psf; (See General Limitation #9.)



Membrane Type:	Single Ply, KEE
Deck Type 4:	Lightweight Concrete, Non-insulated
Deck Description:	Minimum 390 psi, Celcore MF Cellular Concrete with Celcore HS Rheology Modifying Admixture with a minimum 1/8" slurry coat followed by an optional minimum 1" thick Holey Board and a minimum 2" thick top coat over steel deck. (see steel deck description below). After setting, Celcore PVA Curing Compound is applied at a minimum rate of 200 ft <sup>2</sup> /gal.
System Type F(3):	Membrane adhered to deck.

Structural Deck Description:	Min, 2500 psi Structural Concrete or minimum 22 ga., Type BV, G-90 ASTM A653, Grade 40 steel deck placed over structural supports at 6 ft spans, attached with 5/8" puddle welds spaced 6" o.c. Deck side laps secured 18" o.c. with #12-24x7/8 HWH fasteners.
	This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.
Treatment:	Celcore S-1 Deck Preparation was spatter-applied to steel deck and broomed to form a 1/16" thick film.
Membrane:	TremPly KEE FB roof cover spatter-applied at 3.75 lbs/sq with ICP Adhesive CR-20. The outside 1.5" of the lap is heat welded.
	Or
	TremPly KEE FB roof cover adhered with TremPly KEE FB Bonding Adhesive or TremPly KEE FB WB II Bonding Adhesive at 1 gal./sq. The outside 1.5" of the lap is heat welded.
Maximum Design Pressure:	-127.50 psf; (See General Limitation #9.)

Membrane Type:	Single Ply, KEE
Deck Type 4:	Lightweight Concrete, Non-insulated
Deck Description:	Minimum 200 psi, min. 36 lb/ft <sup>3</sup> wet cast density, Celcore Cellular Concrete applied with a minimum 1/8" slurry coat followed by an optional minimum 1" thick Holey Board and a minimum 2" thick top coat over min 2500 psi. structural concrete or plank. After setting, Celcore PVA Curing Compound is applied at a minimum rate of 300 ft <sup>2</sup> /gal.
System Type F(4):	Membrane adhered to deck.

Vapor Barrier: (Optional)	Any approved asphaltic vapor barrier.
Membrane:	TremPly KEE FB roof cover adhered to the insulation with TremPly KEE FB Bonding Adhesive at 1 gal. per 75 ft <sup>2</sup> applied to substrate or TremPly KEE FB WB II Bonding Adhesive at 100 ft <sup>2</sup> /gal. Membrane rolled in with weighted roller. Laps are sealed with 1.5-inch heat weld.
Maximum Design Pressure:	-135.00 psf; (See General Limitation #9.)



Membrane Type:	Single Ply, KEE
Deck Type 4:	Lightweight Concrete, Non-insulated
Deck Description:	Minimum 200 psi, min. 36 lb/ft <sup>3</sup> wet cast density, Celcore Cellular Concrete, minimum 2" thick layer over min 2500 psi. structural concrete or plank. After setting, Celcore PVA Curing Compound is applied at a minimum rate of 300 ft <sup>2</sup> /gal.
System Type F(5):	Membrane adhered to deck.

Vapor Barrier: (Optional)	Any approved asphaltic vapor barrier.
Membrane:	TremPly KEE FB roof cover adhered to the insulation with TremPly KEE FB Bonding Adhesive at 1 gal. per 75 ft <sup>2</sup> applied to substrate or TremPly KEE FB WB II Bonding Adhesive at 100 ft <sup>2</sup> /gal. Membrane rolled in with weighted roller. Laps are sealed with 1.5-inch heat weld.
Maximum Design Pressure:	-135.00 psf; (See General Limitation #9.)



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Membrane Type:	Single Ply, KEE
Deck Type 4:	Lightweight Concrete, Non-insulated
Deck Description:	Minimum 390 psi, Celcore MF Cellular Concrete with Celcore HS Rheology Modifying Admixture is poured with a minimum 1/8" slurry coat followed by an optional minimum 1" thick Holey Board and a minimum 2" thick top coat over min 2500 psi. structural concrete After setting, Celcore PVA Curing Compound is applied at a minimum rate of 200 ft <sup>2</sup> /gal.
System Type F(6):	Membrane adhered to deck.

Membrane:	TremPly KEE FB roof cover spatter-applied at a rate of 3.75 lbs/sq. with ICP Adhesive CR-20. The outside 1.5" of the lap is heat welded.
	Or
	TremPly KEE FB roof cover adhered with TremPly KEE FB Bonding Adhesive or TremPly KEE FB WB II Bonding Adhesive at 1 gal./sq. The outside 1.5" of the lap is heat welded.
Maximum Design Pressure:	-172.50 psf; (See General Limitation #9.)



Membrane Type:	Single Ply, KEE
Deck Type 4:	Lightweight Concrete, Non-insulated
Deck Description:	Minimum 300 psi approved Elastizell Cellular Lightweight Concrete over min 2500 psi. structural concrete.
System Type F(7):	Membrane adhered to deck.

Treatment:	Top surface of lightweight concrete shall be sealed with sodium silicate or PVA.
Membrane:	TremPly KEE FB roof cover adhered to the sealed surface of the lightweight concrete in TremPly KEE FB WB II Bonding Adhesive at 100 ft <sup>2</sup> /gal. The outside 1.5" of the lap is heat welded.
Maximum Design Pressure:	-272.50 psf; (See General Limitation #9.)



Membrane Type:	Single Ply, KEE
Deck Type 4:	Lightweight Concrete, Non-insulated
Deck Description:	Minimum 300 psi approved Elastizell Cellular Lightweight Concrete over min 2500 psi structural concrete.
System Type F(8):	Membrane adhered to deck.

Treatment:	Top surface of lightweight concrete shall be sealed with sodium silicate or PVA.
Membrane:	TremPly KEE FB roof cover adhered to the sealed surface of the lightweight concrete in TremPly KEE FB Bonding Adhesive at 1 gal./sq. or TremPly KEE FB WB II Bonding Adhesive at 100 ft <sup>2</sup> /gal. The outside 1.5" of the lap is heat welded.
Maximum Design Pressure:	-302.50 psf; (See General Limitation #9.)



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Membrane Type:	Single Ply, KEE
Deck Type 4:	Lightweight Concrete, Non-insulated
Deck Description:	Minimum 400 psi, Concrecel Lightweight Concrete applied with a minimum <sup>1</sup> / <sub>4</sub> " thick slurry coat followed by an optional minimum 1" thick Apache Holey Board and a minimum 2.25" thick top coat over min 2500 psi structural concrete. Apply Concrecel Curing Compound applied to the deck top surface when walkable, at a rate of 600 ft <sup>2</sup> /gal.
System Type F(9):	Membrane adhered to deck.

Vapor Barrier: (Optional)	Any approved asphaltic vapor barrier.
Membrane:	TremPly KEE FB roof cover adhered to the insulation with TremPly KEE FB Bonding Adhesive at 1 gal. per 75 $\text{ft}^2$ applied to substrate. Membrane rolled in with weighted roller. The outside 1.5" of the lap is heat welded.
Maximum Design Pressure:	<ul> <li>-375.00 psf; (with asphaltic vapor barrier) (See General Limitation #9.)</li> <li>-405.00 psf; (no asphaltic vapor barrier) (See General Limitation #9.)</li> </ul>



## LIGHTWEIGHT INSULATING CONCRETE 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 117 and/or 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.
- 3. For Systems where specific lightweight insulating concrete is referenced consult current lightweight insulating concrete NOA for specific deck construction and limitations. For systems where specific lightweight insulating concrete is not referenced, the minimum design mix shall be a minimum of 300 psi.

### **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 -45.00 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 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.)

10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.

# END OF THIS ACCEPTANCE



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