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)

Tamko Roofing Products, Inc.
P.O. Box 1404
Joplin, MO 64802

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: TAMKO Modified Bitumen Roof System 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 consists of pages 1 through 17.
The submitted documentation was reviewed by Frank Zuloaga, RRC

ROOFING ASSEMBLY APPROVAL

Category:	Roofing
Sub-Category:	Modified
Material:	SBS/APP
Deck Type:	Lightweight Concrete
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 Specification	Product Description
Awaplan 170 FR	Roll weight: 98 lbs.; 33' 11" x 39 3/8"	ASTM D 6164 Type I	A 180 g/m² polyester reinforced SBS modified bitumen membrane surfaced with granules and treated for additional fire resistance. Applied in hot asphalt or cold adhesive.
Awaplan 170™	Roll weight: 98 lbs.; 33' 11" x 39 3/8"	ASTM D 6164 Type I	A 180 g/m² polyester reinforced SBS modified bitumen membrane surfaced with granules. Applied in hot asphalt or cold adhesive.
Awaplan Heat Welding™	Roll weight: 96 lbs.; 25' 5" x 39 3/8"	ASTM D 6164 Type II	A 250 g/m² polyester reinforced SBS modified bitumen membrane surfaced with granules. Applied by torch and also used as a walkway material.
Awaplan Premium FR™	Roll weight: 101 lbs.; 33' 11" x 39 3/8"	ASTM D 6164 Type II	A 250 g/m² polyester reinforced modified bitumen membrane surfaced with granules. Applied by hot asphalt and also used as a walkway material.
Awaplan Premium™	Roll weight: 101 lbs.; 33' 11" x 39 3/8"	ASTM D 6164 Type II	A 250 g/m² polyester reinforced SBS modified bitumen membrane surfaced with granules. Applied in hot asphalt or cold adhesive, and also used as a walkway material.
Awaflex	Roll weight: 76 lbs; 33' x 39 3/8"		SBS modified cap sheet constructed with a 155gm/m² non- woven polyester mat saturated with asphalt, coated on both sides with SBS rubber modified asphalt and surfaced with ceramic granules for UV protection.

Product	Dimensions	Test Specification	Product Description
Awaflex FR	Roll weight: 76 lbs; 33' x 39 3/8"		SBS FR modified cap sheet constructed with a 155gm/m² non- woven polyester mat saturated with asphalt, coated on both sides with SBS rubber modified asphalt, FR treated, and surfaced with ceramic granules for UV protection.
Awaplan Versa-Smooth	Roll weight: 100 lbs. 33' 11" x 39 3/8"	ASTM D 6164 Type I	A 180 g/m² polyester reinforced SBS modified bitumen membrane. Applied in hot asphalt, by torch, or mechanically fastened, as a base ply in 2 ply modified systems.
Awaplan Versa-Flex	Roll weight: 76 lbs; 33' 11" x 39-3/8"	ASTM D 6164 Type I	A 190 g/m² nonwoven polyester reinforced SBS modified bitumen membrane. Applied in hot asphalt, as a base ply in 2 ply modified systems.
Base-N-Ply®	Roll weight: 72 lbs.; 97' 6" x 39 3/8"	ASTM D 4601	Type II asphalt impregnated and coated glass fiber base sheet for use in conventional and modified bitumen built-up roofing.
Glass-Base™	Roll weight: 72 lbs.; 97' 6" x 39 3/8"	ASTM D 4601	Type II asphalt impregnated and coated glass fiber base sheet for use in conventional and modified bitumen built-up roofing.
Tam-Cap™	Roll weight: 83 lbs.; 32' 11" x 39 3/8"	ASTM D 3909	Asphalt impregnated and coated felt surfaced with mineral granules used as the top ply in conventional built-up roof membranes.
Tam-Glass Premium™	Roll weight: 53 lbs.; 161' 9" x 39 3/8"	ASTM D 2178 Type VI	Type VI asphalt impregnated glass felt for use in conventional and modified bitumen built-up roofing.
Tam-Ply IV™	Roll weight: 44 lbs.; 161' 9" x 39 3/8"	ASTM D 2178 Type IV	Type IV asphalt impregnated glass felt for use in conventional and modified bitumen built-up roofing.
Type 43 Base Sheet	Roll weight: 85 lbs.; 72' x 36"	ASTM D 2626	An organic felt reinforced asphalt base sheet. Applied in hot asphalt or mechanically fastened.
Vapor-Chan™	Roll weight: 86 lbs.; 32' 11" x 39 3/8"	ASTM D 4897 Type II	Heavy duty fiber glass base sheet impregnated and coated on both sides with asphalt with or without a fine mineral stabilizer. Surfaced on the bottom side with coarse mineral granules embedded in hot asphaltic coating.
Versa-Base™	Roll weight: 94 lbs.; 48'2" x 39 3/8"	ASTM D 6163 Type I	Asphalt impregnated and coated glass fiber base sheet for use in conventional and modified bitumen built-up roofing.

Product	Dimensions	Test Specification	Product Description
Versa-Cap FR™	Roll weight: 87 lbs.; 48'2" x 39 3/8"		A fiberglass reinforced, mineral surfaced, SBS modified bitumen top membrane.
Tam-Pro Fibered Emulsion	5 gallon	ASTM D 1227, type II	Protective coating.
Tam-Pro Fire Rated Aluminum Coating	5 gallons	ASTM D2824, type III	Flame retardant protective coating
Tam-Pro Primer	5 gallon	ASTM D 41	Asphalt based primer

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ACFoam II, ACFoam Composite	Polyisocyanurate foam insulation	Atlas Energy Products
ConPearl	Expanded perlite mineral fiber	Conglas
Esgard Fiberboard	Wood fiber board	EMCO Ltd.
GAF Permalite	Expanded mineral fiber	GAF Mat'l. Corp.
GAF Fiberboard	Wood fiber board	GAF Mat'l. Corp.
High Density Wood Fiberboard	Wood fiber insulation board	Generic
Perlite Insulation	Perlite insulation board	Generic
Dens-Deck	Gypsum insulation board	Georgia-Pacific
Armor Board Regular Fiberboard	Wood fiber board	Honeywell Int'l. Inc.
Hubert Fiberboard	Wood fiber board	Huebert Fiberboard, Inc.
UltraGard, ENRGY-2, PSI-25	Polyisocyanurate foam insulation	Johns Manville Corp.
Fesco Board, Retro-Fit Board	Expanded mineral fiber	Johns Manville Corp.
Kop-R Wood Fiber	Polyisocyanurate foam insulation	Koppers Industries, Inc.
Structodek, Structodek FS	Wood fiber board	Masonitec

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	FM-90 Fasteners	Base sheet fastener with intergrated Plate.	2.7" dia. plate	ES Products, Inc.

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
2.	Twin Loc-Nail	Base sheet fastener with intergrated Plate.	2.7" dia. plate	ES Products, Inc.
3.	Lite Weight Concrete Fastener	Base sheet fastener.		ITW Buildex Corp.
4.	Lite Weight Concrete Fastener Plate	Round galvalume stress plates.	2.7" dia. plate	ITW Buildex Corp.
5.	Olympic CR Base Sheet Fastener and Plate	Base sheet fastening assembly.		Olympic Manufacturing Group, Inc.
6.	Base-Lok	Base sheet fastener with integrated Plate.	3" dia. plate	Simplex Nails

EVIDENCE SUBMITTED:

Test Agency/Identifier	Name	Report	Date
Factory Mutual Research Corporation	Wind Uplift and Fire Classification	J.I. # 0Q8A7.AM	10.04.90
	Wind Uplift and Fire Classification	FM Approval Guide	Annually
Underwriters Laboratories, Inc.	Fire Classification	UL Roofing Materials Directory	Annually
	Wind Uplift Classification	R3225-1 through 13	Annually
Dynatech Engineering Corporation	Wind Uplift Testing	4440.05.95-1 4440.05.95-2	05.01.95
Exterior Research & Design, LLC	Wind Uplift Testing	4444.06.98-1 4446.01.00-1 #4446 4674.11.01-1	06.15.98 12.16.99 04.29.98 10.18.01
Factory Mutual Research Corporation	Wind Uplift	J.I. # 0Z4A4.AM	08.19.99
IRT & Consulting of S. FL, Inc.	Wind Uplift Testing	990029	09.30.99

APPROVED ASSEMBLIES:

Deck Type 4I: Lightweight Concrete, Insulated

Deck Description: Cellular or aggregate Lightweight Concrete

System Type A: Anchor sheet mechanically fastened; one or more layers of insulation adhered with approved asphalt.

Deck: 18-22 ga steel deck shall be secured 6" o.c. to structural supports spaced a maximum of 5 ft on centers with 5/8" puddle welds.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ACFoam II Minimum 1.2" thick	**N/A**	**N/A**
UltraGard Gold Minimum 1.3" thick	**N/A**	**N/A**
ENRGY-2, PSI-25 Minimum 1.4" thick	**N/A**	**N/A**
Base or Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ConPerl, GAFTEMP Permalite, Fesco Board Minimum ¾" thick	**N/A**	**N/A**
High Density Wood Fiberboard, Structodek FS Minimum ½" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please 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. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Anchor Sheet: One ply of Tamko Vapor-Chan or Versa-Base fastened to the steel deck as described below:

Fastening: ***(Option #1)*** Attach anchor sheet using Olympic CR Base Ply Fasteners, ES Products FM-90 Fasteners or Buildex Lite Weight Concrete Fasteners spaced 7" o.c. in a 4" lap and 7" o.c. in two staggered rows in the center of the sheet.

(Option #2) Attach anchor sheet using Simplex Base-Lok or SFS Stadler Base-Lok Fasteners spaced 9" o.c. in a 4" lap and 12" o.c. in two staggered rows in the center of the sheet.

Base Sheet:	One ply of Tam-Ply IV, Tam-Glass Premium, Glass-Base, Base-N-Ply, Versa-Base, Versa-Smooth, Awaplan VersaFlex, or Vapor-Chan adhered to the substrate with a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Ply Sheet:	(Optional) One or more plies of Tam-Glass Premium, Tam-Ply IV, Base-N-Ply, Awaplan VersaFlex, or Versa-Base adhered with a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Membrane:	Awaplan Premium, Awaplan Premium FR, Awaplan 170, Awaflex, Awaflex FR, Awaplan 170 FR, Awaplan Versa-Smooth, Awaplan VersaFlex, or Versa-Cap FR adhered with a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.; or Awaplan Heat Welding or Versa-Smooth adhered by torch.
Surfacing:	Optional for mineral surfaced Membranes. Required for smooth surfaced membranes: 1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.. 2. Tam-Pro FR Aluminum Coating, Henry 520, or Karnak 97AF applied at 1½ gal./sq., or Grundy Fibered Asphalt Emulsion, or Tam-Pro Fibered Emulsion at 3 gal./sq.
Maximum Design Pressure:	-52.5 psf (See General Limitation #7.)

Deck Type 4I: Lightweight Concrete, Insulated

Deck Description: Elastizell Cellular Lightweight Concrete (Min. 250 psi)

System Type A(2): Base/Anchor sheet mechanically fastened; one or more layers of optional insulation adhered with approved asphalt.

Deck : 18-22 ga steel deck shall be secured 6" o.c. to structural supports spaced a maximum of 6 ft on centers with 5/8" puddle welds. Deck side laps were also secured at 15 inches o.c. with #10 TEK screws. Followed by rigid insulation panels shall be placed in a minimum 1/8" slurry-coat of Range II Elastizell lightweight insulating concrete. The same working day the mininmum 2" rigid insulation shall be covered with a minimum 2" topcoat cast of Range II Elastizell/Vermiculite Hybrid mixture (EVM).

All General and System Limitations apply.

One or more layers of any of the following insulations:

(Optional) Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ACFoam II Minimum 1.2" thick	**N/A**	**N/A**
UltraGard Gold Minimum 1.3" thick	**N/A**	**N/A**
ENRGY-2, PSI-25 Minimum 1.4" thick	**N/A**	**N/A**
ConPerl, GAFTEMP Permalite, Fesco Board Minimum ¾" thick	**N/A**	**N/A**
High Density Wood Fiberboard, Structodek FS Minimum ½" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. Please 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. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Anchor Sheet: One ply of AwaFlex Granule side down fastened to the deck as described below:

Fastening: Attach anchor sheet using Olympic CR Base Ply Fasteners, ES Products FM-90 Fasteners or Buildex Lite Weight Concrete Fasteners spaced 7" o.c. in a 4" lap and 7" o.c. in two staggered rows in the center of the sheet.

Ply Sheet: (Optional) One or more plies of Tam-Glass Premium, Tam-Ply IV, Base-N-Ply, Glass-Base, Awaplan VersaFlex, Versa-Smooth or Versa-Base adhered with a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane:	Awaplan Premium, Awaplan Premium FR, Awaplan 170, Awaflex, Awaflex FR,, Awaplan 170 FR, Awaplan Versa-Smooth, Awaplan VersaFlex, or Versa-Cap FR adhered with a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or Awaplan Heat Welding or Versa-Smooth adhered by torch. If Membrane torch applied, minimum one ply sheet required.
Surfacing:	Optional for mineral surfaced Membranes. Required for smooth surfaced membranes: 1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.. 2. Tam-Pro FR Aluminum Coating, Henry 520 applied at 1½ gal./sq., or Tam-Pro Fibered Emulsion at 3 gal./sq.
Maximum Design Pressure:	-75 psf (See General Limitation #7.)

Deck Type 4: Lightweight Concrete, Insulated

Deck Description: Elastizell Cellular Lightweight Concrete (Min. 250 psi)

System Type A(3): Base/Anchor sheet mechanically fastened; one or more layers of optional insulation adhered with approved asphalt.

Deck : 18-22 ga steel deck shall be secured 6" o.c. to structural supports spaced a maximum of 5 ft on centers with 5/8" puddle welds. Deck side laps were also secured at 15 inches o.c. with #10 TEK screws. Followed by rigid insulation panels shall be placed in a minimum 1/8" slurry-coat of Range II Elastizell lightweight insulating concrete. The same working day the mininmum 2" rigid insulation shall be covered with a minimum 2" topcoat cast of Range II Elastizell/Vermiculite Hybrid mixture (EVM).

All General and System Limitations apply.

One or more layers of any of the following insulations:

(Optional) Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ACFoam II Minimum 1.2" thick	**N/A**	**N/A**
UltraGard Gold Minimum 1.3" thick	**N/A**	**N/A**
ENRGY-2, PSI-25 Minimum 1.4" thick	**N/A**	**N/A**
ConPerl, GAFTEMP Permalite, Fesco Board Minimum ¾" thick	**N/A**	**N/A**
High Density Wood Fiberboard, Structodek FS Minimum ½" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. Please 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. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Base/Anchor Sheet: One ply of Versa-Base, Vapor-Chan, or Glass Base fastened to the deck as described below:

Fastening: Attach anchor sheet using Olympic CR Base Ply Fasteners, ES Products FM-90 Fasteners or Buildex Lite Weight Concrete Fasteners spaced 7" o.c. in a 4" lap and 7" o.c. in two staggered rows in the center of the sheet.

Ply Sheet: (Optional) One or more plies of Tam-Glass Premium, Tam-Ply IV, Base-N-Ply, Glass-Base, Awaplan VersaFlex, Versa-Smooth or Versa-Base adhered with a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane:	Awaplan Premium, Awaplan Premium FR, Awaplan 170, Awaflex, Awaflex FR,, Awaplan 170 FR, Awaplan Versa-Smooth, Awaplan VersaFlex, or Versa-Cap FR adhered with a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or Awaplan Heat Welding or Versa-Smooth adhered by torch. If Membrane torch applied, minimum one ply sheet required.
Surfacing:	Optional for mineral surfaced Membranes. Required for smooth surfaced membranes: 1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.. 2. Tam-Pro FR Aluminum Coating, Henry 520 applied at 1½ gal./sq., or Tam-Pro Fibered Emulsion at 3 gal./sq.
Maximum Design Pressure:	-45 psf (See General Limitation #7.)

Deck Type 4: Lightweight Concrete, Non-insulated, New Construction

Deck Description: Cellular or Aggregate Lightweight Concrete

System Type E: Base sheet mechanically fastened.

Deck: 18-22 ga steel deck shall be secured 6" o.c. to structural supports spaced a maximum of 5 ft on centers with 5/8" puddle welds.

All General and System Limitations apply.

Base Sheet: One ply of Tamko Vapor-Chan or Versa-Base fastened to the steel deck as described below:

Fastening: ***(Option #1)*** Attach anchor sheet using Olympic CR Base Ply Fasteners, ES Products FM-90 Fasteners or Buildex Lite Weight Concrete Fasteners spaced 7" o.c. in a 4" lap and 7" o.c. in two staggered rows in the center of the sheet.
(Maximum Design Pressure -52.5 psf, See General Limitation #7)

(Option #2) Attach anchor sheet using Simplex Base-Lok or SFS Stadler Base-Lok Fasteners spaced 9" o.c. in a 4" lap and 12" o.c. in two staggered rows in the center of the sheet.
(Maximum Design Pressure -52.5 psf, See General Limitation #7)

(Option #3) ES Products Twin Loc-Nail at a fastener spacing of 9" o.c. at the 4" wide sidelaps and 9" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -60 psf, See General Limitation #7)

(Option #4) Tamko Vapor-Chan fastened to the steel with ES Products Twin Loc-Nail at a fastener spacing of 9" o.c. at the 4" wide sidelaps and 9" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -75 psf, See General Limitation #7)

Ply Sheet: (Optional, required for Fastening Option #4) One or more plies of Tam-Glass Premium, Tam-Ply IV, Base-N-Ply, Glass-Base, Awaplan VersaFlex, Versa-Smooth or Versa-Base adhered with a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: Awaplan Premium, Awaplan Premium FR, Awaplan 170, Awaflex, Awaflex FR,, Awaplan 170 FR, Awaplan Versa-Smooth, Awaplan VersaFlex, or Versa-Cap FR adhered with a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.; or Awaplan Heat Welding or Versa-Smooth adhered by torch. If Membrane torch applied, minimum one ply sheet required.

Surfacing: Optional for mineral surfaced Membranes. Required for smooth surfaced membranes:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq..
2. Tam-Pro FR Aluminum Coating applied at 1½ gal./sq., or Tam-Pro Fibered Emulsion at 3 gal./sq.

Maximum Design Pressure: See Fastening Options Above

Deck Type 4:	Lightweight Concrete, Non-Insulated
Deck Description:	Celcore Cellular Lightweight Concrete
System Type E(2):	Base sheet mechanically fastened.
Deck :	18-22 ga steel deck shall be secured 6" o.c. to structural supports spaced a maximum of 5 ft on centers with ½" puddle welds. Followed by rigid insulation panels shall be placed in a minimum 1/8" slurry-coat of insulating concrete and allowed to cure overnight. The following day the mininmum 1" rigid insulation shall be covered with a minimum 2" topcoat cast of Celcore. After setting to support foot traffic, Celcore PVA Curing Compound is applied at a rate of 300 sq. ft/gal.

All General and System Limitations apply.

Base Sheet:	One ply of Tamko Vapor-Chan, Glass-Base, Base-N-Ply, Versa-Base or AwaFlex Granule side down fastened to the deck as described below:
Fastening:	Attach anchor sheet using Olympic CR Base Ply Fasteners, ES Products FM-90 Fasteners or Buildex Lite Weight Concrete Fasteners spaced 7" o.c. in a 3" lap and 7" o.c. in two evenly spaced between laps in the center of the sheet.
Ply Sheet:	Two or more plies of Tam-Glass Premium, Tam-Ply IV, Base-N-Ply, Glass-Base, Awaplan VersaFlex, Versa-Smooth or Versa-Base adhered with a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq..
Membrane:	Awaplan Premium, Awaplan Premium FR, Awaplan 170, Awaflex, Awaflex FR,, Awaplan 170 FR, Awaplan Versa-Smooth, Awaplan VersaFlex, or Versa-Cap FR adhered with a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.; or Awaplan Heat Welding or Versa-Smooth adhered by torch. If Membrane torch applied, minimum one ply sheet required.
Surfacing:	Optional for mineral surfaced Membranes. Required for smooth surfaced membranes: 1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. 2. Tam-Pro FR Aluminum Coating applied at 1½ gal./sq., or Tam-Pro Fibered Emulsion at 3 gal./sq.
Maximum Design Pressure:	-75 psf (See General Limitation #7.)

Deck Type 4: Lightweight Concrete, Non-Insulated

Deck Description: Strong Company Lightweight Concrete

System Type E(3): Base sheet mechanically fastened.

Deck : 18-22 ga steel deck shall be secured 6" o.c. to structural supports spaced a maximum of 5 ft on centers with ½" puddle welds. Followed by rigid insulation panels shall be placed in a minimum ¼" slurry-coat of insulating concrete and allowed to cure overnight. The following day the mininmum 1" rigid insulation shall be covered with a minimum 3" topcoat cast of Strong Seal Roof Fill.

All General and System Limitations apply.

Base Sheet: One ply of Tamko Vapor-Chan, Glass-Base, Base-N-Ply, Versa-Base or AwaFlex Granule side down fastened to the deck as described below:

Fastening: Attach anchor sheet using Olympic CR Base Ply Fasteners, ES Products FM-90 Fasteners or Buildex Lite Weight Concrete Fasteners spaced 7" o.c. in a 4" lap and 7" o.c. in two evenly spaced between laps in the center of the sheet.

Ply Sheet: Two or more plies of Tam-Glass Premium, Tam-Ply IV, Base-N-Ply, Glass-Base, Awaplan VersaFlex, Versa-Smooth or Versa-Base adhered with a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq..

Membrane: Awaplan Premium, Awaplan Premium FR, Awaplan 170, Awaflex, Awaflex FR,, Awaplan 170 FR, Awaplan Versa-Smooth, Awaplan VersaFlex, or Versa-Cap FR adhered with a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.; or Awaplan Heat Welding or Versa-Smooth adhered by torch. If Membrane torch applied, minimum one ply sheet required.

Surfacing: Optional for mineral surfaced Membranes. Required for smooth surfaced membranes:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq..
2. Tam-Pro FR Aluminum Coating applied at 1½ gal./sq., or Tam-Pro Fibered Emulsion at 3 gal./sq.

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

Deck Type 4:	Lightweight Concrete, Non-Insulated
Deck Description:	Mearlcrete Cellular Lightweight Concrete
System Type E(4):	Base sheet mechanically fastened.
Deck :	18-22 ga steel deck shall be secured 6" o.c. to structural supports spaced a maximum of 5 ft on centers with ½" puddle welds. Followed by rigid insulation panels shall be placed in a minimum 1/8" slurry-coat of insulating concrete and allowed to cure overnight. The following day the mininmum 1" rigid insulation shall be covered with a minimum 2" topcoat cast of Mearlcrete.

All General and System Limitations apply.

Base Sheet:	One ply of Tamko Vapor-Chan, Glass-Base, Base-N-Ply, Versa-Base or AwaFlex Granule side down fastened to the deck as described below:
Fastening:	Attach anchor sheet using Olympic CR Base Ply Fasteners, ES Products FM-90 Fasteners or Buildex Lite Weight Concrete Fasteners spaced 7" o.c. in a 4" lap and 7" o.c. in two ervenly spaced between laps in the center of the sheet.
Ply Sheet:	Three or more plies of Tam-Glass Premium, Tam-Ply IV, Base-N-Ply, Glass-Base, Awaplan VersaFlex, Versa-Smooth or Versa-Base adhered with a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq..
Membrane:	Awaplan Premium, Awaplan Premium FR, Awaplan 170, Awaflex, Awaflex FR,, Awaplan 170 FR, Awaplan Versa-Smooth, Awaplan VersaFlex, or Versa-Cap FR adhered with a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.; or Awaplan Heat Welding or Versa-Smooth adhered by torch. If Membrane torch applied, minimum one ply sheet required.
Surfacing:	Optional for mineral surfaced Membranes. Required for smooth surfaced membranes: 1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.. 2. Tam-Pro FR Aluminum Coating applied at 1½ gal./sq., or Tam-Pro Fibered Emulsion at 3 gal./sq.
Maximum Design Pressure:	-45 psf (See General Limitation #7.)

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 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, 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.
3. 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 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