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 Building Products, Inc.
P.O. Box 1404
Joplin, MO 64801

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 Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: TAMKO BUR Roofing System over Lightweight Concrete Deck

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This revises NOA No. 06-0613.02 and consists of pages 1 through 9.
The submitted documentation was reviewed by Alex Tigera.

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Built-up Roofing
Deck Type:	Lightweight Concrete
Maximum Design Pressure	-52.5 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"	ASTM D 5147	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"	ASTM D 5147	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 II	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.; 97.5' 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.; 97.5' 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 FR™	Roll weight: 60 lbs.; 48' 2" x 39-3/8"	ASTM D 5147	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-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.
Versa-Cap FR™	Roll weight: 87 lbs.; 33' x 39-3/8"	ASTM D 5147	A fiberglass reinforced, mineral surfaced, SBS modified bitumen top membrane.
Tam-Pro Primer	5 gallon	ASTM D 41	Asphalt based primer
Tam-Pro Fire Rated Roof Coating	5 gallon	ASTM D2824, type III	A flame-retardant protective coating that forms a highly reflective surface.
Tam-Pro Fibered Emulsion	5 gallon	ASTM D1227 Type II	Protective Coating.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ACFoam Composite	Isocyanurate Insulation with perlite facer	Atlas Roofing Corp.
ACFoam II	Isocyanurate Insulation	Atlas Roofing Corp.
EnergyGuard Fiberboard	Wood fiber board	GAF Mat'l. Corp.
High Density Wood Fiberboard	High Density Wood Fiber insulation board.	Generic
Perlite Insulation Board	Perlite Insulation	Generic
ENRGY 3, PSI-25	Isocyanurate Insulation.	Johns Manville
Fesco Board	Rigid perlite roof insulation board.	Johns Manville
Structodeck, Structodek FS	High Density Wood Fiber insulation board.	Masonite
H-Shield	Polyisocyanurate foam insulation	Hunter Panels

APPROVED FASTENERS:

TABLE 3

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

EVIDENCE SUBMITTED:

Test Agency/Identifier	Name	Report	Date
Factory Mutual Research Corporation	Class 4470	J.I. 0Q8A7.AM	10.04.90
	Class 4470	J.I. 1X1A5.AM	07.19.93
	Comparative Rupture Testing	J.I. 4D0A7.AM	10.21.98
	Class 1 Fire	J.I. 0Z4A3.AM	08.27.97
	Class 4470	J.I. 1D4A7.AM	10.20.97
	Class 4470	J.I. 3B5A9.AM	08.27.97
	Class 4470	3027787	08/14/06
	Class 4470	3027789	08/14/06
	Class 4470	3027790	08/14/06
	Class 4470	3027791	08/14/06
Underwriters Laboratories, Inc.	Fire Classification -- see current directory	R3225	Published Annually
	Wind Uplift Resistance	R3225-1 through 13	02.17.94
Dynatech Engineering Corporation	TAS 114	4440.05.95-2	05.01.95
	TAS 114	4440.05.95-1	05.01.95
Exterior Research & Design, LLC.	TAS 114	4444.06.98-1	06.15.98
Trinity ERD	TAS 117	C8500SC.00.07	11.30.07

APPROVED ASSEMBLIES:

Deck Type 4I: Lightweight Concrete, Insulated

Deck Description: Cellular or Aggregate Lightweight Concrete

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

All General and System Limitations apply.

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

Fastening: ***(Option #1)*** Attach anchor sheet using OMG CR Base Ply Fasteners, ES Products FM-90 Fasteners or OMG 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 Intec 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.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
AC-Foam II, E'NRG'Y 3, E'NRG'Y 3 Plus, IsoTherm R, E'NRG'Y 3 Composite, ISO 95+, ISO 95+ Composite, ISO-Roc, UltraGard Gold, AC-Foam Composite, Pyrox Multi-Max FA Foamglas, H-Shield Minimum 1" thick	**N/A**	**N/A**
Fesco Board 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 Sheet: (Optional) Install one ply of Type 43 coated base sheet, Glass-Base, Tam-Ply IV, Tam-Glass Premium®, Base-N-Ply® or Versa Base base sheet directly to the insulated substrate. Adhere in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or spot mopped as detailed in this approval; see General Limitation #4. If base sheet is adhered directly to Polyisocyanurate insulation only a spot or strip mopped application as detailed in this approval is approved; see General Limitation #4.

Ply Sheet: Two or more plies of Tam-Glass Premium® or Tam-Ply IV ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Cap Sheet: (Optional) One ply of Tam-Cap® adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See Tamko application instructions for approved method of installation).

Surfacing: (Required if no cap sheet is used) Install one of the following:

1. 1-1½ gallons fibered aluminum coating per square (Tropical Asphalt Products AlumaBrite 120, Tam-Pro FR Aluminum Roof Coating), 3 gallons emulsion roof coating per square, or asphalt surface at an application rate of 20-25 lbs./sq.. Coatings shall be applied according to the manufacturers' recommendations regarding specific application rates and weathering.
2. Flood coat with an application rate of 60 lbs./sq.; plus gravel or slag with an application rate of 400 or 300 lbs./sq. respectively.

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

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: Cellular or Aggregate Lightweight Concrete

System Type E: Base sheet mechanically fastened.

All General and System Limitations apply.

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

Fastening: ***(Option #1)*** Attach anchor sheet using OMG CR Base Ply Fasteners, ES Products FM-90 Fasteners or OMG 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 Intec 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.

Ply Sheet: Two or more plies of Tam-Glass Premium® or Tam-Ply IV ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Cap Sheet: (Optional) One ply of Tam-Cap® adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See Tamko application instructions for approved method of installation).

Surfacing: (Required if no cap sheet is used) Install one of the following:

1. 1-1½ gallons fibered aluminum coating per square (Tropical Asphalt Products AlumaBrite 120, Tam-Pro FR Aluminum Roof Coating), 3 gallons emulsion roof coating per square, or asphalt surface at an application rate of 20-25 lbs./sq.. Coatings shall be applied according to the manufacturers' recommendations regarding specific application rates and weathering.
   Flood coat with an application rate of 60 lbs./sq.; plus gravel or slag with an application rate of 400 or 300 lbs./sq. respectively.

Maximum Design Pressure: -52.5 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 equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 137, calculations shall be signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant.
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 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. 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 approved products listed herein shall be labeled in compliance with TAS 121 and shall bear the imprint or identifiable marking of the manufacturer's name or logo and following statement: "Miami-Dade County Product Control Approved" or the Miami-Dade County Product Control Seal as shown below.

MIAMI-DADE COUNTY APPROVED

11. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9B-72 of the Florida Administrative Code.

END OF THIS ACCEPTANCE