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)

Cooley Roofing Systems, Inc.
50 Esten Avenue
Pawtucket, RI 02860

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: Cooley PVC Single Ply Roof Systems over 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 renews NOA #97-1119.08 and consists of pages 1 through 12.
The submitted documentation was reviewed by Frank Zuloaga, RRC

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Single Ply
Material:	PVC
Deck Type:	Concrete
Maximum Design Pressure	-45 psf
Fire Classification:	See General Limitation #1

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
Cooley C-3 40-100 Mil Membrane	78" x 108" 702 sf. roll	ASTMD 4434	40-100 mil thermoplastic alloy membrane field membrane.
Cooley C-3 40-100 Mil Perimeter Sheet	39" x 108' 351 sf. roll	ASTM D 4434	40-100 mil thermoplastic alloy membrane perimeter sheet.
Cooley C-3 40-Roofing Membrane	52" x 108'	ASTM D 4434	40-100 mil thermoplastic alloy membrane field membrane.
Cooley C-3 Reinforced Flashing Membrane	6", 8", 12", 18" & 24" variable length rolls	ASTM D 4434	40-100 mil thermoplastic flashing membrane.
Cooley C-3 Unreinforced 55 Mil Membrane Back RAM	24" x 30' LF 60 sf. roll	ASTM D 4434	55 mil unreinforced flashing membrane
Cooley C-3 Coated Metal	4' x 8' 4' x 10' sheets	US Commercial Standard CS-245-62	C-3 membrane laminated 24 Ga.. galvanized steel.
Cooley C-3 Fleece Back RAM Universal Corners	76" x 90" 570 sf. roll	ASTM D 4434	Thermoplastic fleece back membrane. Adhered applications.
Cooley C-3 Fleece Back RAM	39" x 108' 351 sf. roll	ASTM D 4434	Thermoplastic fleece back membrane. Adhered applications.
Cooley C-3 Fleece Back RAM Flashing	12' x 108' 108 sf. roll 24" x 108' 216 sf. roll	ASTM D 4434	Thermoplastic fleece back membrane flashing material.
Cooley C-3 Bonding Adhesive	5 gallon pails	proprietary	Adhesive for fully adhered RAM systems.
Cooley Aluminum Termination Bar	1/8" x 1" x 10	TAS 114	Flat termination bar.
Cooley Tuff Track 250 Walkway	¼" x 30" x 40'		Walkway pad (roll configuration)
Cooley Tuff Track 500 Walkway	½" x 30 x 36"		Walkway pad (single pad)
C3 Bonding Adhesive	N/A		Contact adhesive for membrane flashing.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
Pyrox, White Line	Isocyanurate Insulation	Apache Products Co.
ACFoam II, III	Isocyanurate Insulation	Atlas Roofing Corp.
Conperl	Perlite insulation board.	Conglas
Hytherm, Hytherm AP	Isocyanurate Insulation	Dow Chemical
Styrofoam	Extruded Polystyrene.	Dow Chemical
ISO 95+, ISO 95+ GL	Polyisocyanurate foam insulation	Firestone
EnergyGuard High Density Fiberboard	High density wood fiberboard insulation.	GAF Materials Corp.
EnergyGuard Perlite	Perlite insulation board.	GAF Materials Corp.
Armor Board High Density	Wood fiber insulation board.	Honeywell International
Dens Deck, Dens Deck Prime	Silicon treated gypsum	G-P Products
Sturdi-Top, Roof Insulation Board	Wood fiber insulation board.	G-P Products
High Density Wood Fiberboard	High Density Wood Fiber insulation board.	Generic
Perlite Insulation Board	Perlite Insulation	Generic
Type X Gypsum, Gypsum	Gypsum Wallboard	Generic
EPS or XPS Insulation	Expanded or Extruded Polystyrene.	Generic
Ultra/M-II	Isocyanurate Insulation	Homasote Co.
H-Shield	Isocyanurate Insulation	Hunter Panels
ENRGY 2, ENERGY 3, PSI-25 UltraGuard	Isocyanurate Insulation	Johns Manville
Fesco Foam, DuraFoam	Isocyanurate Insulation with perlite facer	Johns Manville
Fesco Board	Rigid perlite roof insulation board.	Johns Manville
Strataguard	Gypsum Wallboard	Owens Corning
Multi-Max, Multi-Max FA, Thermaroof Plus	Polyisocyanurate foam insulation	Rmax, Inc.
Fiberbase HD1, HD6	Asphalt coated wood fiber insulation	Temple Inland Forest Products Corp.
Structodeck	High Density Wood Fiber insulation board.	Wood Fiber Industries

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Olympic Fasteners #14, #15	Insulation and membrane fastener	Various	Olympic Mfg. Group
2.	CD-10	Insulation and membrane fastener	Various	Olympic Mfg. Group
3.	Olympic Standard	Galvalume AZ55 stress plate	3" round	Olympic Mfg. Group
4.	Olympic Plastic	Plastic plates for fasteners.	3" round	Olympic Mfg. Group
5.	Dekfast Fasteners #14, #15	Insulation and membrane fastener	Various	SFS Intec, Inc.
6.	Dekfast Hex Plate	Galvalume AZ50 stress plate	2-$^{7}/_{8}$" x 3-¼"	SFS Intec, Inc.
7.	Dekfast Lock Plate	Polypropylene stress plate.	3" x 3-¼"	SFS Intec, Inc.
8.	Insul-Fixx Fastener	Insulation fastener	Various	SFS Intec, Inc.
9.	Isofast Fasteners	Insulation fastener for steel and wood decks	Various	SFS Intec, Inc.
10.	Insul-Fixx S	Galvalume AZ55 stress plate	3" round	SFS Intec, Inc.
11.	Insul-Fixx P	Polyethylene stress plate	3" round	SFS Intec, Inc.
12.	Isofast Plate	Square or oblong Galvalume steel plates for use with Isofast fasteners		SFS Intec, Inc.

EVIDENCE SUBMITTED:

Test Agency/Identifier	Name	Report	Date
Factory Mutual Corp.	J.I. 0X2A9.AM	Class 1 Concrete deck fully adhered.	06/26/93
	J.I. 3W1A1.AM	Class 1 Mechanically attached.	03/29/93
	J.I. 1W1A9.AM	80 Mil Class I wood, steel, concrete.	09/11/93
	J.I. 1X3A6.AM	C3 Fleece Back fully adhered Class I steel, concrete.	10/03/93
	J.I. 1W9A2.AM	C3 Fleece Back fully adhered Class I lightweight concrete.	06/15/93
	J.I. 1W2A0.AM	C3 Fleece Back fully adhered Class I lightweight concrete.	08/24/93
	J.I. 1T2A6.AM	Olympic GTL, Lite deck NTB Magnum, Iron LOK Strap Toggle fasteners Class I.	02/22/93
	J.I. 3W3A4.AM	C3 mechanically fastened steel, concrete.	11/22/93

Test Agency/Identifier	Name	Report	Date
	J.I. 3W3A4.AM	100 Mil C3 Class I steel, wood, concrete.	03/26/93
	J.I. 0X8A9.AM	C3 Dual attachment Class I steel, wood, concrete.	06/25/93
	J.I. 1X6A5.AM	Solweld plate mechanically fastened Class I steel, concrete.	10/12/93
	J.I. 2W5A6.AM	C3 Fleece back fully adhered Class I steel, concrete.	06/01/93
Underwriters Laboratories, Inc.	File R9834 (N)	Fire Classification	04/06/93

APPROVED ASSEMBLIES

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete.

System Type A: One or more layers of insulation adhered with approved asphalt or adhesive; membrane fully adhered.

All General and System Limitations apply.

One or more layers of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ACFoam II, Multi-Max FA, ENRGY-2, ENRGY-3, PSI-25, ISO-95+, ISO + GL, Hy-Therm AP, Pyrox		
Minimum 1.4" thick	**N/A**	**N/A**

Top Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
High Density Fiberboard, FM-90 High Density, Armor Board Regular, Esgard, EnergyGuard Fiberboard, Huebert Fiberboard, Kop-R Wood Fiber		
Minimum ½" thick	**N/A**	**N/A**

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of base sheet. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2 or Cooley Bonding Adhesive at 1 gal./sq. or with ¾" to 1" wide beads of Insta-Stik Adhesive, 12" o.c. (primer not required for use of Insta-Stik). 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 used as a top layer shall be placed with the polyisocyanurate side facing down.

Vapor Retarder: (Optional) Any UL or FM approved vapor retarder applied to the roof deck or over a base layer of insulation.

Barrier: Minimum ½" or Dens Deck secured to the deck with the insulation.

Membrane: C3 Fleece Back Roof Cover fully adhered to the insulation with Cooley Bonding Adhesive (C-1006) applied at the rate of 1 gal./sq., or approved mopping asphalt applied at the rate of 25 lbs./sq.

Maximum Design Pressure: -45 psf; (See General Limitation #9.)

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete.

System Type C: All layers of insulation simultaneously attached; membrane fully adhered.

All General and System Limitations apply.

Base Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ACFoam II, Multi-Max FA, ENRGY-2, ENRGY-3, PSI-25, ISO-95+, ISO + GL Minimum 1.4" thick	**N/A**	**N/A**

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ISO 95 +, ISO 95 + GL, ENRGY-2, ENRGY-3, PSI-25 Minimum 1.4" thick	**1, 2 or 5**	**1:2 ft^2**
ACFoam II, Multi-Max FA Minimum 1.5" thick	**1, 2 or 5**	**1:2 ft^2**

Vapor Retarder: (Optional) Any UL or FM approved vapor retarder applied to the roof deck or over a base layer of insulation.

Barrier: Minimum ½" or Dens Deck secured to the deck with the insulation.

Membrane: C3 Fleece Back Roof Cover fully adhered to the insulation with Cooley Bonding Adhesive (C-1006) applied at the rate of 1 gal./sq., or approved mopping asphalt applied at the rate of 25 lbs./sq. Optional mechanical attachment of membrane using fasteners and plates noted in System Type D spaced 36" o.c. is permitted.

Maximum Design Pressure: -45 psf; (See General Limitation #9.)

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete.

System Type D: Membrane mechanically attached over preliminary fastened insulation; membrane fully adhered.

All General and System Limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
One or more layers of the Base Layer insulation covered by one layer of the insulation listed as Top Layer.		
EPS over gypsum barrier.		
Minimum 1" thick	**N/A**	**N/A**

Base or Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Conperl, EnergyGuard Perlite, FescoBoard, Armor Board High Density, BP High Strength, FM-90 Traffic Top/High Density, ERS Redi-Deck, Riber Top C, E, S, EnergyGuard High Density, Roof Insulation Board, High Density Fiberboard, Fiber Base HD1, HD6, Structodek		
Minimum 1" thick	**N/A**	**N/A**
Pyrox, Hy-Therm AP, Whiteline, ENRGY-2, ENRGY-3, PSI-25, Mutli-Max, Thermaroof Plus, ACFoam II, Ultra/M-11ISO/glas, ISO 95+, ISO 95+GL, Ultragard, Fesco Foam		
Minimum 1" thick	**N/A**	**N/A**

Note: All layers of insulation and base sheet shall be simultaneously attached. See membrane below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarder: (Optional) Any UL or FM approved vapor retarder applied to the roof deck or over a base layer of insulation.

Barrier: Minimum ½" or Dens Deck secured to the deck with the insulation.

Membrane: C3 Membrane or C3 Fleece Backed Membrane attached through the prelimiary attached insulation as specified below.

Fastening #1: Roof cover is rolled over the insulation and its 2" laps are sealed. Membrane is mechanically attached using Olympic 2" round steel or ASAP plates with Olympic CD-10 or Solweld plate with Dekfast #14 or #15 screws, Olympic Heavy Duty or HD Insulfixx spaced 6" o.c. in rows 8 ft. apart or 12" o.c. in rows 4 ft. apart. Fastener rows are stripped in with 6" wide strips of membrane or 6" diameter membrane caps, heat or solvent welded.

Fastening #2: Membrane is mechanically attached using Olympic 2" round steel or ASAP plates with Olympic CD-10 or Solweld plate with Dekfast #14 or #15 screws, Olympic Heavy Duty or HD Insulfixx spaced 18" o.c. through 3" wide laps spaced 48"apart.

Fastening #3:	Roof cover is rolled over the insulation and its 2" laps are sealed. Cooley Plate Adhesive is liberally applied to the bottom of the Solweld plates. Membrane is mechanically attached using the adhesive coated Solweld plates and Olympic CD-10, Dekfast #14 or #15 screws, Olympic Heavy Duty or HD Insulfixx spaced 18" o.c. in rows spaced 48"apart. 6" diameter membrane caps is coated with Cooley Plate Adhesive and placed over the fastener/plate head.
Fastening #4:	78" wide membrane is mechanically attached using Olympic 2" round steel or ASAP plates with Olympic CD-10 or Solweld plate with Dekfast #14 or #15 screws, Olympic Heavy Duty or HD Insulfixx spaced 18" o.c. through 6" wide laps spaced 72"apart.
Maximum Design Pressure:	-45 psf; (See General Limitation #7.)

Deck Type 3: Concrete Decks, Non-insulated

Deck Description: 2500 psi structural concrete.

System Type E: Membrane attached to deck.

All General and System Limitations apply.

Barrier: (Optional) Minimum ½" or Dens Deck secured to the deck with 4 approved fasteners per board.

Membrane: C3 Membrane or C3 Fleece Backed Membrane attached through the prelimiary attached insulation as specified below.

Fastening #1: Roof cover is rolled over the insulation and its 2" laps are sealed. Membrane is mechanically attached using Olympic 2" round steel or ASAP plates with Olympic CD-10 or Solweld plate with Dekfast #14 or #15 screws, Olympic Heavy Duty or HD Insulfixx spaced 6" o.c. in rows 8 ft. apart or 12" o.c. in rows 4 ft. apart. Fastener rows are stripped in with 6" wide strips of membrane or 6" diameter membrane caps, heat or solvent welded.

Fastening #2: Membrane is mechanically attached using Olympic 2" round steel or ASAP plates with Olympic CD-10 or Solweld plate with Dekfast #14 or #15 screws, Olympic Heavy Duty or HD Insulfixx spaced 18" o.c. through 3" wide laps spaced 48"apart.

Fastening #3: Roof cover is rolled over the insulation and its 2" laps are sealed. Cooley Plate Adhesive is liberally applied to the bottom of the Solweld plates. Membrane is mechanically attached using the adhesive coated Solweld plates and Olympic CD-10, Dekfast #14 or #15 screws, Olympic Heavy Duty or HD Insulfixx spaced 18" o.c. in rows spaced 48"apart. 6" diameter membrane caps is coated with Cooley Plate Adhesive and placed over the fastener/plate head.

Fastening #4: 78" wide membrane is mechanically attached using Olympic 2" round steel or ASAP plates with Olympic CD-10 or Solweld plate with Dekfast #14 or #15 screws, Olympic Heavy Duty or HD Insulfixx spaced 18" o.c. through 6" wide laps spaced 72"apart.

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

Deck Type 3: Concrete Decks, Non-insulated

Deck Description: 2500 psi structural concrete.

System Type F: Membrane fully adhered to deck.

All General and System Limitations apply.

Barrier: (Optional) Minimum ½" or Dens Deck secured to the deck with 4 approved fasteners per board.

Membrane: C3 Fleece Back Roof Cover fully adhered to the insulation with Cooley Bonding Adhesive (C-1006) applied at the rate of 1 gal./sq., or approved mopping asphalt applied at the rate of 25 lbs./sq. Optional mechanical attachment of membrane using fasteners and plates noted in System Type D spaced 36" o.c. is permitted.

Maximum Design Pressure: -45 psf; (See General Limitation #9.)

CONCRETE DECK SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine 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 Professional Engineer, Registered Architect, or Registered Roof Consultant.

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each 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. **(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 9B-72 of the Florida Administrative Code.

END OF THIS ACCEPTANCE