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 the BCCO and accepted by the Building Code and Product Review Committee 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 and the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Cooley C3, C3FB and C3Plus PVC Single Ply Roof Systems over Cementitious Wood Fiber 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. 06-0418.03 and consists of pages 1 through 11.
The submitted documentation was reviewed by Jorge L. Acebo.

MIAMI-DADE COUNTY APPROVED

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Single Ply
Material:	PVC
Deck Type:	Cementitious Wood Fiber
Maximum Design Pressure	-45 psf

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 Plus 40-100 Mil Membrane	78" x 100' 650 ft.² roll	ASTMD 4434	40-100 mil thermoplastic alloy membrane field membrane
Cooley C-3 Plus 40-100 Mil Perimeter Sheet	39" x 100' 325 ft.² roll	ASTMD 4434	40-100 mil thermoplastic alloy membrane perimeter sheet
Cooley C-3 Plus 40-Roofing Membrane	52" x 100'	ASTMD 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 - 75 Mil Membrane Back RAM	24" x 36' LF 72 ft.² 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	14" x 14"	ASTM D 4434	Thermoplastic fleece back membrane. Adhered applications.
Cooley C-3 Fleece Back RAM	76" x 100' 39" x 100' 325 ft.² roll	ASTM D 4434	Thermoplastic fleece back membrane. Adhered applications.
Cooley C-3 Fleece Back RAM Flashing	12" x 100' 100 ft.² roll 24" x 100' 200 ft.² roll	ASTM D 4434	Thermoplastic fleece back membrane flashing material.
Cooley C3 Bonding Adhesive	5 gallon pails	proprietary	Solvent based adhesive for fully adhered RAM systems and C3PLUS roofing membrane.

Product	Dimensions	Test Specification	Product Description
Cooley PVC Adhesive	N/A	proprietary	Solvent based adhesive for fully adhered C3PLUS Roofing Membrane
Cooley WB Bonding Adhesive	N/A	proprietary	Water Based adhesive for fully adhered C3PLUS Roofing Membrane
Cooley Low VOC PVC Adhesive	N/A	proprietary	Low VOC solvent based adhesive for fully adhered C3PLUS Roofing Membrane
Cooley Aluminum Termination Bar	1/8" x 1" x 10	TAS 114	Flat termination bar.
Cooley Coolgrip Walkway	0.072" x 36" x 60'	proprietary	Walkway pad (roll configuration)
Cooley Coolgrip Heavy Duty Walkway	0.150" x 36" x 60'	proprietary	Walkway pad (roll configuration)
C3 Bonding Adhesive	N/A	proprietary	Contact adhesive for membrane flashing.
Cooley PVC Adhesive	N/A	proprietary	Adhesive for membrane flashing
Cooley WB Bonding Adhesive	N/A	proprietary	Adhesive for membrane flashing
Cooley Low VOC PVC Adhesive	N/A	proprietary	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

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
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.	NTB Magnum	Fastener for cementitious and gypsum decks	Various	Olympic Mfg. Group
2.	NTB Plate	Round Galvalume AZ55 stress plate	3" round	Olympic Mfg. Group
3.	NTB Metal Barbed Stress Plate	Round Galvalume AZ55 stress plate	2" round	Olympic Mfg. Group
4.	NTB Plastic Plate	Plastic plates for NTB 2" head fasteners.	3" round	Olympic Mfg. Group
5.	Twin-Loc Locking Impact Nail	Base sheet fastener with integrated Plate.	Length: 1.8" Plate Dia.: 2.7"	ES Products, Inc.

EVIDENCE SUBMITTED:

Test Agency/Identifier	Report	Name	Date
Factory Mutual Corp.	3025170	4470	02/07/06
	3021133	4470	02/07/06
	J.I. 0X2A9.AM	4470	06/26/93
	J.I. 3W1A1.AM	4470	03/29/93
	J.I. 1W1A9.AM	4470	09/11/93
	J.I. 1X3A6.AM	4470	10/03/93
	J.I. 1W9A2.AM	4470	06/15/93
	J.I. 1W2A0.AM	4470	08/24/93
	J.I. 1T2A6.AM	4470	02/22/93
	J.I. 3W3A4.AM	4470	03/26/93
	J.I. 0X8A9.AM	4470	06/25/93
	J.I. 1X6A5.AM	4470	10/12/93
	J.I. 2W5A6.AM	4470	06/01/93
Underwriters Laboratories, Inc.	File R9834 (N)	UL 790	04/06/93

APPROVED ASSEMBLIES

Deck Type 5I: Cementitious Wood Fiber, Insulated

Deck Description: Cementitious wood fiber

System Type A: Anchor sheet mechanically attached, insulation adhered and membrane adhered.

All General and System Limitations apply.

One or more layers of the Base Layer insulation covered by one layer of the insulation listed as Top Layer.

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	**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: 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. 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.

Anchor Sheet: One ply of GAFGLAS #75, GAFGLAS Stratavent Eliminator Nailable Base Sheet, Johns Manville Ventsulation or Johns Manville PermaPly 28 secured to the deck with Olympic NTB Magnum fasteners at 1 per 2 sq. ft.

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 5I:	Cementitious Wood Fiber, Insulated
Deck Description:	Cementitious wood fiber
System Type C(1):	All layers of insulation simultaneously attached; C3 Plus membrane fully adhered.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ISO 95+ GL, ENRGY 3, PSI 25, ValuTherm Minimum 2" thick	**See Note below**	**1: 2 ft²**
ACFoam II, ACFoam III, Hy-Therm AP, Kop R Minimum 1.5" thick	**See Note below**	**1: 2 ft²**
Fiber Top E Minimum 0.75" thick	**See Note below**	**1: 2 ft²**
High Density Fiberboard, Armor Board Regular and High Density, Esgard and Esgard High Strength, EnergyGuard High Density Fiberboard, Huebert Fiberboard, Kop-R Wood Fiber, GAFTEMP Fiberboard, Knight-Celotex Fiberboard Premium and High Density, High Density Roof Board, Fiber Top C Minimum 1" thick	**See Note below**	**1: 2 ft²**

Note: All layers shall be simultaneously fastened with Polymer Gyptec fastener and plate, Firestone Polymer fastener and Insulation plate, Powerlite or Olympic GTL, Lite-Deck or NTB Magnum fastener and plate all with minimum 2" deck penetration. 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.

Vapor Retarder:	(Optional) Any UL or FM approved vapor retarder applied to the roof deck or over a base layer of insulation.
Barrier:	(Optional) Minimum 1/4" Dens Deck secured to the deck with the insulation.
Membrane:	C3 Plus Membrane fully adhered to the insulation with Cooley Bonding Adhesive (C-1006) applied at the rate of 0.83 gal./sq. on both the membrane and the substrate for a total of 1.67 gal./sq., and a heat welded seam minimum 1½" wide at the laps, or Cooley PVC Bonding Adhesive applied at the rate of 1 gal/sq on both the membrane and the substrate for a total of 2 gal/sq, or Cooley WB Bonding Adhesive applied at the rate of 0.67 gal/sq to the substrate, or Cooley Low VOC Adhesive applied at the rate of 0.83 gal/sq on both the membrane and the substrate for a total of 1.67 gal/sq
Maximum Design Pressure:	-45 psf; (See General Limitation #9.)

Deck Type 5I: Cementitious Wood Fiber, Insulated

Deck Description: Cementitious wood fiber

System Type C(2): All layers of insulation simultaneously attached; C3 Plus membrane fully adhered.

All General and System Limitations apply.

One or more layers of any of the following insulations.
Note: All layers shall be simultaneously fastened with minimum 1" deck penetration. 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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ENRGY 3, PSI 25, ValuTherm, ISO 95+ GL Minimum 2" thick	**5**	**1: 33 ft^2**
ACFoam II, ACFoam III Hy-Therm AP, Kop R Minimum 1.5" thick	**5**	**1: 33 ft^2**
Fiber Top E Minimum 0.75" thick	**5**	**1: 33 ft^2**
High Density Fiberboard, Armor Board Regular and High Density, Esgard and Esgard High Strength, EnergyGuard High Density Fiberboard, Huebert Fiberboard, Kop-R Wood Fiber, GAFTEMP Fiberboard, Knight-Celotex Fiberboard Premium and High Density, High Density Roof Board, Fiber Top C Minimum 1" thick	**5**	**1: 33 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: (Optional) Minimum 1/4" Dens Deck secured to the deck with the insulation.

Membrane: C3 Plus Membrane fully adhered to the insulation with Cooley Bonding Adhesive (C-1006) applied at the rate of 0.83 gal./sq. on both the membrane and the substrate for a total of 1.67 gal./sq., and a heat welded seam minimum 1½" wide at the laps, or Cooley PVC Bonding Adhesive applied at the rate of 1 gal/sq on both the membrane and the substrate for a total of 2 gal/sq, or Cooley WB Bonding Adhesive applied at the rate of 0.67 gal/sq to the substrate, or Cooley Low VOC Adhesive applied at the rate of 0.83 gal/sq on both the membrane and the substrate for a total of 1.67 gal/sq

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

Deck Type 5I: Cementitious Wood Fiber, Insulated

Deck Description: Cementitious wood fiber

System Type C(3): All layers of insulation simultaneously fastened; membrane fully adhered.

All General and System Limitations apply.

One or more layers of the Base Layer insulation covered by one layer of the insulation listed as Top Layer.

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**

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**	**1:2 ft^2**
ACFoam II, Multi-Max FA		
Minimum 1.5" thick	**1**	**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: (Optional) 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 5: Cementitious Wood Fiber, Non-Insulated

Deck Description: Cementitious wood fiber

System Type E: Anchor sheet mechanically attached, membrane adhered.

All General and System Limitations apply.

Anchor Sheet: One ply of GAFGLAS #75, GAFGLAS Stratavent Eliminator Nailable Base Sheet, Johns Manville Ventsulation or Johns Manville PermaPly 28 secured to the deck with Olympic NTB Magnum fasteners at 1 per 2 sq. ft.

Membrane: C3 Fleece Back Roof Cover fully adhered to the anchor sheet 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.)

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 side lap 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 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 to 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