



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 C3 Plus PVC Single Ply Roof Systems over Gypsum 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 new NOA consists of pages 1 through 8.

The submitted documentation was reviewed by Jorge L. Acebo



NOA No.: 06-0418.04
Expiration Date: 08/03/11
Approval Date: 08/03/06
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ROOFING SYSTEM APPROVAL

| | |
|--------------------------------|---------------------------|
| <u>Category:</u> | Roofing |
| <u>Sub-Category:</u> | Single Ply |
| <u>Material:</u> | PVC |
| <u>Deck Type:</u> | Gypsum |
| <u>Maximum Design Pressure</u> | -45 psf |
| <u>Fire Classification:</u> | See General Limitation #1 |

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

| <u>Product</u> | <u>Dimensions</u> | <u>Test Specification</u> | <u>Product Description</u> |
|---|--|----------------------------------|---|
| 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. |
| 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 |



| <u>Product</u> | <u>Dimensions</u> | <u>Test Specification</u> | <u>Product Description</u> |
|------------------------------------|--------------------|---------------------------|--|
| 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 |
| Perlite Insulation Board | Perlite Insulation | Generic |
| Type X Gypsum, Gypsum | Gypsum Wallboard | Generic |



APPROVED INSULATIONS:

TABLE 2

| Product Name | Product Description | Manufacturer (With Current NOA) |
|--|--|--|
| 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, Thermarroof 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 |

EVIDENCE SUBMITTED:

| <u>Test Agency/Identifier</u> | <u>Report</u> | <u>Name</u> | <u>Date</u> |
|--------------------------------------|----------------------|---------------------|--------------------|
| Factory Mutual Corp. | 3025170 | 4470 | 02/07/06 |
| | 3021133 | 4470 | 02/07/06 |
| Underwriters Laboratories, Inc. | File R9834 (N) | Fire Classification | 04/06/93 |



APPROVED ASSEMBLIES

- Deck Type 6I:** Poured Gypsum, Insulated
- Deck Description:** Poured Gypsum
- System Type C(1):** All layers of insulation simultaneously attached; C3 Plus membrane fully adhered.

All General and System Limitations apply.

All layers shall be simultaneously fastened with Polymer Gyptec fastener and plate, Powerlite or Olympic GTL, Lite-Deck or NTB Magnum fastener and plate (minimum 1.5" deck penetration) at a spacing of 2 ft² max contributory area per fastener. 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

| Base and Top Insulation Layer | Insulation Fasteners | Fastener Density/ft ² |
|---|----------------------|----------------------------------|
| ACFoam-II, ACFoam-III, ISO 95+ GL Minimum 2" thick, 4'x4' board | See Above | 1: 2 ft ² |
| ENRGY 3, PSI 25, ValuTherm Minimum 2" thick | See Above | 1: 2 ft ² |
| ACFoam II, ACFoam III, Hy-Therm AP, Kop R Minimum 1.5" thick | See Above | 1: 2 ft ² |
| Fiber Top E, Minimum 0.75" thick, 4'x4' board | See Above | 1: 2 ft ² |
| Fiber Top C, E, Minimum 1" thick, 4'x4' board | See Above | 1: 2 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 | See Above | 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 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 1 1/2" 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 6I: Poured Gypsum, Insulated
Deck Description: Poured Gypsum
System Type C(2): All layers of insulation simultaneously attached; C3 Plus membrane fully adhered.

All General and System Limitations apply.

Note: All layers shall be simultaneously fastened with ES Products TWIN LOC-NAILS (minimum 1" deck penetration) at a spacing of 1.33 ft² max contributory area per fastener. 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 | Fastener Density/ft ² |
|---|---|----------------------------------|
| ACFoam-II, ACFoam-III, ENRGY 3, PSI 25, ValuTherm Minimum 2" thick | ES Products TWIN LOC (minimum 1" deck penetration) | 1: 33 ft ² |
| ISO 95+ GL Minimum 2" thick, 4'x4' board | ES Products TWIN LOC (minimum 1" deck penetration) | 1: 33 ft ² |
| ACFoam II, ACFoam III Hy-Therm AP, Kop R Minimum 1.5" thick | ES Products TWIN LOC (minimum 1" deck penetration) | 1: 33 ft ² |
| Fiber Top E Minimum 0.75" thick, 4'x4' board | ES Products TWIN LOC (minimum 1" deck penetration) | 1: 33 ft ² |
| Fiber Top C, E Minimum 1" thick, 4'x4' board | ES Products TWIN LOC (minimum 1" deck penetration) | 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 | ES Products TWIN LOC (minimum 1" deck penetration) | 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 6I:** Poured Gypsum, Insulated
Deck Description: Poured Gypsum
System Type C(3): All layers of insulation simultaneously attached; C3 Plus membrane fully adhered.

All General and System Limitations apply.

Note: All layers shall be simultaneously fastened with Iron-Lok and Strap Toggle fasteners (minimum 1.5" deck penetration) at a spacing of 2ft² max contributory area per fastener. 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 | Fastener Density/ft² |
|---|-----------------------------|--|
| ACFoam-II, ACFoam-III, ENRGY 3, PSI 25, ValuTherm Minimum 2" thick | See Above | 1: 2 ft² |
| ISO 95+ GL Minimum 2" thick, 4'x4' board | See Above | 1: 2 ft² |
| ACFoam II, ACFoam III Hy-Therm AP, Kop R Minimum 1.5" thick | See Above | 1: 2 ft² |
| Fiber Top E Minimum 0.75" thick, 4'x4' board | See Above | 1: 2 ft² |
| Fiber Top C, E Minimum 1" thick, 4'x4' board | See Above | 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 Above | 1: 2 ft² |

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.)



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. 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



NOA No.: 06-0418.04
Expiration Date: 08/03/11
Approval Date: 08/03/06
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