

(Specification writer shall choose the most appropriate section that applies to a given scope of work, including but not limited to, the following listed sections)

**SECTION 071813**  
**Pedestrian Traffic Coatings{PRIVATE }**

**PART 1 - GENERAL**

**1.1 SUMMARY (Specification writer shall add, delete or amend, as deemed necessary)**

- A. Provide all labor, materials, equipment and supervision as necessary to install an architectural, decorative, multi-layered, functional waterproofing pedestrian deck coating and/or roof covering system over **(new and/or existing)** horizontal, **(interior or exterior)**, plywood deck surfaces, as shown on the project drawings and as outlined in this specification.
- B. Following all applicable manufacturer's guidelines and application instructions shall be considered a requirement of this specification.
- C. Related Sections: **(Specification writer shall add, delete or amend, as deemed necessary)**

1. Division 06 – Wood, Plastics and Composites

**(Note to Specifier: Plywood deck must be installed to exhibit no vertical deflection by selecting appropriate plywood thickness and span of supports. Plywood shall be a minimum 5/8", (preferably 3/4"), exterior grade, A/C or better, and installed A side up. Maximum spacing of supports must be 16" on center or less. All plywood edges must be supported on the structures primary framing or blocking. Plywood requires fastening securely with non-corroding screws, screw type or ring shank nails, spaced between 4" to 6" on center.)**

**(Note to Specifier regarding Slope for Drainage: Slope of 1/4 inch per linear foot to drain is recommended. The minimum allowable slope to drain shall be no less than 1/8 inch per linear foot. (In the event of any water ponding or other ill-effects resulting from improper sloping details shall be the sole responsibility of the general contractor, prime contractor or the owner's representatives).**

2. Division 07 – Thermal and Moisture Protection

**(Note to Specifier: Sheet metal flashing shall be minimum 26 gauge, galvanized, and fully bonderized. All joint or seams shall be overlapped approx. 3", and caulked with Miracote approved polyurethane flashing sealant. Flashing that is in contact with MiraFlex Membrane A component of the MiraFlex II System shall be fastened in a method approved by the Deck Coating manufacturer. All Flashing and deck drains must be primed with Miracote MiraFlex Membrane B. All applicable Architectural Metal, ASTM and ACI standards shall govern and be enforced with respect to the installation of all sheet metal flashings.**

3. Division 09 – Finishes

**(Consult Crossfield Products Corp. for specific recommendation)**

**1.2 REFERENCES (Specification writer shall add, delete or amend, as deemed necessary)**

- A. ASTM C109: Standard Test Method for Compressive Strength of Hydraulic Cement Mortars.

- B. ASTM C190: Method of Test for Tensile Strength of Hydraulic Cement Mortars...
- C. ASTM C580: Standard Test Method for Flexural and Modulus of Elasticity of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes.
- D. ICRI Technical Guideline No.03732: Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.
- E. ICBO AC39: Acceptance Criteria for Walking Decks.

**1.3 SUBMITTALS (Specification writer shall add, delete or amend, as deemed necessary)**

- A. General: Submit ( ) number of copies each of the following items in accordance with the requirements of the Conditions of Contract and in Division 1 Specification Sections.
- B. Product Data: Submit manufacturer's technical data sheets, available shop drawings, applicable installation guidelines or recommendations, and material safety data sheets for each product and/or composite system included in this specification.
- C. Material and Mock-up Samples: For **initial selection**, submit manufacturer's standard color charts for review by the specification authority and owner's representative. For **final selection**, submit sample boards or perform mock-ups (**specification writer shall specify sample size**) to exhibit pattern, texture, color and finish of the pedestrian deck coating and/or roof covering system.
- D. Material certificates signed by the manufacturer certifying that the pedestrian deck coating and/or roof covering system complies with all requirements specified herein.
- E. Warranties: Submit a sample of the manufacturer's standard material warranty and the contractor's labor warranty.
- F. Project Reference List: Contractor shall submit a minimum of 5 recently completed projects of a similar nature and include total contract value.
- G. Provide a copy of I.C.C. test report verifying that the proposed pedestrian walking deck and/or roof covering system is Class A Fire Rated, and has met I.C.C. acceptance criteria for walking decks.

**1.4 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: The manufacturer of the products specified in this section shall have a minimum of 5 years experience in the production of these types of products.
- B. Contractor Qualifications: The contractor installing the products specified in this section shall have a minimum of 3 years experience and have successfully completed no less than 5 projects similar in scope and complexity, and is acceptable to and has been trained by the manufacturer.
- C. Substitutions: Requests for the approval of any product other than those specified in this section must be submitted to the specifying authority two weeks prior to the bid, and shall include complete application specifications and physical characteristics. Any request after this date will not be accepted. Failure of performance requires immediate removal and replacement of unapproved substituted material with those originally specified at no cost to the owner, Architect, construction manager, or general contractor.
- D. Single Source System: All components of the completed pedestrian deck coating and/or roof covering system shall be, without exception, from a single manufacturer for the assurance of a seamless material warranty.

## 1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in original packages and containers with seals unbroken and bearing manufacturer's labels containing brand name, batch or lot numbers, and directions for storage and mixing with other components.
- B. Store materials to comply with manufacturer's directions to prevent from damage and/or deterioration from moisture, heat, cold, direct sunlight, or other detrimental effects.

## 1.6 PROJECT CONDITIONS

- A. Environmental Conditions: Comply with all the manufacturer's directions for maintenance of ambient and substrate temperature, moisture, humidity, ventilation, and other conditions required to execute and protect completed work. In hot and cold weather conditions or when high evaporation rates or adverse conditions may be expected, the contractor will be responsible for the quality of the completed installation. When applying cementitious components, follow all recommendations and guidelines of the American Concrete Institute, as published in ACI Committee 305 for Hot-Weather Concreting and ACI Committee 306 for Cold-Weather Concreting.
- B. Lighting: Permanent lighting will be in place and working before installing the proposed pedestrian walking deck and/or roof covering system.
- C. Protection: Protect newly installed pedestrian walking deck and roof covering system from rain or other potentially harmful climatic conditions for a minimum of 24 hours, from potential damage due to foot or vehicular traffic and/or from the work of other trades.

## PART 2 – PRODUCTS

### 2.1 MANUFACTURERS

- A. Approved Manufacturer: Miracote Division of Crossfield Products Corp., 3000 E. Harcourt Street, Rancho Dominguez, CA 90221, (310) 886-9100; also 140 Valley Road, Roselle Park, NJ 07204, (908) 245-2800, [www.miracote.com](http://www.miracote.com).

### 2.2 MATERIALS

- A. Miracote MiraFlex II is a multi-component, composite, pedestrian walking deck and roof covering system consisting of expanded metal lath (for plywood decks only), a polymer-modified cementitious mortar base coat (for metal lath embedment), polymeric cold fluid-applied waterproofing layer, a polymer-modified cementitious protection coat, an acrylic topcoat (optional depending on system requirements), and a required clear sealer coat. The MiraFlex II completed system is designed to provide a functional waterproof deck surfacing over plywood decking with a protective architectural/decorative finish.  
**(Consult Crossfield Products Corp. for the following Miracote MiraFlex II System component recommendations depending on specific owner requirements, service conditions, and primary project objectives)**
- B. System Components:
  - 1. Metal Lath: Metal lath (not supplied by Miracote) shall be a minimum 1.75 lb per square yard, galvanized, expanded metal lath in compliance with ASTM C847.
  - 2. Staples: Staples (not supplied by Miracote) shall be corrosion-resistant, minimum No. 16 gauge staples with 1" wide minimum crowns and .5" long legs, in compliance with ASTM F1667.
  - 3. Base Coat: One of the following two-component, polymer-modified, cementitious repair mortar and underlayment products shall be used to provide a suitable smooth underlayment, pitched-to-slope, applied at a minimum thickness of 3/16" over plywood and metal lath composite surfaces:

### MiraPatch LM, MiraPatch RM 3

4. Waterproofing Layer: Waterproofing layer shall be MiraFlex Membrane A, a single component, water-based, fluid-applied, polymer emulsion waterproofing membrane applied at a minimum thickness of 25 mils over cured (minimum 8 hours) base coat.
5. Protection Coat: The protection coat shall be Miracote MPC, a pre-packaged, two-component, polymer-modified, cementitious surfacing system that is applied in a nominal thickness from 1/16" to 3/32" over the cured (minimum 8 hours) waterproofing layer. One unit of Miracote MPC consists of one (1) five gallon pail of Liquid Catalyst, and two (2) 55# bags of dry powder available in choice of two colors, white and natural cement, and two grades, smooth and regular.
6. Acrylic Topcoat: The acrylic topcoat shall be MiraGard Colorbond XL, a water-borne, pigmented, self-cross linking acrylic finish coat applied over the cured (minimum 8 hours) protection coat.  
**(Optional depending on system requirements)**
7. Sealer Coat: The sealer coat shall be one of the following clear, solvent-based or water-based, acrylic surface sealers applied over either the Protection Coat (acrylic topcoat is not installed) or the Acrylic Topcoat (if installed): **Miracote MiraGard HD 100** (solvent carrier) or **Miracote MiraGard HDWB** (water carrier).

### 2.3 PROPERTIES (Includes Waterproofing Layer and Protection Coat Components Only)

#### A. Miracote MiraFlex Membrane "A" Physical Properties:

Provide a single-component SBR, flexible, fluid-applied waterproofing material that meets or exceeds the listed minimum physical property requirements when tested in accordance with the referenced standard test method.

Elongation (ASTM D 638):	562%
Tensile Strength (ASTM D 638): 7 days dry / 21 days wet	560 psi
Bacteria & Fungus Resistance (ASTM G 22)	No Growth
Adhesion in Peel to Concrete	8.3 lbs/in width
Moisture Vapor Transmission (ASTM E 96) 9 Grams/sq. meter/24 hrs	2.04 grams
Permeability (ASTM E 96)	0.013 perms/inch
Crack Bridging (ASTM E 836) 1/8" opening @ 77 F	Pass (no rupture)

#### B. Miracote MPC Physical Properties:

Provide a two-component only, polymer-modified, cementitious protective coating system that meets or exceeds the listed minimum physical property requirements when tested in accordance with the referenced standard test method.

Two Component System	Liquid Polymer and Bagged Powder
Compressive Strength (ASTM C 109):	2,440 psi
Tensile Strength (ASTM C 190):	450 psi

Flexural Strength (ASTM C 580)	2,415 psi
Adhesion (MIL-D-3134, Para.4.7.14):	515 psi
Water Absorption (ASTM C 642)	1.61% volume of permeable voids 5.07%
Water Vapor Permeability (ASTM E 96)	1.96 perms/inch
Impact Resistance: (MIL-3134) Para. 4.7.3 (2# steel ball dropped from 8' height onto coated steel plate)	No cracking or detachment

### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- A. Examine all plywood or other substrates and conditions where the pedestrian deck coating and/or waterproofing system are to be installed. Notify the Specifying Authority of any unsatisfactory conditions that may be detrimental to the proper and timely completion of the work.
- B. Do not proceed with the work until all such deficiencies have been corrected by the Contractor in an acceptable manner, and as approved by the Specifying Authority.

#### **3.2 PREPARATION**

- A. Protect all surrounding areas, walls, window glass, landscaping and other adjacent surfaces from the execution of each item of work including, but not limited to, surface preparation and all application steps of the pedestrian deck coating and/or waterproofing system.
- B. Plywood shall be applied to framing in accordance with requirements of the applicable code. All edges shall be blocked with no deflection. Through-penetrations and terminations shall be protected with metal flashing in accordance with applicable code, and the manufacturer's published installation instructions. **All flashing and deck drains must be primed with Miracote MiraFlex Membrane-B.**
- C. Application of the pedestrian deck coating and/or waterproofing system shall be over dry and clean plywood surfaces free from grease, oil, dirt or any other foreign matter that may inhibit proper adhesion of the base coat.

#### **3.3 APPLICATION**

- A. Installation of the Miracote MiraFlex II system shall be in accordance with the manufacturers' most current installation instructions, as published in their product technical data sheets and/or available installation guidelines regarding the application of the pedestrian deck coating and/or waterproofing system, as specified herein. All stated cure times are predicated on normal temperature and relative humidity conditions, and it is the contractor's responsibility to adjust accordingly as weather conditions dictate.
- B. The above manufacturer's installation instructions shall be **available at all times** on the jobsite during application of all components involved with the Miracote MiraFlex II system.
- C. Installation shall only be performed when weather conditions permit, as directed by the specifying authority and in accordance with the manufacturer's requirements. Materials shall not be applied if precipitation is occurring or anticipated.
- D. Metal lath shall be fastened to the plywood deck with 22 to 28 staples per square foot, **uniformly**

**distributed.** Where the lath is butt-jointed, the staple spacing shall be no greater than 2 inches on center. Butt joints of metal lath **shall not** occur over plywood joints. Where plywood joints occur, lath shall be stapled across all plywood joints at 4 inches on center.

- E. Miracote (**MiraPatch RM 3 or MiraPatch LM**) base coat shall be trowel-applied at a consistency to **completely fill and cover** the metal lath to a minimum total thickness of 3/16 inch. The base coat shall be allowed to cure a minimum of 8 hours before application of the waterproofing layer.
- F. Waterproofing layer shall be installed in a two step process consisting of one Miracote Poly Fabric reinforced MiraFlex Membrane-A coat and one neat MiraFlex Membrane-A coat. MiraFlex Membrane A shall be applied at a minimum application rate of 64 SF per gallon per coat (25 mils wet). Each coat shall be allowed to dry to the touch prior to applying the next coat. Allow the final coat to cure a minimum of four (4) hours before proceeding with the application of the protection coat.
- G. Miracote MPC protection coat shall be applied over the waterproofing layer in a minimum of two coats using methods and equipment in a manner that is necessary to replicate approved submittal boards and job site mock up. A **wet edge shall be maintained at all times** while placing freshly mixed cementitious protection coat materials. The finished protection coat installation shall have a **uniform thickness** of 1/16” to 3/32”. Allow the completed protection coat to cure a minimum of eight (8) hours before proceeding with the application of the Topcoat.
- H. Topcoat (**Optional if using a Clear Sealer**) of MiraGard Colorbond XL shall be roller applied over the protection coat in a two coat application. Apply each coat at a rate 300 SF per gallon. The first coat shall be allowed to dry for 4 to 6 hours before the application of the second coat. Allow completed topcoat to cure a minimum of eight (8) hours before proceeding with the application of the Sealer coat.
- I. Clear Sealer (**Miracote MiraGard HD 100 or Miracote MiraGard HDWB**) shall be roller or spray applied over the topcoat or protection coat in a minimum of one coat, two coats is recommended. Apply as per manufacturer’s published instructions, and allow to dry a minimum 12 to 24 hours before exposure to traffic.

### 3.4 CLEANING

- A. Clean work area and remove/discard all debris resulting from the application of the pedestrian deck coating and/or roof covering system to the acceptance of the specifying authority or the owner.

### 3.5 PROTECTION

- A. Protect all completed work of the application during the specified cure time of the material from vehicular or pedestrian traffic, or any exposure to solid or liquid spillage or any other form of contamination.

### END OF SECTION

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