MIRACOTE®

Guide Specification

MIRAPRIME MVERS PLUS **Water Vapor Emission Control**

SECTION 07 26 00
SURFACE APPLIED VAPOR REDUCTION SYSTEMS
or
SECTION 09 96 56
EPOXY MOISTURE VAPOR MITIGATION SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Provide all labor, materials, equipment, and supervision as necessary to install a surface-applied, moisture vapor mitigation system on new and/or existing concrete slab 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 or delete, as deemed necessary)**
1. Section 03 30 00 – Cast-in-Place Concrete
2. Section 03 50 00 – Cast Decks and Underlayment
3. Section 07 10 00 – Dampproofing and Waterproofing
4. Section 07 26 00 – Vapor Retarders
5. Section 09 60 00 – Flooring
6. Section 09 90 00 – Painting and Coating

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

A. ASTM F1869-04: Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Sub-floor Using Anhydrous Calcium Chloride.

B. ASTM E1907-06a: Standard Practices for Determining Moisture-Related Acceptability of Concrete Floors to Receive Moisture-Sensitive Finishes.

C. ASTM E96-00e1: Standard Test Methods for Water Vapor Transmission of Materials.

D. ASTM F2170-02: Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using In Situ Probes.

E. ASTM F710-05: Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.

F. ICRI Technical Guideline 03732: Selecting and Specifying Concrete surface Preparation for Sealers, Coatings and Polymer Overlays.

1.3 SUBMITTALS

A. General: Submit (X) 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, applicable installation guideline or recommendations, and material safety data sheets for each product included in this specification.

C. Warranty: Submit a sample of the manufacturer's standard material warranty.

D. Project Reference List: Contractor shall submit a minimum of five recently completed projects of a similar nature and include total contract value.

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.

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. Maintain a minimum ambient air and concrete surface temperature of 50 degrees F during the application of moisture vapor reduction system and for 24 hours after completion.

B. Lighting: Permanent lighting will be in place and working before installing moisture vapor reduction system.

C. Protection: Protect moisture vapor reduction system installation to prevent damage from foot traffic and/or from the work of others.

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.

2.2 MATERIALS

A. MiraPrime MVERS Plus, a two-component, fluid-applied, epoxy moisture mitigation system that is applied in a single application to a properly prepared concrete substrate and shall be compatible with subsequent floor finishes and adhesives, as approved by the manufacturer, Crossfield Products Corp., Rancho Dominguez, California, and Roselle Park, New Jersey.

2.3 PROPERTIES

A. Physical Properties:
Provide two-component epoxy moisture vapor reduction system that meets or exceeds the listed minimum physical property requirements when tested in accordance with the referenced standard test method.

Volumetric Ratio: A to B	2A to 1B (mix full kits only)
Solids Content	>99%
Compressive Strength (ASTM D695):	13,500 psi
Tensile Strength (ASTM D 638):	10,000 psi
Hardness (ASTM D2250) Shore D	75 - 80
Tensile Elongation (ASTM D638):	2.7%
Adhesion (ASTM D7234):	>400 psi (100% failure in concrete)
Microbial Resistance (ASTM D1308)	Passes
Alkali Resistance (ASTM D1308)	Resistant
VOC	0 g/L

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine all concrete or other substrates and conditions where the moisture vapor mitigation system is to be installed. Notify the Specifying Authority of any unsatisfactory conditions that may be detrimental to the proper and timely completion of the work. Do not proceed with the work until all such deficiencies have been corrected by the Contractor in an acceptable manner.

B. Verify that all concrete surfaces have been properly cured for a minimum of (3 - 7) days, and that there no curing compounds, sealers, mastics, glues or other contaminates present on the substrate.

C. Perform **pre-treatment** moisture vapor emission testing in accordance with ASTM F1869 (CaCl Testing) and/or ASTM F2170 (RH – Relative Humidity Testing) in all areas to receive finished flooring of any kind. Concrete floor surfaces to be tested must be dry, clean, sound and free of any sealers, mastics, glues or other contaminates that may affect the accurate measurement of moisture vapor emission rates. Conduct testing at the ambient temperature and relative humidity that is to be anticipated during typical operating conditions.

D. Perform **post-treatment** anhydrous calcium chloride testing in accordance with ASTM F1869 (CaCl Testing) and/or ASTM F2170 (RH – Relative Humidity Testing) before application of finished flooring to verify that moisture vapor emission rates have been reduced to an acceptable

level, as specified by the owner and in conjunction with the manufacturer's requirements. Conduct testing at the ambient temperature and relative humidity that is to be anticipated during typical operating conditions.

3.2 PREPARATION

A. Remove any existing floor coatings, adhesives, sealers, curing compounds, dirt, grease oil, efflorescence, unsound or deteriorated concrete, impregnations, or any other bond-inhibiting substances from concrete surfaces to be treated.

B. Perform surface repairs as necessary to re-profile, re-level or to restore the integrity of the concrete substrate in general. Concrete surface repair products shall be from the same manufacturer, or as approved by the manufacturer, of the moisture vapor mitigation system specified herein. Provide letter from the manufacturer of the concrete repair materials verifying compatibility with the epoxy moisture vapor mitigation system.

C. Epoxy moisture vapor mitigation system must be applied to a clean, sound and mechanically prepared concrete substrate to a CSP-3 to CSP-5 surface profile, in accordance with the International Concrete Repair Institutes (ICRI) Technical Guideline 03732, **Selecting and Specifying Concrete surface Preparation for Sealers, Coatings and Polymer Overlays**. The concrete substrate may be damp or dry at the time of application.

D. Protect all surrounding areas and adjacent surfaces from incidental damage while performing surface preparation operations and during the application of products specified in this section.

3.3 APPLICATION

A. General: Follow all manufacturers' directions, as published in their product technical data sheets and/or available installation guidelines regarding proportioning and mixing of the epoxy moisture vapor mitigation system.

B. Primer Coat: Apply a single coat of the moisture vapor mitigation primer over mechanically prepared substrate using a 3/32" notched squeegee and immediately roll 3/8" nap roller at the manufacturer's recommended spreading rate based on MVT rate, as specified in current product technical data sheet.

C. Curing: Allow the moisture vapor mitigation primer to cure a minimum of 8-10 hours prior to the placement of any subsequent flooring materials.

3.4 CLEANING

A. Clean work area and remove/discard all debris resulting from the application of the moisture vapor reduction system to the acceptance of the specifying authority or the owner.

3.5.1 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