Section 03 01 30/Section 03 01 50/Section 03 15 00
High Solids Epoxy Membrane

Part 1 - General

1.1 **Summary**

A. This specification describes the application of a seamless high solids epoxy membrane resistant to methane gas, moisture, and VOCs exposures. The specified products shall meet or exceed the requirements of ASTM D1434 Methane Gas Transmission, with a methane transmission rate below 40 mL/day*m^2 * $atm\ at\ 30\ mils\ and\ below\ 103\ mL/day$ * m^2 * $atm\ at\ 18\ mils$ and ASTM F3010 Vapor Barrie MVER and ASTM E96-10 with a transmission rate below 0.08 perms at 12 mils.

1.2 **Quality Assurance**

A. Manufacturing qualifications: The manufacturer of the specified product shall be ISO 9001/9002 certified and have in existence a recognized ongoing quality assurance program independently audited on a regular basis.

B. Contractor qualifications: Contractor shall be qualified in the field of concrete repair and protection with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have received product training by a manufacturer's representative.

C. Install materials in accordance with all safety and weather conditions required by manufacturer or as modified by applicable rules and regulations of local, state and federal authorities having jurisdiction. Consult Material Safety Data Sheets for complete handling recommendations.

1.3 **Delivery, Storage and Handling**

A. All materials must be delivered in original, unopened containers with the manufacturer's name, labels, product identification, and batch numbers. Damaged material must be removed from the site immediately.

B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.

C. Condition the specified product as recommended by the manufacturer.

1.4 **Job Conditions**

A. Environmental Conditions: Do not apply material if it is raining or snowing or if such conditions appear to be imminent. Minimum application temperature 40ºF (5ºC) and rising.

B. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified coating.

1.5 **Submittals**

A. Submit one copy of manufacturer's literature, to include: Product Data Sheet, and appropriate Material Safety Data Sheets (MSDS).

1.6 **Warranty**

A. Provide a written warranty from the manufacturer against defects of materials for a period of five (5) years, beginning with date of substantial completion of the project.

Part 2 - Products

2.1 **Manufacturers**

A. AVM Industries, 8245 Remmet Ave. Canoga Park, CA 91304, is considered to conform to the requirements of this specification.

B. Any materials required for repair prior to installation shall be approved by the same supplier of the proposed traffic coating system.

2.2 **Materials**

A. AVM 420 Gas-Lock Epoxy Coating consisting of:

1. AVM Gas-Lock 420 Part-A
2. AVM Gas-Lock 420 Part-B

B. Total dry film thickness exclusive of aggregate shall be 18 mils for moderate methane/VOC contamination, and 30 mils for heavy methane/VOC contamination. See data sheet System Guide for coverage rates and application methods.

2.3 **Performance Criteria**

A. Minimum Technical & Physical Properties

Pot Life (45°F/75°F/90°F)	20 mins/15 mins/7 mins
Curing Time/Light Foot Traffic (45°F/60°F/75°F/90°F)	12 hours/8 hours/4 hours/-3 hours
Minimum Recoat Time (45°F/60°F/75°F/90°F)	12 hours/8 hours/4 hours/-3 hours
Maximum Recoat Time (w/out light sand) (45°F/60°F/75°F/90°F)	72 hours or by manufacturers guidelines on recoat windows
Full Cure – Full Chemical Resistance & Supports Heavy/Rolling	5-7 Days
Substrate Temperature	40°F-90°F
Application Humidity Dew Point	Slab Temperature + 5°F Above Dewpoint
Concrete Surface Profile (Consult ICRI 310.2R.13)	CSP-3 (New Concrete); CSP-4 (Existing Concrete)
Shore D Hardness	82 at 48 Hours
Mold Resistance	Does Not Promote Mold Growth per ASTM G21

Part 3 – Execution

3.1 **Surface Preparation**

A. The substrate must be clean, dry, sound and free of surface contaminants. Remove all traces of dust, laitance, grease, oils, curing compounds, form release agents and foreign particles by mechanical means, i.e. – milling, scarifying, shotblasting, etc., as approved by the engineer. Blow surface free of dust using compressed air line equipped with an oil trap Surface Preparation Surface must be clean, dry and sound with an open texture. Remove dust, laitance, grease, curing. All projections, rough spots, etc. should be dressed off to achieve a level surface prior to the application.

B. Concrete should be cleaned and prepared to achieve a laitance and contaminant free, open textured surface by blast cleaning or equivalent mechanical means (CSP 3-4 per ICRI guidelines).

C. Metal should be thoroughly cleaned by grinding or blast cleaning.

3.2 **Priming**

A. Concrete and plywood – No priming is not required.

B. Once substrate is clean and approved for installation per the manufacture's guidelines, then pour entire contents of part B into Part A and mix for 3 minutes using a 300-400 RPM drill with Jiffy mixer attachment. Immediately after mixing, pour entire contents of pail onto substrate. Spread the material using a flat or notched squeegee to deliver a minimum desired thickness coat. Back-roll the material using a 3/8" nap roller to ensure even coverage. Cure time will take approximately 4 hours.

C. Metal substrates – Consult AVM regarding proper preparation.

3.3 **Detailing**

A. Non-structural cracks up to 1/16 inch – Apply a detail coat of AVM Aussie Gas-Lock 420 at 24 mils wet, 4" wide, centered over the crack. Allow to become tack free before overcoating.

B. Cracks and joints over 1/16 inch up to 1 inch – Route and seal with approved polyether sealant and allow to cure. Apply a detail coat of AVM Aussie Gas-Lock 420 at 24 mils wet, 4" wide, centered over crack. Allow to become tack free before overcoating.

C. Joints over 1 inch – Should be treated as expansion joints by others and approved by AVM Industries' technical group prior to installation.

3.4 **Mock-up**

A. A job site mock-up should always be completed to confirm acceptability of workmanship, material coverage rates and aesthetics.

3.5 **Cleaning**

A. Uncured materials can be removed from tools or other surfaces with an approved solvent.
B. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent area