

**DIVISION 7 – THERMAL AND MOISTURE PROTECTION**

**Section 071800 – Pedestrian Traffic Coatings**

**Part 1 - General**

* 1. **Summary**
		1. This specification describes the application of a seamless waterproofing membrane that is resistant to specified traffic wear exposures. The specified products shall meet or exceed requirements of ASTM C957, High-Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface.

## Quality Assurance

* + 1. Manufacturing qualifications: The manufacturer of the specified product shall be ISO 9001/9002 certified and have a recognized ongoing quality assurance program that is independently audited on a regular basis.
		2. 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.
		3. Install materials in accordance with all safety and weather conditions required by the 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.

## Delivery, Storage and Handling

* + 1. 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.
		2. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.
		3. Condition the specified product as recommended by the manufacturer.

## Job Conditions

* + 1. 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.
		2. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified coating.

## Submittals

* + 1. Submit one copy of manufacturer's literature, to include: Product Data Sheet, and appropriate Material Safety Data Sheets (MSDS).

## Warranty

* + 1. Provide a written warranty from the manufacturer against defects of materials for a period of ten (10) years, beginning with date of substantial completion of the project.

# Part 2 - Products

## Manufacturers

* + 1. AVM Industries, 8245 Remmet Ave. Canoga Park, CA 91304, is considered to conform to the requirements of this specification.
		2. Any materials required for repair prior to installation shall be approved by the same supplier of the proposed traffic coating system.

## Materials

* + 1. AVM System 620P Pedestrian Traffic Coating
			1. AVM Gas-Lock 420 or AVM 401 epoxy primer (may be required)
			2. AVM 520 PRO
		2. AVM Top Coat 620-AL
		3. Total dry film thickness exclusive of aggregate shall be 40 mils. See data sheet System Guide for coverage rates and application methods.
		4. Aggregate shall be clean, rounded, oven dried quartz sand with a minimum gradation of 16-30 mesh for general areas or a 20-40 mesh for areas requiring extra slip resistance, with a minimum hardness of 6.5 per the Moh’s scale. Aggregate shall be supplied in pre-packaged bags and be free of metallic or other impurities.

## Performance Criteria

* + 1. Properties of AVM 520 Pro

 AVM 520 Pro

|  |  |  |
| --- | --- | --- |
| Color | Gray |  |
| Total Volume Solids (ASTM D2697) | 95% |  |
| VOC Content (ASTM D2369-81) | 75 g/L |  |
| Low Temperature Flexibility | No Cracking at -40° |  |
| Tensile Strength (ASTM D412) | 2.79 MPa (405 psi) |  |
| Elongation at Break (ASTM D412) | 726% |  |
| Tearing Strength  | 15N/mm |  |
| Water Impermeability | Impermeable |  |
| Hydrostatic Pressure over 1/8” crack | 17.5 psi |  |
| Remains in Place During Application (ASTM C836) | PASS (2 coats vertical @ 30 mils wet) |  |
| Resistance to Water (ASTM D2939) | PASS |  |
| Low Temperature Crack Bridging (ASTM C836) | PASS |  |
| Extensibility After Heat Aging (ASTM C836) | PASS |  |
| Adhesion Strength (ASTM C836) | 17 lbf/in |  |
| Resistance to Decay (ASTM E154-99) | 5% change |  |
| Water Vapor Transmission (ASTM E96-13) | .67 perms |  |
|  |  |  |
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* + 1. Properties of AVM 620 Polyurea AL

 AVM 620 AL

|  |  |  |
| --- | --- | --- |
| Pot Life @75°F (24°C), 50% R.H. | 15 ± 5 minutes |  |
| Tack Free Time | 3-4 hours  |  |
| Total Volume Solids (ASTM D2697) | 97% |  |
| VOC Content (ASTM D2369-81) | 0.49 lb/gal (59 gm/liter) |  |
| Tensile Strength (ASTM D412) | 2500 +/- 100 pli (17.2 ± 0.7 kN/m) |  |
| Elongation at Break (ASTM D412) | 800 +/- 100% |  |
| Tear Resistance (Die C, ASTM D624) | 300 +/- 25 pli (52.5 ± 4.4 kN/m) |  |
| Hardness (ASTM D2240 shore A) | 80 ± 3 |  |
| Abrasion Resistance (ASTM D4060) | n/a |  |
| Viscosity @ 75°F (24°C) | Side A: 1500-2500 cpsSide B: 50-150 cps |  |
| Specific Gravity | Side A: 1.05 ± 0.1Side B: 0.99 ± 0.1 |  |

# Part 3 – Execution

## Surface Preparation

* + 1. 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.
		2. 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).
		3. Plywood should be clean and smooth, APA and exterior grade, not less than 1/2” thick, and spaced and supported according to APA guidelines. Seams should be sealed with an approved sealant by the manufacture and detailed and may need imbedded fabric reinforcement.
		4. Metal should be thoroughly cleaned by grinding or blast cleaning.

## Priming

* + 1. Not required with concrete and plywood. If excessive bubbling occurs or bond strength to concrete does not meet the manufacturer's recommendation, then AVM Gas Lock 420 or AVM Epoxy Primer 401 is required.
		2. Once the substrate is clean and approved for installation per the manufacturer’s guidelines, then pour the entire contents of part B into Part A and mix for 3 minutes using a 300-400 RPM drill with a Jiffy mixer attachment. Immediately after mixing, pour entire contents of pail onto substrate. Spread the material using a flat or 15 mil notched squeegee to deliver a minimum 12 mil coat. Back-roll the material using a 3/8” nap roller to ensure even coverage. Cure time will take approximately 4 hours and Polyurea must be installed within 72 hours of installation.
		3. Metal – Consult AVM regarding proper preparation.

## Detailing

* + 1. For non-structural cracks up to 1/16 inch, Apply a detail coat of AVM 620 Polyurea at 24 mils wet, 4” wide, centered over the crack. Allow it to become tack-free before overcoating.
		2. 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 620 at 24 mils wet, 4” wide, centered over the crack. Allow to become tack-free before overcoating.
		3. Joints over 1 inch – Should be treated as expansion joints by others and approved by AVM Industries’ technical group prior to installation.

## Base Coat

* + 1. Aussie Membrane 520 Pro may be applied to concrete that’s been cured a minimum of seven (7) days. Depending on the amount of moisture, AVM Gas Lock 420 epoxy primer may be required. Do not apply the Aussie Membrane to waterlogged surfaces. Verify adhesion via a properly conducted pull test. Install base coat at 25 – 30 dry mils (approximately 50 square feet per gallon).
		2. Allow coating to cure a minimum of 12hours at 70°F and 50% RH or until tack free between coats.

## Top Coat / Aggregate Binder Coat – METHOD 1

* + 1. Premix AVM 620 Part A and Part B using a mechanical mixer (Jiffy) at slow speed to obtain uniform color, making sure to scrape the solids from the bottom and sides of the pail. Do not estimate; portions are pre-measured. Add Part B and continue mixing until a homogenous mixture and color is obtained (typically 3 minutes). Use care not to allow the entrapment of air into the mixture
		2. Once the AVM 520 Base Coat has cured, apply the AVM Top Coat 620-AL aggregate binder coat by roller, trowel or notched squeegee in a uniform coat at a minimum rate of 100 sg.ft / gal (16 wet mils).
		3. While the While the coating is still fluid, uniformly broadcast and thoroughly encapsulate by back-rolling the proper 16 or 20 mesh aggregate into the coating at a rate of 15-25 Lbs. of aggregate per 100 square feet.
		4. Allow coating to cure a minimum of 3-4 hours at 70°F and 50% RH or until tack free between coats, and a minimum of 12 hours before opening to pedestrian traffic.

## Top Coat / Aggregate Binder Coat – METHOD 2

* + 1. Premix AVM 620 Part A and Part B using a mechanical mixer (Jiffy) at slow speed to obtain uniform color, making sure to scrape the solids from the bottom and sides of the pail. Do not estimate; portions are pre-measured. Add Part B and continue mixing until a homogenous mixture and color is obtained (typically 3 minutes). Use care not to allow the entrapment of air into the mixture.

## Apply the AVM Top Coat 620- AL Aggregate Binder Coat by roller, trowel or notched squeegee in a uniform coat at a minimum rate of 200 sq.ft./Gal (8 wet mils). Broadcast to refusal the aggregate onto the wet surface of the Aussie 620-AL coat. Cover the entire surface leaving no wet spots and allow to cure for a minimum 12 hours.

## Sweep up and/or vacuum up any loose or unbound aggregate.

## Apply the AVM Top Coat 620-AL by roller, trowel or notched squeegee in a uniform coat at a minimum rate of 200 sq.ft./ Gal (8 wet mils). Take care to evenly apply the coating with no puddling.

## Allow coating to cure a minimum of 3-4 hours at 70°F and 50% RH or until tack free between coats, and a minimum of 16 hours before opening to pedestrian traffic.

## Mock-up

* + 1. A job site mock-up should always be completed to confirm acceptability of workmanship, material coverage rates and aesthetics.

## Cleaning

* + 1. Uncured materials can be removed from tools or other surfaces with an approved solvent. Cured materials can only be removed by mechanical means.
		2. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent area