

**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

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## Prior to starting work, read and follow the Safety Data Sheet (SDS) and all container labels for detailed health and safety information. Ensure all application instructions are reviewed and understood before proceeding.

1. Environmental Conditions Proceed with the application of materials only when the substrate temperature is 40°F (4°C) or higher. Do not begin if precipitation is imminent. Apply only to clean surfaces. Do not apply to dirty, or frosty substrates.
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.
3. Coordinate all waterproofing work with other trades. The applicator shall have exclusive access to the specified area for the duration required to complete the application and allow the pedestrian traffic coating to cure properly.

## Submittals

* + 1. **Technical Data:** Submit the manufacturer’s product data sheets and current Safety Data Sheets (SDS) for each product in the pedestrian traffic coating system.
		2. **Samples:** Provide representative samples of the specified pedestrian traffic coating system. Samples are for reference only and will serve to illustrate the intended color and texture of the finished system.
		3. **Applicator Approval:** Submit a written statement from the manufacturer confirming that the proposed applicator is approved to install the specified pedestrian traffic coating system.
		4. **Warranty:** Provide a copy of the manufacturer’s standard warranty for the pedestrian traffic coating system.

## 1.6 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
			3. AVM Mat 800
			4. AVM Aussie Seal Sealant
			5. 16/30 mesh silica quartz sand
		2. AVM Topcoat 620-AL
		3. Total dry film thickness exclusive of aggregate shall be 42 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 12/20 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 must be clean, dry, and sound with an open texture. All projections, rough spots, etc. should be dressed off to achieve a level surface prior to the application.
		2. That the concrete was cured for a minimum of 28 days. (Minimum of 3,000 psi compressive strength). Water-cured treatment of concrete is preferred. The use of concrete curing agents, if any, shall be of the sodium silicate base only; others require written approval by AVM
		3. 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).
		4. 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.
		5. 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 2-4 hours and Polyurea must be installed within 12 hours of installation. (Unless sanded to refusal)
		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 with mat 800 reinforcing 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.

## Topcoat/Aggregate Binder Coat -Method 1

## Once base coat has cured apply an additional 10 mil coat of AVM 520 Pro to act as aggregate layer

## Immediately broadcast 16/30 mesh sand into the wet surface at a rate of 15-20lbs per 100sf or to refusal

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

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 AVM Topcoat 620AL by roller, trowel or notched squeegee in a uniform coat at a minimum rate 100sf per gal(16 wet mils) take care to evenly apply the coating with no puddling

## Allow coating to cure a minimum 2-3 hours at 70 degrees and 50% RH or until tack free. Allow a minimum of 4 hours prior to opening to foot traffic

## Topcoat / 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
		2. Once the AVM 520 Base Coat has cured, apply the AVM Topcoat 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 coating is still fluid, uniformly broadcast and thoroughly encapsulate by back rolling the proper 16/30 mesh aggregate into the coating at a rate of 10-15 Lbs. of aggregate per 100 square feet.
		4. Allow coating to cure a minimum of 2-3 hours at 70°F and 50% RH or until tack free between coats, and a minimum of 4 hours before opening to pedestrian traffic.

## Topcoat / Aggregate Binder Coat – METHOD 3

* + 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 Topcoat 620- AL Aggregate Binder Coat by roller, trowel or notched squeegee in a uniform coat at a minimum rate of 150-200 sq.ft./Gal (8-12 wet mils). Broadcast to refusal the aggregate at a rate of 15-20lbs per 100sf into the wet surface of the Aussie 620-AL coat. Cover the entire surface leaving no wet spots and allow to cure for a minimum of 2-3 hours.

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

## Apply the AVM Topcoat 620-AL by roller, trowel or notched squeegee in a uniform coat at a minimum rate of 150- 200 sq.ft./ Gal (8-12 wet mils). Take care to evenly apply the coating with no puddling.

## Allow coating to cure a minimum of 2-3 hours at 70°F and 50% RH or until tack free between coats, and a minimum of 4 hours before opening to pedestrian traffic.

## Mock-up

* + 1. Establish a 100-200 sq/ft mockup area completed with the intended materials. The mockup should be approved by a project representative for functionality, slope, slip resistance, adhesion and aesthetics. Once the mockup is approved, it shall become the benchmark for the installation and finish on all the decks to be coated.

## Cleaning

* + 1. Uncured materials can be removed from tools or other surfaces with an approved solvent(Xylene/Orange degreaser). 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
		3. Refer to AVM maintenance instructions for typical cleaning methods