

**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 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 in existence a recognized ongoing quality assurance program 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 five (5) 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 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 a 16-30 mesh 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 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 cps  Side B: 50-150 cps |  |
| Specific Gravity | Side A: 1.05 ± 0.1  Side 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. Primer is not required on porous untreated concrete, but adhesion tests are recommended to verify. AVM Gas-Lock 420 or Epoxy Primer 401 may be required for moisture control and/or installation over a preexisting urethane coating.
    2. 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 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. 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 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 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.

## Mixing

## 620-AL (Aliphatic Urethane 620) cannot be diluted under any circumstances (unless used as a fast cure primer) and should not be estimated. Proportions are pre-measured.

## Using a mechanical mixer, first premix Part -A & Part-B separately. Mix thoroughly to obtain a uniform color, making sure to scrape the solids from the bottom and sides of the pail. Pour Part-B into Part-A slowly and while mixing, scrape the sides of the container. Mix for 1-2 minutes. Mix the combined Part-A and Part-B mixture thoroughly until uniform color is obtained.

## Application – Typical Assembly

* + 1. Examine the surface of the deck for pinholes. Where pinholes exist, use 620-AL (Aliphatic Urethane 620) as a fast cure primer by mixing the material at a 4:1.25 mix ration, and adding approximately 10% xylene and spread with a magic trowel to fill pinholes. Generally, 30 minutes after the pinholes are filled, the undiluted wear coat can begin at the normal 4:1 ratio.
    2. Pour mixed material out in a stream and spread the material out with a notched squeegee until base coat is measured at minimum of 20 dry mils thick. Allow the first layer to cure 30 minutes prior to casting sand/aggregate into the tack base coat.
    3. While the coating is still tacky but firm, broadcast 16-30 silica sand into the base coat. Allow the base coat to sit another 30 minutes prior to installation of the second aliphatic top coat. Once the 30 minutes has passed after broadcasting the sand, pour more mixed 620-AL (Aliphatic Urethane 620) over the top of the sand at a minimum of 20 dry mils thick. Allow top coat to properly cure.
    4. Backrolling is not required but may be utilized to help achieve a uniform finish. Primer is not required between coats.

## Application – Maximum Slip Resistance for Heavy Traffic Areas

* + 1. Pour mixed material out in a stream and spread the material out with a notched squeegee until base coat is measured at minimum of 20 dry mils thick. Allow the first coat to fully cure (typically 60 minutes) prior to installing the 30 dry mil intermediate coat. Once the intermediate coat is still tacky but firm, broadcast 16-30 silica sand into the intermediate coat. Allow the intermediate coat to sit another 30 minutes prior to installation of the final aliphatic top coat.
    2. Once the 30 minutes has passed after broadcasting the sand, blow off any loose aggregate, pour mixed 620-AL (Aliphatic Urethane 620) over the top of the sand at a minimum of 15 dry mils thick. Allow top coat to properly cure. Backrolling is not required but may be utilized to help achieve a uniform finish. Primer is not required between coats. This will give a final 75 mil thick vehicular traffic coating.

## 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