### SECTION 07140 - FLUID APPLIED WATERPROOFING (Deck Waterproofing)

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

**1.2 SUMMARY**

1. This Section includes fluid-applied waterproofing for the following applications:
   1. Precast deck application
   2. Cast-in-place deck application
   3. Plywood deck application

**1.3 SUBMITTALS**

1. Comply with pertinent provisions of Section 01300.
2. **Product Data:** Submit the following:
   1. Materials list of items proposed to be provided under this Section.
   2. The manufacturer’s specifications and other data needed to prove compliance with the specified requirements.
   3. The manufacturer's recommended installation procedures will become the basis for accepting or rejecting the actual installation procedures used on the Work.
   4. Written documentation of the applicator's qualifications, including reference projects of similar scope and complexity, with current phone contacts of architects and owners for verification.

**1.4 QUALITY ASSURANCE**

1. **Applicator Qualifications:** Applicator shall be approved by the waterproofing manufacturer.
2. **Pre-Installation Conference:**
   1. Conduct a preconstruction meeting at the project site to review the waterproofing requirements, including substrate conditions and pretreatment, surface preparation, minimum curing periods, unique details, sheet flashings, installation procedures, testing and inspection procedures, protection and repair procedures, warranty requirements, and all other work covered under this Section.
   2. The preconstruction meeting shall occur only after a complete submittal has been submitted, reviewed, and approved by the Architect and Owner’s Consultant.
   3. Attendees shall include the Owner’s Representative or Owner, Architect, Owner’s Consultant, General Contractor, Waterproofing Contractor, Manufacturer’s Representative, and any other trade Representatives involved in this scope of work and adjacent work (e.g., concrete subcontractor, , plumber, electrician, etc.).
3. **Independent Observation:**
   1. The owner shall make all arrangements and payments for an independent observation service to verify and approve substrate prior to installation and monitor waterproofing material installation compliance with the project contract documents and manufacturer’s published literature and site-specific details. Independent Observation Firm shall be an approved company participating in the waterproofing manufacturer’s inspection program. The observation service shall produce reports and digital photographs documenting each site visit. Reports shall be made available to the Contractor, waterproofing installer, waterproofing material manufacturer, and Architect. Observations should include substrate examination, beginning of waterproofing installation, periodic intervals, and final observation prior to concrete or backfill placement against the waterproofing.
4. **Electronic Leak Detection (ELD) Testing or Flood Testing is required.**

**1.5 DELIVERY, STORAGE, AND HANDLING**

1. Deliver materials to the job site in manufacturer's unopened containers with all labels intact and legible at the time of use.
2. Maintain the products in dry condition during delivery, storage, handling, installation, and concealment. Adhere to the manufacturer’s Delivery, Storage, and Handling requirements.

**1.6 SUBSTRATE CONDITIONS**

1. Provide the applicator with substrates that are free of standing water, dirt and debris, loose material, voids, and protrusions or deformations that may inhibit the application or performance of waterproofing.
2. Where work of this Section will be installed on concrete and/or masonry, provide substrates that are free of voids deeper than 3/8" and free of surface protrusions more than 1/4" above the surface. Grind/remove all sharp edges.
3. Where work of this Section will be installed on concrete footings, provide wood float or better finish to surfaces scheduled to receive the membrane.
4. Carefully follow the manufacturer’s detailing procedures, recommendations, and details for proper waterproofing of penetrations.

**1.7 WARRANTY**

1. **Manufacturer’s Warranty:** Upon installation completion and manufacturer acceptance of the work required by this section, the waterproofing materials manufacturer will provide the project Owner with a written twenty (10) year material waterproofing warranty for a 90 mil thick coating.
2. **Manufacturer’s Warranty:** Upon installation completion and manufacturer acceptance of the work required by this section, the waterproofing materials manufacturer will provide the project Owner with a written twenty (20) year No Dollar Limit AussieGuard® waterproofing warranty covering both materials and labor for a 120 mil thick coating.
   * A single manufacturer shall have provided the waterproofing system.
   * Pre-Installation Conference. Reference Section 1.4 (Quality Assurance).
   * Installation inspected by an approved 3rd Party Independent Inspection Firm. Reference 1.4 (Quality Assurance)
   * Electronic leak detection or Flood testing is required.
3. Applicator is responsible for labor for 2-years

**PART 2 - PRODUCTS**

**2.1 MATERIALS**

1. **Fluid Applied Polyurethane Waterproofing**
   1. **Design Basis:** AVM Industries Aussie Membrane 520-PRO (90 Mil System for 10-year material warranty)
   2. **Design Basis:** AVM Industries Aussie Membrane 520-PRO (120 Mil System for 20-year NDL AussieGuard® warranty covering material and labor)
   3. **Primer:** As recommended by the waterproofing manufacturer.
   4. **Joint backer rod:** Closed cell, polyethylene as recommended by the membrane manufacturer.
   5. **Joint and Detail Sealant:** AVM Industries Aussie Seal M Polyether Sealant.
   6. **Drainage Board:** AVM Industries Drainboard 6000 (15,000 PSF).

**2.2 PHYSICAL PROPERTIES**

1. **AVM Aussie Membrane 520-Pro Physical Properties:**
   1. Color: Gray
   2. Solid Content: ≥ 95%
   3. VOC Content: 75 g/L
   4. Low-Temperature Flexibility: No Cracking at -40°F (-40°C)
   5. Tensile Strength: 2.79 MPa (405 psi)
   6. Elongation at Break: 726%
   7. Tearing Strength: 15 N/mm
   8. Water Impermeability (at 0.3 MPa, 30 mins): Impermeable
   9. Hydrostatic Pressure Resistance over 1/8" Crack: 17.5 psi
   10. Service Temperature: -25°F to 177°F (-31°C to 80°C)
   11. ICC ESR-5393 Approval

**PART 3 - EXECUTION**

**3.1 GENERAL INSTALLATION**

1. **PRECAST DECK APPLICATION**
2. Conduct an adhesion test to substrate
3. Clean and prepare the surface to be free of debris, dust, and any other contaminants.
4. Ensure all Precast joints are treated with backer rod and Aussie Seal M, struck flush with the deck.
5. Apply a 45-mil pretreatment of Aussie Membrane 520 Pro, 6” wide (3” on both sides of the joint).
6. Install a 3/4” cant of Aussie Seal M at the deck-to-footing joint. Apply a 45-mil pretreatment of Aussie Membrane 520 PRO, 6” wide, over the area.
7. Apply the waterproofing membrane per manufacturer’s specifications, ensuring full coverage and adhesion.
8. Conduct a wet film gauge test to confirm specified mil thickness.
9. Install drainage board per system requirements prior to placing overburden.
10. **CAST-IN-PLACE DECK APPLICATION**
11. Conduct an adhesion test to the substrate
12. Clean and prepare the surface to be free of debris, dust, and any other contaminants.
13. Treat all joints and transitions as specified in the joint treatment section.
14. Apply the waterproofing membrane per manufacturer’s specifications ensuring full coverage and adhesion.
15. Conduct a wet film gauge test to confirm specified mil thickness.
16. Install drainage board per system requirements prior to placing overburden.
17. **PLYWOOD DECK APPLICATION**
18. Conduct an adhesion test to the substrate
19. Conductive primer is required for ELD testing on plywood
20. Clean and prepare the surface to be free of debris, dust, and any other contaminants.
21. Ensure all plywood joint gaps are treated Aussie Seal M, struck flush with the deck.
22. Apply a 45-mil pretreatment of Aussie Membrane 520 Pro and mat 800 reinforcement fabric, 6” wide (3” on both sides of the joint).
23. Install a 3/4” cant of Aussie Seal M at the deck-to-footing joint. Apply a 60-mil pretreatment of Aussie Membrane 520 PRO and Mat 800 Reinforcement Fabric, 6” wide, over the area.
24. Apply the waterproofing membrane per the manufacturer’s specifications, ensuring full coverage and adhesion.
25. Conduct a wet film gauge test to confirm the specified mil thickness.
26. Install drainage board per system requirements prior to placing overburden.
27. **PROTECTION AND CLEAN-UP**
28. Prohibit traffic over completed work and protect from damage.
29. Ensure waterproofing is not left exposed beyond the manufacturer’s recommended duration.
30. Coordinate backfilling to protect the installed system.