**SECTION 07 54 00**

**THERMOPLASTIC MEMBRANE PLAZA DECK WATERPROOFING**

January 2021 (Supersedes All Previous Versions)

**AUSSIE TITE 540 - PLAZA DECK WATERPROOFING MEMBRANE – PROTECTED MEMBRANE ASSEMBLY (PMA) SPECIFICATION FOR CAST-IN-PLACE CONCRETE DECKS (NEW OR RESTORATIVE)**

1. **GENERAL**
	1. **SCOPE**
		1. The work in this section includes the installation of a thermoplastic waterproofing membrane system that has an integral Reactive Polymer Fleece (RPF) backing. General Conditions, Supplementary Conditions and applicable portions of Division 01 apply to this section.
	2. **WORK SUMMARY**
		1. The work of this section includes, but is not limited to the supply and installation of the Aussie Tite prefabricated composite waterproofing membrane, Aussie Fleece Reactive Polymer Fleece as well as all other associated accessory products per this specification and project drawings or as otherwise specified by warranty requirements.
	3. **SYSTEM DESCRIPTION**
		1. Provide a multi-layer waterproofing membrane as well as water management layers and system accessories and install free from any omissions, unaddressed defects or damage, in order to prevent the passage of water through a concrete deck. The multi-layer waterproofing membrane shall consist of a nominal 60 mil thick nonreinforced, Elvaloy® KEE based PVC membrane permanently fused with a high-swelling, super-absorbent reactive polymer fleece layer capable of performing as a secondary layer of waterproofing.
	4. **PERFORMANCE REQUIREMENTS**
		1. The Aussie Tite waterproofing system shall be installed and delivered to the owner without omissions, or unresolved defects and damage. The completed, inspected and accepted system, shall prevent the passage of water as specified.
	5. **RELATED SECTIONS**
		1. Section 01 30 00 “Administrative Requirements”
			* Section 01 60 00: Product Requirements
		2. Section 03 15 00: Concrete Accessories
			* Section 03 30 00: Cast-in-Place Concrete
			* Section 03 50 00: Cast Decks and Underlayment
		3. Section 06 10 00: Rough Carpentry
		4. Division 07 00 00: Thermal and Moisture Protection
			* Section 07 10 00: Dampproofing and Waterproofing
			* Section 07 20 00: Thermal Protection
			* Section 07 72 73 "Membrane Leak Detection System"
		5. Section 07 50 00 “Membrane Roofing
			* Section 07 54 00 “Thermoplastic Membrane Roofing
			* Section 07 55 00 “Protected Membrane Roofing
		6. Section 07 70 00 “Roof and Wall Specialties and Accessories
			* Section 07 71 29 “Manufactured Roof Expansion Joints”
		7. Section 07 95 00 “Expansion Control”
		8. Section 07 72 00 “Roof Accessories
		9. Section 22 40 00 “Plumbing Fixtures
		10. Section 26 00 00 “Electrical
		11. Section 33 00 00 “Utilities
			* Section 33 41 00: Subdrainage
	6. **SUBMITTALS**
		1. Administrative Requirements: Submit applicable information under the provisions of Section 01 30 00
		2. Product Data: For each waterproofing product specified, provide the Technical data sheet indicating compliance with requirements and substrate preparation instructions and recommendations.
		3. Product Samples: Provide representative (not for testing) samples of the system membranes and drainage products.
		4. Shop Drawings: Provide manufacturer’s standard details, applicable project specific details and approved shop drawings for the waterproofing system specified herein including type of substrate, joints, corners, and edge conditions, including flashings, counter-flashings, penetrations, transitions, and terminations.
		5. Installer Certificate: Provide written documentation from the manufacturer of Installer’s status as a certified waterproofing installer, including eligibility for the specified warranty. Certificate’s duration will overlap the project’s scheduled completion.
		6. Quality Assurance: Provide a written plan for the assurance of quality throughout the installation, including the protection of the membrane system prior to application of overburden, drainage layers or other specified system components.
		7. Warranty: Provide copy of installers and manufacturer’s warranties as specified herein, detailing all warranty coverage, limitations and conditions.
		8. Safety: Provide Safety Data Sheets (SDS) relating to all products specified for use in this section.
	7. **QUALITY ASSURANCE**
		1. Manufacturer Qualifications: The manufacturer will provide a waterproofing system that meets or exceeds all criteria listed in this section and be capable of providing recurrent field service representation throughout construction - as required by site conditions. The Manufacturer will have provided training for the waterproofing installer specific to the products specified herein and be competent in specifying warrantable installation methods for their products.
		2. Installer Qualifications: A manufacturer-approved firm, employing workers trained by manufacturer, including a full-time on-site supervisor with a minimum of three years' experience installing similar work, and able to communicate verbally with Contractor, Architect, and employees.
		3. Independent Observation: An independent party certified as a waterproofing inspector approved by the manufacture, retained by the owner and experienced in the installation and maintenance of the specified waterproofing system, qualified to perform observation and inspection specified in Field Quality Control Article, to determine Installer’s compliance with the requirements of this Project, and approved by the manufacturer to issue warranty certification.
		4. Inspection Reports: Inspection reports are to include the substrate condition, installation and orientation of water management layers, any secondary layers, as well as the Aussie Tite waterproofing membrane. Standards of acceptance shall be based on approved site-specific details and checklists as well as the requirements set forth in the Aussie Tite installation guide.
		5. Materials: All waterproofing system components will be supplied by AVM Industries. Any substitutions that are not expressly approved by AVM Industries will subject the waterproofing system to warranty ineligibility.
		6. Pre-Construction / Installation Meeting: A pre-con installation meeting shall take place at the jobsite prior to commencement of any installation work or substrate / surface approval to coordinate all parties responsible for the installation, certification and preservation of installation quality prior to delivery of the structure to the Owner.
			* Attendees shall include representatives from the waterproofing installer, architect and / or waterproofing consultant, structure owner or owner’s rep, general contractor, concrete contractor, quality assurance firm, electronic leak detection (ELD) firm and waterproofing membrane manufacturer (as applicable). Other trades that will directly influence the quality of the installation shall also be present such as plumbing, mechanical and electrical contractors if their scope of work will penetrate or otherwise pose a risk to the integrity of the waterproofing system.
			* The pre-con installation meeting will review the required substrate, the plan of work, working condition requirements, requirement for mock-ups, establish protocol’s for changes, establish trades accountability when working near or on the waterproofing membrane and identify any concerns from adjacent work.
		7. Mock-Up: As determined in the pre-installation conference, a mock-up of the waterproofing system, including waterproofing application, flashing, transitions, water management layers, and component terminations or other specified system components, to set quality standards for execution.
			* The waterproofing system and mock-ups shall be installed in accordance with the most current installation guide, project specifications and details.

* + - * All mock ups shall be constructed with sufficient time to allow for the specifier’s review and not to delay construction progress.
			* If the mock-up is not acceptable, it shall be reconstructed until satisfactory results are obtained.
			* The approved mock-up area may be incorporated into the scope of work.
		1. Electronic Leak Detection: Electronic leak detection testing methods shall be determined prior to waterproofing membrane installation and its requirements reviewed during the pre-construction / waterproofing meeting by the ELD testing firm.

* + - * The ELD Testing Agency shall have a minimum of five years’ experience in the performance of waterproofing integrity testing on PVC membranes. The ELD Technician should to be trained and certified on all ELD equipment as well as inspection processes required for the project. The technician shall document the inspection work and issue reports to all parties confirmed at the pre-construction meeting. Inspection reports shall be made available in a timely manner to facilitate the correction of any defects or damage.
			* The ELD testing and survey shall cover the entire waterproofing area in accordance with ASTM D7877 and document that the waterproofing membrane system is free of defects, damage, seam voids, and capillary deficiencies at the time of testing. Any repaired areas shall be retested to verify water tightness.
	1. **DELIVERY, STORAGE, AND HANDLING**
		1. Deliver materials to the job site in manufacturer's original, unopened packaging, with legible weatherproof labels and in sufficient quantity to allow for continuity of work.
		2. Handle and store materials following manufacturer's recommendations and exercise any safety measures as required in product safety data sheets.
			+ Maintain a copy of manufacturer’s installation instructions and SDS for all products on the job-site.
			+ Store rolls of membrane as originally shipped from the manufacturer, elevated above the deck and completely protected from moisture – preferably with canvas tarpaulins. Manufacturer's packaging alone is not considered adequate for outdoor storage.
			+ Strictly adhere to pallet placarding regarding the stacking of pallets during shipping or storage.
			+ Protect from construction operation related damage, as well as, damage from weather, excessive temperatures and prolonged sunlight. Remove damaged material from site and dispose of in accordance with applicable regulations.
			+ Store adhesives and sealants at temperatures above 50° F (10° C).
			+ Store flammable materials in cool dry areas away from sparks and open flames.
			+ Failure to comply with the recommended storage conditions may result in premature activation / deterioration of the product. Materials, having been determined by the Owner or Owner's Representative to be damaged, shall be immediately removed from the construction site and replaced at no cost to the Owner. Accountability for damaging materials shall be addressed during the pre-construction meeting.
	2. **ENVIRONMENTAL CONDITIONS**
		1. Safety: Comply with OSHA requirements for roof construction and fall protection where applicable. Review material SDS and take necessary precautions when using solvents and adhesives. Site cleanup will occur at the end of each day to minimize debris and hazardous congestion.
		2. Substrate: The substrate must be clean, smooth and dry. The waterproofing membrane installation may proceed only after substrate preparation is complete. The substrate should be fully inspected and approved as well as accepted by the waterproofing Applicator before proceeding with membrane installation. The membrane can be installed over existing residual asphalt-based waterproofing materials provided the material is fully cured, clean, sound and firmly bonded to the substrate. Site-specific conditions as well as responsibility for maintenance of the substrate shall be addressed during the pre-construction meeting.
		3. Weather and Scheduling: All work shall be scheduled and executed without exposing the interior building areas to the effects of inclement weather. Work should occur only when substrate and weather conditions (wind, temperature, precipitation) are suitable for the waterproofing materials specified. Waterproofing membranes should not be installed into standing water or over ice and snow. Special care must be taken to store, apply and protect adhesives from temperature extremes and moisture. Proper safety precautions should be taken as the membrane may be slippery when wet or covered with frost, snow or ice.
		4. The adequacy of the structural support for waterproofing must be verified in writing by the owner, the owner’s design professional, architect, or engineer. The Applicator shall take precautions to ensure that storage and/or application of materials and/or equipment stay within the load limitations communicated.
	3. **SCHEDULING**
		1. Schedule work so waterproofing applications may be inspected prior to concealment.
		2. Sequence the installation to isolate access to installed membrane from excessive foot traffic / construction activity and minimize exposure of staged materials to mechanical damage. Where such access is absolutely required, the Applicator shall provide all necessary temporary protection and barriers to prevent damage / isolate the work area.

* + 1. Provide proper mechanical weather protection on newly installed waterproofing, and limit installation work to what can be made 100 percent watertight at the end of each day, including flashing and night seals. Temporary ballast, along perimeters and corner areas may be required to provide protection against high winds and precipitation events.
		2. For deck restoration, remove all existing overburden, waterproofing, base flashing, deteriorated wood blocking or metal flashings – equal to that amount of waterproofing and flashing that can be made weathertight with new materials during a one-day period or before the onset of inclement weather.
		3. Do not proceed with installation of subsequent layers and overburden over the completed sections of the waterproofing without inspection by the inspection firm and the performance of any corrections specified.
		4. Damage which occurs to the waterproofing membrane and/or system is to be brought to the attention of the inspector and general contractor. All damage is to be repaired according to AVM’s recommendations with the party responsible for damage bearing the cost of repairs.
	1. **WARRANTY**
		1. Manufacturer’s Warranty: Upon the completion, review and acceptance of the work required by this section by the waterproofing system manufacturer, the manufacturer will provide to the project Owner, a written twenty (20) year No Dollar Limit AussieGuard® waterproofing warranty, covering both materials and labor. Issuance of the AussieGuard® No Dollar Limit Warranty requires the following:
			+ Waterproofing system products shall have been provided solely by AVM Industries
			+ Pre-Installation Conference. Reference Section 1.06 (Quality Assurance)
			+ Installation inspected by an approved 3rd Party Independent Inspection Firm. Reference Section 1.06 (Quality Assurance)
			+ Electronic Leak Detection. Reference Section 1.06 (Quality Assurance
			+ Access for Repair: Owner shall provide unimpeded access to the Project and the waterproofing system for purposes of testing, leak investigation, and repair, and shall reinstall removed cladding and overburden materials upon completion of repair.
			+ A 2-year labor warranty issued by the waterproofing system applicator
1. **PRODUCTS**
	* + - 1. **MANUFACTURER**
		1. AVM Industries, Inc., located at 8245 Remmet Ave, Canoga Park, CA 91304; Phone: (888) 414 – 1041; website: [www.avmindustries.com/](http://www.avmindustries.com/)
			+ 1. **PRODUCTS**
		2. Basis of Design: Products and components for the **Aussie Tite 540 Membrane Waterproofing system shall be supplied by AVM Industries, Inc.** Aussie Tite 540 is a 60 mil (1.5 mm) nominal thickness PVC nonreinforced thermoplastic membrane, externally reinforced and integrally bonded with a water Reactive Polymer Fleece (RPF) layer. Aussie Tite is designed for use on plaza decks, structural podium slabs, tunnels, basements and greenroofs.
		3. Waterproofing Materials Specifications: Roll size shall be a total width of 3.62 ft (1.1 meters) with an effective width of 3.28 ft (1 meter) x length 61 ft (18.6 meters)- 200 SF per roll
			+ The 3.28 ft wide thermoplastic membrane and RPF layer are offset laminated by 4” (10 cm) along the long roll edges, making the total roll with 43.4 in (3.62 ft) with an effective width of 39.4 in (3.28 ft).
		4. Source Limitations: Provide waterproofing system materials and accessory products from single source from single manufacturer. Any products not specifically authorized in writing by AVM Industries, Inc. shall be considered unacceptable and their performance excluded from the warranty.
		5. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
			+ 1. **PRODUCT PHYSICAL PROPERTIES**

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| **Physical Property** | **Test Method** | **Results** |
| Color |  | Gray |
| Nominal PVC Thickness |  | .060” (60 Mils) |
| Total Membrane Thickness  |  | .090” (90 Mils) |
| Hydrostatic Resistance | ASTM D751 | 280.50 psi |
| Tensile Strength (MD/TD) 1” Strip | ASTM D751 | 88/79 lbs. |
| Elongation (MD/TD) | ASTM D751 | 266%/116% |
| Seam Shear Strength  | ASTM D751 | 77.39 lbs. |
| Low Temp Bend (-30°F, 1/8” and 1” mandrel) | ASTM D2136 | PASS |
| Water Vapor Retarder | ASTM E1745 | Class A |
| Water Vapor Transmission | ASTM E96 | 0.1 Perms |
| Dimensional Stability (MD) 158°F (70°C), 6 hrs. | ASTM D1204 | 1.7% |

* + - * 1. **ACCESSORY WATERPROOFING PRODUCTS**
		1. Accessory components shall be provided by **AVM Industries, Inc.** or shall have manufacturer’s written approval for substitution.
			- Aussie Fleece – The Reactive Polymer Fleece (RPF) is a bentonite-free, dust-free, low permeability geotextile waterproofing layer
			- Aussie Flash - 60 mil scrim reinforced UV stable thermoplastic membrane used for above and below grade flashing.
			- Aussie Flash-DM - 55 mil UV stable non-reinforced white thermoplastic detail membrane used for above or below grade flashing and repairs.
			- AVM Drain Board 6000 or Drain Board 9000 – Prefabricated water management composite
			- Aussie Sealant M - Sealant/Adhesive Polyether Technology
			- Other Materials – All other accessory components required for a complete and proper installation, shall be provided by **AVM Industries, Inc** subject to the approval of the specifier.
				1. **PERFORMANCE REQUIREMENTS**
		2. General: Waterproofing system shall be capable of performing as a continuous watertight installation and as a moisture drainage plane transitioned to adjacent flashings and discharging water to the building exterior. Waterproofing shall accommodate normal substrate movement and seal expansion and control joints, construction material transitions, opening transitions, penetrations, and perimeter conditions without resultant moisture deterioration.
		3. Compatibility: Provide waterproofing system materials that are compatible with one another and with adjacent materials under conditions of service and application required, as demonstrated by waterproofing manufacturer based on testing and field experience.
1. **EXECUTION**

**SURFACE CONDITION EXAMINATION**

* + 1. The Inspector shall examine the areas and conditions under which work of this Section will be performed and notify the Architect and Contractor of unsatisfactory conditions or those conditions not considered suitable for the waterproofing system. Work should not proceed until substrate conditions detrimental to timely and proper completion of the Work are corrected and in compliance with manufacturer's warranty requirements.
		2. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section and to prevent damage to installed waterproofing.
		3. Commencement of installation of any products of this Section shall be considered as accep­tance of the sub­strate and conditions as being satisfactory for proper installation of products of this Section.

**PREPARATION**

* + 1. Surface preparation and detailing procedures are to be in accordance with waterproof membrane system manufacturer's instructions and recommendations except where more stringent requirements are indicated.
		2. The new concrete substrate shall be sound structural grade with a smooth finish. Sharp ridges or other protrusions should be removed or ground level and smooth with the surrounding concrete surface. Honeycombing, tie-rod holes and other voids should be filled with non-shrink cementitious grout. Do not apply the waterproofing membrane over lightweight insulating concrete, wood or steel decking.
		3. Detail joints, surface cracks and transitions in accordance with manufacturer's instructions and details, including the installation of backer rod where required. Joints between precast units shall be grouted and flush with deck. Any differential in elevation between precast units shall be feathered for a smooth transition.
		4. Expansion joints should be completed by others prior to the installation of the Aussie Tite Waterproofing System. The expansion joint manufacturer and installer are responsible for water tightness of the joint.
		5. Deck slopes shall provide positive drainage to deck drains or the perimeter deck edge. Drains shall be constructed with an appropriate sump depression surrounding the drain.
		6. Clean all surfaces to receive membrane system of dust, debris, moisture, and other substances that will impair the performance of the waterproofing and drainage system and which do not comply with manufacturer's warranty requirements.; vacuum clean or blow clean with oil free compressed air all surfaces to receive sealants, detailing materials or membranes immediately prior to installation.
		7. Do not proceed with waterproofing membrane installation until all substrate defects and surface preparation work have been corrected and accepted.

**INSTALLATION**

* + 1. General: Coordinate with other trades to ensure proper and adequate provisions are made in other work interfacing with the work of this Section. Install the work of this Section in strict accordance with the original design, pertinent requirements of governmental agencies having jurisdiction, and the manufacturer's recommended installation procedures using accessory products, protection and drainage layers, as specified or required.
		2. Panel layout, attachments, flashing details, etc. used for inspections shall be in strict accordance with the most current Aussie Tite Specifications and Details.
		3. Panel Orientation: Install waterproofing membrane with the PVC membrane side up and the gray Reactive Polymer Fleece (RPF) facing the substrate. Panels should be deployed in a flat, relaxed condition taking care to avoid wrinkles and tension in the membrane.
		4. Offset Overlaps and Seams: Overlap adjacent offset panel edges a minimum of 3 inches (76 mm) using a shingle-style orientation where the 4” (100 mm) PVC edge of one roll is placed over the 4” (100 mm) RPF geotextile edge of the adjoining panel. Weld the assembled membrane overlaps with a continuous heat weld taking care to ensure the underlying RPF is fully overlapped with the RPF from the adjoining panel.
		5. Butt Joints and Non-selvedge Edges: Where offset seams are not possible, either overlap the non-factory seam a minimum 4” (100 mm) or place a 9” layer of RPF below the butt joint with minimum overlap of 4 inches (150 mm) on each side. Apply Aussie Sealant M in accordance with product requirements to create a mechanical bond between layers of RPF when cured. Deploy the composite membrane back over the bonded layers of RPF. Complete the seam by welding a 12 inch (150 mm) cover strip of Aussie Flash to the top surface of both cut composite membranes with a minimum 6 inch (150 mm) wide overlap on each panel.
			- Minimum overlap requirements of welding equipment may dictate an increase to the minimum overlap dimensions in order to facilitate proper welding. Depending on site or detail specific conditions, alternate overlap/weld methods may be required.
		6. Terminations: Install terminations of waterproofing membrane in accordance with ASTM C 898 and ASTM C 1471, as applicable to application, at not less than minimum height recommended by waterproofing manufacturer. Overlap waterproofing on to intersecting construction a minimum of 24 inches.
		7. Correct deficiencies in or remove waterproofing that does not comply with requirements; repair substrates and reapply waterproofing components.

**WELDING**

* + 1. Operation of welding equipment shall be limited to qualified personnel, trained and approved by AVM Industries.
		2. Welders: Machine welded seams are achieved by the use of automatic hot air welding equipment.
		3. Use of automated welders will require the construction of a test strip of membrane, representative of subsequent material welds. From the test strip weld, a 2” – 4” (50 mm – 100 mm) wide seam specimen shall be cut, dated and retained for the independent inspector/owners rep. If adjustments to the welder settings are required to accommodate changes in weather or due to welding issues, a test strip shall again be produced, samples and retained. Based on the results of weld inspections, equipment speeds, heat and power settings shall be reviewed and adjusted as necessary to achieve proper welds
		4. Welder manufacturer instructions must be followed and local codes for electric supply, grounding and over current protection observed. Dedicated circuit or a dedicated portable generator is required to ensure continuity and uniformity of power. No other equipment shall be operated off the generator, including but not limited to hand welders.

* + 1. Use of continuous automated welding equipment is recommended for the creation of straight seams in excess of 10 feet (3 m). The brand/model of welder that may be used is limited only by its ability to bond seams as required by this specification. All welds shall be continuous and without interruption or defect.
		2. A 1-1/2” (40 mm) wide hot air nozzle is recommended to create a nominal 1-1/2” (40 mm) wide weld. For welding of corners, “T” joints, patches and other detailing with Aussie Flash materials, a narrow nozzle can be used to create a nominal ¾ “ (20 mm) wide weld. Excessive patching of field seams and of areas exhibiting excessive damage shall be avoided. Parameters shall be defined during the Pre-Construction meeting, including provisions for additional inspection of the affected area.
		3. Field welds shall be probed with a dull pointed instrument to locate seam deficiencies if any exist, only after they have cooled.
		4. Contamination occurring within the length of a seam shall be patched to ensure water-tight integrity of the weld and prevent damage to the underlying RPF layer.

**DETAILING**

* + 1. Flashing shall be adhered to compatible, dry, smooth, and solvent-resistant surfaces concurrently with the installation of the waterproofing membrane. Temporary flashing will only be used with the written approval of the Architect.
		2. Flash all curbs, parapets and walls in strict accordance with site specific details. Flashing shall be fully adhered to properly installed and prepared, dry substrate(s) surfaces with AVM Adhesive 501
		3. Flashing edges shall be overlapped a minimum of 4” (100 mm) and welded per Section 3.04. The base edge of all membrane flashing shall extend out on to the field of the deck a minimum 6” (150 mm) over the Aussie Tite composite waterproofing membrane.
		4. All flashing membranes shall be mechanically terminated along the top edge in accordance with approved project details. Acceptable fasteners shall be used to secure flashings to substrate. Seal top of termination with Aussie Sealant M or an approved alternative sealant.
		5. All flashings shall extend a minimum of 8 inches (203 mm) above the deck overburden unless previously accepted in writing by the owner’s representative and/or Architect.
		6. Detailing of deck drains and penetrations shall be per the approved Aussie Tite detail for the specific project condition(s).
		7. Use prefabricated inside and outside corners per the approved Aussie Tite detail for the specific project condition(s).
		8. Prefabricated and field fabricated boots shall be used around all pipe, rebar, structural and other penetrations, per the approved Aussie Tite detail for the specific project condition(s).

**WATER MANAGEMENT / DRAINAGE COMPOSITE AND PROTECTION LAYERS**

* + 1. Protection Course: Upon inspection and acceptance of the waterproofing layer, cover waterproofing with protection course prior to backfilling or subjecting installation to traffic as specified and in detail drawings. If a protection layer is not specified directly overlying the waterproofing, install drainage composite immediately after inspection and acceptance of the waterproofing installation.
		2. Install water management layers / drainage composites directly over the waterproofing membrane and/or protection layer (as applicable) in accordance with manufacturer installation guidelines.
		3. Trim drainage composite to snug to penetrations and at the base of all drains to ensure that water will flow freely from composite into drain openings.
		4. All cut edges of the drainage composite shall be covered in order to protect the waterproofing membrane from potential damage.

**FIELD QUALITY CONTROL**

* + 1. Inspector: In accordance with Section 1.06, contractor shall engage manufacturer's qualified Inspector full-time during the Work to perform tests and inspections, including documenting of waterproofing prior to concealment. Destructive testing of completed waterproofing should be avoided whenever possible with primary reliance on nondestructive methods.
			- Areas that appear substandard or damaged shall be marked for detailed review and correction per AVM guidelines.
		2. ELD Testing Agency: The qualified testing agency shall inspect substrate conditions, surface preparation, waterproofing application, protection, and drainage components, and to furnish reports to Architect.
			- Testing includes ELD inspection prior to concealing waterproof membrane as specified in Section 07 72 73 "Membrane Leak Detection System."
			- Coordination of Testing: Cooperate with testing agency. Allow access to work areas and staging. Notify testing agency in writing of schedule for Work of this Section to allow sufficient time for testing and inspection.
			- Do not cover Work until testing and inspection is completed and accepted.
			- Reporting: Forward written inspection reports to manufacturer within 10 working days of the inspection and test being performed.
			- Correction: Correct deficient applications not passing tests and inspections, make necessary repairs, and retest as required to demonstrate compliance with requirements.
			- Once ELD testing is performed and repairs are complete, the membrane shall be protected from all trafficking or other sources of potential damage. General Contractor shall prohibit non-waterproofing construction traffic, activity and material storage on the tested membrane.
			- A final inspection shall take place just prior to placement of concrete, backfill or water management layers against the waterproofing. Do not cover waterproofing until it has been tested and inspected by Owner's testing agency.

**PROTECTION AND CLEANUP**

* + 1. Construction Waste: Store and dispose of packaging materials as well as construction waste in accordance with requirements of Division 01 Section ["Construction Waste Management"]. Promptly remove primer or membrane system material from adjacent surfaces. Leave work area in broom clean condition.

* + 1. Prohibit traffic over completed work and protect against work overhead until protection course is installed; protect from damage until protected beneath overlaying work.
		2. Correct damage to or remove waterproofing system membrane that does not comply with requirements, repair substrates, and repair or reinstall waterproofing system membrane to a condition free of damage according to warranty requirements.

\*\*\*\*\*\*\*\*\*\*\* END OF SECTION\*\*\*\*\*\*\*\*\*\*\*