**PART 1 - GENERAL**

**1.01 SUMMARY**

A. Provisions of Division 01 apply to this section.

B. Section Includes:

1. Elastomeric waterproofing on planter and retaining walls not part of building walls.

 C. Related Sections:

1. Section 31 41 00: Storm Drainage Systems.

1. Section 03 30 00: Cast-in-Place Concrete.
2. Section 04 22 20: Concrete Unit Masonry.
	1. **SUBMITTALS**

A. Certificates: Submit a certificate stating applicator is certified by the elastomeric waterproofing material manufacturer, and upon completion, submit a certificate stating that elastomeric waterproofing systems have been installed in conformance with reviewed submittals and manufacturer's recommendations.

B. Product Data: Submit manufacturer's Product Data including complete installation instructions.

C. Shop Drawings: Submit Shop Drawings indicating each condition of the Work. Indicate all adjoining Work, methods of adhesion, attachment, and related conditions.

* 1. Samples: Submit Samples of elastomeric membrane waterproofing on flat plywood board, approximately 2 ½” x 4” illustrating color and texture

E. Experience Record: Submit a list of at least five installations on which each of the materials and systems proposed for installation have been in satisfactory service for at least 3 years.

**1.03 QUALITY ASSURANCE**

A. Qualifications of Manufacturer: Elastomeric waterproofing system shall be manufactured by a firm with a minimum of 20 years experience in the production of elastomeric waterproofing.

B. Qualifications of Installer: A firm which has at least 3 years experience in work of the type required by this section, and is recommended by manufacturer to install the specified products.

C. Pre-Installation Conference and Inspection: After review of submittals but before starting installation of the Work of this section, conduct a meeting at the Project site attended by the PI, Architect, OAR, Contractor and FUSD, waterproofing applicator, and a technical representative of the elastomeric waterproofing material manufacturer. The waterproofing applicator and material manufacturer's technical representative shall inspect the substrates to receive Work of this section and report defective conditions to PI, Architect, OAR and Contractor.

D. Manufacturer's Representative: Provide arrangements necessary to have a trained representative of the manufacturer visit the Project site on a weekly basis during elastomeric waterproofing Work to review installation procedures.

E. Materials shall comply with current State of California and local Air Quality Management District requirements for volatile organic compounds of not over 350 grams per liter.

**1.04 DELIVERY, STORAGE, AND HANDLING**

A. Deliver materials, except bulk material, in manufacturer's unopened containers fully identified with manufacturer's name, trade name, type, class and grade. Each container shall be identified with material name, date of manufacturer and batch number.

B. Store materials in unopened containers. Store above grade and under cover, protect from damage.

**1.05 PROJECT CONDITIONS**

A. Install suitable impervious type masking to preclude staining of surfaces to remain exposed wherever elastomeric waterproofing abuts or laps on to other finish surfaces, and provide additional protection as necessary to supplement masking; cover entire area of building subject to damage or staining.

B. Protect adjacent Work during installation of Work of this Section.

C. Install Work of this section, only in dry weather and when temperature of surfaces to receive waterproofing are above 40 degrees F and below 90 degrees F.

D. Do not install any materials when water in any form is present on the surface or if materials are wet.

**1.06 WARRANTY**

1. Manufacturer shall provide a 3 year material warranty.

B. Installer shall provide a 3 year labor warranty.

**PART 2 - PRODUCTS**

**2.01 ACCEPTABLE MANUFACTURERS**

1. Elastomeric waterproofing shall be manufactured by:
	* 1. Pacific Polymers, Inc., 12271 Monarch Street, Garden Grove, CA 92841, (800) 888-8340
		2. Gaco Western, Inc.,Western Region, P.O. Box 88698, Seattle, WA
		98138-2698, (626) 797-1424
		3. 3M Specified Construction Products Dept., 3M Center Bldg. 225‑4S‑08, PO Box 9310, St. Paul, Minnesota 55133‑3225, (800) 480-1704

**2.02 ELASTOMERIC MEMBRANE WATERPROOFING SYSTEM**

A. Polymers, Inc., Elasto-Deck B.T. System, as a standard of quality, conforming to the following:

1. Application:
	1. 60 mils thick – smooth surfaces.
	2. 90 mils thick – rough surfaces.
2. Material Types
	1. Type I: For horizontal surfaces.
	2. Type II: For vertical surfaces.
	3. Elasto-Deck B.T. Knifegrade: For cracks, voids and other surface irregularities.

**2.03 RELATED MATERIALS**

* + 1. Sealants: Elasto-Thane 230 or Elasto-Thane 227.
		2. Backer Rod: Closed-cell Polyethylene rod, such as Ethafoam by Dow Chemical.
		3. Flashing Tape: Woven glass cloth tape.
		4. Protection Course: Minimum 1/8” thick APOC Protection Panel by Asphalt Products Oil Corp., or equal.
		5. Cleaning Materials: Elasto-Deck solvent or Xylene.

**PART 3 - EXECUTION**

**3.01 EXAMINATION**

A. All surfaces must be clean and free of any oil, dirt, grease, and other contaminants, which will interfere with adhesion of the coatings. Surfaces shall be left broom clean.

B. Concrete:

1. Concrete surfaces shall be trowel finished followed by a light brooming, left free of loose particles, ridges, projections, voids and droppings that would interfere with the application of the coatings.

2. Concrete surfaces shall be water cured in lieu of curing compounds for a minimum of 28 days. If curing compounds are furnished, they shall be compatible with the provided waterproofing system.

C. All substrate conditions and surfaces shall be subject to inspection by the manufacturer and installer. Do not proceed with Work until unsatisfactory conditions have been corrected.

**3.02 PREPARATION**

A. All surfaces must be clean and free of any oil, dirt, grease, and other contaminants, which will interfere with adhesion of the coatings.

B. Concrete

1. All surfaces to receive elastomeric waterproofing system shall be completely cleaned by sandblasting or acid etching. If acid etching is provided, a 10% to 15% muriatic acid solution applied by mop or broom, shall be allowed to remain on the surface approximately 10 minutes or until bubbling ceases. Surfaces shall then be thoroughly washed with clean water to remove all residues and shall be allowed to dry.

C. Cracks and Control Joints

1. Except for non-moving shrinkage cracks, all other cracks and joints must be sealed with a single component sealant of the same manufacturer as the elastomeric membrane waterproofing and installed according to manufacturer’s recommendations.

2. Large cracks, 1/16” and over, shall be routed out as required by the manufacturer and sealed with an approved elastomeric sealant. Apply sealant to inside area of cracks only. Do not install on concrete deck surfaces.

3. Seal secondary control and expansion joints with sealant and backer rod as recommended in the installation specifications of the elastomeric membrane waterproofing.

**3.03 PROTECTION**

1. Protect building from damage resulting from spillage, dripping and dropping of materials. Prevent materials from entering and clogging drains and waterways.
2. Protect the Work of this section until Substantial Completion.

**3.04 INSTALLATION**

A. Install Elastomeric membrane waterproofing in accordance with manufacturer's printed instructions except as hereinafter specified. Coordinate the Work so the complete membrane is installed in a continuous operation, and that all areas where installation has started, per coat, are completed the same working day.

B. Elastomeric Membrane Waterproofing -- 60 Mils thickness / Smooth Surface Installation:

1. All cracks 1/16” and over shall be routed or saw cut and filled with joint filler of the same manufacturer as the elastomeric membrane waterproofing and installed according to manufacturer’s recommendations.

2. At intersections of membrane and vertical walls, columns, pipes, and other penetrations, caulk a ¾” fillet bead at the meeting angle using a joint filler of the same manufacturer as the elastomeric membrane waterproofing and installed according to manufacturer’s recommendations.

3. Install the first coat of the elastomeric membrane waterproofing at a rate of 50 square feet per gallon by airless spray, roller, brush, or squeegee according to the manufacturers installation procedures for smooth surfaces.

4. After a 24 hour curing period, install a second coat of elastomeric membrane waterproofing at the same 50 square feet per gallon rate to provide a total dry film thickness of 60 mils.

C. Elastomeric Membrane Waterproofing -- 90 Mils thickness / Rough Surface Installation:

1. All cracks 1/16” and over shall be routed or sawcut and filled with joint filler of the same manufacturer as the elastomeric membrane waterproofing and installed according to manufacturer’s recommendations.

2. At intersections of membrane and vertical walls, columns, pipes and other penetrations, caulk a ¾” fillet bead at the meeting angle using a joint filler of the same manufacturer as the elastomeric membrane waterproofing and installed according to manufacturer’s recommendations.

3. Install the first coat of elastomeric membrane waterproofing at a rate of 35 square feet per gallon by airless spray, roller, brush, or squeegee according to the manufacturers installation procedures for rough surfaces.

4. After a 24 hour curing period, install a second coat of elastomeric membrane waterproofing at the same 35 square feet per gallon rate to provide a total dry film thickness of 90 mils.

**3.04 INSPECTION**

A. The wet film thickness of each coat shall be checked during application by averaging numerous measurements taken with a film gauge and thickness shall be sufficient that when cured the dry film thickness will be as specified herein.

B. All surfaces coated shall be visibly checked to insure areas have not been missed and all holidays in the film are repaired.

C. All coating Work shall be subject to inspection at any time to insure a strict compliance with the manufacturer’s recommendations. Test areas shall be cut whenever requested by the manufacturer’s technical representative to verify conformance to the Specifications. Any unsatisfactory area shall be remedied by the applicator.

**3.05 PROTECTION COURSE**

A. Install protection board on cured membrane after testing, without delay, so that the period of exposure shall be minimized.

**3.06 CLEAN UP**

A. Remove rubbish, debris, and waste materials and legally dispose of off the Project site.

**END OF SECTION**