

SECTION 071416 – COLD FLUID-APPLIED WATERPROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Polyurethane waterproofing.
2. Latex waterproofing.

B. Related Sections:

1. Section 079200 – Joint Sealants

C. Reference and Industry Standards

1. The following reference standards shall be applicable to this Section:
 - a. The current Enterprise Green Communities (EGC) Criteria, and the current New York City Overlay.
2. Industry Standards
 - ASTM (American Society for Testing and Materials)

D. The current NYC Overlay of the current Enterprise Green Communities Criteria:

1. Mandatory Requirements: See the NYC Overlay of the EGC reference standard for full specifications.
 - a. All projects must achieve compliance with the mandatory criteria measure that are applicable:
 - Criterion 6.4: Healthier Material Selection
 - Criterion 6.8: Managing Moisture: Foundations
 - Criterion 6.9: Managing Moisture: Roofing and Wall Systems
 - Criterion 6.10: Construction Waste Management
2. Optional Project Requirements for Certification Points
 - a. Additionally, rehab projects are required to achieve **55** optional points. Criteria with optional points related to this Specification Section include, but may not be limited to:
 - Criterion 6.3: Chemical Hazard Optimization
 - Criterion 6.4: Healthier Material Selection
 - Criterion 6.10: Construction Waste Management

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review waterproofing requirements including surface preparation, substrate condition and pre-treatment, minimum curing period, forecasted weather conditions, special details and flashings, installation procedures, testing and inspection procedures, and protection and repairs.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings:
 - 1. Show locations and extent of waterproofing.
 - 2. Include details for substrate joints and cracks, sheet flashings, penetrations, inside and outside corners, tie-ins with adjoining waterproofing, and other termination conditions.

1.4 INFORMATIONAL SUBMITTALS

- A. Sample warranty.
- B. Documentation for Enterprise Green Communities Criteria.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by waterproofing manufacturer.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Apply waterproofing within range of ambient and substrate temperatures recommended by waterproofing manufacturer. Do not apply waterproofing to a wet or damp substrate, when relative humidity exceeds 85 percent, or when temperatures are less than 5 degrees F above dew point.

1.7 WARRANTY

- A. Manufacturer's Special Warranty: Manufacturer agrees to repair or replace waterproofing that fails in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Five (5) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 POLYURETHANE WATERPROOFING

- A. Single-Component, Modified Polyurethane Waterproofing: ASTM C836 and coal-tar free.
- B. Single-Component, Un-Modified Polyurethane Waterproofing: Comply with ASTM C836 and with manufacturer's written physical requirements.
- C. Two-Component, Polyurethane Waterproofing: ASTM C836 and with manufacturer's written physical requirements.

C. LATEX WATERPROOFING

- D. Latex Waterproofing: Latex-based waterproof coating with biocide and the following properties measured in accordance with standard test methods referenced:
 - 1. Hydrostatic Pressure Resistance: [**10 psi**] [**12 psi**] [**15 psi**] [**20 psi**] <Insert value> minimum; ASTM D7088.
 - 2. Resistance to Wind-Driven Rain: [**98 mph (44 m/s)**] [**140 mph (63 m/s)**] <Insert value> minimum; ASTM D6904.

2.2 AUXILIARY MATERIALS

- A. Primer: Manufacturer's standard primer, sealer, or surface conditioner; factory-formulated.
- B. Sheet Flashing: 50-mil-minimum, non-staining, uncured sheet neoprene.
 - 1. Adhesive: Manufacturer's recommended contact adhesive.
- C. Membrane-Reinforcing Fabric: Manufacturer's recommended fiberglass mesh or polyester fabric.
- D. Joint Reinforcing Strip: Manufacturer's recommended fiberglass mesh or polyester fabric.
- E. Joint Sealant: Multicomponent polyurethane sealant, compatible with waterproofing; and as recommended by manufacturer for substrate and joint conditions.
 - 1. Backer Rod: Closed-cell polyethylene foam.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean, prepare, and treat substrates in accordance with manufacturer's written instructions. Provide clean, dust-free, and dry substrates for waterproofing application.
- B. Mask off adjoining surfaces not receiving waterproofing to prevent spillage and overspray affecting other construction.

- C. Close off deck drains and other deck penetrations to prevent spillage and migration of waterproofing fluids.
- D. Remove grease, oil, bitumen, form-release agents, paints, curing compounds, acid residues, and other penetrating contaminants or film-forming coatings from concrete.
- E. Remove fins, ridges, and other projections, and fill honeycomb, aggregate pockets, holes, and other voids.
- F. Prepare surfaces at terminations and penetrations through waterproofing and at expansion joints, drains, sleeves, and corners in accordance with waterproofing manufacturer's written instructions and to recommendations in [ASTM C898] [and] [ASTM C1471].
- G. Apply waterproofing in two separate applications, and embed a joint reinforcing strip in the first preparation coat when recommended by waterproofing manufacturer.
- H. Prepare, treat, rout, and fill joints and cracks in substrate in accordance with waterproofing manufacturer's written instructions and to recommendations in [ASTM C898] [and] [ASTM C1471]. Before coating surfaces, remove dust and dirt from joints and cracks in accordance with ASTM D4258.
- I. Install sheet flashing and bond to deck and wall substrates where required in accordance with waterproofing manufacturer's written instructions.

3.2 INSTALLATION OF WATERPROOFING

- A. Apply waterproofing in accordance with manufacturer's written instructions and to recommendations in [ASTM C898] [and] [ASTM C1471].
- B. Unreinforced Waterproofing Applications.
 - 1. Apply one or more coats of waterproofing to obtain a seamless membrane free of entrapped gases and pinholes, with a dry film thickness of [60 mils] [90 mils] [120 mils] <Insert dimension>.
- C. Reinforced Waterproofing Applications.
 - 1. Apply first coat of waterproofing, embed membrane-reinforcing fabric, and apply second coat of waterproofing to completely saturate reinforcing fabric and to obtain a seamless reinforced membrane free of entrapped gases and pinholes, with an average dry film total thickness of [70 mils] [80 mils] [120 mils] <Insert dimension>.
- D. Install protection course with butted joints over waterproofing before starting subsequent construction operations.
 - 1. For horizontal applications, install protection course loose laid over fully cured membrane.
 - 2. For vertical applications, set protection course in nominally cured membrane, which will act as an adhesive. If membrane cures before application of protection course, use adhesive.
 - 3. [Molded-sheet drainage panels] [Insulation drainage panels] [Thermal insulation specified in Section 072100 – Thermal Insulation] may be used in place of a separate

protection course for vertical applications when approved in writing by waterproofing manufacturer.

3.3 PROTECTION

- A. Do not permit foot or vehicular traffic on unprotected membrane.
- B. Protect waterproofing from damage and wear during remainder of construction period.
- C. Correct deficiencies in or remove waterproofing that does not comply with requirements; repair substrates, reapply waterproofing, and repair sheet flashings.

END OF SECTION 071416