

SECTION 071416

COLD FLUID-APPLIED WATERPROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Single-component, cold-applied, elastomeric membrane waterproofing around exterior and elevator pit foundation walls.
2. Protection board over membrane waterproofing.

B. Related Section:

1. Division 03 Section "Cast In-Place Concrete" for water stop cast into foundation work.
2. Division 07 Section "Joint Sealants" for joint-sealant materials and installation.
3. Division 07 Section "Fluid-Applied Vapor Retarding" and "Fluid-Applied Vapor Permeable Air Barriers" for base wall flashing conditions.
4. Division 31 Section "Earthmoving" for installation of geotechnical molded and sheet drainage panel and strip drain over full extent of waterproofed foundation walls.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated. Include manufacturer's written instructions for evaluating, preparing, and treating substrate, technical data, and tested physical and performance properties of waterproofing.

- B. Shop Drawings: Show locations and extent of waterproofing. Include details for substrate joints and cracks, sheet flashings, penetrations, inside and outside corners, tie-ins with adjoining waterproofing, and other termination conditions.

C. Samples: For the following products:

1. Flashing sheet, 10 by 8 inches (250 by 200 mm).
2. Membrane-reinforcing fabric, 10 by 8 inches (250 by 200 mm).
3. Protection Board, 4 by 4 inches (100 by 100 mm).
4. Securement Bar, 6 inches long (150 mm)

- D. Qualification Data: For Installer.
- E. Product Test Reports: For waterproofing, based on evaluation of comprehensive tests performed by a qualified testing agency.
- F. Field quality-control reports.
- G. Warranty: Sample of special warranty.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: A firm that is approved or licensed by waterproofing manufacturer for installation of waterproofing required for this Project.
- B. Source Limitations: Obtain waterproofing materials, including protection course from single manufacturer.
- C. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review waterproofing requirements including surface preparation, substrate condition and pretreatment, minimum curing period, forecasted weather conditions, special details and flashings, installation procedures, testing and inspection procedures, and protection and repairs.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver liquid materials to Project site in original containers with seals unbroken, labeled with manufacturer's name, product brand name and type, date of manufacture, shelf life, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by waterproofing manufacturer.
- C. Remove and replace liquid materials that cannot be applied within their stated shelf life.
- D. Protect stored materials from direct sunlight.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Apply waterproofing within the range of ambient and substrate temperatures recommended by waterproofing manufacturer. Do not apply waterproofing to a damp or wet substrate, when relative humidity exceeds 85 percent, or when temperatures are less than 5 deg F (3 deg C) above dew point.
 - 1. Do not apply waterproofing in snow, rain, fog or mist, or when such weather conditions are imminent during application and curing period.
- B. Maintain adequate ventilation during application and curing of waterproofing materials.

1.7 WARRANTY

- A. Special Manufacturer's Warranty: Manufacturer's standard form in which waterproofing manufacturer and installer agree to repair or replace waterproofing that does not comply with requirements or that fails to remain watertight within specified warranty period.
 - 1. Warranty does not include failure of waterproofing due to failure of substrate prepared and treated according to requirements or formation of new joints and cracks in substrate that exceed 1/16 inch (1.6 mm) in width.
 - 2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SINGLE-COMPONENT ELASTONERIC MEMBRANE WATERPROOFING

- A. Single-Component, rubberized asphalt emulsion: Comply with manufacturer's written physical requirements.
 - 1. Products: Subject to compliance with requirements, provide the following: Some modified polyurethane membranes may not comply with all physical requirements in ASTM C 836 (e.g., hardness). Verify with selected manufacturers if applicable.
 - a. Henry Company; Aqua-Bloc SB.

2.2 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials recommended by manufacturer to be compatible with one another and with waterproofing, as demonstrated by waterproofing manufacturer, based on testing and field experience.
- B. Sheet Flashing: 60-mil- (1.56-mm-) minimum, nonstaining, uncured sheet neoprene.
 - 1. Adhesive: Manufacturer's recommended contact adhesive.
- C. Membrane-Reinforcing Fabric: Nonwoven, needle-punched white polyester fabric, of manufacturer's standard weight.

2.3 PROTECTION COURSE

- A. Protection Board: ASTM D 6506, semirigid sheets of fiberglass or mineral-reinforced-asphaltic core, pressure laminated between two asphalt-saturated fibrous liners and as follows:
 - 1. Thickness: 1/4 inch (6 mm), nominal.
 - 2. Adhesive: Rubber-based solvent type recommended by waterproofing manufacturer for type of protection course.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance.
 - 1. Verify that concrete has cured and aged for minimum time period recommended by waterproofing manufacturer.
 - 2. Verify that substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263.
 - 3. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 SURFACE PREPARATION

- A. Clean and prepare substrate according to manufacturer's written recommendations. Provide clean, dust-free, and dry substrate for waterproofing application.
- B. Mask off adjoining surfaces not receiving waterproofing to prevent spillage or overspray affecting other construction.
- C. Remove grease, oil, bitumen, form-release agents, paints, curing compounds, acid residues, and other penetrating contaminants or film-forming coatings from concrete.
- D. Remove fins, ridges, and other projections and fill honeycomb, aggregate pockets, and other voids.

3.3 PREPARATION AT TERMINATIONS AND PENETRATIONS

- A. Prepare vertical and horizontal surfaces at terminations and penetrations through waterproofing and at expansion joints, and sleeves according to ASTM C 1471 and manufacturer's written instructions.
- B. Penetrations subject to movement are to be flashed with polyester fabric set into a bed of cold-applied membrane 90 mils thick, spread 4 inches in all directions.

3.4 JOINT AND CRACK TREATMENT

- A. Prepare, treat, rout, and fill joints and cracks in substrate according to ASTM C 1471 and waterproofing manufacturer's written instructions. Remove dust and dirt from joints and cracks, complying with ASTM D 4258, before coating surfaces.

3.5 WATERPROOFING APPLICATION

- A. Apply waterproofing according to ASTM C 1471 and manufacturer's written instructions.

- B. Start installing waterproofing in presence of manufacturer's technical representative.
- C. Single Coat Application: Mix materials and apply waterproofing by spray, roofing brush, notched squeegee, trowel, or other application method suitable to substrate.
 - 1. Apply one coat of waterproofing, at manufacturers recommended rate, to obtain a seamless membrane free of entrapped gases, with a minimum wet film thickness of 90 mils (2.25mm)
 - 2. Apply waterproofing to flashed wall terminations and penetrations.
 - 3. Verify wet film thickness of waterproofing every 100 sq. ft. (9.3 sq. m).
 - 4. If pinholes or blisters persist, proceed with heavy-duty application.
- D. Heavy Duty application (if required by conditions):
 - 1. Apply second coat of waterproofing, and embed membrane-reinforcing fabric, to obtain a seamless reinforced membrane free of fish mouths or wrinkles with an average dry film total thickness of 50 mils (1.3 mm).
 - 2. Apply reinforced waterproofing to prepared wall terminations and vertical surfaces.
 - 3. Verify wet film thickness of waterproofing every 100 sq. ft. (9.3 sq. m).
- E. Install protection course with butted joints, over nominally cured membrane using approved adhesive.

3.6 FIELD QUALITY CONTROL

- A. Engage a full time site representative qualified by the waterproofing membrane manufacturer to inspect substrate conditions, surface preparation, and application of the membrane, flashings, protection, and drainage components; and to furnish daily reports to Architect.

3.7 CURING, PROTECTION, AND CLEANING

- A. Cure waterproofing according to manufacturer's written recommendations, taking care to prevent contamination and damage during application stages and curing.
 - 1. Do not permit foot or vehicular traffic on unprotected membrane.
- B. Protect waterproofing from damage and wear during remainder of construction period.
- C. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 071416