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Section 07140

Fluid Applied Waterproofing

This specification utilizes the Construction Specifications Institute (CSI) Manual of Practice, including MasterFormat and PageFormat. This is a manufacturer-specific proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by bracket [] delete optional text in final copy of specification. Specifier notes typically precede specifications text; delete notes in final copy of text specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text. Metric conversion, where used is soft metric conversion.

The specification specifies Hydra-Guard Waterproofing Membrane. This product is manufactured by Applied Technologies LLC. Revise section number and title to suit project requirements, specification practices and section content. Refer to CSI MasterFormat for other section numbers and titles.

Part 1 General

1.01 SUMARRY

- A. Section Includes: Hydra-Guard Fluid-Applied Waterproofing applied to the exterior face of below grade concrete foundations and retaining walls.

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard reference in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indication edition date of standard referenced. Conditions of the Contract or Division 1 References Section may establish the edition date of standards. This article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section

- B. Related Sections:
1. Section 02320-Backfill
 2. Section 02620-Subdrainage
 3. Section 03300-Cast in Place Concrete
 4. Section 07212-Board Insulation: perimeter and horizontal insulation

1.02 REFERENCES

- A. American Society for Testing and Materials (ASTM)
1. ASTM C-719 Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement (Hockman Cycle)
 2. ASTM C-836 Standard Specification for High Solids Content, Cold Liquid Applied Elastomeric Waterproofing Membrane for use with Separate Wearing Course.
 3. ASTM D-2939 Standard Test Methods for Emulsified Bitumens Used as Protective Coatings
 4. ASTM E-96 Standard Test Method for Water Vapor Transmission of Materials.

1.03 SUBMITTALS

- A. General: Submit Listed Submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- B. Product Data: Submit manufacturer's product data and installation instructions.

C. Quality Assurance/Control Submittals: Submit the following:

1. Certificates: Submit certificate that applicator complies with the requirements of this section.

Specifier Note: Article below should include prerequisites, standards. Limitations and criteria that establish an overall level of quality for products and workmanship for this section. Coordinate article below with Division 1 Quality Assurance Section.

1.04 QUALITY ASSURANCE

Specifier Note: Paragraph below should list obligations for compliance with specific code requirements particular to this section. General statements to comply with a particular code are typically addressed in Conditions of the Contract and Division 1 Regulatory Requirements Section. Repetitive statements should be avoided.

- A. Applicator Qualifications: Utilize an applicator trained and approved by waterproofing manufacturer.
- B. Regulatory Requirements and Approvals: Comply with requirements of the following:
 1. ICC Evaluation Service, Inc (ICC-ES)
 - a. Legacy Report 98-59.01

Specifier Note: Article below should include special and unique requirements. Coordinate article below with Division 1 Product Requirements Section.

1.05 DELIVERY, STORAGE, & HANDLING

- A. General; Comply with Division 1 Product Requirement Section
- B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

1.06 PROJECT/SITE CONDITIONS

- A. Environmental Requirements: Comply with application temperature range 0- 150°F (-18-66°C)

1.07 Warranty

- A. Waterproofing Warranty: Upon completion and acceptance of the work required by this section, the waterproofing materials manufacturer will provide a written five (5) year material warranty. Issuance of Manufacturer's Material Warranty requires the following: (1) Manufacturer's Approved Applicator to install Hydra-Guard Waterproofing and prefabricated drainage composite. Manufacturer's warranty shall be independent from any other warranties made by the Contractor under requirements of the Contract Documents and may run concurrent with said warranties.

PART 2 PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

2.01 FLUID APPLIED WATERPROOFING

Specifier Note: Paragraph below is an addition to CSI SectionFormat. Retain or delete paragraph below per project requirements and specifier's practice.

- A. Manufacturer: Applied Technologies, LLC
 1. Contact: P. O. Box 18476 Fairfield, OH 45018 1-877-277-5948 (513) 939-3767 Fax (513) 939-3787

B. Proprietary Products/Systems to be purchased directly from Applied Technologies by Applicator.

C. Fluid-applied Waterproofing and related products including the following:

1. Hydra-Guard Waterproofing Membrane:

- a. Material: Polymer-modified asphalt
- b. Total solids: 70-75%
- c. Application Method: [Spray] [Brush] [Roll]
- d. Elongation at 70°F (21°C): 1725%
- e. Total cure time: 24 hours
- f. Tensile strength: (ASTM C-719): 48 psi (331 kPa)
- g. Weight/gallon: 7.6 lb (3.4 kg)
- h. Coverage rate: 3-4 gallon/ 100 ft²
- i. Film thickness, Dry: 40 mils (1.5 mm)
- j Color: Black
- k. Crack Bridging: (ASTM C-836): 10 cycles without failure
- l. Resistance to water flow (ASTM D-466): Bond strength not affected
- m. Water solubility (ASTM D2939): No blistering re-emulsification
- n. Water vapor (ASTM E-96):
 - i. Transmission: 0.12 grains/sf/hr
 - l. Permeability: 0.23 perms (13 ng/Pa x s x m²)

2. FibR-Dri Protection Panel:

- a. Material: Inorganic glass fiber
- b. Thermal Resistance: R3.1-R10 ft² x h x °F/BTU(0.5-1.7m² x K/W)
- c. Foundation drainage rate: Up to 237 gal/hr/ lineal ft)

3. Dimple-Dri

- a. Material: High Density Polyethylene (HDPE) drainage rolls with attached polypropylene geotextile mat.
- b. Foundation drainage rate: Hydraulic Gradient =1: 18 gpm/ ft width (188 lpm/ m width)

4. DrainGuard 400

- a. Material: High Density Polyethylene (HDPE) drainage rolls with attached polypropylene geotextile mat.
- b. Foundation drainage rate: Hydraulic Gradient =1: 18 gpm/ ft width (188 lpm/m width)

Specifier Note: Edit Article to suit project requirements. If substitutions are permitted, edit text below. Add text to refer to Division 1 Project Requirements (Product Substitution Procedures) Section.

2.02 PRODUCT SUBSTITUTIONS

A. Substitutions: No substitutions permitted

2.03 ACCESSORY MATERIALS

A. Provide proprietary accessory materials, including the following:

Specifier Note: Specify mastic below to patch cracks, voids and holes in the concrete or masonry walls, which are to receive waterproofing. Applied Technologies Mastic's are made of fiberated, trowel grade asphalt-based mastic. These materials adhere to form a strong, flexible bond.

1. Applied Technologies Mastic:
 - a. Material: Plastic or resin material compatible with the waterproofing membrane.

PART 3 EXECUTION

Specifier Note: Article below is an addition to the CSI SectionFormat. Revise article below to suit project requirements and specifier's practice.

3.01 MANUFACTURER'S INSTRUCTIONS

A. Comply with the most current written installation instructions and recommendations of the waterproofing manufacturer.

3.02 EXAMINAITON

- A. Site Verification of Condition:
1. Verify that conditions are acceptable for application of the waterproofing system.
 2. Do not proceed with the application until unacceptable conditions are corrected.

3.03 PREPERATION

- A. Surface Preparation
1. Ensure that the surfaces to receive waterproofing are structurally sound and free of moisture, dust, mud, loose mortar, fins, metal projections or any substances that would be detrimental to the bonding of membrane to other surface.
 2. Remove wall ties
 3. Patch cracks, voids and holes with nonshrink grout or mastic.

Specifier Note: Coordinate article below with manufacturer's recommended application requirements.

3.04 APPLICATION

- A. Spray apply a uniform coat of waterproofing to entire wall area. Obtain a seamless membrane free of entrapped gasses, with minimum dry film thickness of 40 mils.
- B. Apply fluid membrane onto footing area a minimum of 4" (102 mm) to prevent pooling.
- C. Allow membrane to cure for 24 hours before placing any backfilling against the wall.
- D. Follow the current installation instructions.

Specifier Note: Delete article below if not applicable to project

3.05 INSULATION/DRAINAGE PANEL INSTALLATION

Specifier Note: Edit, retain or delete paragraphs below to comply with project requirements and Specifier practices.

- A. When using FibR-Dri begin installation of panels after membrane has been applied. Place and secure drainage panels to substrate according to manufacturer's current written instructions.
1. Install panels from top of footing extending to finish grade level. When FibR-Dri is to be stacked maintain a factory equivalent edge at all seams to ensure proper fit and drainage channel alignment.

2. Secure FibR-Dri to the wall using powder activated mechanical fasteners. Install top fasteners within 4" (102 mm) of the tops of each panel.
- B. When using the Dimple-Dri or DrainGuard 400 panel, install after membrane has been applied. Place and secure to substrate according to manufacturer's current written instructions.
1. Begin installation at a corner. Install horizontally against the waterproofing membrane with the polypropylene geotextile mat outward.
 2. Install panels from top of footing extending to finish grade level. If there is overlapping once you have reached grade height, a utility knife can be used to cut the rolls to the correct height.
 3. For good adherence, apply uniform pressure throughout the surface area, not just the edges and corners.
 4. When two edges come together from two separate pieces, overlap the dimples to create a continuous coverage of the wall.
 5. Secure Dimple-Dri and DrainGuard 400 to the wall with powder activated fasteners.
 6. Install top fasteners within 4" (102 mm) of the top.
- C. Protect the installed insulation, drainage panels during subsequent construction.

Specifier Note: Coordinate article below with Division 1 Execution Requirements (Cleaning) Section.

3.06 CLEANING

- A. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.