

SECTION 07130

HDPE MEMBRANE WATERPROOFING

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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. HDPE membrane waterproofing and accessories.

1.2 RELATED SECTIONS

- A. Section 02300 - Earthwork: Excavating for foundations, site subdrainage system piping, surrounding filter aggregate and filter fabric.
- B. Section 02621 – Foundation Drainage Piping: Form-A-Drain foundation drainage system.
- C. Section 02630 - Storm Drainage: Connection to drainage system.
- D. Section 03300 - Cast-In-Place Concrete: Concrete for foundations and footings.
- E. Section 07900 - Sealants.

1.3 REFERENCES

- A. ICC-ES ESR-2767 – Platon Foundation Membrane
- B. Canadian Construction Materials Center, Technical Guide for Rigid Polyethylene Dampproofing Membrane, #91-6-154
- C. US Green Building Council.
- D. National Association of Home Builders Research Center

1.4 DESIGN / PERFORMANCE REQUIREMENTS

- A. HDPE membrane waterproofing shall prevent the passage of water in accordance with the following criteria:
 - 1. Working temperature: Minus 58 degrees F to plus 176 degrees F (Minus 50 degrees C to plus 80.0 degrees C).
 - 2. Softening temperature: Plus 257 degrees F (Plus 125 degrees C).
 - 3. Thermal Resistance: R 0.68 (0.11 m² . degrees C/W).
 - 4. Water Vapor Permeability: 0.05 Perms
 - 5. Air volume / dimpled side: 1 gal/yd² (4.0 litre/m²).
 - 6. UV Stabilization: Minimum 2 percent carbon black content.
 - 7. Toxicity: None – Platon is chemically inert and 100 percent environmentally friendly.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's or supplier's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Shop Drawings: Show installation details and interface with other work.
- D. LEED Submittals: Provide documentation of how the requirements of Credit will be met:
 - 1. List of proposed materials with recycled content. Indicate post-consumer recycled content and pre-consumer recycled content for each product having recycled content.
 - 2. Product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content.
 - 3. List of proposed materials demonstrating that each material was extracted, harvested or recovered, as well as manufactured within 500 miles of the project site
- E. NAHB National Green Building Standard Submittals: Provide documentation of how the Credit will be met:
 - 1. Green Approved Product certificate from the NAHB Research Center's website; <http://greenapprovedproducts.com>.
- F. Verification Samples: For each finish product specified, two samples, representing actual product, color, and pattern.
 - 1. Membrane minimum size 6 inches (150 mm) square.
 - 2. Speed clips and/or Speedstrips, plugs, and molding.
- G. Manufacturer's or Supplier's Certificates: Certify products meet or exceed specified requirements.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in HDPE waterproofing membrane with minimum three years documented experience.
- B. Installer Qualifications: Company specializing in performing work of this section.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Do not store in direct sunlight or in high heat environment exceeding 150 degrees F (66 degrees C).

1.8 SEQUENCING

- A. Ensure that information required for installation of products of this section is furnished to affected trades in time to prevent interruption of construction progress.

1.9 WARRANTY

- A. Manufacturer's limited 30 year Leakage Protection Warranty.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Supplier (Authorized Distributor): CertainTeed Corp., Pipe and Foundation Products; 750 E. Swedesford Road, P.O. Box 860, Valley Forge PA 19482. Tel: (800) 233-8990. Email: <http://www.certainteed.com/contact.aspx>. Web: www.certainteed.com.
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 MATERIALS

- A. Foundation Membrane: Platon Foundation Membrane is a carbon-compounded high density polyethylene membrane that is formed with dimples to provide an air gap that helps its performance when installed against a foundation wall.
 - 1. Thickness: Membrane is a minimum 24 mils (0.6 mm) thick except where extruded 20 mil (0.5 mm) in the dimple areas.
 - 2. Roll Size: 65.6 feet (20 m) in length and up to 10 feet (3.05 m) in width.
 - 3. Weight: Approximately 2.11 oz/ft² (650 g/m²).
 - 4. Surface Pattern: Double cone studs (dimples), approximately 0.24 inches (6 mm) high and 1.18 inches (30 mm) on center.
 - 5. Material meets the requirements of ICC-ES ESR-2767
 - 6. Material meets the requirements of the Canadian Construction Materials Center, Technical Guide for Rigid Polyethylene Dampproofing (#91-6-154).
- B. Accessories
 - 1. Platon Plugs: Fit into the dimples to provide pull through resistance for concrete nails or screws
 - 2. Platon Molding: Used to seal open edges of the membrane at change in grade and other similar locations. Each strip is 6 feet 6 inches (1.98 m) long.
 - 3. Platon Speedclips: Patented corrosion resistant metal fastener that engages four dimples and presses the smooth tab against the wall.
 - 4. Platon SpeedStrips: Corrosion resistant strips. Each strip is 47.63 inches (1.21 m) long.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify substrate surfaces are durable; free of matter detrimental to application of waterproofing system.
- C. Verify that accessories have been used at joints as appropriate.
- D. Verify items penetrating surfaces to receive waterproofing are securely installed.

- E. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Formed Concrete Surfaces: Remove fins and projections. Fill voids, rock pockets, form-tie holes, and other defects with cementitious patching material, as required.
- C. Seal small cracks and joints with sealant materials using depth to width ratio as recommended by sealant manufacturer in accordance with Section 07900.
- D. Prepare surfaces, as required, for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install full height sheets whenever practical.
- C. Membrane is held in place at the top of the membrane with Speedclips or Speedstrips, which hold the flat tab at the top to the wall, to prevent dirt from filling the air gap and clogging the drainage path. Use sealant material as required and as recommended by the manufacturer.
- D. Install Speedclips 12 inches on centers along the top edge of the membrane.
- E. Overlap vertical and horizontal edges in accordance with manufacturer's recommendations.
- F. Coordinate with installation of foundation drainage piping at the base of foundation specified in Section 02621.
- G. Seal items protruding to or penetrating through membrane
- H. Installation of cast-in-place concrete footings is specified in Section 03300.
- I. Placement of backfill fill is specified in Section 02300. Do not displace membrane during placement.

3.4 FIELD QUALITY CONTROL

- A. Request inspection prior to and immediately after placing membrane and before after placing backfill.

3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Protect system from damage or displacement until backfilling operations begin.

END OF SECTION