

The School District of Palm Beach County

Project Name

SDPBC Project No.

SECTION 07 13 00
SHEET MEMBRANE WATERPROOFING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The provisions of the General Conditions, Supplementary Conditions, and the Sections included under Division 1, General Requirements, are included as a part of this Section.

1.2 SECTION INCLUDES

- A. The Work required under this section includes, but is not limited to the following:
1. Rubberized asphalt sheet membrane waterproofing system
 2. Prefabricated drainage composite
 3. Protection board
- B. Related Sections are as listed below, but not limited to these sections:
1. Section 03 30 00 – Cast in place concrete
 2. Section 04 20 00 –Masonry Unit
 3. Section 04 20 10 – Reinforced Masonry Unit
 4. Section 07 95 13 – Expansion Joint Cover Assemblies
 5. Section 07 14 00 – Fluid Applied Waterproofing
 6. Section 07 11 13 – Bituminous Dampproofing
 7. Section 07 62 00 –Flashing, Gutters, Downspouts, & Other Accessories
 8. Section 07 92 00 – Joint Sealants

1.3 REFERENCES

- A. ASTM C836/C836M – Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course
- B. ASTM D412 – Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers - Tension
- C. ASTM D570 – Standard Test Method for Water Absorption of Plastics
- D. ASTM D638 – Standard Test Method for Tensile Properties of Plastic
- E. ASTM D751 – Standard Test Method for Coated Fabric
- F. ASTM D882 – Standard Test Method for Tensile Properties of Thin Plastic Sheeting
- G. ASTM D903 – Standard Test Method for Peel or Stripping Strength of Adhesive Bonds
- H. ASTM D1876 – Standard Test Method for Peel Resistance of Adhesives (T-Peel Test)
- I. ASTM D1970/D1970M – Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection
- J. ASTM D3767 - Standard Practice for Rubber-Measurement of Dimensions
- K. ASTM D5385 - Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes
- L. ASTM E96/E96M – Standard Test Methods for Water Vapor Transmission of Materials
- M. ASTM E154/E154M - Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover
- N. NRCA (National Roofing Contractors Association) - Waterproofing Manual
- O. FBC - Florida Building Code
- P. FFPC – Florida Fire Prevention Code

1.4 SUBMITTALS

- A. Section 01 33 00 - Submittals Procedures

- B. Product Data: Provide data for surface conditioner, flexible flashings, joint cover sheet, and joint and crack sealants with temperature range for application of waterproofing membrane.
- C. Shop Drawings: Indicate special joint or termination conditions and conditions of interface with other materials.
- D. Certificate: Certify that Products meet or exceed specified requirements.
- E. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.
- F. Section 01 77 00 - Contract Closeout
- G. Warranty: Submit completed manufacturer warranty forms in Owner's name and registered with manufacturer.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with NRCA Waterproofing Manual and manufacturer's recommendations..
- B. Manufacturer:
 - 1. Shall be a Company specializing in waterproofing membrane with minimum 5-years experience in the production and sales of sheet membranes.
 - 2. Manufacturer shall submit evidence of ability to meet all requirements specified, and include a list of similar projects completed within the past 5-years.
- C. Applicator: Company specializing in performing the work of this section with minimum 5-years documented experience and approved by manufacturer.
- D. Materials: For each type of material required for the work of this section, provide primary materials, which are the products of one manufacturer.
- E. Pre-Installation Conference:
 - 1. Hold a pre-installation conference prior to commencement of field operations to establish procedures to maintain optimum working conditions and to coordinate this work with related and adjacent work.
 - 2. Agenda for meeting shall include review of special details and flashing.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials and products in labeled packages.
- B. Store and handle in strict compliance with manufacturer's instructions, recommendations, and material safety data sheets.
- C. Protect from damage from sunlight, weather, excessive temperatures, and construction operations.
- D. Remove damaged material from the site and dispose of in accordance with applicable regulations.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Perform work only when existing and forecasted weather conditions are within the limits established by the manufacturer of the materials and products used.
- B. Proceed with installation only when substrate construction and preparation work is complete and in condition to receive sheet membrane waterproofing per the manufacturer's requirements.

1.8 WARRANTY

- A. Provide written 5-year material warranty issued by the membrane manufacturer upon completion of the work.

PART 2 PRODUCTS

2.1 MEMBRANE COMPOUND MATERIAL

- A. Provide Waterproofing Membrane in areas as indicated on the plans of one of the following.
1. A complete dual-waterproofing, vapor-protective, composite sheet membrane system composed of high-density polyethylene having a sodium-bentonite face with a protective laminate layer of spun polypropylene designed for buried concrete or masonry construction having the following attributes.
 - a. Provide a product similar to the Paramount Paraseal systems by Tremco, Inc.
 2. A self-adhesive, cold-applied composite sheet a minimum thickness of 1.4 mm (0.056 in.) of rubberized asphalt and 0.1 mm (0.004 in.) of cross-laminated, high-density polyethylene film specially formulated for use with water-based surface conditioner.
 - a. Provide rubberized asphalt membrane covered with a release sheet and remove during installation.
 - b. Provide a product similar to the Bituthene System 4000 membrane by Grace Construction Products.
- B. Acceptable products:
1. Paramount Paraseal LG, by Tremco, Inc
 - a. Puncture resistance 165 lbs ASTM E154/E154M
 - b. Tensile strength 4000 psi ASTM D412
 - c. Water vapor permeance 0.03 perms ASTM E96/E96M
 - d. Percentage elongation 700% ASTM D638
 - e. Resistance to hydrostatic head 150 ft ASTM D751
 - f. Warranted crack-bridging capacity 1/8 in
 2. Bituthene® System 4000 Membrane by Grace Construction Products
 - a. Thickness 0.060 in
 - b. Puncture resistance 50 lbs ASTM E154/E154M
 - c. Tensile strength, membrane 325 psi ASTM D412
 - d. Tensile strength, film 5000 psi ASTM D882
 - e. Water vapor permeance 0.05 perms ASTM E96E96M
 - f. Percentage elongation 300% ASTM D412
 - g. Resistance to hydrostatic head 231 ft ASTM D5385
 - h. Crack cycling @ -25°F 100 cycles Unaffected ASTM C836/C836M
 - i. Lap adhesion @ minimum
 - Application temperature 5 psi ASTM D1876
 - Peel strength 9 psi ASTM D903
 - j. Water absorption 0.1% max ASTM D570
 3. Architect and Owner approved equal.

2.2 ACCESSORIES

- A. Provide all accessories required for a complete and proper application as per the manufacturer's requirements.

2.3 OTHER MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor and approved by the vapor-protective system manufacturer as compatible, subject to Architect's approval.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section and to prevent damage to installed waterproofing.
- B. Verify substrate surfaces are free of dampness, loose particles, cracks, pits, projections, penetrations, or foreign matter detrimental to adhesion or application of waterproofing system.
- C. Verify items, which penetrate surfaces receiving waterproofing, are securely installed.
- D. Follow manufacturer's requirements for proper surface to apply the waterproof material.
- E. Do not proceed with installation unless work is acceptable for installation.

3.2 PREPARATION

- A. Protect adjacent surfaces not designated to receive waterproofing.
- B. Clean and prepare surfaces to receive waterproofing in accordance with manufacturer's instructions, vacuum substrate clean.
- C. Do not apply waterproofing to surfaces unacceptable to manufacturer or applicator.
- D. Seal cracks and joints with sealant materials using depth to width ratio as recommended by sealant manufacturer.

3.3 APPLICATION

- A. Surface preparation and detailing procedures shall be in accord with this Specification and the Drawings.
- B. Comply with waterproofing system manufacturer's instructions except if more stringent requirements in this specification indicate otherwise.
- C. Lay out project to determine and anticipate conditions prior to start of work.

3.4 INSTALLATION

- A. Install waterproofing system in accord with manufacturer's instructions, recommendations, and specific project instructions as applies to the Work.
- B. Install waterproofing system in accord with the plans, specifications, and any building code requirements.

3.5 PROTECTION OF FINISHED WORK

- A. Section 01 77 00 - Contract Closeout
- B. Remove any masking materials after installation.
 - 1. Clean any stains on materials exposed in the completed work.
- C. Protect completed membrane waterproofing from subsequent construction activities as recommended by manufacturer.
 - 1. Do not permit traffic over unprotected or uncovered membrane.

END OF SECTION