

SECTION 07100**DAMPPROOFING AND MEMBRANE WATERPROOFING****07100.01 GENERAL****A. Description**

Dampproofing and membrane waterproofing shall include, but not necessarily be limited to, furnishing and applying asphalt dampproofing and membrane waterproofing on finished concrete surfaces where indicated in accordance with the Contract Documents.

B. Related Work Included Elsewhere

1. Structure excavation; Section 02220.
2. Cast-in-place concrete structures; Section 03300.
3. Precast concrete utility structures; Section 03400.
4. Elastomeric Membrane Waterproofing; Section 07110.

C. Quality Assurance

1. Inspection and Testing
 - a. The Engineer will inspect all materials before and/or after installation to ensure compliance with the Contract Documents. When specific materials tests are required by the referenced standards and specifications, the Engineer will have the option of requiring that any or all of these tests be performed for materials furnished for a specific project. When testing is required, it will be specified herein or in the “Special Provisions”.
 - b. The finished surface of dampproofed areas shall be free of dull or porous spots. Daterproofed areas shall be free of cuts, holes, pockets, bulges, wrinkles, folds, or creases. The Contractor shall recoat or repair defective areas to the satisfaction of the Engineer.
2. Experience

Applicators shall be fully qualified and certified by the manufacturers of the products being applied.
3. Storage

Fabric shall be stored in a dry protected place. The rolls shall not be stored on their ends. Bituminous materials in containers shall be kept closed when not in use.

D. Submittals

1. Shop Drawings

- a. Shop drawings shall be submitted as specified in the "General Provisions" for dampproofing and membrane waterproofing materials furnished. The shop drawings shall include manufacturer's data for all materials including recommended handling, mixing, and application requirements.
- b. Working drawings shall also be submitted which shall include joint, corner, penetration, and anchorage details, and a description of the sequence of operation. The submittal shall also show details of application around expansion and contraction joints, and pipes, sleeves, drains, or other penetrations.

2. Certificates of Compliance

Certificates of compliance shall be submitted in accordance with the "General Provisions" for all dampproofing and membrane waterproofing materials stating that the material furnished meets the requirements specified in Section 07100.02.

07100.02 MATERIALS**A. Materials Furnished by the County**

The County will not furnish any materials for dampproofing and membrane waterproofing.

B. Detailed Material Requirements

1. Bituminous Dampproofing Materials

- a. ASTM D41/D41M - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing 2011 (Reapproved 2016).
- b. ASTM D449/D449M - Standard Specification for Asphalt Used in Dampproofing and Waterproofing
- c. Bituminous Dampproofing: Cold-applied water-based emulsion; asphalt with mineral colloid or chemical emulsifying agent; with or without fiber reinforcement; asbestos-free; suitable for application on vertical and horizontal surfaces.
 - 1) Composition - Vertical Application: ASTM D1227/D1227M Type III or ASTM D1187/D1187M Type I.
 - 2) Composition - Horizontal and Low-Slope Application: ASTM D1227/D1227M Type II or III.

- 3) VOC Content: Not more than permitted by local, State, and federal regulations.
 - 4) Applied Thickness: 1/16 inch (1.5 mm), minimum, wet film.
 - d. Bituminous Dampproofing: Cold-applied, spray-grade; asphalt base, volatile petroleum solvents, and other content, suitable for application by spray, brush, roller, or squeegee; asbestos-free; suitable for application on vertical and horizontal surfaces.
 - 1) Composition: ASTM D4479/D4479M Type I, minimum, asbestos free.
 - 2) VOC Content: Not more than permitted by local, State, and federal regulations.
 - 3) Applied Thickness: 1/16 inch (1.5 mm), minimum, wet film.
 - e. Bituminous Dampproofing: Cold-applied, trowel-grade; asphalt base, volatile petroleum solvents, and other content, suitable for application by trowel on vertical and horizontal surfaces.
 - 1) Composition: ASTM D4586/D4586M Type I, minimum, asbestos free.
 - 2) VOC Content: Not more than permitted by local, State, and federal regulations.
 - 3) Applied Thickness: 1/16 inch (1.5 mm), minimum, wet film
 - f. Primers, Mastics, and Related Materials: Type as recommended by dampproofing manufacturer.
2. Bitumen Materials
- a. Hot Asphaltic Type:
 - 1) Bitumen: ASTM D449/D449M, Type I, asphalt.
 - 2) Primer: ASTM D41/D41M, compatible with substrate.
 - 3) Sealing Mastic: Asphalt roof cement, ASTM D4586/D4586M, Type I, asbestos-free.
 - b. Cold Asphaltic Type:
 - 1) Asphalt Primer: ASTM D41/D41M, compatible with substrate

3. Accessories:
 - a) Drainage Panel: 1/4 inch (6 mm) thick formed plastic, hollowed sandwich.
 - b) Protection Board: Rigid insulation specified in Section 072100.
 - c) Protection Board: 1/8 inch (3 mm) thick biodegradable hardboard.

07100.03 EXECUTION

A. Examination

1. Verify existing conditions are acceptable prior to starting this work.
2. Verify substrate surfaces are durable, free of matter detrimental to adhesion or application of dampproofing system.
3. Verify that items penetrating surfaces to receive dampproofing are securely installed.

B. Preparation

1. Protect adjacent surfaces not designated to receive dampproofing
2. Clean and prepare surfaces to receive dampproofing in accordance with manufacturer's instructions.
3. Do not apply dampproofing to surfaces unacceptable to manufacturer.
4. Apply mastic to seal penetrations, small cracks, or minor honeycombs in substrate.

C. Application

1. Foundation Walls: Apply two coats of asphalt dampproofing.
2. Foundation Walls: Patch disturbed areas of existing dampproofing with two additional coats of dampproofing of the same generic type.
3. Perform this work in accordance with manufacturer's instructions and NRCA (WM) applicable requirements.
4. Prime surfaces in accordance with manufacturer's instructions and NRCA (WM) applicable requirements.
5. Prime surfaces at a rate approved by manufacturer for application indicated and allow primer to dry thoroughly.

6. Apply bitumen with mop.
7. Apply bitumen at a temperature limited by equiviscous temperature (EVT) plus or minus 25 degrees F (14 degrees C); do not exceed finish blowing temperature for four hours
8. Apply bitumen in one coat, continuous and uniform, at a rate of 25 sq ft/gal (0.6 sq m/L) per coat.
9. Apply from 2 inches (50 mm) below finish grade elevation down to top of footings.
10. Seal items watertight with mastic, that project through dampproofing surface
11. Place drainage panel directly over dampproofing, butt joints, place to encourage drainage downward.
12. Scribe and cut boards around projections, penetrations, and interruptions

07100.03 METHOD OF MEASUREMENT

Dampproofing and membrane waterproofing will not be measured.

07100.04 BASIS OF PAYMENT

Dampproofing and membrane waterproofing will not be paid for as separate items but are considered incidental to other items of work required in the construction of specific structures that will be paid for under various items indicated in the Proposal. Payment will constitute full compensation for all labor, equipment, tools, and incidentals necessary to complete the applications as specified.

END OF SECTION