

SECTION 07 13 52
MODIFIED BITUMINOUS SHEET WATERPROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Modified bituminous sheet material used for exterior below grade waterproofing and split slab waterproofing.

1.2 APPLICABLE PUBLICATIONS

A. Comply with references to extent specified in this section.

B. Federal Specifications (Fed. Spec.):

UU-B-790A Notice 2 v04-1992 Building Paper, Vegetable Fiber: (Kraft, Waterproofed, Water Repellent, and Fire Resistant).

C. ASTM International (ASTM):

C578-19.....Rigid, Cellular Polystyrene Thermal Insulation.
D41/D41M-11(2016).....Asphalt Primer Used in Roofing, Dampproofing and Waterproofing.

D4586/D4586M-07(2018)...Asphalt Roof Cement, Asbestos-Free.

D6380/D6380M-03(2018)...Asphalt Roll Roofing (Organic Felt).

D. American Hardboard Association (AHA):

A135.4-(r2020).....Basic Hardboard.

1.3 PREINSTALLATION MEETINGS

A. Conduct preinstallation meeting at project site minimum 30 days before beginning Work of this section.

1. Required Participants:

- a. Contracting Officer's Representative.
- b. Architect/Engineer.
- c. Contractor.
- d. Installer.
- e. Manufacturer's field representative.
- f. Other installers responsible for adjacent and intersecting work, including substrate and flashing installers.

SPEC WRITER NOTE: Edit meeting agenda to incorporate project specific topics.

2. Meeting Agenda: Distribute agenda to participants minimum 3 days before meeting.

- a. Installation schedule.

- b. Installation sequence.
- c. Preparatory work.
- d. Protection before, during, and after installation.
- e. Installation.
- f. Terminations.
- g. Transitions and connections to other work.
- h. Inspecting and testing.
- i. Other items affecting successful completion.
- 3. Document and distribute meeting minutes to participants to record decisions affecting installation.

1.4 SUBMITTALS

- A. Submittal Procedures: Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Submittal Drawings: Show size, configuration, and installation details.
- C. Manufacturer's Literature and Data:
 - 1. Description of each product.
 - 2. Installation instructions.
 - 3. Warranty.
- D. Samples:
 - 1. Waterproofing and Flashing Sheet: 200 mm (8 inch) square, each type and color.
 - 2. Insulation: 200 mm (8 inch) square.
- E. Test reports: Certify products comply with specifications.
- F. Certificates: Certify products comply with specifications.
- G. Qualifications: Substantiate qualifications comply with specifications:
 - 1. Installer with project experience list.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications:
 - 1. Regularly installs specified products.
 - 2. Installed specified products with satisfactory service on five similar installations for minimum five years.
 - a. Project Experience List: Provide contact names and addresses for completed projects.

1.6 DELIVERY

- A. Deliver products in manufacturer's original sealed packaging.
- B. Mark packaging, legibly. Indicate manufacturer's name or brand, type, color, production run number, and manufacture date.

- C. Before installation, return or dispose of products within distorted, damaged, or opened packaging.

1.7 STORAGE AND HANDLING

- A. Store products indoors in dry, weathertight conditioned facility.
- B. Protect products from damage during handling and construction operations.

1.8 FIELD CONDITIONS

- A. Environment:
 - 1. Product Temperature: Minimum 4 degrees C (40 degrees F) for minimum 48 hours before installation.
 - 2. Weather Limitations: Install waterproofing only during dry current and forecasted weather conditions.

1.9 WARRANTY

- A. Construction Warranty: FAR clause 52.246-21, "Warranty of Construction."
- B. Manufacturer's Warranty: Warrant waterproofing system against material and manufacturing defects and agree to repair any leak caused by a defect in the waterproofing system materials or workmanship of the installer.
 - 1. Warranty Period: 10 years.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. Waterproofing System: Modified bituminous sheet material for exterior below grade and split slab waterproofing.

2.2 PRODUCTS - GENERAL

- A. Provide each product from one manufacturer.
- B. Sustainable Construction Requirements:
 - 1. Insulation Recycled Content: Rigid Foam: 9 percent total recycled content, minimum.

2.3 BITUMINOUS SHEET

- A. Cold applied waterproofing membrane composed primarily of modified bituminous material prefabricated in sheet form designed for below

grade exterior and split slab waterproofing. Sheet reinforced with fibers at manufacturer's option.

- B. Thickness: Not less than 1.5 mm (60 mils), plus or minus 0.13 mm (5 mils), and bonded to 0.1 mm (4 mil) thick plastic sheet.
- C. Provide release sheet to prevent bonding of bituminous sheet to itself.

2.4 PROTECTION MATERIAL

- A. Polystyrene Insulation: ASTM C578, Type I or VIII, 13 mm (1/2 inch) minimum thickness.
- B. Hardboard: AHA A135.4, Service Type, 6 mm (1/4 inch) thick.
- C. Waterproofed Building Paper: Fed. Spec. UU-B-790A Notice 2, Type I, Grade C.
- D. Roll Roofing: ASTM D6380/D6380M, Class S (smooth), Type III with minimum net mass per unit area of roofing, 2495 g/sq. m (51 lbs./100 sq. ft.).

2.5 ACCESSORIES

- A. Patching Compound: Factory-prepared, non-shrinking, fast-setting, cementitious adhesive compound containing no ferrous metal or oxide.
- B. Primer: ASTM D41/D41M.
- C. Roof Cement: ASTM D4586/D4586M.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Examine and verify substrate suitability for product installation.
 - 1. Concrete surfaces cured minimum time recommended by waterproofing manufacturer.
 - 2. Substrate to be dry as recommended by waterproofing manufacturer.
- B. Protect existing construction and completed work from damage.
- C. Correct substrate deficiencies.
 - 1. Fill voids, joints, and cracks with patching compound.
- D. Clean substrates. Remove contaminants capable of preventing full adhesion.
- E. Priming:
 - 1. Prime concrete and masonry surfaces.
 - 2. Application method, amount of primer and condition or primer before installation of bituminous sheet as recommended by primer manufacturer.
 - 3. Reprime when required according to manufacturer's instructions.

3.2 INSTALLATION - GENERAL

- A. Install products according to manufacturer's instructions and approved submittal drawings.
 - 1. When manufacturer's instructions deviate from specifications, submit proposed resolution for Contracting Officer's Representative consideration.

3.3 WATERPROOFING INSTALLATION

- A. Bituminous Sheet Installation:
 - 1. Remove release sheet before application.
 - 2. Lay bituminous sheet from low point to high point so laps shed water.
 - 3. Treat expansion, construction and control joints and evident working cracks as expansion joints. Apply bituminous sheet in double thickness over joint by first applying a strip of bituminous sheet minimum 200 mm (8 inches) wide, centered over joint.
 - 4. Lap seams minimum 50 mm (2 inches).
 - 5. Lay succeeding sheet with laps, and roll or press into place.
 - 6. Repair misaligned or inadequately lapped seams according to manufacturer's instructions.
 - 7. Seal seams and terminations according to sheet manufacturer's instructions.
- B. Corner Treatment:
 - 1. At inside and outside corners, apply double cover using an initial strip minimum 280 mm (11 inches) wide, centered along axis of corner.
 - 2. Cover each strip completely by the regular application of bituminous sheet.
 - 3. Provide a fillet or cant on inside corners.
 - 4. Form cants using patching compound.
 - 5. Do not use wood, fiber, and insulating materials for cants.
- C. Projection Treatment:
 - 1. Apply a double layer of bituminous sheet around pipes and similar projections at least 150 mm (6 inches) wide.
 - 2. At drains, apply a bead of roof cement over a double layer of bituminous sheet under clamping rings.
- D. Patching:

1. Repair tears, punctures, air blisters, and inadequately lapped seams, according to manufacturer's instructions before protection course is applied.

E. Permanent Protection:

1. Vertical Surfaces:

- a. Install hardboard, polystyrene insulation, or roll roofing protection material.
- b. Extend protection full height from footing to top of backfill.
- c. If graded backfill is used, use roll roofing or hardboard.

F. Horizontal Surfaces:

1. Install roll roofing protection under concrete wearing courses.
2. Install roll roofing, hardboard, or polystyrene insulation under earth backfill.
3. Where no concrete wearing course occurs or when surfaces will bear heavy traffic and will not immediately be covered with a wearing course, use protection specified for vertical surfaces.

G. Temporary Protection:

1. When waterproofing materials are subjected to damage by sunlight and cannot be immediately protected as specified, protect waterproofing materials by waterproof building paper or suitable coating approved by manufacturer of waterproofing system used.

3.4 FIELD QUALITY CONTROL

A. Field Tests: Performed by testing laboratory specified in Section 01 45 29, TESTING LABORATORY SERVICES.

B. Testing:

1. Before any protection or wearing course is applied, test all horizontal applications of waterproofing with a minimum of 25 mm (1 inch) head of water above highest point and leave for 24 hours.
2. Mark leaks and repair when waterproofing is dry.
3. Certify, to Contracting Officer's Representative, that water tests have been made and that areas tested were found watertight.

C. Inspection:

1. Do not cover waterproofed surfaces by other materials or backfill until work is approved by Contracting Officer's Representative.

3.5 CLEANING

A. Remove excess adhesive before adhesive sets.

B. Clean exposed waterproofing surfaces. Remove contaminants and stains.

3.6 PROTECTION

A. Protect waterproofing from construction operations.

B. Remove protective materials immediately before acceptance.

C. Repair damage.

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