

ARCHITECTURE

SECTION 07530

EPDM ELASTOMERIC MEMBRANE ROOFING

PART 1 - GENERAL

SUMMARY – FULLY ADHERED EPDM SYSTEM

1.1 SECTION REQUIREMENTS

- A. Submittals: Shop Drawings of tapered insulation, Product data.
- B. Exterior Fire-Test Exposure: ASTM E 108, Class A
- C. Roof Assembly Classification: Class A fire rating, meet wind uplift requirements of ASCE 7.
- D. Performance Criteria:

The entire membrane roofing system, consisting of the membrane, insulation, fasteners, decks and special roof accessories (i.e. Pressure relief valves), shall be secured in place to the structure to withstand the wind loads as described in the 2003 International Building Code as amended by the State of Maine. The roof system shall be tested in accordance with UL 580 and UL 1897.

- a. Refer to sheet S0.1 for design criteria specific to this project.
- E. Warranties: Provide standard manufacturer's written warranty, without monetary limitation, signed by roofing system manufacturer agreeing to promptly repair leaks resulting from defects in materials or workmanship for the period of 10 years.

PART 2 - PRODUCTS

2.1 ROOFING MATERIALS

- A. EPDM Sheet: ASTM D 4637, Type 1, Grade 1 and Class U, non-reinforced; 60 mils (1.5 mm) thick; black.
 - 1. Acceptable manufacturers include:
 - a. Carlisle SynTec Incorporated.
 - b. Firestone Building Products Company
 - c. Gen Flex Roofing Systems
 - d. Johns Manville Roofing Systems Group
 - e. Versico Incorporated
- B. Auxiliary Materials: Recommended by roofing system manufacturer for intended use and as follows:
 - 1. Sheet Flashing: 60 mil- (1.5-mm-) thick EPDM.
 - 2. Splice Materials: as recommended by roofing system manufacturer.
 - 3. Thermal Barrier: 1/2" thick fiber board or 1/4" DensDeck.
 - 4. Expansion joint covers: roof bellows, refer to 05811 for additional information.
 - 5. Walkway pads: non-skid molded rubber pads as furnished by membrane manufacturer.

2.2 ROOFING INSULATION

- A. Polyisocyanurate Board Insulation: Minimum compressive strength of 20 psi. ASTM C 1289, Type II felt or glass-fiber mat facer on both major surfaces as alternate.
 - 1. Provide high strength board insulation with a minimum compressive strength of 25 psi. at roof areas adjacent to existing building.
- B. Fabricate tapered insulation with slope of 1/4 inch per 12 inches (1:48), unless otherwise indicated.

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2.3 FASTENERS

- A. Heavy Duty Corrosion resistant coated steel screws. Finish to be Hot dipped galvanized, comply with ASTM A-153. Size and length required to secure insulation and thermal barrier to standard steel deck. Fastener to penetrate deck a minimum of $\frac{3}{4}$ ".
 - 1. Minimize oversized and excessively long fasteners, as underside of deck is to be left exposed as part of the finished space.
- B. Provide Galvalume coated round steel plates, 3" diameter, that are FM approved, to evenly distribute load of fastener over insulation.

2.4 ACCESSORIES

- A. Expansion Bellows: Refer to section 05811 Architectural Joint Systems.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Perimeter Roof Nailers: Formulations of pressure treated lumber require the following procedures:
 - 1. Refer to specification section 06100, 1.5.2 for Borate treated wood installation.
 - 2. Nailers treated with creosote, woodlife, copper naphthenate (CU-N), and copper 8-quinolinolate adversely affect EPDM membranes and are **unacceptable**. { *Carlisle Roofing Design Criteria* }.
- B. Secure thermal barrier with at least 1 fastener for each **4 sq. ft. (0.38 sq. m)** and at least 2 fasteners per board.
- C. Mechanically fasten each layer of insulation to deck with at least 1 fastener for each **4 sq. ft. (0.38 sq. m)** and at least 2 fasteners per board. Do not overdrive fastener and fracture skin of the fastener. Fastener must be tight enough so that the plate does not turn.
- D. Install EPDM sheet according to roofing system manufacturer's written instructions and as follows:
 - 1. Adhered Sheet Installation: Apply bonding adhesive to substrate and underside of sheet and allow to partially dry. Do not apply bonding adhesive to splice area of sheet.
 - 2. Provide tie in to existing shingle roof system at existing building. Shingles to overlap upper edge of EPDM membrane a minimum of 12 inches. Provide adhesive under bottom edge of shingle course. Install per membrane manufacturers recommended practices.
- E. Seams: Clean splices, apply splicing cement, and firmly roll side and end laps of overlapping sheets. Seal exposed edges of sheet terminations.
- F. Install sheet flashings and preformed flashing accessories and adhere to substrates. Protect roofing from damage and wear during remainder of construction period.
- G. Adhere walkway pads to membrane with bonding adhesive at locations indicated on drawings.
- H. Correct deficiencies in or remove and reinstall roofing and sheet flashing that does not comply with requirements.

END OF SECTION 07530