

**SECTION 07 22 00
ROOF AND DECK INSULATION**

PART 1 - GENERAL

1.1 DESCRIPTION

A. Vapor retarder on new construction ready to receive roofing panels.

1.2 RELATED WORK

A. Metal roofing and siding: Section 07 40 00, ROOFING AND SIDING PANELS.

1.3 APPLICABLE PUBLICATIONS

A. Publications listed below form a part of this specification to the extent referenced. Publications are referenced in the text by the basic designation only. Editions of applicable publications current on date of issue of bidding documents apply unless otherwise indicated.

B. American Society of Heating, Refrigeration and Air Conditioning (ASHRAE):

90.1-07.....Energy Standard for Buildings Except Low-Rise Residential Buildings

C. ASTM International (ASTM):

D1970-09.....Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection

D2822-05.....Asphalt Roof Cement

D4586-07.....Standard Specification for Asphalt Roof Cement, Asbestos-Free

E84-09.....Standard Test Method for Surface Burning Characteristics of Building Material

F1667-05.....Driven Fasteners: Nails, Spikes, and Staples

D. National Roofing Contractors Association: Roofing and Waterproofing Manual

E. Underwriters Laboratories, Inc. (UL): Fire Resistance Directory (2009)

1.4 QUALITY CONTROL

A. Requirements of Division 07 roofing section for inspection of Work of this Section and qualifications of Inspector.

B. Requirements of roofing system uplift pressure design for specified roofing system.

- C. Requirements of applicable FM Approval for specified roofing system insulation attachment.

1.5 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Product Data:
 - 1. Vapor retarder.
- C. Samples:
 - 1. Vapor retarder.
 - 2. Nails and fasteners, each type.
- D. Laboratory Test Reports: Thermal values of insulation products.
- E. Documentation of supervisors' and inspectors' qualifications.

1.6 DELIVERY, STORAGE AND MARKING

- A. Comply with the recommendations of the NRCA "Roofing and Waterproofing Manual" applicable to built-up roofing for storage, handling and installation requirements.

PART 2 - PRODUCTS

2.1 ADHESIVE MATERIALS

- A. Adhesive Materials, General: Adhesive and sealant materials recommended by roofing system manufacturer for intended use, identical to materials utilized in approved listed roofing system, and compatible with roofing membrane.
 - 1. Liquid-type adhesive materials shall comply with VOC limits of authorities having jurisdiction.
 - 2. Adhesives and sealants that are not on the exterior side of weather barrier shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - a. Multipurpose Construction Adhesives: 70 g/L.
 - b. Contact Adhesives: 80 g/L.
 - c. Other Adhesives: 250 g/L.
 - d. Sealant Primers for Nonporous Substrates: 250 g/L.
 - e. Sealant Primers for Porous Substrates: 775 g/L.
- B. Primer: ASTM D41.
- C. Asphalt: ASTM D312, Type III or IV for vapor retarders and insulation.

2.2 INSULATION ACCESSORIES

- A. Vapor Retarder:

1. Self-Adhering Sheet Vapor Retarder: ASTM D1970, minimum of 1.0-mm- (40-mil-) thick, polyethylene film laminated to layer of rubberized asphalt adhesive, or 0.76- to 1.0-mm- (30- to 40-mil-) thick, polyethylene film laminated to layer of butyl rubber adhesive; maximum permeance rating of 6 ng/Pa x s x sq. m (0.1 perm).

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Comply with requirements of Division 07 roofing section.

3.2 PREPARATION

- A. Comply with requirements of Division 07 roofing section.

3.3 VAPOR RETARDER INSTALLATION

A. General:

1. Install continuous vapor retarder on roof deck where indicated.
2. At all pipes, walls, and similar penetrations through vapor retarder, seal openings with roof cement to prevent moisture entry from below.
3. Seal penetrations with roof cement.

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