

SECTION 07 22 00

ROOF AND DECK INSULATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Roof insulation
- B. Adhesive
- C. Fasteners
- D. Roof tape
- E. Asphalt
- F. Bituminous plastic cement
- G. Wood stops, blocking, and insulation-containment members

1.02 MEASUREMENT AND PAYMENT:

- A. Roof deck insulation will not be measured separately for payment but will be paid for as part of the Contract lump sum price for Architectural Work.

1.03 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM C726 Specification for Mineral Fiber Roof Insulation Board
 - 2. ASTM C728 Specification for Perlite Thermal Insulation Board
 - 3. ASTM D312 Specification for Asphalt Used in Roofing
 - 4. ASTM D2822 Specification for Asphalt Roof Cement
 - 5. ASTM D3747 Specification for Emulsified Asphalt Adhesive for Adhering Roof Insulation
 - 6. ASTM D4586 Specification for Asphalt Roof Cement, Asbestos-Free
- B. Federal Specifications (FS):
 - 1. TT-W-550 Wood Preservative, Chromated Copper Arsenate Mixture
 - 2. TT-W-571 Wood Preservation: Treating Practices

C. Underwriters Laboratories (UL):

1. UL 580 Tests for Uplift Resistance of Roof Assemblies
2. UL 790 Tests for Fire Resistance of Roof Covering Materials

1.04 SUBMITTALS

- A. General: Refer to Section 01 33 00 - Submittal Procedures, and Section 01 33 23 - Shop Drawings, Product Data, and Samples, for submittal requirements and procedures.
- B. Product Data: Submit manufacturer's product data of the roof deck insulation proposed for this work.

1.05 QUALITY ASSURANCE

- A. Insulation and roofing shall meet Underwriters Laboratories requirements for Class A fire rating and Class I-90 wind uplift resistance in compliance with UL 790 and UL 580, respectively.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Roof Insulation: Roof deck insulation shall be of polyisocyanurate foam core laminated to glass reinforced mat facer. Furnish in thickness required to provide minimum thermal resistance, R value of 9, or as required and sufficient to span the flute of metal decking. Insulation shall be applied in at least two layers with staggered joints. Provide tapered roof insulation board where required for roof drainage. Tapered insulation can be of the same material as the deck insulation or a perlite-based material. Cover shall be perlite board conforming to the requirements of ASTM C728. Roof insulation material and insulation shall be compatible with the roofing system as recommended by the roofing materials manufacturer.
- B. Adhesive: ASTM D3747.
- C. Fasteners: Insulation board fasteners with appropriate stress-plate washers, manufactured specifically for securing insulation board to metal decking.
- D. Roof Tape: Manufactured specifically for welding of tape over insulation joints, 6 inches wide.
- E. Asphalt: ASTM D312, Type III.
- F. Bituminous Plastic Cement: ASTM D2822 or ASTM D4586.
- G. Wood Stops, Blocking, and Insulation-Containment Members: Pressure-treated "Construction" or "No.1" grade Douglas fir as specified in Section 06 10 00 - Rough Carpentry, treated with preservative in accordance with FS TT-W-550 for preservative material and FS TT-W-571 for pressure treating.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Coordinate roof insulation installation with the installation of roofing
- B. Surfaces that insulation is to be applied shall be smooth and dry, free from loose particles, and shall be swept clean.
- C. Install insulation board in accordance with the insulation manufacturer's installation instructions and recommendations. Apply boards with adjacent ends staggered not less than 24 inches.
- D. Install perimeter wood containment members and stops with mechanical fasteners as indicated or required.
- E. Mop boards into place using hot steep asphalt applied in ribbons on 6 inch centers; press firmly into place. Cut boards to fit neatly around vent pipes, curbs, vertical surfaces, and other deck projections.
- F. Where required for additional holding power for holding boards in place, provide mechanical fasteners of type specified and installation method recommended by the fastener manufacturer.
- G. Apply roof tape in hot asphalt over all joints of insulation board in accordance with the insulation and tape manufacturer's taped joint system specifications and recommendations. Apply roof tape over joints between adjacent insulation boards and between wood blocking or insulation stops and insulation boards. Broom roof tape into asphalt.
- H. Lay no more boards than will be covered with completed roofing on the same day. Do not leave installed boards exposed to weather. Provide protection of insulation from rain and moisture.
- I. Provide water cut-offs at exposed edges of insulation at end of day's work and whenever rain is imminent. Extend cut-offs 6 inches on roof deck, carry up and over roof insulation, and extend 6 inches on top of roofing. Remove before continuing installation of insulation.

END OF SECTION 07 22 00