

SECTION 075220
BUILT-UP ASPHALT ROOF SYSTEM (S-108)

1. DESCRIPTION

This specification shall govern all work for furnishing materials and constructing built-up asphalt roof required to complete the project.

2. MATERIALS

Materials: Obtain primary roofing materials from only one manufacturer, to the greatest extent possible. Secondary materials (and materials not available from the primary roofing materials manufacturer) shall be those built-up roofing materials recommended by the manufacturer of the primary materials. Materials shall comply with the following A.S.T.M. standards or shall be of equal or superior quality to the listed product:

Asphalt Primer - ASTM D-41
Steep Asphalt - Type III or IV - ASTM D-312
Polyurethane Foam Board Insulation - Johns-Manville - Fesco
Foam Roof Insulation
Perlitic Board Roof Insulation - ASTM C209/E84
Asphalt Saturated Fiberglass Plies - ASTM D-2178 Type IV
Wood Fiberboard Cant Strip - (cut from 1 1/2" thick wood
fiberglass roof insulation) - ASTM C-208
Plastic Cement -
Inner Ply: Gulf States No. 304 Plastic Cement
Outer Ply: J. M. Asbestile Flashing Cement
Fibrated Aluminum Roof Coating - ASTM D-2824-69

3. MATERIAL STORAGE AND HANDLING

During storage and handling, insulation should be protected from the elements. It should be protected from moisture to prevent moisture absorption.

Roll roofing materials should be stacked vertically and protected from the elements. If the base ply is left exposed on the roof overnight, it is recommended that the laps be sealed either with hot asphalt or mastic, and any uncoated base sheet should be glaze coated with hot asphalt to temporarily seal the surface at the end of each day's work.

Care should be exercised in the handling and application of insulation to prevent cracking, breaking off or spalling of the edges.

4. CONSTRUCTION METHODS

- A. Preparation of Deck - Remove existing built-up roof system. Prior to the installation of any roofing materials, the deck surface must be clean, smooth, free from moisture, loose particles, grease, oil and other foreign matter. Solid prime the deck and necessary portions of parapet walls with asphalt primer and allow to dry completely. Contractor shall be held responsible for any damage to the inside of the building.
- B. Insulation - Perlitic tapered board roof insulation shall be applied to provide a slope of a minimum of 1/8 inch per foot of roof toward roof

edge. The contractor shall submit a plan showing the drainage pattern for approval prior to commencing work. The contractor is cautioned that there are a number of low areas on this roof to be corrected. Installation shall be as per manufacturer's recommendations. The foam board shall be laid in a solid mopping of hot asphalt applied at a rate of 25 lb. per square and heated in accordance with Equiviscous Temperature Standards. Equiviscous Temperature Range (E.V.T.) is the temperature range, plus or minus 25EF., at which a viscosity of 125 centistokes is attained. E.V.T. information can be obtained from the manufacturer.

The installation of the roofing system during two or more separate time intervals, or phase application, is not recommended. All plies of a given specification should be applied at one time.

Only install as much insulation as can be completely covered with roof membrane and exposed edges of insulation boards should be protected with water cut offs at the end of each working day. The water cut offs should be removed or cut before starting the next day's work.

When two or more layers of insulation are installed, the joints shall be staggered vertically and offset where possible. The edges of insulation board shall be straight and flush. End joints between adjacent boards should be staggered.

- C. Membrane: A solid mopping of asphalt shall be applied over insulation followed by four plies of asphalt saturated fiberglass meeting ASTM D-2178 Type IV. Each of the four plies of fiberglass shall be applied into a fluid, continuous application of asphalt. The plies should be lapped 27 1/2" leaving an exposure of 8 1/2". The asphalt shall be applied such that in no place will adjacent plies touch each other. All plies shall be broomed or squeegeed into place as they are applied. The asphalt shall be heated in accordance with E.V.T. standards and applied at a rate of 30 lbs. per square. A flood coat of asphalt applied at a rate of 20 lbs. per square shall be placed on the last layer of fiberglass followed by a coat of fibrated aluminum roof coating.

Felts should be laid in a straight line to assure adequate lap.

During the application of roofing materials, moisture should be prevented from becoming entrapped between the felts. If precipitation occurs prior to the completion of roof membrane application, all surfaces should be allowed to dry prior to resuming work.

Care should be taken to ensure a thin, continuous uniform interplay mopping of asphalt is applied within the E.V.T. temperature range to attain maximum adhesion of the plies.

5. ACCEPTANCE CRITERIA

All areas which fail drainage specification requirements with respect to slope, materials quality, etc., shall be repaired or replaced at the expense of the contractor. The maximum ponding area acceptable shall be 10 square feet and/or 1/4 inch deep.

6. GUARANTEE

The Contractor shall submit two copies of a five-year guarantee for the roofing and associated work, agreeing to repair or replace any work which leaks water, deteriorates excessively, or otherwise fails to perform as required due to failures of materials or workmanship. Guarantee shall be signed by the

Contractor.

At the end of the five-year period (two years from substantial completion), representatives of the Contractor and the City shall inspect the roof for any deficiencies due to wear and tear or faulty construction. All deficiencies shall be Contractor's at no expense to the City.

7. MEASUREMENT AND PAYMENT

Unless indicated otherwise in the proposal, built-up asphalt roof shall not be measured for pay but shall be considered subsidiary to the project.