

BUILT-UP ASPHALT ROOFING

SECTION 07510

PART 1 GENERAL

1.1 SECTION INCLUDES A. Asphaltic built-up roofing.

1.2 RELATED SECTIONS

A. Section 06100: Rough Carpentry: Roof blocking installation and requirements.

B. Section 07620: Sheet Metal Flashing and Trim: Metal flashing and counter flashing installation and requirements.

C. Section 15430: Plumbing Specialties: roof drains, scuppers, gutters and downspout installation and requirements.

1.3 REFERENCES

A. Factory Mutual (FM Global) - Approval Guide.

1. Factory Mutual Standard 4470 - Approval Standard for Class 1 Roof Covers.

B. Underwriters Laboratories (UL) - Roofing Systems and Materials Guide (TGFU R1306).

C. American Society for Testing and Materials (ASTM) - Annual Book of ASTM Standards. 1. ASTM C 208 - Standard Specification for Cellulosic Fiber Insulating Board.

2. ASTM C 728 - Standard Specification for Perlite Thermal Insulation Board.

3. ASTM C 1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.

4. ASTM D 41 - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing and Waterproofing.

5. ASTM D 312 - Standard Specification for Asphalt Used in Roofing.

6. ASTM D 1863 - Standard Specification for Mineral Aggregate Used on Built-Up Roofs.

7. ASTM D 2178 - Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing.

8. ASTM D 3672 - Specification for Venting Asphalt-Saturated and Coated Inorganic Felt Base Sheet Used in Roofing.

9. ASTM D 3909 - Standard Specification for Asphalt Roll Roofing (Glass Felt) Surfaced With Mineral Granules.

10. ASTM D 4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free.

11. ASTM D 4601 - Standard Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing.

12. ASTM D 4897 - Standard Specification for Asphalt-Coated Glass-Fiber Venting Base Sheet Used in Roofing.

13. ASTM D 6163 - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements.

14. ASTM D 6164 - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements.

15. ASTM D 6222 - Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements.

D. Sheet Metal and Air Conditioning Contractors National Association, 1nc. (SMACNA) - Architectural Sheet Metal Manual.

E. Asphalt Roofing Manufacturers Association (ARMA).

F. National Roofing Contractors Association (NRCA).

G. American Society of Civil Engineers (ASCE). 1. ASCE 7 - Minimum Design Loads for Buildings and Other Structures.

1.4 DEFINITIONS A. Roofing Terminology: Refer to ASTM D1079 and the glossary of the National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual for definitions of roofing terms related to this section.

1.5 PERFORMANCE REQUIREMENTS A. Provide an installed roofing membrane and base flashing

system that does not permit the passage of water and will withstand the design pressures calculated in accordance with the most current revision of ASCE 7.

1.6 SUBMITTALS A. Provide Product Data Sheets for each type of product indicated in this section.

B. Shop Drawings: Provide manufacturers standard details and approved shop drawings for the roof system specified.

C. Samples: Provide samples of insulations, fasteners, membrane materials and accessories for verification of quality.

1.7 QUALITY ASSURANCE A. Manufacturer Qualifications: All manufacturers shall provide a roofing system that meets or exceeds all criteria listed in this section.

B. Source Limitations: Components listed shall be provided by a single manufacturer or approved by the primary roofing manufacturer.

1.8 PRE-INSTALLATION CONFERENCE A. Prior to scheduled commencement of the roofing installation and associated work, conduct a meeting at the project site with the installer, architect, building owner, and any other persons directly involved with the performance of the work. The installer shall record conference discussions to include decisions, agreements and open issues and furnish copies of recorded discussions to each attending party. The primary purpose of the meeting is to review foreseeable methods and procedures related to roofing work.

1.9 REGULATORY REQUIREMENTS A. Work shall be performed in a safe, professional manner, conforming to all federal, state and local codes.

1.10 DELIVERY, STORAGE AND HANDLING A. Deliver roofing materials to the site in original containers or packaging with factory seals intact. Products shall clearly be labeled.

B. Store pail goods in their original undamaged containers in a clean, dry location within their specified temperature range.

C. Store roll goods on end on pallets in a clean, dry, protected area. Take care to prevent damage to roll ends or edges. Do not double stack modified bitumen products.

D. Do not expose materials to moisture in any form before, during or after delivery to the site. Reject delivery of materials that show evidence of contact with moisture.

E. Remove manufacturer supplied plastic covers from materials provided with such. Use "breathable" type covers such as canvas tarpaulins to allow venting and protection from weather and moisture. Cover and protect materials at the end of each work day. Do not remove any protective tarpaulins until immediately before the material will be installed.

F. Materials shall be stored above 55 degrees F (12.6 degrees C) a minimum of 24 hours prior to application.

G. Store and dispose of solvent-based materials and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.11 PROJECT CONDITIONS A. Weather: 1. Proceed with roofing only when existing and forecasted weather conditions permit.

2. Ambient temperatures shall be above 45 degrees F (7.2 degrees C) when applying hot asphalt.

PART 2 PRODUCTS 2.1 MANUFACTURER for Bitumen/Adhesive A. Acceptable Manufacturer: UNITED ASPHALTS, Commerce City, CO 80022. Tel: 800-466-5431; Fax: 303-287-5431; www.unitedasphalts.com

B. Requests for substitutions will be considered in accordance with provisions of Section 01600.

PART 3 EXECUTION 3.1 EXAMINATION A. Verify that the surfaces and site conditions are ready to receive work.

B. Verify that the deck is supported and secured.

C. Verify that the deck is clean and smooth, free of depressions, waves or projections and properly sloped to drains, valleys, eaves, scuppers or gutters.

D. Verify that the deck surfaces are dry and free of ice or snow.

E. Verify that all roof openings or penetrations through the roof are solidly set and that all flashings are tapered.

3.2 INSTALLATION - GENERAL

A. Install roofing system according to all current application requirements in addition to those listed in this section.

B. When the slope of the roof is 1 inch per foot or greater, install all plies parallel with the slope of the roof and install intermediate wood nailers as required for the specific roof slope. Plies shall extend over ridges and nailed on 6 inches centers

C. Start the application of membrane plies at the low point of the roof or at the drains, so that the flow of water is over or parallel to, but never against the laps.

3.3 BITUMEN A. Do not mix different types of asphalt.

B. Use only UNITED ASPHALTS no-smell asphalt. ASTM D 312, Type II, Type III or Type IV Steep Asphalt. On slopes up to 1/2 inch per foot (40 mm/1000 mm), flat ASTM Type II asphalt may be used except in Florida, Texas, New Mexico, Arizona and California. Type IV asphalt shall be used on all slopes greater than 1/2 inches (13 mm) per foot (40 mm/1000 mm).

C. Application with hot asphalt requires continuous, uniform interply mopping rates of 25 lb +/- 20 percent per 100 square feet (1.2 kg/sm) of roof area.

D. Application temperature of the asphalt shall be at the Equiviscous Temperature (EVT) with a tolerance of +/- 25 degrees F (13.9 degrees C), at which a viscosity of 125 centipoise is attained. When using mechanical asphalt applicators, the target viscosity shall be 75 centipoise.

E. For all SBS modified asphalt flashings; the minimum application temperature of the asphalt shall be at the EVT or 425 degrees F (218 degrees C), whichever is greater, with a rolling bank (puddle) of mopping asphalt across the full width of the roll.

F. Do not heat the asphalt to or above its flash point or hold the asphalt at temperatures above the finished blowing temperature for more than 4 hours.

G. If using a tanker, do not keep heated tankers above 325 degrees F (163 degrees C) overnight.

3.4 ROOF PROTECTION A. Protect all partially and fully completed roofing work from other trades until completion.

B. Whenever possible, stage materials in such a manner that foot traffic is minimized over completed roof areas.

C. When it is not possible to stage materials away from locations where partial or complete installation has taken place, temporary walkways and platforms shall be installed in order to protect all completed roof areas from traffic and point loading during the application process.

D. Temporary tie-ins shall be installed at the end of each workday and removed prior to commencement of work the following day.

3.5 CLEAN-UP A. All work areas are to be kept clean, clear and free of debris at all times.

B. Do not allow trash, waste or debris to collect on the roof. These items shall be removed from the roof on a daily basis.

C. All tools and unused materials shall be collected at the end of each workday and stored properly off of the finished roof surface and protected from exposure to the elements.

D. Dispose of or recycle all trash and excess material in a manner conforming to current EPA regulations and local laws.

E. Properly clean the finished roof surface after completion and make sure the drains and gutters are not clogged.

F. Clean and restore all damaged surfaces to their original condition.

END OF SECTION