

SECTION 07312

ROOFING UNDERLAYMENT

**** NOTE TO SPECIFIER ****

Delete items not required for project.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Roofing underlayment (felts).

1.2 RELATED SECTIONS

- A. Section 06100 - Rough Carpentry: Roof framing and sheathing.
- B. Section 07310 - Shingles, Roof Tiles, and Roof Coverings: Roof coverings applied over underlayment.
- C. Section 07620 - Flashing and Sheet Metal: Gutters and downspouts.
- D. Section 08630 - Unit Skylights: Skylights.

1.3 REFERENCES

- A. ASTM International (ASTM):
 1. ASTM D 226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
 2. ASTM E 96 - Standard Test Method for Water Vapor Transmission of Materials.
 3. ASTM D 5034 - Standard Test Method Breaking Strength and Elongation of Textile Fabrics (Grab Test).
 4. ASTM D 1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
 5. ASTM D 4533 - Standard Test Method for Trapezoid Tearing Strength of Geotextiles.
 6. ASTM D 4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free.
 7. ASTM D 4869 - Standard Specification for Asphalt-Saturated Organic Felt Underlayment Used in Steep Slope Roofing.
 8. ASTM E 108 - Standard Test Methods for Fire Tests of Roof Coverings.
- B. Underwriters Laboratories: UL 790 - Standard Methods of Fire Tests of Roof Coverings.
- C. National Roofing Contractors Association (NRCA): Steep Slope Roofing and Waterproofing Manual.
- D. International Code Council (ICC): AC 48 - Acceptance Criteria For Roof Underlayment For Use In Severe Climate Areas.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Application methods.
 - 4. Product code report.
- C. Shop Drawings: Submit copies of manufacturer's standard details describing installation methods and flashing conditions applicable to the project.
- D. Verification Samples: For each product specified, two samples, 12 inches (305 mm) square sample for approval by the Architect.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Minimum of two years demonstrated experience in installing products of the same type and scope as specified.
- B. Mock-Up: Provide a mock-up for evaluation of material, workmanship.
 - 1. Construct areas designated by Architect.
 - 2. Do not proceed with remaining work until material, details and workmanship are approved by Architect.
 - 3. Remodel mock-up area as required to produce acceptable work.
 - 4. As approved by Architect, mockup may be incorporated into finished work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer. Upon delivery, materials shall be inspected for damage. Deficient materials shall not be used.
- B. Store materials in a clean dry area in accordance with manufacturer's instructions.
- C. Protect materials during handling and application to prevent damage or contamination.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Protect membrane from direct sunlight until ready for use. Do not apply membrane when surfaces are frozen.

1.8 WARRANTY

- A. At project closeout, provide to the owner or owners' representative an executed copy of the manufacturer's Limited Warranty against Manufacturing Defects.
 - 1. PERMAFELTSILVER Warranty Duration: Limited Lifetime.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Perma "R" Products, Inc., which is located at: 606 Old Quitman Rd.; Adel, GA 31620; Tel: 229-896-2207; Fax: 229-896-8203; Email: info@permarproducts.com; Web: www.permalinkproducts.com
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 ROOFING UNDERLAYMENT

- A. PermaFeltSilver Roofing Underlayment: Prepared roofing shingle underlayment as manufactured by Perma "R" Products, Inc. for use in the installation of Class A asphalt glass fiber shingles and Class C asphalt organic felt shingles.
 - 1. Description: Synthetic underlayment constructed of high-woven fabric, polypropylene, coated on both sides with a specially formulated anti-slip walking surface that is 100 percent asphalt free.
 - 2. Compliance:
 - a. Meets ASTM D 226, Warnock Hersey
 - b. Class A Fire (3-tab shingles) Pass: ASTM E 108, UL 790, UBC 1-2
 - c. Water Transmission Pass: ASTM D4869.
 - d. Tensile Strength ASTM D 5034.
 - 1) MD: 94.
 - 2) CD: 93.
 - e. Tear Strength: ASTM D 4533.
 - 1) MD: 33.
 - 2) CD: 30.
 - f. Pliability Pass: ASTM D 226, AC 48 Sec. 4.3.
 - g. Water Ponding: Pass, ASTM D 4869, AC 48 Sec. 4.4.
 - h. UV Weathering – 6 month exposure.
 - 3. Weight Per Square: 2.8 lbs. (1.27 kg).
 - 4. Roll Width: 48 inches (1219 mm).
 - 5. Roll Length: 250 feet (76.2 m)
- B. Roofing Cement: Low solvent, asbestos free, plastic roofing cement meeting ASTM D-4586 Type 1, Federal Spec SS-153 Type 1.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Comply with manufacturer's written instructions and recommendations.
- B. Do not begin installation until substrates are within manufacturer's specified tolerances and have been prepared in accordance with manufacturer's instructions.
- C. If substrate preparation is the responsibility of another installer, do not proceed with installation. Notify Architect of unsatisfactory preparation immediately.
- D. Commencement of work is deemed as acceptance of installation conditions.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.

- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Apply roofing underlayment in accordance with manufacturer's instructions for 2:12 and greater slopes, and the following:
 - 1. Install horizontally (parallel to the eave) with printed side up.
 - 2. For vertical laps, overlap seams a minimum of 4 inches (102 mm).
 - 3. For horizontal laps, overlap seams a minimum of 6 inches (152 mm).
 - 4. On roof slopes less than 2:12 to 4:12, follow the codes for low slope applications.
 - 5. Attach roofing underlayment to the roof using nails or staples having a 1/4 inch (25 mm) diameter plastic cap or tin cap. Spacing shall be at 6 inches (15 cm) on center at both head and end laps and 12 inches (30cm) in the center field at the preprinted markings for normal wind zones.
 - 6. In high wind zones and coastal areas, fasten roofing underlayment at 4 inches (10 cm) on center at both head and end laps and 12 inches (30cm) in the center field.
 - 7. Final roof covering is to be installed immediately if staples without caps are used. Pneumatic staple guns can be used being cautious not to overdrive fastener.
 - 8. Where seams and joints require the use of sealant or adhesives, use a high quality, low solvent, asbestos free, plastic roofing cement specified and consult manufacturer's installation instructions.

3.4 PROTECTION

- A. Protect installed product and finish surfaces from damage during construction until completion of project.
- B. Touch-up, repair or replace damaged products and finishes before Substantial Completion.

END OF SECTION