

SECTION 07311

ASPHALT SHINGLES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes asphalt shingles for steep roofs.

1.2 SUBMITTALS

- A. Product Data: Provide for each type of product specified, including details of construction relative to materials, dimensions of individual components, profiles, textures, and colors.
- B. Samples: Submit for selection in the form of manufacturer's sample finishes showing the full range of colors and profiles available for each type of asphalt shingle indicated.
- C. LEED Submittals:
 - 1. Product Test Reports for Credit SS 7.2: For roof materials, documentation indicating that roof materials comply with Solar Reflectance Index requirement.
 - 2. Credit MR 2.1 and 2.2: Comply with Division 1 Section "Construction Waste Management."
 - 3. Product Data for Credit MR 4.1 and Credit MR 4.2: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content.
 - a. Include statement indicating costs for each product having recycled content.
 - 4. Credit MR 5.1: Product Data indicating location of material manufacturer for regionally manufactured materials.
 - a. Include statement indicating cost and distance from manufacturer to Project for each regionally manufactured material.

1.3 QUALITY ASSURANCE

- A. Fire-Test-Response Classification: Where products with a fire-test-response classification are specified, provide asphalt shingles identical to those tested according to ASTM E 108 or UL 790 and listed by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify each bundle of asphalt shingles with appropriate markings indicating fire-test-response classification of applicable testing and inspecting agency.
- B. Wind-Resistance-Test Characteristics: Where wind-resistant asphalt shingles are indicated, provide products identical to those tested according to ASTM D 3161 or UL 997 and passed. Identify each bundle of asphalt shingles with appropriate markings of applicable testing and inspecting agency.

1.4 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Special Warranty: Submit a written warranty signed by manufacturer agreeing to repair or replace asphalt shingles that fail in materials or workmanship within the specified warranty period. Failures include, but are not limited to, deformation or deterioration of asphalt shingles beyond normal weathering.
 - 1. Warranty Period: Manufacturer's standard but not less than 30 years after date of Substantial Completion.

1.5 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels clearly describing contents.
 - 1. Furnish 1 square (9.29 sq. m) coverage of asphalt shingles, identical to those to be installed, in unbroken bundles.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering asphalt shingles that may be incorporated in the Work include, but are not limited to, the following:
 - 1. ELK Prestique Cool Color series with 40 year limited warranty.
- B. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:
 - 1. Ridge Vents:
 - a. Ridge Filter Shinglevent; Air Vent, Inc.
 - b. Ridge Filtervent; Air Vent, Inc. (for Class A).
 - c. Cobra Ridge Vent; GAF Building Materials Corporation.
 - d. Roll Vent; Obdyke: Benjamin Obdyke, Inc.
 - e. Trimline; Trimline Roof Ventilation Systems.
 - 2. Waterproof Underlayment:
 - a. Bituthene Ice and Water Shield; Grace: W.R. Grace & Co.

2.2 ASPHALT SHINGLES

- A. Colors, Blends, and Patterns: Where manufacturer's standard products are indicated, provide asphalt shingles with the following requirements:
 - 1. Provide Architect's selections from manufacturer's full range of colors, textures, and patterns for asphalt shingles of type indicated.

- B. Three-Dimensional, Fiberglass, Laminated Strip Shingles: Mineral-surfaced, self-sealing, laminated, multi-ply overlay construction, fiberglass-based, strip asphalt shingles, complying with both ASTM D 3018, Type I, and ASTM D 3462. Provide shingles with a Class A fire-test-response classification that pass the wind-resistance-test requirements of ASTM D 3161.
- C. Hip and Ridge Shingles: Manufacturer's standard, factory-precut units to match asphalt shingles.

2.3 METAL TRIM AND FLASHING

- A. Sheet Metal Materials: Refer to Division 7 Section "Sheet Metal Flashing and Trim."
- B. Vent Pipe Flashing: Pipes penetrating shingled roofs shall be ARFCO self-sealing neoprene collar with copper flange.

2.4 ACCESSORIES

- A. Felt Underlayment: Type I, 36-inch- (914-mm-) wide, asphalt-saturated organic felt, complying with ASTM D 226 (No. 15) or ASTM D 4869.
- B. Waterproof Underlayment: Minimum 40-mil- (1-mm-) thick, self-adhering, polymer-modified, bituminous sheet membrane, complying with ASTM D 1970. Provide primer when recommended by underlayment manufacturer.
- C. Ridge Vent: High-density polypropylene, nonwoven modified polyester, or other UV-stabilized plastic designed to be installed under asphalt shingles at ridge.
- D. Asphalt Plastic Cement: Nonasbestos fibrated asphalt cement, complying with ASTM D 4586.
- E. Roll-Roofing Lap Cement: Nonasbestos asphalt lap cement, complying with ASTM D 3019, Type III.
- F. Nails: Aluminum or hot-dip galvanized steel, 0.120-inch- (3-mm-) diameter barbed shank, sharp-pointed, conventional roofing nails with a minimum 3/8-inch- (9.5-mm-) diameter head and of sufficient length to penetrate 3/4 inch (19 mm) into solid decking or at least 1/8 inch (3 mm) through plywood sheathing.
 - 1. Where nails are in contact with flashing, prevent galvanic action by providing nails made from the same metal as that of the flashing.
- G. Staples: Not allowed.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Comply with manufacturer's instructions and recommendations but not less than those recommended by ARMA's "Residential Asphalt Roofing Manual" or "The NRCA Steep Roofing Manual."
 - 1. Fasten asphalt shingles, by hand only, to roof sheathing with nails.

- B. Felt Underlayment: Apply 1 layer of felt underlayment horizontally over entire surface to receive asphalt shingles, lapping succeeding courses a minimum of 2 inches (50 mm), end laps a minimum of 4 inches (100 mm), and hips and valleys a minimum of 6 inches (150 mm). Fasten felt with sufficient number of roofing nails or noncorrosive staples to hold underlayment in place until asphalt shingle installation.
 - 1. Apply an additional layer of felt underlayment on roof decks with a slope of 2 to 4 inches per foot (1:6 to 1:3).
 - 2. Omit felt underlayment at areas of waterproof underlayment. Lap felt underlayment over waterproof underlayment as recommended by manufacturer but not less than 2 inches (50 mm).
- C. Waterproof Underlayment: Apply waterproof underlayment at eaves. Cover deck from eaves to at least 24 inches (600 mm) inside exterior wall line.
 - 1. In addition to eaves, apply waterproof underlayment in place of felt underlayment at valleys.
- D. Underlayment at Closed Valleys: Center a 36-inch- (900-mm-) wide felt underlayment in valley and secure with only enough nails to hold in place until asphalt shingles are installed. Lap roof underlayment over valley underlayment at least 6 inches (150 mm).
- E. Woven Valleys: Comply with ARMA and NRCA recommendations.
- F. Flashing: Install metal flashing and trim as indicated and according to details and recommendations of the "Asphalt Roofing" section of "The NRCA Steep Roofing Manual" and ARMA's "Residential Asphalt Roofing Manual."
- G. Install asphalt shingles, beginning at roof's lower edge, with a starter strip of roll roofing or inverted asphalt shingles with tabs removed. Fasten asphalt shingles in the desired weather exposure pattern; use number of fasteners per shingle as recommended by manufacturer. Use vertical and horizontal chalk lines to ensure straight coursing.
 - 1. Cut and fit asphalt shingles at valleys, ridges, and edges to provide maximum weather protection. Provide same weather exposure at ridges as specified for roof. Lap asphalt shingles at ridges to shed water away from direction of prevailing wind.
 - 2. Use fasteners at ridges of sufficient length to penetrate sheathing as specified.
 - 3. Pattern: 1/2 shingle spacing offset at succeeding courses.
- H. Ridge Vents: Install ridge vents according to manufacturer's instructions.

3.2 ADJUSTING

- A. Replace any damaged materials installed under this Section with new materials that meet specified requirements.

END OF SECTION