

SECTION 07311 - ASPHALT SHINGLES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes asphalt shingles for steep roofs.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 6 Section "Rough Carpentry" for wood sheathing and framing.
 - 2. Division 7 Section "Sheet Metal Flashing and Trim" for metal valley flashing, step flashing, drip edges, and other sheet metal work.

1.03 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Product data for each type of product specified, including details of construction relative to materials, dimensions of individual components, profiles, textures, and colors.
- C. Samples for initial 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.

1.04 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.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in manufacturer's unopened bundles or containers with labels intact.
- B. Handle and store materials at Project site to prevent water damage, staining, or other physical damage. Store roll goods on end. Comply with manufacturer's recommendations for job-site storage, handling, and protection.

1.06 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installing asphalt shingles only when existing and forecasted weather conditions will permit work to be performed according to manufacturers' recommendations and warranty requirements, and when substrate is completely dry.

1.07 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 25 years after date of Substantial Completion.
 - 2. Roofing Contractor shall provide a three year labor/workmanship warranty after the date of substantial completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide asphalt shingles produced by the following:
 - 1. Owens Corning, Supreme, Certainteed, GAF or approved equal
- 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: Owens Corning: VentSure or approved equal.

2.02 ASPHALT SHINGLES

- A. Colors, Blends, and Patterns: Where manufacturer's standard products are indicated, provide asphalt shingles with the following requirements:
 - 1. Match colors, textures, and patterns indicated by referencing manufacturer's standard designations for these characteristics.
 - 2. Colors: "Onyx Black" and "Brownwood" as directed by Owner.
- B. Square-Tab, Fiberglass Strip Shingles: Mineral-surfaced, self-sealing, 3-tab, 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.
 - 1. Fungus Resistant: Provide shingles that have been surface treated to remain free of fungus and algae growth, which adversely affects the appearance of the roof, for at least 5 years.
- C. Hip and Ridge Shingles: Job-fabricated units cut from actual asphalt shingles used.

2.03 METAL TRIM AND FLASHING

- A. Sheet Metal Materials: Furnish the following sheet metal materials:
 - 1. Aluminum Sheets: ASTM B 209 (ASTM B 209M), alloy 3003 H14 with mill finish, minimum 0.024 inch (0.6 mm) thick, unless otherwise indicated.
- B. Metal Drip Edge: Brake-formed sheet metal with at least a 2-inch (50-mm) roof deck flange and a 1-1/2-inch (38-mm) fascia flange with a 3/8-inch (9.6-mm) drip at lower edge. Furnish the following material in lengths of 8 or 10 feet (2.5 to 3 m).
 - 1. Material: Aluminum sheets.
 - 2. Material: Galvanized-steel sheets.

- C. Metal Flashing: Job-cut to sizes and configurations required.
 - 1. Material: Aluminum sheets.
- D. Vent Pipe Flashing: Vent Pipe Flashing: Rubber/Plastic manufactured by Oatey or equal.

2.04 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. Ridge Vent: High-density polypropylene, nonwoven modified polyester, or other UV-stabilized plastic designed to be installed under asphalt shingles at ridge. Provide vents with a minimum net free venting area of 17.0 sq. ins. per linear foot.
- C. Asphalt Plastic Cement: Nonasbestos fibrated asphalt cement, complying with ASTM D 4586.
- D. 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.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine substrate for compliance with requirements for substrates, installation tolerances, and other conditions affecting performance of asphalt shingles. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Clean substrates of projections and substances detrimental to application. Cover knotholes or other minor voids in substrate with sheet metal flashing secured with noncorrosive roofing nails.
- B. Coordinate installation with flashings and other adjoining work to ensure proper sequencing. Do not install roofing materials until all vent stacks and other penetrations through roof sheathing have been installed and are securely fastened against movement.

3.03 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 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).

- C. 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."
- D. 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: 1/3 shingle spacing offset at succeeding courses.
- E. Ridge Vents: Install ridge vents according to manufacturer's instructions.

3.04 ADJUSTING

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

END OF SECTION 07311

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