

SECTION 07 3110 - ASPHALT SHINGLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Asphalt shingles.
 - 2. Felt underlayment.
 - 3. Ice Shield (Waterproof Underlayment)
 - 4. Gutters and Downspouts

1.3 SUBMITTALS

- A. Product Data: For each product indicated.
- B. Samples: For asphalt shingles, felt and waterproof underlayment.
- C. Product test reports.
- D. Research/evaluation reports.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain ridge and hip cap shingles felt underlayment through one source from a single asphalt shingle manufacturer.
- B. Fire-Test-Response Characteristics: Provide asphalt shingle and related roofing materials with the fire-test-response characteristics indicated, as determined by testing identical products per test method below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.
 - 1. Exterior Fire-Test Exposure: Class A; ASTM E 108 or UL 790, for application and roof slopes indicated.

1.5 WARRANTY

- A. Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace asphalt shingles that fail in materials within specified warranty period.
 - 1. Material Warranty Period: 30 years from date of Substantial Completion.
 - 2. Algae-Discoloration Warranty Period: Asphalt shingles will not discolor five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.
 - 2. Products: Subject to compliance with requirements, provide one of the products specified.

2.2 GLASS-FIBER-REINFORCED ASPHALT SHINGLES

- A. Architectural-Strip Asphalt Shingles: ASTM D 3462, glass-fiber reinforced, mineral-granule surfaced, and self-sealing. Class A rating Timberline "Ultra", Super Heavyweight Design.
 - 1. Other Acceptable Manufacturers when meeting or exceeding specs:
 - a. CertainTeed Corporation;
 - b. Owens-Corning Corp.
 - c. Georgia-Pacific Corporation;
- B. Hip and Ridge Shingles: Manufacturer's standard units to match asphalt shingles. Trim each side of lapped portion of unit to taper approximately 1 inch (25 mm).

2.3 UNDERLAYMENT MATERIALS

- A. Felts: ASTM D 226, Type I asphalt-saturated organic felts, nonperforated.
- B. Waterproof Underlayment:
 - 1. Winterguard; CertainTeed Corporation.
 - 2. Bituthene Ice and Water Shield; Grade: W.R. Grace and Co.
 - 3. Nordshield Ice and WaterGard; Nord Bitumi US, Inc.

4. Polyguard Deck Guard; Polyguard Products, Inc.

5. Moisture Guard; Tamko Asphalt Products, Inc.

2.4 ACCESSORIES

- A. Asphalt Roofing Cement: ASTM D 4586, Type II, asbestos free.
- B. Roofing Nails: ASTM F 1667; aluminum, stainless-steel, copper, or hot-dip galvanized steel wire shingle nails, minimum 0.120-inch- (3-mm-) diameter smooth shank, sharp-pointed, with a minimum 3/8-inch- (9.5-mm-) diameter flat head and of sufficient length to penetrate 3/4 inch (19 mm) into solid wood decking or extend at least 1/8 inch (3 mm) through OSB or plywood sheathing.
 - 1. Where nails are in contact with metal flashing, use nails made from same metal as flashing.
- C. Felt Underlayment Nails: Aluminum, stainless-steel, or hot-dip galvanized steel wire with low profile capped heads or disc caps, 1-inch (25-mm) minimum diameter.
- D. 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.
- E. Gutters and Downspouts: Manufactured formed gutter in uniform section lengths not exceeding 12 feet (3.6m), with mitered and welded or soldered corner units, end caps, outlet tubes, and other accessories. Elevate back edge at least 1 inch (25 mm) above front gutter rim. Furnish with flat-stock gutter straps and gutter support brackets and expansion joints and expansion-joint covers fabricated from same metal as gutters.
 - 1. Fabricate gutter from the following exposed metal:
 - a. Aluminum: 0.063 inch (1.6 mm).
 - 2. Gutter style: As shown on drawings, according to SMACNA's "Architectural Sheet Metal Manual".
 - 3. Applied Fascia Cover: Exposed, formed aluminum, 0.040 inch (1 mm) thick, with mitered corners, end caps, and concealed splice joints.
 - 4. Downspouts: Rectangular closed-face with mitered elbows, manufactured from the following exposed metal. Furnish wall brackets, from same material and finish as downspouts, with anchors.
 - a. Formed Aluminum: 0.063 inch (1.6 mm) thick.

PART 3 - EXECUTION

3.1 UNDERLAYMENT INSTALLATION

- A. Single-Layer Felt Underlayment: Install single layer of felt underlayment on roof deck perpendicular to roof slope in parallel courses. Lap sides a minimum of 2 inches (50 mm) over underlying course. Lap ends a minimum of 4 inches (100 mm). Stagger end laps between succeeding courses at least 72 inches (1830 mm). Fasten with roofing nails.
 - 1. Install felt underlayment on roof deck not covered by self-adhering sheet underlayment. Lap sides of felt over self-adhering sheet underlayment not less than 3 inches (75 mm) in direction to shed water. Lap ends of felt not less than 6 inches (150 mm) over self-adhering sheet underlayment.
 - a. Omit felt underlayment at areas of waterproof underlayment. Lap felt underlayment over waterproof underlayment as recommended by manufacturer but not less than 2 inches.
 - 2. Provide ice shields as per manufacturers recommendations.
- B. Waterproof Underlayment: Apply waterproof. At eaves and valleys. Cover deck from eaves to at least 72 inches from the roof edge.
 - 1. In addition to eaves, apply waterproof underlayment in place of felt underlayment at valleys.

3.2 ASPHALT SHINGLE INSTALLATION

- A. Install asphalt shingles according to manufacturer's written instructions, recommendations in ARMA's "Residential Asphalt Roofing Manual," and asphalt shingle recommendations in NRCA's "The NRCA Roofing and Waterproofing Manual."
- B. Install starter strip along lowest roof edge, consisting of an asphalt shingle strip at least 7 inches (175 mm) wide with self-sealing strip face up at roof edge.
 - 1. Extend asphalt shingles 1/2 inch (13 mm) over fascia at eaves and rakes.
- C. Install first and remaining courses of asphalt shingles stair-stepping diagonally across roof deck with manufacturer's recommended offset pattern at succeeding courses, maintaining uniform exposure.
- D. Fasten asphalt shingle strips with a minimum of five roofing nails located according to manufacturer's written instructions.
- E. Closed-Cut Valleys: Extend asphalt shingle strips from one side of valley [12 inches (300 mm)] beyond center of valley. Use one-piece shingle strips without joints in the valley. Fasten with extra nail in upper end of shingle. Install asphalt shingle courses from other side of valley and cut back to a straight line 2 inches (50 mm) short of valley centerline. Trim upper concealed corners of cut-back shingle strips.
 - 1. Do not nail asphalt shingles within 6 inches (150 mm) of valley center.

2. Set trimmed, concealed-corner asphalt shingles in a 3-inch- (75-mm-) wide bed of asphalt roofing cement.
- F. Ridge and Hip Cap Shingles: Maintain same exposure of cap shingles as roofing shingle exposure. Lap cap shingles at ridges to shed water away from direction of prevailing winds. Fasten with roofing nails of sufficient length to penetrate sheathing.

END OF SECTION 07311