

**SECTION 07 31 13
ASPHALT SHINGLES**

PART 1 - GENERAL

1.1 DESCRIPTION

This section specifies organic felt and fiberglass asphalt shingles.

1.2 RELATED WORK

- A. Color of shingles: Section 09 06 00, SCHEDULE FOR FINISHES.
- B. Counterflashing and flashing of roof projections: Section 07 60 00, FLASHING AND SHEET METAL.
- C. Skylights, roof scuttles, ridge and roof vents, Section 07 71 00, ROOF SPECIALTIES.

1.3 SUMMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Samples: Shingles, each type, color and texture.
- C. Manufacturer's Literature and Data:
 - 1. Shingles, each type
 - 2. Installation instructions

1.4 DELIVERY AND STORAGE

- A. Deliver materials in manufacturer's unopened bundles or containers with the manufacturer's brand and name clearly marked thereon.
- B. Shingle bundle wrapping shall bear the label of Underwriters Laboratories, Inc.
- C. Store shingles in accordance with manufacturer's printed instructions. Store roll goods on end in an upright position.
- D. Keep materials dry, covered completely and protected from the weather.

1.5 APPLICABLE PUBLICATIONS

- A. Publications listed below form a part of this specification to the extent referenced. Publications are referenced in the text by the basic designation only.
- B. American Society for Testing and Materials (ASTM):
 - D226-09.....Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing
 - D1970-11.....Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection

- D2178-04.....Asphalt Glass Felt used in Roofing and
Waterproofing
- D3018-11.....Class A Asphalt Shingles Surfaced with Mineral
Granules
- D3462-10.....Asphalt, Shingles Made from Glass Felt and
Surfaced with Mineral Granules
- F1667-11.....Driven Fasteners: Nails, Spikes, and Staples
- C. Underwriter's Laboratories Inc. (UL):
- UL790-08.....Fire Tests of Roof Covering

PART 2 - PRODUCTS

2.1 SHINGLES

- A. Class A: (Fire resistive), per UL790. ASTM D3018, Type I and ASTM 3462, square butt for a maximum exposure of 125 mm (5 inches), headlap minimum 50 mm (2 inches), wind resistant, self sealing. Minimum weight: 10.3 Kg/sqm (210 lbs/100sft).

2.2 ROOFING NAILS

- A. ASTM F1667; Type I, Style 20, galvanized steel, deformed shanks, with heads 9.5 mm to 11 mm (3/8-inch to 7/16-inch) diameter.
- B. Use nails 32 mm (1-1/4 inches) long for shingles and 19 mm (3/4-inch long) for felt.

2.3 ROOFING FELT

- A. Fiberglass Felt: ASTM D2178.
- B. Organic Felt: ASTM D226, TYPE 1.
- C. Modified bitumen; ASTM D 1970.

PART 3 EXECUTION

3.1 PREPARATION

- A. Roof surfaces shall be sound, reasonably smooth and free from defects which would interfere with roofing installation.
- B. Roof accessories, vent pipes and other projections through the roof must be in place and roof flashing installed or ready for installation before laying shingles.

3.2 LAYING

- A. Lay felt under shingles over entire roof.
- B. Install asphalt felt underlayment, lapping a minimum of 100 mm (four inches) at ends, 50 mm (2 inches) at head and 300 mm (12 inches) over ridge. Extend felt 13 mm (1/2-inch) beyond edges of roof. Nail felt 125 mm (five inches) on centers along laps.

- C. At eaves, install strip of 41 Kg (90 pound) mineral surface roll roofing not less than 460 mm (18 inches) wide and starter course of roof shingles with tabs reversed. Both shall overhang lower edge of roof 13 mm (1/2-inch).
- D. Lay shingles with maximum exposure of 125 mm (5 inches). Nail shingles in accordance with manufacturer's published directions.

3.3 METAL DRIP EDGES

- A. At rakes, install metal drip edges made of aluminum specified under Section 07 60 00, FLASHING AND SHEET METAL. Apply the metal drip edge directly over the underlayment along the rakes.
- B. Secure metal drip edges with compatible nails spaced not more than 250 mm (10 inches) on center along the inner edges.

3.4 FLASHINGS

Provide metal flashings specified under Section 07 60 00, FLASHING AND SHEET METAL at the intersections of roofs, adjoining walls, or projections through the deck such as chimneys and vent stacks. Give careful attention to the installation of all flashings.

3.5 RIDGE

- A. Bend each shingle lengthwise down center to provide equal exposure on each side of ridge. Beginning at one end of ridge, apply shingles with maximum 125 mm (5 inches) exposure.
- B. Secure each shingle with one nail on each side, 210 mm (8-1/2 inches) back from exposed end and one inch up from edge.

3.6 VALLEY FLASHING

- A. Install metal valley flashing shown and as specified under Section 07 60 00, FLASHING AND SHEET METAL.
- B. Secure valley flashing in accordance with shingle manufacturer's printed instructions.
- C. Expose flashing in open portion of valley a minimum of 125 mm (5 inches) and lap the shingles over the flashing a minimum of 125 mm (5 inches).

3.7 ROOF ACCESSORIES

- A. Install roof scuttles, ridge and roof vents, as specified under Section 07 71 00, ROOF ACCESSORIES prior to placing shingles.
- B. Lap shingles over the accessories flashing a minimum of 125 mm (5 inches).

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