

SECTION 07311 - ASPHALT SHINGLES

PART 1 - GENERAL

SUMMARY

This Section includes asphalt shingles for steep roofs.

SUBMITTALS

Product Data: For each product indicated.

Samples: Two full-size units for each asphalt shingle indicated and for each color and texture required.

QUALITY ASSURANCE

Fire-Test-Exposure Classification: Identify each bundle of shingles or shakes with appropriate markings indicating fire-test-exposure classification of testing and inspecting agency acceptable to authorities having jurisdiction.

Wind-Resistance-Test Characteristics: Identify each bundle of asphalt shingles with appropriate markings indicating wind-resistance-test characteristics determined by a qualified testing and inspecting agency.

WARRANTY

Special Warranty: Manufacturer's standard form in which manufacturer agrees to furnish replacement shingles or refund pro-rata portion of amount originally paid for shingles that fail due to original product defects within 20 years from date of Substantial Completion. Failures include, but are not limited to, leaks or deformation or deterioration of asphalt shingles beyond normal weathering.

PART 2 - PRODUCTS

ASPHALT SINGLES

Colors, Blends, and Patterns: Match existing as much as possible.

Fungus Resistance: Provide asphalt shingles surface treated to remain free of fungus and algae growth, which adversely affects appearance of roof, for at least five years.

Square-Tab, Fiberglass Strip Shingles: ASTM D 3018, Type I, mineral surfaced, self-sealing, three tab, fiberglass based.

Wind Resistance: Passes requirements in ASTM D 3161.

Fire-Test-Response Classification: Class **A**.

Testing Standard: **UL 790**.

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Hip and Ridge Shingles: Job-fabricated cut from actual asphalt shingles used.

METAL TRIM AND FLASHING

Sheet Metal Materials:

Aluminum: **ASTM B 209 (ASTM B 209M)**, alloy 3003-H14 with mill finish, minimum **0.024 inch (0.6 mm)** thick, unless otherwise indicated.

Metal Drip Edge: Brake-formed sheet metal with at least **2-inch (50-mm)** roof deck flange and **1-1/2-inch (38-mm)** fascia flange with **3/8-inch (9.6-mm)** drip at lower edge. Furnish in lengths of **8 or 10 feet (2.5 or 3 m)**.

Material: Aluminum.

Metal Flashing: Job-cut to sizes and configurations required.

Material: Aluminum.

Vent Pipe Flashing: Lead, ASTM B 749, Type L51121, at least **1/16 inch (1.6 mm)** thick, unless otherwise indicated. Provide lead sleeve sized to slip over and turn down into pipe, soldered to skirt at slope of roof extending at least **4 inches (100 mm)** from pipe onto roof.

ACCESSORIES

Felt Underlayment: ASTM D 226 or ASTM D 4869, Type I (No. 15), **36-inch- (914-mm-)** wide, asphalt-saturated organic felt.

Waterproof Underlayment: ASTM D 1970, minimum **40-mil- (1-mm-)** thick, self-adhering, polymer-modified, bituminous sheet membrane. Provide primer when recommended by underlayment manufacturer.

Ridge Vent: High-density polypropylene, nonwoven modified polyester, or other UV-stabilized plastic designed to be installed under asphalt shingles at ridge.

Products: Subject to compliance with requirements, provide one of the following:

Air Vent, Inc.; [Ridge Filter Shinglevent] [Ridge Filtervent (for Class A)].
GAF Building Materials Corporation; Cobra Ridge Vent.
Obdyke, Benjamin, Inc.; Roll Vent.
Trimline Roof Ventilation Systems; Trimline.

Nails: Aluminum or hot-dip galvanized steel, **0.120-inch- (3-mm-)** diameter barbed shank, sharp-pointed, conventional roofing nails with 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.

Where nails are in contact with flashing, prevent galvanic action by providing nails made from the same metal as that of flashing.

PART 3 - EXECUTION

PREPARATION

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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.

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.

INSTALLATION

General: Comply with manufacturer's written instructions and recommendations but not less than those recommended by ARMA's "Residential Asphalt Roofing Manual" or NRCA's "The NRCA Steep Roofing Manual."

Proceed with installing asphalt shingles only when existing and forecasted weather conditions will permit work to be performed according to manufacturers' written recommendations and warranty requirements, and when substrate is completely dry.
Fasten asphalt shingles to roof sheathing with nails.

Felt Underlayment: Apply 1 layer of felt underlayment horizontally over entire surface to receive asphalt shingles, lapping succeeding courses minimum of **2 inches (50 mm)**, end laps minimum of **4 inches (100 mm)**, and hips and valleys minimum of **6 inches (150 mm)**. Secure felt with sufficient number of fasteners to hold underlayment in place until asphalt shingle installation.

Apply additional layer of felt underlayment on roof decks with slope of **2 to 4 inches per foot (1:6 to 1:3)**.

Omit felt underlayment at areas of waterproof underlayment. Lap felt underlayment over waterproof underlayment as recommended in writing by manufacturer but not less than **2 inches (50 mm)**.

Waterproof Underlayment: Apply waterproof underlayment at eaves. Cover deck from eaves to at least **24 inches (600 mm)** inside exterior wall line.

In addition to eaves, apply waterproof underlayment in place of felt underlayment at valleys.

Underlayment at Closed Valleys: Center **36-inch- (900-mm-)** wide felt underlayment in valley and secure with only enough fasteners to hold in place until asphalt shingles are installed. Lap roof underlayment over valley underlayment at least **6 inches (150 mm)**.

Woven and Closed-Cut Valleys: Comply with ARMA and NRCA recommendations.

Flashing: Install metal flashing and trim as indicated and according to details and recommendations in NRCA's "The NRCA Steep Roofing Manual," "Asphalt Roofing" Section, and in ARMA's "Residential Asphalt Roofing Manual."

Install asphalt shingles, beginning at roof's lower edge, with starter strip of roll roofing or inverted asphalt shingles with tabs removed. Fasten asphalt shingles in desired weather exposure pattern; use number of fasteners per shingle as recommended by manufacturer. Use vertical and horizontal chalk lines to ensure straight coursing.

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.

Use fasteners at ridges of sufficient length to penetrate sheathing as specified.

Pattern: 1/2 shingle spacing, **5-inch (125-mm)** offset at succeeding courses.

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Ridge Vents: Install according to manufacturer's written instructions.

END OF SECTION 07311