

SECTION 07311

ASPHALT SHINGLE ROOFING SYSTEM

PART GENERAL

SECTION INCLUDES

Granule surfaced asphalt shingle roofing.

Moisture shedding underlayment, eave, valley and ridge protection.

Associated metal flashing.

RELATED SECTIONS

Section 06100 - Rough Carpentry: Plywood Roof Sheathing.

Section 06150 - Wood Decking.

Section 07260 - Vapor Retarders.

Section ____ - _____: Attic space ventilation.

Section 07600 - Flashing and Sheet Metal.

Section 08620 - Unit Skylights.

Section ____ - _____: Chimney Flue.

REFERENCES

ASTM A 653/A 653M - Standard Specification for Steel Sheets, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

ASTM B 370 - Standard Specification for Copper Sheet and Strip for Building Construction.

ASTM D 224 - Standard Specification for Smooth-Surfaced Asphalt Roll Roofing (Organic Felt).

ASTM D 225 - Standard Specification for Asphalt Shingles (Organic Felt) Surfaced with Mineral Granules.

ASTM D 1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.

ASTM D 3018 - Standard Specification for Class A Shingles Surfaced with Mineral Granules.

ASTM D 3161 - Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan-Induced Method).

ASTM D 3462 - Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules.

ASTM D 4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free.

ASTM D 4869 - Standard Specification for Asphalt-Saturated Organic Felt Shingle Underlayment Used in Roofing.

ASTM E 108 - Standard Test Methods for Fire Tests of Roof Coverings.

SUBMITTALS

Submit under provisions of Section 01300.

Product Data: Provide manufacturer's printed product information indicating material characteristics, performance criteria, and product limitations.

Manufacturer's Installation Instructions: Provide published instructions that indicate preparation required and installation procedures.

Certificate of Compliance: Provide Certificate of Compliance from an independent laboratory indicating that the asphalt fiberglass shingles made in normal production meet or exceed the requirements of the following:

ASTM E 108/UL 790 Class A Fire Resistance.

ASTM D 3161/UL 997 Type I Wind Resistance.

ASTM D 3462.

Shop Drawings: Indicate specially configured metal flashing,

jointing methods and locations, fastening methods and locations, and installation details, as required by project conditions indicated.

QUALITY ASSURANCE

Maintain one copy of manufacturer's application instructions on project site.

Verify that manufacturer's label contains reference to specified ASTM standards.

ENVIRONMENTAL REQUIREMENTS

Take special care when applying WinterGuard Shingle Underlayment and shingles when ambient and wind chill temperatures are below 45 degrees F (7 degrees C). Tack WinterGuard in place if it does not adhere immediately to the deck.

EXTRA MATERIALS

Furnish under provisions of section 01700.

Provide ____ square feet (____ sq m) of extra shingles of each color specified.

WARRANTY

Manufacturer's Warranty: Furnish shingle manufacturer's warranty for products of this section as follows:

- CertainTeed XT 25: 25 year warranty.
- CertainTeed XT 30: 30 year warranty.
- CertainTeed Hearthstead: 25 year warranty.
- CertainTeed Classic Horizon: 25 year warranty.
- CertainTeed New Horizon: 25 year warranty.
- CertainTeed Highlands: 25 year warranty.
- CertainTeed Custom Sealdon 30: 30 year warranty.
- CertainTeed Landmark 40: 40 year warranty.
- CertainTeed Landmark 30: 30 year warranty.
- CertainTeed Landmark 25: 25 year warranty.
- CertainTeed Independence: 40 year warranty.
- CertainTeed Hallmark: 30 year warranty.
- CertainTeed Carriage House: Lifetime warranty.
- CertainTeed Grand Manor: Lifetime warranty.

Warranty Supplement: Provide manufacturer's supplemental ("CertainTeed SureStart") warranty to cover labor and materials in

the event of a material defect for the following period after completion of application of shingles:

First five years.

First seven years (Carriage House).

First ten years (Grand Manor).

Warranty Transferability Clause: Make available to Owner shingle manufacturer's standard option for transferring warranty to a new owner.

PART PRODUCTS

MANUFACTURER

Provide products manufactured by CertainTeed Corporation, Architectural Support Group; P.O. Box 860, Valley Forge PA 19482; ASD. Tel. (800) 233-8990, Fax. (610) 341-7940.

Substitutions Not permitted.

ASPHALT FIBERGLASS SHINGLES

CertainTeed XT 25: Conforming to ASTM D 3018 Type I - Self-Sealing; UL Certification of ASTM D 3462, UL 997 Wind Resistance, and UL Class A Fire Resistance; glass fiber mat base, ceramically colored/UV resistant mineral surface granules across entire face of shingle, square three-tab type.

Weight: 225 pounds per square (100 square feet) (11 kg/sq m).

Weight: 230 pounds per square (100 square feet) (11.2 kg/sq m).

Color: _____.

Color: As selected by Architect from manufacturer's standards.

CertainTeed XT 30: Conforming to ASTM D 3018 Type I - Self-Sealing; UL Certification of ASTM D 3462, UL 997 Wind Resistance, and UL Class A Fire Resistance; glass fiber mat base, ceramically colored/UV resistant mineral surface granules across entire face of shingle, square three-tab type.

Weight: 250 pounds per square (100 square feet) (12.2 kg/sq m).

Weight: 245 pounds per square (100 square feet) (11.9 kg/sq m).

Color: _____.

Color: As selected by Architect from manufacturer's standards.

CertainTeed Classic Horizon: Conforming to ASTM D 3018 Type I - Self-Sealing; UL Certification of ASTM D 3462, UL 997 Wind Resistance, and UL Class A Fire Resistance; glass fiber mat base, ceramically colored/UV resistant mineral surface granules across entire face of shingle, square three-tab type with random shadow line.

Weight: 240 pounds per square (100 square feet) (11.7 kg/sq m).

Color: _____.

Color: As selected by Architect from manufacturer's standards.

CertainTeed New Horizon: Conforming to ASTM D 3018 Type I - Self-Sealing; UL Certification of ASTM D 3462, UL 997 Wind Resistance, and UL Class A Fire Resistance; glass fiber mat base, ceramically colored/UV resistant mineral surface granules across entire face of shingle, no-cut-out design with random shadow line.

Weight: 245 pounds per square (100 square feet) (11.9 kg/sq m).

Weight: 250 pounds per square (100 square feet) (12.2 kg/sq m).

Color: _____.

Color: As selected by Architect from manufacturer's standards.

CertainTeed Highlands: Conforming to ASTM D 3018 Type I - Self-Sealing; UL Certification of ASTM D 3462, UL 997 Wind Resistance, and UL Class A Fire Resistance; glass fiber mat base, ceramically colored/UV resistant mineral surface granules across entire face of shingle, algae-resistant; no-cut-out design with random shadow line.

Weight: 240 pounds per square (100 square feet) (11.1 kg/sq m).

Color: _____.

Color: As selected by Architect from manufacturer's standards.

CertainTeed Landmark 25: Conforming to ASTM D 3018 Type I - Self-Sealing; UL Certification of ASTM D 3462, UL 997 Wind Resistance, and UL Class A Fire Resistance; glass fiber mat base, ceramically colored/UV resistant mineral surface granules across entire face of shingle; two-piece laminated shingle.

Weight: 245 pounds per square (100 square feet) (11.9 kg/sq

m).

Color: _____.

Color: As selected by Architect from manufacturer's standards.

CertainTeed Landmark 30: Conforming to ASTM D 3018 Type I - Self-Sealing; UL Certification of ASTM D 3462, UL 997 Wind Resistance, and UL Class A Fire Resistance; glass fiber mat base, ceramically colored/UV resistant mineral surface granules across entire face of shingle; two-piece laminated shingle.

Weight: 265 pounds per square (100 square feet) (12.9 kg/sq m).

Color: _____.

Color: As selected by Architect from manufacturer's standards.

CertainTeed Landmark 40: Conforming to ASTM D 3018 Type I - Self-Sealing; UL Certification of ASTM D 3462, UL 997 Wind Resistance, and UL Class A Fire Resistance; glass fiber mat base, ceramically colored/UV resistant mineral surface granules across entire face of shingle; two-piece laminated shingle.

Weight: 300 pounds per square (100 square feet) (14.6 kg/sq m).

Color: _____.

Color: As selected by Architect from manufacturer's standards.

CertainTeed Independence: Conforming to ASTM D 3018 Type I - Self-Sealing; UL Certification of ASTM D 3462, UL 997 Wind Resistance, and UL Class A Fire Resistance; glass fiber mat base, ceramically colored/UV resistant mineral surface granules across entire face of shingle; three-tab type with random laminated tabs and random shadow line.

Weight: 300 pounds per square (100 square feet) (14.6 kg/sq m).

Color: _____.

Color: As selected by Architect from manufacturer's standards.

CertainTeed Carriage House: Conforming to ASTM D 3018 Type I - Self-Sealing; UL Certification of ASTM D 3462, UL 997 Wind Resistance, and UL Class A Fire Resistance; glass fiber mat base, ceramically colored/UV resistant mineral surface granules across entire face of shingle, algae-resistant; full two layer laminated four-tab shingle, scallop appearance.

Weight: 355 pounds per square (100 square feet) (17.3 kg/sq

m).

Color: _____.

Color: As selected by Architect from manufacturer's standards.

CertainTeed Grand Manor: Conforming to ASTM D 3018 Type I - Self-Sealing; UL Certification of ASTM D 3462, UL 997 Wind Resistance, and UL Class A Fire Resistance; glass fiber mat base, ceramically colored/UV resistant mineral surface granules across entire face of shingle, algae-resistant; full two layer laminated four-tab shingle, plus additional random tabs.

Weight: 430 pounds per square (100 square feet) (21.0 kg/sq m).

Color: _____.

Color: As selected by Architect from manufacturer's standards.

ASPHALT ORGANIC SHINGLES

CertainTeed Custom Sealdon 30: Conforming to ASTM D 225 Type III - Self-Sealing, UL 997 Wind Resistance, UL Class C Fire Resistance; organic felt base, ceramically colored/UV resistant mineral granules across entire face of shingle, square three-tab type.

Weight: 250 pounds per square (100 square feet) (12.2 kg/sq m).

Color: _____.

Color: As selected by Architect from manufacturer's standards.

CertainTeed Hearthstead: Conforming to ASTM D 225 Type III - Self-Sealing, UL 997 Wind Resistance, UL Class C Fire Resistance; organic felt base, ceramically colored/UV resistant mineral granules across entire face of shingle, square four-tab type with random shadow lines.

Weight: 225 pounds per square (100 square feet) (10.9 kg/sq m).

Color: _____.

Color: As selected by Architect from manufacturer's standards.

CertainTeed Hallmark: Conforming to ASTM D 225 Type III - Self-Sealing, UL 997 Wind Resistance, UL Class C Fire Resistance; organic felt base, ceramically colored/UV resistant mineral granules across entire face of shingle, three-tab type with random laminated tabs, and wood grain appearance across exposed surfaces.

Weight: 325 pounds per square (100 square feet) (15.9 kg/sq m).

Color: _____.

Color: As selected by Architect from manufacturer's standards.

SHEET MATERIALS

Eave Protection: CertainTeed "WinterGuard"; ASTM D 1970 sheet barrier of self-adhering rubberized asphalt membrane shingle underlayment having high traction surface, internal reinforcement, and "split" back plastic release film; provide material with warranty equal in duration to that of shingles being applied.

Underlayment: ASTM D 4869 Type I, asphalt saturated felt.

FLASHING MATERIALS

Sheet Flashing: ASTM A 361/A 361M; 26 gage (0.45 mm) steel with minimum G115/Z350 galvanized coating.

Sheet Flashing: ASTM B 209; 0.025 inch (0.63 mm) thick aluminum, mill finish.

Sheet Flashing: ASTM B 370; cold rolled copper; 16 ounces per square foot (0.55 mm); natural finish.

Bituminous Paint: Acid and alkali resistant type; black color.

Tinners Paint: Color as selected by Architect to coordinate with shingle color.

ACCESSORIES

Nails: Standard round wire type roofing nails, corrosion resistant; hot dipped zinc coated steel, aluminum, or chromated steel; minimum 3/8 inch (9.5 mm) head diameter; minimum 11 or 12 gage (2.5 mm) shank diameter; shank to be of sufficient length to penetrate through roof sheathing or 3/4 inch (19 mm) into solid wood, plywood, or non-veneer wood decking.

Plastic Cement: ASTM D 4586, asphalt roof cement.

FLASHING FABRICATION

Form flashing to profiles indicated on Drawings, and to protect

roofing materials from physical damage and shed water.

Form sections square and accurate to profile, in maximum possible lengths, free from distortion or defects detrimental to appearance or performance.

PART EXECUTION

EXAMINATION

Verify existing site conditions under provisions of Section 01700.

Verify that roof penetrations and plumbing stacks are in place and flashed to deck surface.

Verify roof openings are correctly framed prior to installing work of this section.

Verify deck surfaces are dry and free of ridges, warps, or voids.

ROOF DECK PREPARATION

Follow shingle manufacturer's recommendations for acceptable roof deck materials.

Broom clean deck surfaces under eave protection and underlayment prior to their application.

INSTALLATION - EAVE ICE DAM PROTECTION

Place eave edge and gable edge metal flashing tight with fascia boards. Weather lap joints 2 inches (50 mm). Secure flange with nails spaced 8 inches (200 mm) on center.

Apply CertainTeed "WinterGuard" Waterproofing Shingle Underlayment as eave protection in accordance with manufacturer's instructions.

Extend eave protection membrane minimum 24 inches (610 mm) up slope beyond interior face of exterior wall.

INSTALLATION - PROTECTIVE UNDERLAYMENT

Roof Slope Between 2:12 and 4:12: Apply one layer of "WinterGuard" over areas not protected by WinterGuard at eaves,

with ends and edges weather lapped minimum 6 inches (152 mm). Stagger end laps each consecutive layer. Nail in place.

Roof Slope Between 2:12 and 4:12: Apply two layers of D 4869 underlayment over areas not protected by WinterGuard at eaves, with ends and edges weather lapped minimum 19 inches (480 mm). Stagger end laps each consecutive layer. Nail in place.

Roof Slope 4:12 or Greater: Install one layer asphalt felt shingle underlayment perpendicular to slope of roof and lap minimum 4 inches (100 mm) over eave protection.

Weather lap and seal watertight with plastic cement items projecting through or mounted on roof. Do not allow solvent based cements to contact WinterGuard.

INSTALLATION - VALLEY PROTECTION

For "closed-cut," "woven," and "open" valleys, first place one ply of WinterGuard, minimum 36 inches (910 mm) wide, centered over valleys. Lap joints minimum 6 inches (152 mm). Follow instructions of shingle and waterproofing membrane manufacturer.

INSTALLATION - METAL FLASHING

Weather lap joints minimum 2 inches (50 mm).

Seal work projecting through or mounted on roofing with plastic cement and make weathertight.

INSTALLATION - ASPHALT SHINGLES

Install shingles in accordance with manufacturer's instructions for product type and application specified.

FIELD QUALITY CONTROL

Field inspection will be performed under provisions of Section 01400.

Visual inspection of the Work will be provided by Owner. If conditions are unacceptable, Owner will notify the Architect.

PROTECTION OF FINISHED WORK

Protect finished work under provisions of Section 01700.

Do not permit traffic over finished roof surface.

END OF SECTION