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**DIVISION: 07—THERMAL AND MOISTURE PROTECTION**  
**Section: 07310—Shingles**

**REPORT HOLDER:**

**ECOSTAR™, A DIVISION OF**  
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**EVALUATION SUBJECT:**

**MAJESTIC SLATE ROOF TILE AND SENECA CEDAR SHAKE ROOF TILE**

## 1.0 EVALUATION SCOPE

**Compliance with the following codes:**

- 2006 *International Building Code*® (IBC)
- 2006 *International Residential Code*® (IRC)
- 1997 *Uniform Building Code*™ (UBC)

**Properties evaluated:**

- Weather protection
- Wind resistance
- Durability
- Fire classification

## 2.0 USES

EcoStar™ Majestic Slate and Seneca Cedar Shake products are used as Class A or Class C roof coverings for roofs with a minimum slope of 3:12 and a maximum slope of 21:12.

## 3.0 DESCRIPTION

### 3.1 EcoStar™ Majestic Slate:

The EcoStar™ Majestic Slate roof tiles consist of recycled polymeric-rubber-based materials manufactured by a proprietary process. The tiles are available in Traditional, Beaver Tail, Chisel Point and Beveled Edge styles as shown in Figure 1. The finished product is 18 inches (457 mm) long, 10 inches or 12 inches (254 mm or 305 mm) wide, and 1/4 inch (6.4 mm) thick. The installed weight of the product is 3.0 pounds per square foot (15 kg/m<sup>2</sup>) where installed with a 6-inch (152 mm) exposure. When installed in accordance with Section 4.5 of this report, the Majestic Slate has a Class A or a Class C roofing classification.

### 3.2 EcoStar™ Seneca Cedar Shake Tiles:

The EcoStar™ Seneca Cedar Shake roof tiles consist of recycled polymeric-rubber-based materials manufactured in

the same manner as Majestic Slate. The tiles are provided to the jobsite in three sizes as shown in Figure 4. The finished product sizes are 19 inches (483 mm) long by 12 inches (305 mm), 9 inches (229 mm) and 6 inches (153 mm) wide. Seneca is 3/8 inch (10 mm) thick and Seneca Plus is 3/4 inch (19 mm) thick. The Seneca Plus tiles are also referred to as Thick Butt. The installed weight of Seneca is 3.0 lb/ft<sup>2</sup> (15 kg/m<sup>2</sup>) and the installed weight of the Seneca Plus is 6.0 lb/ft<sup>2</sup> (30 kg/m<sup>2</sup>) where installed with a 7-inch (152 mm) exposure. When installed in accordance with Section 4.5 of this report, the Seneca products have a Class A or a Class C fire classification.

### 3.3 Hip and Ridge Tiles:

The Majestic Slate Hip and Ridge Tile is 1/4 inch (6.35 mm) thick, 12 inches (305 mm) wide, and 18 inches (457 mm) long, as shown in Figure 2. The Seneca and Seneca Plus Cedar Shake Hip and Ridge Tiles are 3/8 inch (10 mm) thick, 12 inches (305 mm) wide, and 18 inches (457 mm) long, and are the same as shown in Figure 2 except for the thickness. The tiles are manufactured with an angle running along the length direction to facilitate installation.

### 3.4 Fasteners:

Fasteners, supplied by EcoStar™, are minimum 1 1/2-inch-long (38.1 mm) (with a smooth or ring shank), stainless steel nails having 3/8-inch-diameter (9.5 mm) heads and 0.121-inch-diameter (3.07 mm) shanks. Stainless steel fasteners must be used throughout the roof.

### 3.5 Underlayment:

**3.5.1 Field of the Roof:** In jurisdictions enforcing either the IBC or the IRC, the underlayment must comply with ASTM D 226 Type II, or be an alternative covered in an ICC-ES evaluation report. In jurisdictions enforcing the UBC, the asphalt underlayment must be Type 30 or an alternative underlayment recognized in an ICC-ES evaluation report and manufactured under the listing program of an inspection agency accredited by the International Accreditation Service, Inc.

**3.5.2 Severe Climate Underlayment:** In jurisdictions using the IBC or IRC where the average daily temperature in January is 25°F (-4°C) or less, or where there is a possibility of ice forming along the eaves and causing a backup of water, an ice barrier that consists of at least two layers of underlayment cemented together, or a self-adhering, polymer-modified-bitumen sheet, must extend from the edge of the eave to a point at least 24 inches (610 mm) inside the exterior wall line of the building. In jurisdictions using the UBC, two layers of nonperforated, Type 15 felt applied shingle-fashion must be installed and solid-cemented together with approved cementing material between the plies, and must extend from the eave up the roof to a line 36 inches inside the exterior wall line of the building.

### 3.6 Flashing:

Flashing materials must be copper or stainless steel with a minimum thickness as prescribed in Section 1507.2.9 of the IBC, Section R905.2.8 of the IRC, or Sections 1508 and 1509 of the UBC, as applicable.

## 4.0 INSTALLATION

### 4.1 General:

Installation of EcoStar™ Majestic Slate and Seneca Cedar Shake roof tiles must comply with this report and the manufacturer's published installation instructions. The manufacturer's published installation instructions must be available at the jobsite at all times during installation. These roofing tiles must only be applied to roofs with ventilation complying with Section 1503.5 of the IBC, Section R806 of the IRC, or Section 1505.3 of the UBC, as applicable, on solid wood, plywood or OSB sheathing, complying with the applicable code, and on roofs having a minimum slope of 3:12 (25%) for Majestic Slate Roof Tile products and 4:12 (33%) for Seneca Cedar Shake Roof Tile products, and a maximum slope of 21:12 (175%).

### 4.2 Underlayment Application:

Severe climate underlayment complying with Section 3.5.2 must be installed at all valleys, eaves, rake edges, vertical flashing and areas where venting is to be installed. A single layer of underlayment complying with Section 3.5.1 must be applied over the remaining roof deck area.

### 4.3 Shingle Application:

Fasteners must be in accordance with Section 3.4. Beginning at the eave, one layer of tile is installed with two nails per tile (in a location shown on the tiles). This layer of tile becomes the starter row. A second layer is similarly fastened directly over the first row (no exposure) with a horizontal offset of a half tile. Subsequent tiles are similarly installed up the roof slope with a 6- or 7-inch (152 or 178 mm) exposure for Majestic Slate Roof Tile products or a 7- or 8-inch (178 or 203 mm) exposure for Seneca Cedar Shake Roof Tile products, and a minimum  $\frac{3}{8}$ -inch (9.5 mm) and maximum  $\frac{1}{2}$ -inch (13 mm) gap between tiles. See Figure 3 for further details.

### 4.4 Hip and Ridge Units:

Prior to installation of the hip and ridge tiles field underlayment, complying with Section 3.5.1, is installed so that it laps the peak of the hip or ridge a minimum of 4 inches (102 mm) each way, resulting in a double layer of underlayment when a ridge vent is not used. If a ridge vent is used, the underlayment is terminated at the ridge vent in accordance with the vent manufacturer's recommendations. Hip and ridge tiles are installed with a 6-inch (152 mm) exposure, using two fasteners located as shown in Figure 2. Fasteners attaching hip and ridge tiles must be long enough to penetrate a minimum of  $\frac{3}{4}$  inch (19.1 mm) into or through the sheathing, whichever is less.

### 4.5 Fire Classification:

**4.5.1 Class A:** To achieve a Class A rating, EcoStar™ Majestic Slate and Seneca Cedar Shake roof coverings must be installed in accordance with Sections 4.1 through 4.4 and either (a) or (b), below:

- a. Limited to a minimum  $\frac{15}{32}$ -inch-thick (11.9 mm) code-complying plywood deck; one layer of minimum  $\frac{1}{4}$ -inch

(6.35 mm) G-P Gypsum DensDeck® mechanically fastened with all joints staggered a minimum of 6 inches from the plywood joints; and one ply of Type 30 felt.

- b. Limited to a minimum  $\frac{15}{32}$ -inch (11.9 mm) plywood or APA rated series OSB deck with one or more plies of Elk Versashield™ or Atlas FR 50 underlayment.

**4.5.2 Class C:** To achieve a Class C rating, EcoStar™ Majestic Slate and Seneca Cedar Shake roof tiles must be installed as noted in Sections 4.1 through 4.4.

### 4.6 Reroofing:

Existing roof coverings must be removed and the Majestic Slate or Seneca Cedar Shake products must be installed as described for new construction in Sections 4.1 through 4.5.

### 4.7 Wind Resistance:

The allowable wind uplift pressure for EcoStar™ Majestic Slate and Seneca Cedar Shake roof tiles as part of assemblies are noted in Table 1.

## 5.0 CONDITIONS OF USE

The EcoStar™ Majestic Slate and Seneca Cedar Shake roof tiles described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions.

**5.1** Installation must comply with this report and the manufacturer's published installation instructions. In the event of a conflict between the manufacturer's instructions and this report, the instructions in this report must govern.

**5.2** Wind uplift pressure on any area, including edge and corner zones, must not exceed the allowable wind pressure given in Table 1.

The allowable wind uplift pressures given in Table 1 are for the roof covering only. The deck and framing to which the covering is attached must be designed for the applicable components and cladding wind loads in accordance with the applicable code. Where required by the applicable code, the calculations must be sealed by a registered design professional, and presented to the code official for approval.

**5.4** The tiles are manufactured under a quality control program with inspections by Underwriters Laboratories Inc. (AA-668).

## 6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Special Roofing Systems (AC07), dated April 2007.

## 7.0 IDENTIFICATION

Each tile must be identified with the EcoStar™ name and phone number, the product name (Majestic Slate or Seneca Cedar Shake ) and the production date. Each bundle of tile must be labeled with the number of tiles in the bundle, color of the tile, the evaluation report number (ESR-1715) and the name of the inspection agency (Underwriters Laboratories Inc.). Each pallet of bundles (Majestic Slate or Seneca Cedar Shake) must be identified with the product name, production code, and color.

**TABLE 1—MAJESTIC SLATE ROOF TILES AND SENECA SHAKE CEDAR SHAKE ROOF TILES  
ALLOWABLE WIND UPLIFT<sup>1</sup>**

SYSTEM NO.	ALLOWABLE WIND UPLIFT (psf)	DECK	UNDERLAYMENT	FASTENER DETAILS
1	52.5	Min $1\frac{5}{32}$ -inch-thick APA rated plywood Type C-D	One layer of Type II asphalt saturated felt, mechanically attached.	Each roof tile is attached to the plywood with two, $1\frac{1}{2}$ -inch-long, ring shank nails per tile. The nails must have a minimum shank diameter of 0.143 inch. Nails must be placed at locations that are specified on each tile. Maximum exposure of the Majestic Slate Roof Tiles is 7 inches, and for the Seneca Cedar Shake Roof Tiles shingles, 8 inches.
2	60	Min $\frac{7}{16}$ -inch OSB	One layer of Type II asphalt saturated felt, mechanically attached.	Each roof tile is attached to the plywood with two, $1\frac{1}{2}$ -inch-long, ring shank nails per tile. The nails must have a minimum shank diameter of 0.143 inch. Nails must be placed at locations that are specified on each tile. Maximum exposure of the Majestic Slate Roof Tiles is 7 inches, and for the Seneca Cedar Shake Roof Tiles shingles, 8 inches.
3	90	Min $\frac{7}{16}$ -inch OSB	One layer of Type II asphalt saturated felt, mechanically attached.	Each roof tile is attached to the plywood with three, $1\frac{1}{2}$ -inch-long, ring shank nails per tile. The nails must have a minimum shank diameter of 0.143 inch. Two nails must be placed at locations that are specified on each tile. The third nail is to be placed offset from the center approximately 1 inch to ensure coverage by the overlapping tile. Maximum exposure of the Majestic Slate Roof Tiles shingles is 7 inches, and for the Seneca Cedar Shake Roof Tiles shingles, 8 inches.

For SI: 1 inch = 25.4 mm, 1 psf = 47.88 Pa.

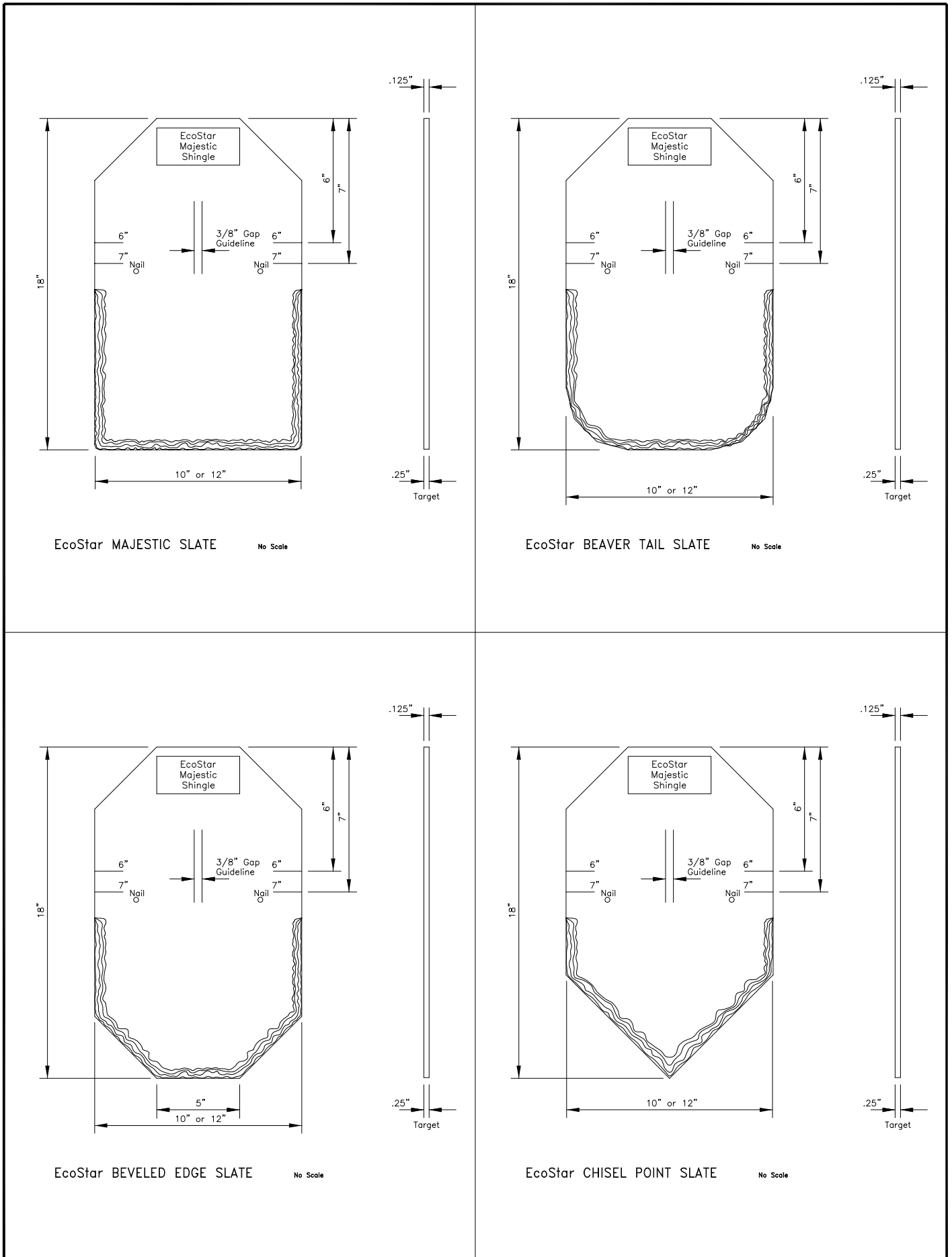


FIGURE 1

Traditional Hip & Ridge  
Front and Side

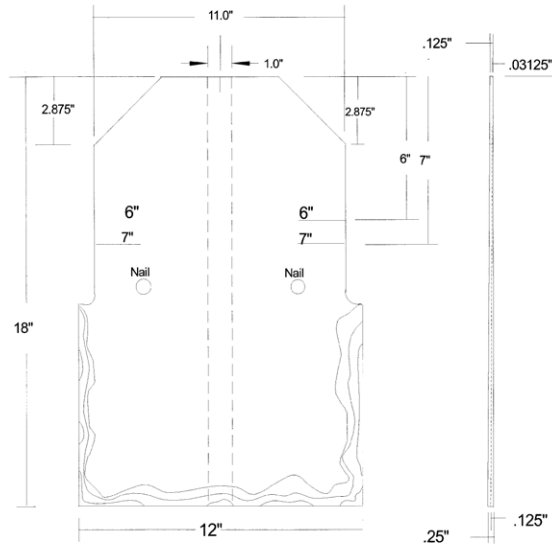


FIGURE 2

EcoStar Tile Layout

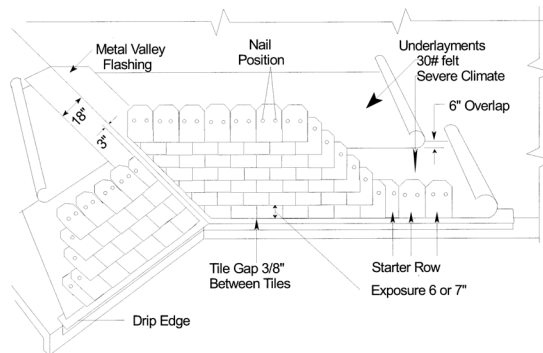
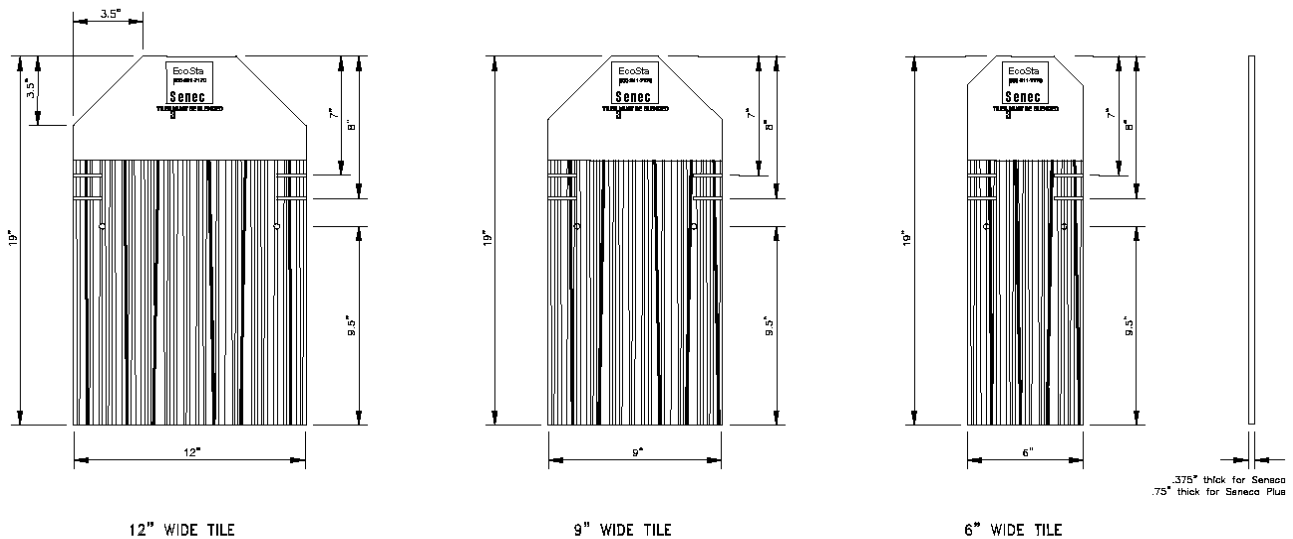


FIGURE 3



Seneca Cedar Shake Tiles

No Scale

FIGURE 4