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INSPIRE ROOFING PRODUCTS

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1.0 Subject

Inspire Arcella Shake
Inspire Aledora Slate

2.0 Research Scope

2.1. Building Codes:

2015 International Building Code (IBC)
2015 International Residential Code (IRC)

2014 Florida Building Code (FBC)
(Excluding HVHZ - High Velocity Hurricane Zones)

2.2. Properties:

Weather Resistance
Wind Resistance
Durability
Fire Classification

3.0 Description

3.1. Uses – The *Inspire Arcella Shakes* and *Inspire Aledora Slate* are used as a Class A or Class C roof covering when installed according to the manufacturer's instructions and this report. See Section 5.0 and Figure 3.

3.2. Materials – The *Inspire Arcella Shakes* and *Inspire Aledora Slates* are injection molded polypropylene simulated cedar shake and slate roof tiles.

3.2.1. The shakes are manufactured with a nominal length of 24 inches and widths of 5 inches, 7.5 inches, and 10 inches. See Figure 1. The slate tiles are manufactured with a nominal length of 18 inches and widths of 6 inches, 8 inches, 10 inches and 12 inches. See Figures 4, 5, 6, and 7.

3.2.2. Starter shakes and slate are nominally 14 inches in height and 12 inches wide. See Figure 2 and Figure 8.

3.2.3. Hip and ridge shakes are nominally 24 inches in length and 12 inches wide. Hip and ridge shakes are provided with a preformed pitch

along the length of the shake. Hip and ridge slates are nominally 18 inches in length and 12 inches wide. See Figure 2 and Figure 8.

3.3. Fasteners shall be a minimum 10 gauge, 0.134 inch by 1.5 inch stainless steel roofing nails.

4.0 Performance Characteristics

4.1. Fire Classification – The *Inspire Arcella Shake* and *Aledora Slate* are classified as a Class A roof covering for combustible decks in accordance with IBC Section 1505.2 and IRC R902.1 when used in conjunction with one layer of *Eco Chief SOLARHIDE roofing* underlayment, as recognized in QAI listing B1094. See Section 5.1 for underlayment installation.

The *Inspire Arcella Shakes* and *Aledora Slates* are classified as a Class C roof covering for combustible decks in accordance with IBC Section 1505.4 and IRC R902.1 when used in conjunction with one layer of ASTM D 226 Type II compliant underlayment. See Section 5.1 for underlayment installation.

4.2. Wind Resistance – *Inspire Arcella Shakes* and *Aledora Slates* installed in accordance with this report are limited to installation in areas where the maximum basic wind speed is 100 mph on structures with a mean roof height of 40 feet in Exposure B areas.

Inspire Arcella Shakes and *Aledora Slates* installed in accordance with this report are classified as Class 90 in accordance with UL 580.

5.0 Installation

Installation shall be in accordance with the requirements of the applicable code, the manufacturer's installation instructions, and this report. Where differences occur between this report and the manufacturer's installation instructions, this report shall govern.

5.1. *Inspire Arcella Shakes* and *Aledora Slates* are recognized as a Class A roof covering when installed in conjunction with one layer of *Eco Chief SOLARHIDE* underlayment, at a maximum shake exposure of 10.25 inches and maximum slate exposure of 8 inches. Installation of the underlayment shall be in accordance with the

requirements of the applicable code and QAI Listing B1094.

Inspire Arcella Shakes and *Aledora Slates* are recognized as a Class C roof covering when installed in conjunction with one layer of ASTM D 226 Type II underlayment, at a maximum shake exposure of 10.25 inches and slate exposure of 8 inches.

5.2. *Inspire Arcella Shakes* and *Inspire Aledora Slates* may be installed over a solid sheathed roof or a spaced sheathing installation at a minimum roof slope of 3:12. Sheathing shall comply with DOC PS 1, DOC PS 2, or ANSI/APA PRP 210.

5.2.1. For nominal 1 x 6 inch sheathing plank spaced sheathing is as follows: *Arcella Shake* may be used in a maximum spacing of 10.25 inches o.c., and *Aledora Slate* may be used in maximum spacing of 8 inches o.c.

5.2.2. The 12 inch wide starters are installed at the eave-line with a minimum of two fasteners, as described in Section 3.3. See Figure 3.

5.2.3. The first row of shakes or slates is installed on top of the starter shakes and must be attached with a minimum of two fasteners, as described in Section 3.3. Subsequent rows of shakes are installed with a maximum exposure of 10.25 inches and slates at a maximum exposure of 8 inches. See Figure 3.

5.2.4. Hip and ridge shakes or slate are installed with a minimum of two fasteners, as described in Section 3.3, with the exception of the fastener lengths. At a minimum, fasteners must penetrate sheathing 0.75 inches. Hip and ridge shakes and slates are installed with a maximum exposure of 8 inches.

5.3. Ice Barrier - In areas where there has been a history of ice forming along the eaves causing a backup of water, an ice barrier that consists of at least two layers of underlayment cemented together shall be used and extend from the lowest edges of all roof surfaces to a point at least 24 inches inside the exterior wall line of the building.

5.4. Flashing and edge materials shall meet the minimum requirements of IBC Section 1503.2 or IRC Section R903.2, where applicable.

6.0 Supporting Evidence

6.1. Manufacturer's drawings and installation instructions.

6.2. Reports of fire tests of roof coverings in accordance with ASTM E 108-17, Standard Test Methods for Fire Tests of Roof Coverings.

6.3. Reports of uplift resistance in accordance with UL 580-06 Tests for Uplift Resistance of Roof Assemblies.

6.4. Documentation of an Intertek approved quality control system for the manufacturing of products recognized in this report.

6.5. Reports of testing and engineering analysis demonstrating compliance with ICC-ES AC07, Acceptance Criteria for Special Roofing Systems, approved February 2014.

7.0 Conditions of Use

Inspire Arcella Shakes and *Aledora Slate* applications identified in this report are deemed to comply with the intent of the provisions of the referenced building codes subject to the following conditions:

7.1. Installation of *Eco Chief SOLARHIDE* roof underlayment shall be in accordance with QAI Laboratories listing B1094. The recognition of *Eco Chief SOLARHIDE* roof underlayment as an approved element of the *Inspire Arcella Shakes* and *Aledora Slate* roof covering is contingent on the maintenance of a valid QAI Laboratories listing B1094.

7.2. *Inspire Arcella Shakes* and *Aledora Slate* in this report are manufactured in Metamora, Michigan by Inspire Roofing Products under an approved quality control system with inspections by Architectural Testing (IAS AA-676).

8.0 Identification

Each bundle of *Inspire Arcella Shakes* and *Aledora Slate* produced in accordance with this report shall be packaged and labeled with the following information:

8.1. Name of the report holder;

8.2. The statement: "ASTM E 108 Classified – See ATI CCRR-0188 at www.ati-es.com";

8.3. The statement "Install on solid or spaced sheathing, min. slope 3:12"

8.4. Each shake and slate is embossed with the Intertek Code Compliance Research Report mark and number (CCRR-0188).

9.0 Code Compliance Research Report Use

9.1. Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

9.2. Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product or manufacturer by Architectural Testing.

9.3. Reference to the Architectural Testing internet web site address at www.ati-es.com is recommended to ascertain the current version and status of this report.

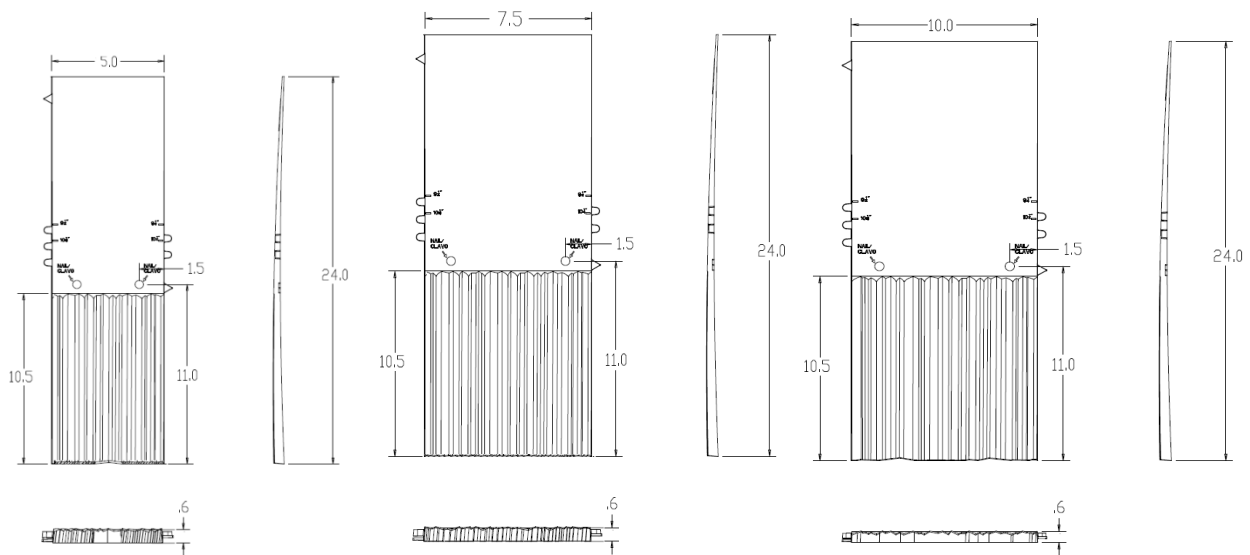
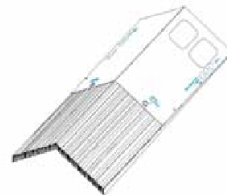


Figure 1 – Inspire Arcella Shakes (5", 7.5", or 10" wide)

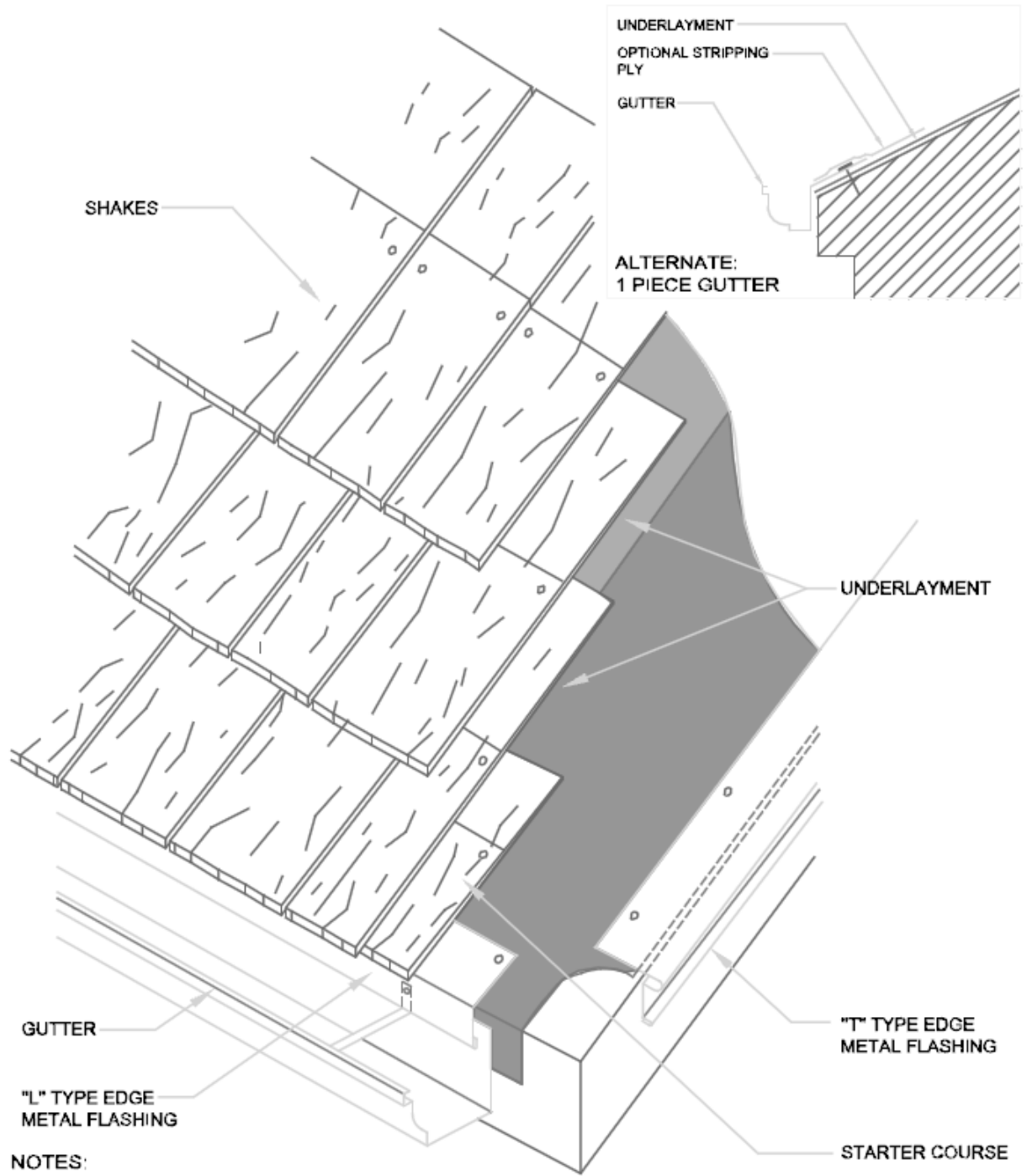


Starter Piece
Height: 14"
Width: 12.5"



Hip and Ridge
Width: 12"–Height: 24"
Exposure: 10.25"
Pre-formed Pitch: 4/12 - 8/12
9/12 - 14/12

Figure 2 – Starters, Hip, and Ridge Shakes



**Figure 3 – Inspire Arcella Shakes Installation
(See Section 5.3 for ice barrier requirement)**

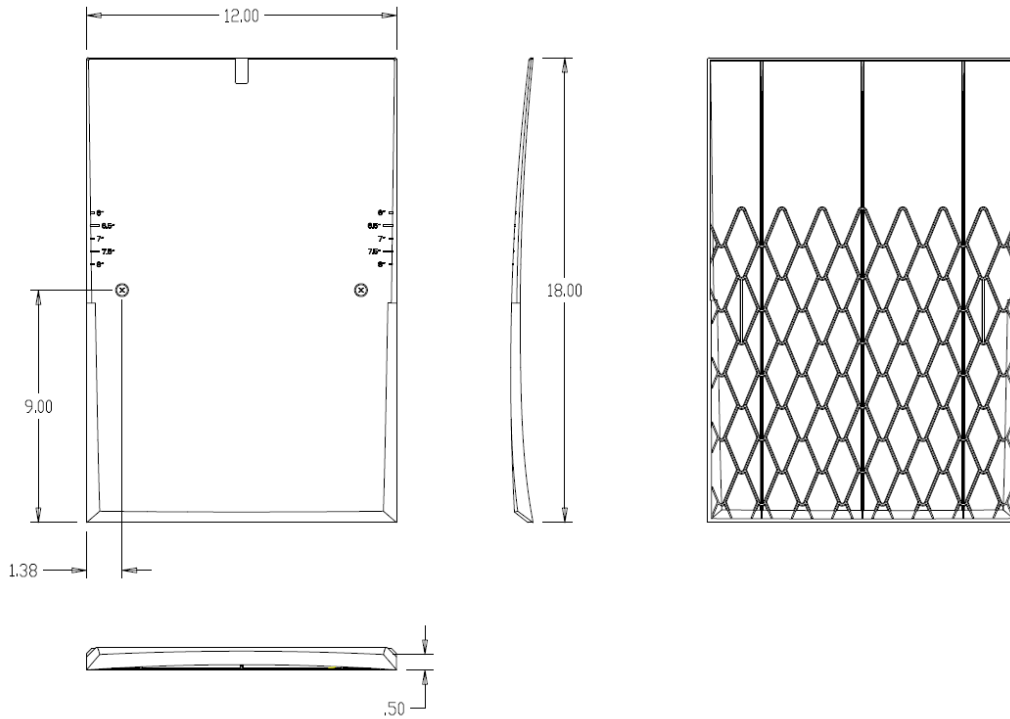


Figure 4 – Aledora Slate - 12" Width

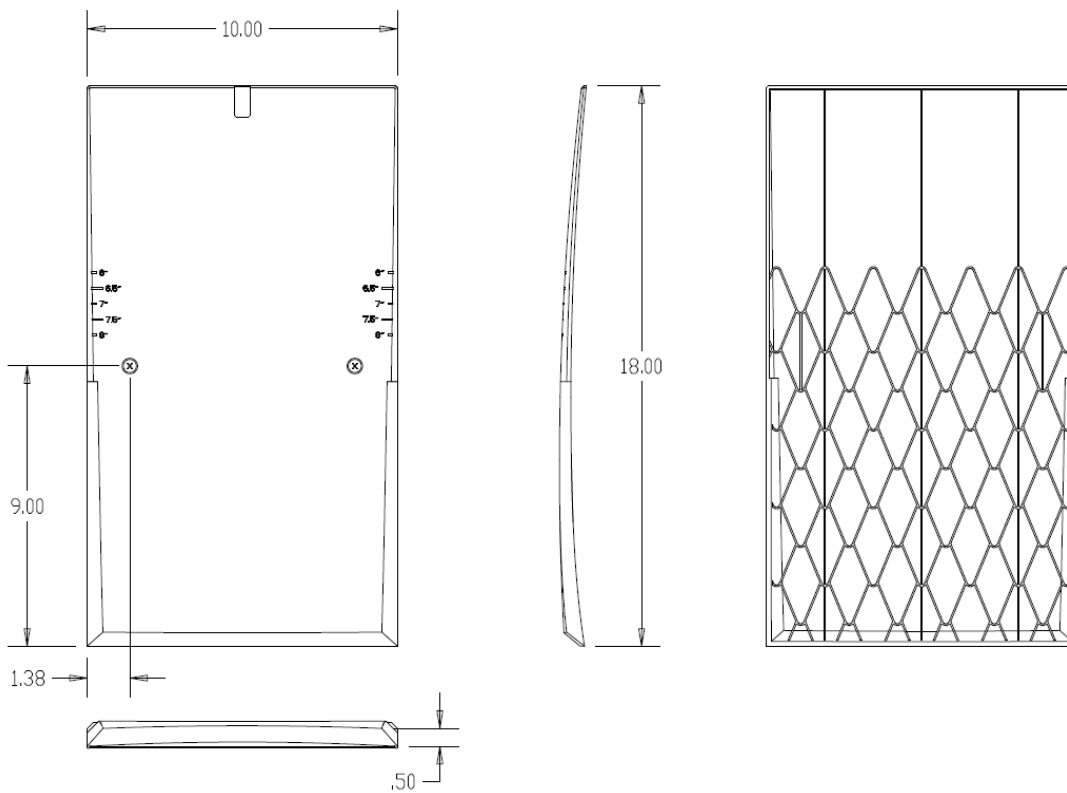
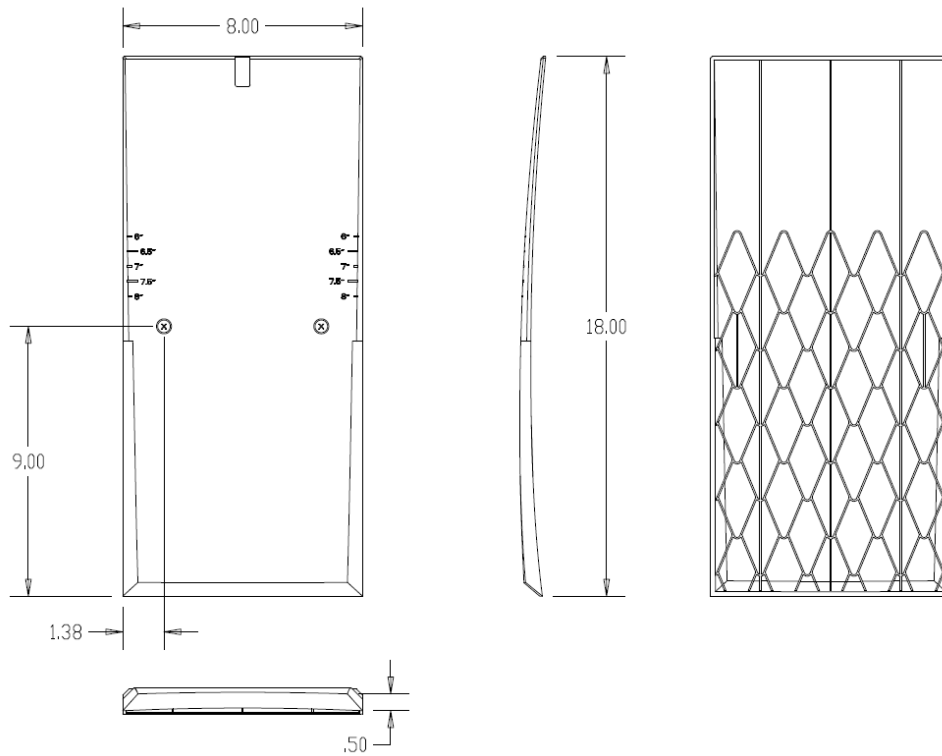
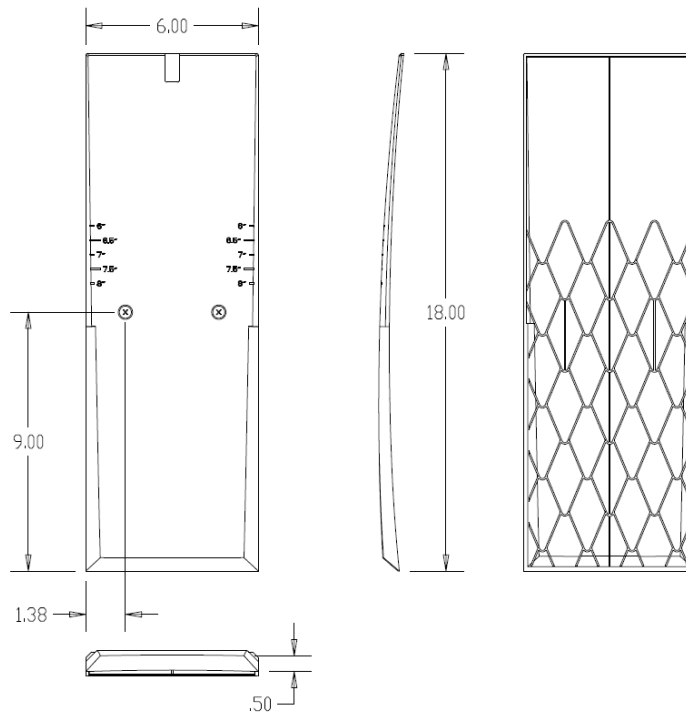
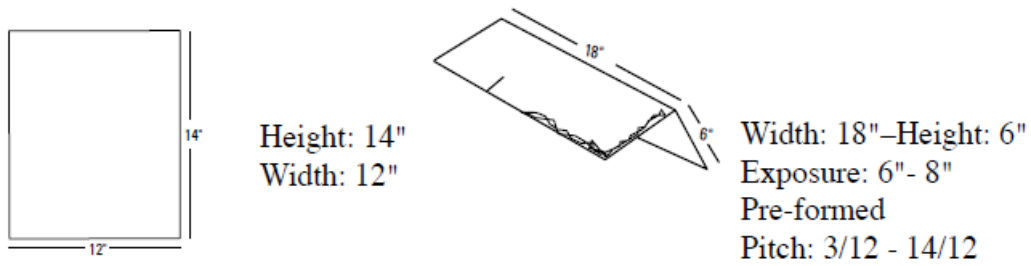
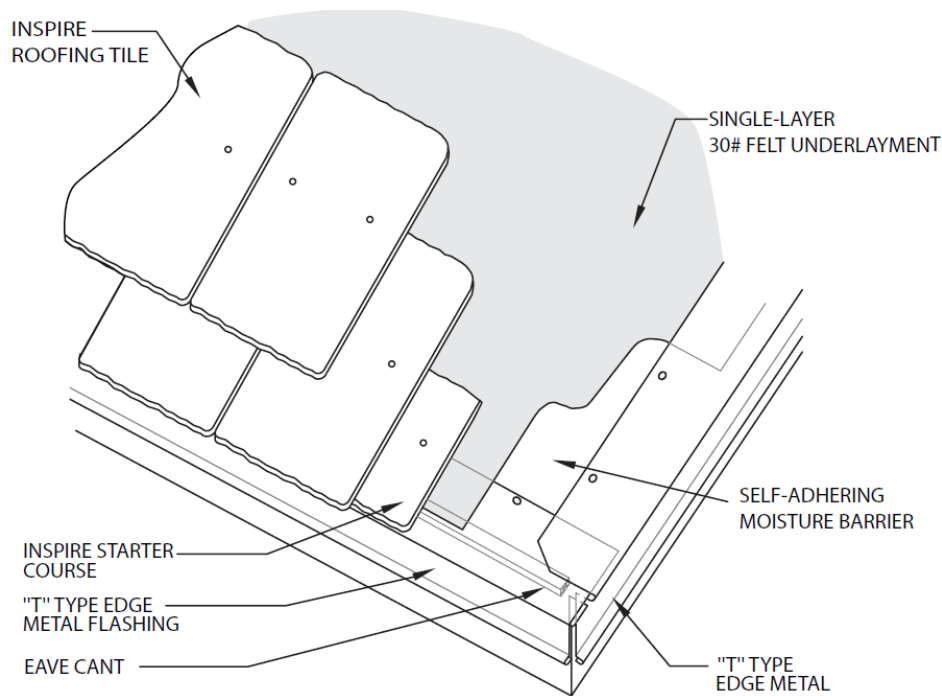


Figure 5 – Aledora Slate - 10" Width


Figure 6 – Aledora Slate - 8" Width

Figure 7 – Aledora Slate - 6" Width


Figure 8 – Starters, Hip, and Ridge Slates

Figure 9– Aledora Slate Installation with Class C Underlayment

(Note that Class A installation requires use of Eco Chief SOLARHIDE Underlayment)