

## Product Evaluation

RC146 | 0320

Engineering Services Program

The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

For more information, contact TDI Engineering Services Program at (800) 248-6032.

**Evaluation ID:** RC-146

**Effective Date:** March 1, 2020

**Re-evaluation Date:** March 2024

**Product Name:** TAMKO's MetalWorks Stonecrest® and AstonWood® Steel Shingles

**Manufacturer:** TAMKO Building Products LLC  
198 Four States Drive  
PO Box 97  
Galena, KS 66739-0097  
(417) 624-6644

### General Description:

MetalWorks Stonecrest® and AstonWood® shingles are manufactured from coated steel conforming to ASTM A653 G90. The Stonecrest® and AstonWood® metal shingles are minimum 28-gauge steel. Both metal shingles are 39-3/4" long by 12-5/8" wide and are to be installed with a maximum exposure of 12". The steel has a minimum yield strength of 30 ksi. The exterior finish consists of a fluoropolymer (PVDF) with an anti-corrosive primer. The interior finish consists of a wash coat with an anti-corrosive primer. The shingles are formed by an automated multistage die and have factory formed interlocking edges at the perimeter.

**Limitations:**

The entire roof must be covered (prior to the metal shingle application) with underlayment (double layers at eaves and valleys). This applies to new roof and re-roof applications.

**Roof Slope:** MetalWorks Stonecrest® and AstonWood® shingles are for application to roofs decks with slopes of 3:12 up to a vertical application. For slopes between 3:12 and 4:12, TAMKO's self-adhering TW Metal and Tile Underlayment or TW Underlayment must be used over the entire roof deck for new and existing construction.

**Roof Deck:** This product evaluation is only applicable to plywood decks. All plywood must be exterior grade with a minimum thickness of 15/32".

**Underlayment:** TAMKO's TW Underlayment, TW Metal and Tile Underlayment or a product that complies with ASTM D226, Type II.

**Fasteners:** All fasteners must be 11-gauge galvanized steel nails/screws with 3/8" diameter heads. Fasteners must penetrate the roof deck by at least 3/4" or through the sheathing, where the sheathing is less than 3/4" thick.

**Clips (Used to Attach Shingles to the Plywood Deck):** Clips used to fasten the shingles, flashing and accessories to the sheathing are formed from minimum 0.016" thick (0.4 mm), minimum No. 26 MSG G90 galvanized steel with a size of 1-1/4" X 2-1/8".

**Installation:**

**General Installation Instructions:** All requirements specified in the IRC and the IBC must be satisfied and manufacturer's installation instructions followed unless otherwise specified by this product evaluation.

**Assembly No. 1**

<b>Deck</b>	Min. 15/32" plywood sheathing.
<b>Underlayment</b>	One layer "TW Underlayment", "TW Metal and Tile Underlayment", "No. 30 ASTM", "No. 30 UL", min. 4" side lap, attached per manufacturer's recommendations.
<b>Fasteners</b>	Five (5) No. 26 MSG steel clips designated as "Standard Tamko Clip" to attach the shingle to the plywood deck with one (1) 1-1/2" long galvanized steel No. 10-8 screw per clip. One (1) clip positioned at the middle along the width on one end of the shingle. The remaining four (4) clips are positioned along the back edge of the shingle in slots spaced 4" OC, 11" OC, 26" OC, and 37" OC, respectively from the right end.
<b>Roof Covering</b>	Min. 28-gauge steel shingle, 39-3/8" long and a maximum 12-5/8" wide. Designated "AstonWood®", "StoneCrest® Tile" or "StoneCrest® Slate". Maximum exposure of the shingles to be 12".
<b>Allowable Design Wind Pressure</b>	-60 psf

**Assembly No. 2**

<b>Deck</b>	Min. 15/32" plywood sheathing.
<b>Underlayment</b>	One layer "No. 30 ASTM" or "No. 30 UL" overlaying a layer of GAF "VersaShield Underlayment", min. 4" side lap, attached per manufacturer's recommendations.
<b>Fasteners</b>	Five (5) No. 26 MSG steel clips designated as "Standard Tamko Clip" to attach the shingle to the plywood deck with one (1) 1-1/2" long galvanized steel No. 10-8 screw per clip. One (1) clip positioned at the middle along the width on one end of the shingle. The remaining four (4) clips are positioned along the back edge of the shingle in slots spaced 4" OC, 11" OC, 26" OC and 37" OC, respectively from the right end.
<b>Roof Covering</b>	Min. 28-gauge steel shingle, 39-3/8" long and a maximum 12-5/8" wide. Designated "AstonWood®", "StoneCrest® Tile" or "StoneCrest® Slate". Maximum exposure of the shingles to be 12".
<b>Allowable Design Wind Pressure</b>	-60 psf

**Assembly No. 3**

<b>Deck</b>	Min. 15/32" rated plywood sheathing.
<b>Barrier Board*</b>	Min. 1/4" thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard" or min. 1/2" thick UL Classified gypsum board with all joints staggered a min. of 6" from the plywood joints. Attached to roof deck with corrosion resistant fasteners as specified in the IRC and IBC.
<b>Underlayment</b>	One layer "No. 30 ASTM", "TW Underlayment", "TW Metal and Tile Underlayment", or "No. 30 UL", min. 4" side lap, attached per manufacturer's recommendations.
<b>Fasteners</b>	Five (5) No. 26 MSG steel clips designated as "Standard Tamko Clip" to attach the shingle to the plywood deck with one (1) 1-1/2" long galvanized steel No. 10-8 screw per clip. One (1) clip positioned at the middle along the width on one end of the shingle. The remaining four (4) clips are positioned along the back edge of the shingle in slots spaced 4" OC, 11" OC, 26" OC and 37" OC, respectively from the right end.
<b>Roof Covering</b>	Min. 28-gauge steel shingle, 39-3/8" long and a maximum 12-5/8" wide. Designated "AstonWood®", "StoneCrest® Tile" or "StoneCrest® Slate". Maximum exposure of the shingles to be 12".
<b>Allowable Design Wind Pressure</b>	-60 psf

\*Barrier Board is optional if a Class A fire rating is not needed.

**Assembly No. 4**

<b>Deck</b>	Min. 15/32" plywood sheathing.
<b>Underlayment</b>	One layer self-adhering "TW Metal and Tile Underlayment", min. 4" side lap, attached per manufacturer's recommendations.
<b>Fasteners</b>	Five (5) No. 26 MSG steel clips designated as "Standard Tamko Clip" to attach the shingle to the plywood deck with one (1) 1-1/2" long galvanized steel No. 10-8 screw per clip. One (1) clip positioned at the middle along the width on one end of the shingle. The remaining four (4) clips are positioned along the back edge of the shingle in slots spaced 4" OC, 11" OC, 26" OC and 37" OC, respectively from the right end.
<b>Roof Covering</b>	Min. 28-gauge steel shingle, 39-3/8" long and a maximum 12-5/8" wide. Designated "AstonWood®", "StoneCrest® Tile" or "StoneCrest® Slate". Maximum exposure of the shingles to be 12".
<b>Allowable Design Wind Pressure</b>	-99 psf

**Assembly No. 5**

<b>Deck</b>	Min. 15/32" plywood sheathing.
<b>Underlayment</b>	One layer "TW Metal and Tile Underlayment", min. 4" side lap, attached per manufacturer's recommendations.
<b>Fasteners</b>	Five (5) No. 26 MSG steel clips designated as "Standard Tamko Clip" to attach the shingle to the plywood deck with one 1-1/2" long galvanized steel No. 10-8 screw per clip. One (1) clip positioned at the middle along the width on one end of the shingle. The remaining four (4) clips are positioned along the back edge of the shingle in slots spaced 3" OC, 16" OC, 24" OC and 36" OC, respectively from the right end.
<b>Roof Covering</b>	Min. 28-gauge steel shingle, 39-3/8" long and a maximum 12-5/8" wide. Designated "AstonWood®", "StoneCrest® Tile" or "StoneCrest® Slate". Maximum exposure of the shingles to be 12".
<b>Allowable Design Wind Pressure</b>	-52.5 psf

**Assembly No. 6**

<b>Deck</b>	Min. 15/32" plywood sheathing.
<b>Underlayment</b>	One layer "TW Metal and Tile Underlayment", min. 4" side lap, attached per manufacturer's recommendations.
<b>Fasteners</b>	Five (5) No. 26 MSG steel clips designated as "Standard Tamko Clip" to attach the shingle to the plywood deck with one (1) 1-1/2" long galvanized steel No. 10-8 screw per clip. One (1) clip positioned at the middle along the width on one end of the shingle. The remaining four (4) clips are positioned along the back edge of the shingle in slots spaced 3" OC, 16" OC, 24" OC and 36" OC, respectively from the right end.
<b>Roof Covering</b>	Min. 28-gauge steel shingle, 39-3/8" long and a maximum 12-5/8" wide. Designated "AstonWood®", "StoneCrest® Tile" or "StoneCrest® Slate". Maximum exposure of the shingles to be 12".
<b>Allowable Design Wind Pressure</b>	-60 psf

**Note:** Keep the manufacturer's installation instructions available on the job site during installation. Use corrosion resistant fasteners as specified in the IRC and the IBC.