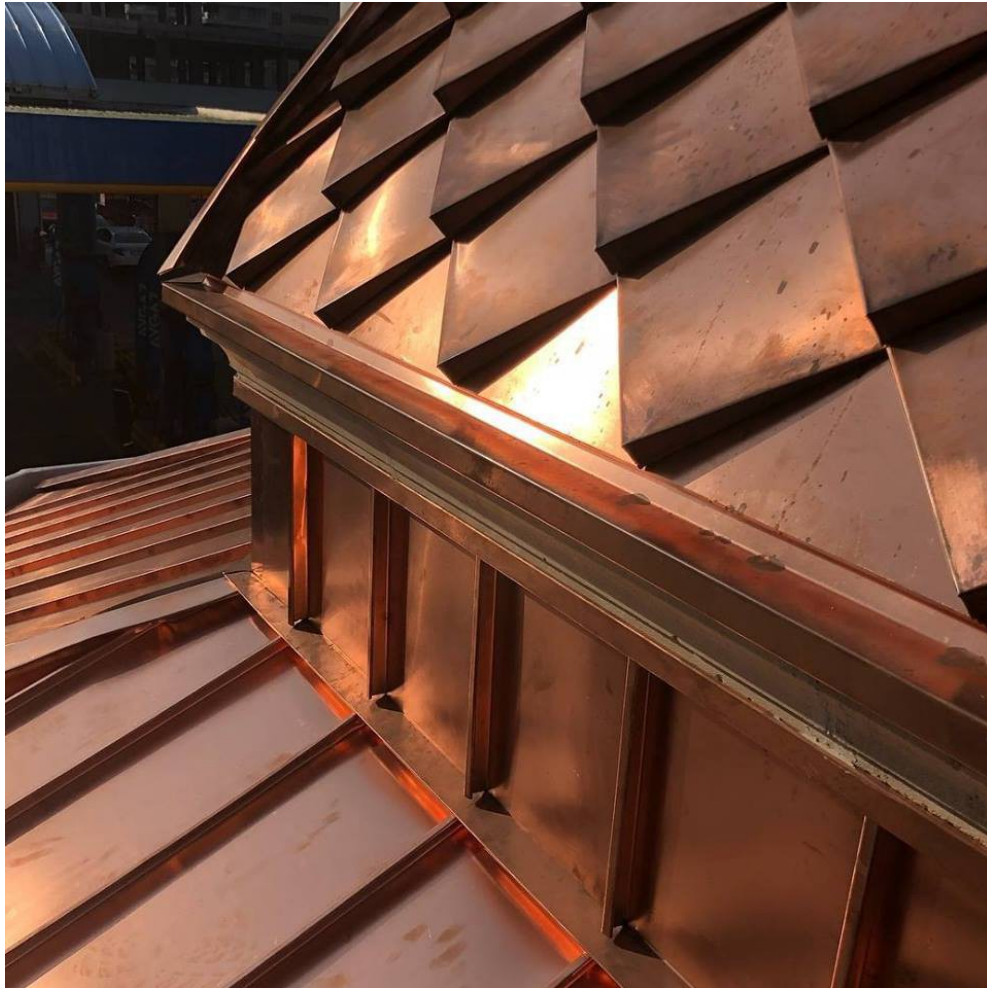




Product Description for Spengler Industries'
Roofing and Wall Cladding Dragon Scale Shingles





Spengler

INDUSTRIES

5066 West Amelia Earhart Drive Salt Lake City, UT 84116

801 – 462 – 5264

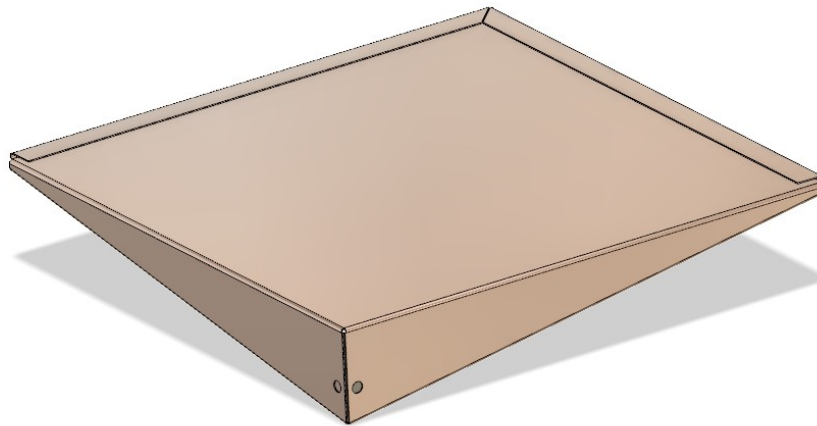
Application Instructions

When installing metal Shingles:

- OSHA fall protection guidelines for sloped roofing should be followed at all times.
- Heat can be generated in any metal roof system. If using a self-adhered membrane as an underlayment, consult manufacturer's guidelines or specifications to ensure that the membrane is designed for use under high-temperature conditions.

Applicable Standards and Codes

- For applicable Florida rating, Miami-Dade and Metro Dade County Product Control Acceptance please comply with the applicable fastener requirements listed below.
- Class A fire-rated system may be achieved by installing under the roof panels a minimum 1/2"-thick (12.7mm) water-resistant core gypsum sheathing complying with ASTM C 79, 1/4"-thick (6.4 mm) Dens-Deck overlayment board manufactured by Georgia Pacific, or "Versa-shield" non-asphalt fiberglass-based roll roofing manufactured by Elk Corporation, installed over the plywood sheathing. The gypsum and Dens-Deck materials are to be attached to the roof deck with eight 1-1/2"-long (38mm) nails per 4' x 8' sheet. Length of the nails used to attach the metal shingles must be increased by the thickness of the barrier boards.
- Minimum roof pitch 4/12 (18°) for the standard shingle system. Installation on 3/12 (14°) possible, please call.





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Dragon Scale - Diamond Shaped - Metal Shingle Descriptions and Specifications

- Dragon Scale Metal Shingles (Metal Shingles) interlock on all four sides with adjacent shingles and into the shingle accessories.
- Metal shingles are fastened indirectly and hidden using metal clips.
- Spengler Industries (Spengler) supplies all shingle clips, fasteners, flashings and accessories along with its metal shingles for an additional fee.

Shingle size: 12

- Height 13" – visible after installation - measured vertically
- Width 13" – visible after installation - measured horizontally
- Tip angle 90°
- Standard seam width 13 mm (0.511") each
- Roof cover per shingle 0.6 Sq. Ft.
- Roofing square (100 Sq. Ft) requires 167 pieces
- Shingle material:
 - Aluminum 0.026" thick special coated finish (Finish description elsewhere)
Weight per shingle 0.52 lbs. Weight per roofing square 86 lbs +/- 1 lb fasteners and accessories
 - Copper 16 oz or 20 oz thick, bare or/and a variety of finishes there of
Weight per shingle 1.45 lbs. Weight per roofing square 242 lbs +/- 1 lb fasteners and accessories
 - Zinc 0.027" thick natural zinc or special surface finish
Weight per shingle 1.48 lbs. Weight per roofing square 247 lbs +/- 1 lb fasteners and accessories
 - Stainless steel 26 ga thick material, coated or uncoated finish.
Weight per shingle 0.96 lbs. Weight per roofing square 150 lbs +/- 1 lb fasteners and accessories
 - Galvalume 24 gauge thick special coated finish (Finish description elsewhere)
Weight per shingle 1.46 lbs. Weight per roofing square 247 lbs +/- 1 lb fasteners and accessories
 - Galvalume 22 gauge thick special coated finish (Finish description elsewhere)
Weight per shingle 2.22 lbs. Weight per roofing square 370 lbs +/- 1 lb fasteners and accessories
- - **Florida, Alaska and other high wind areas require using 4 clips and 8 screws per shingle.**
 - Different size, shape, accessory and installation description on separate documents.

Installation instruction of metal roofing shingles

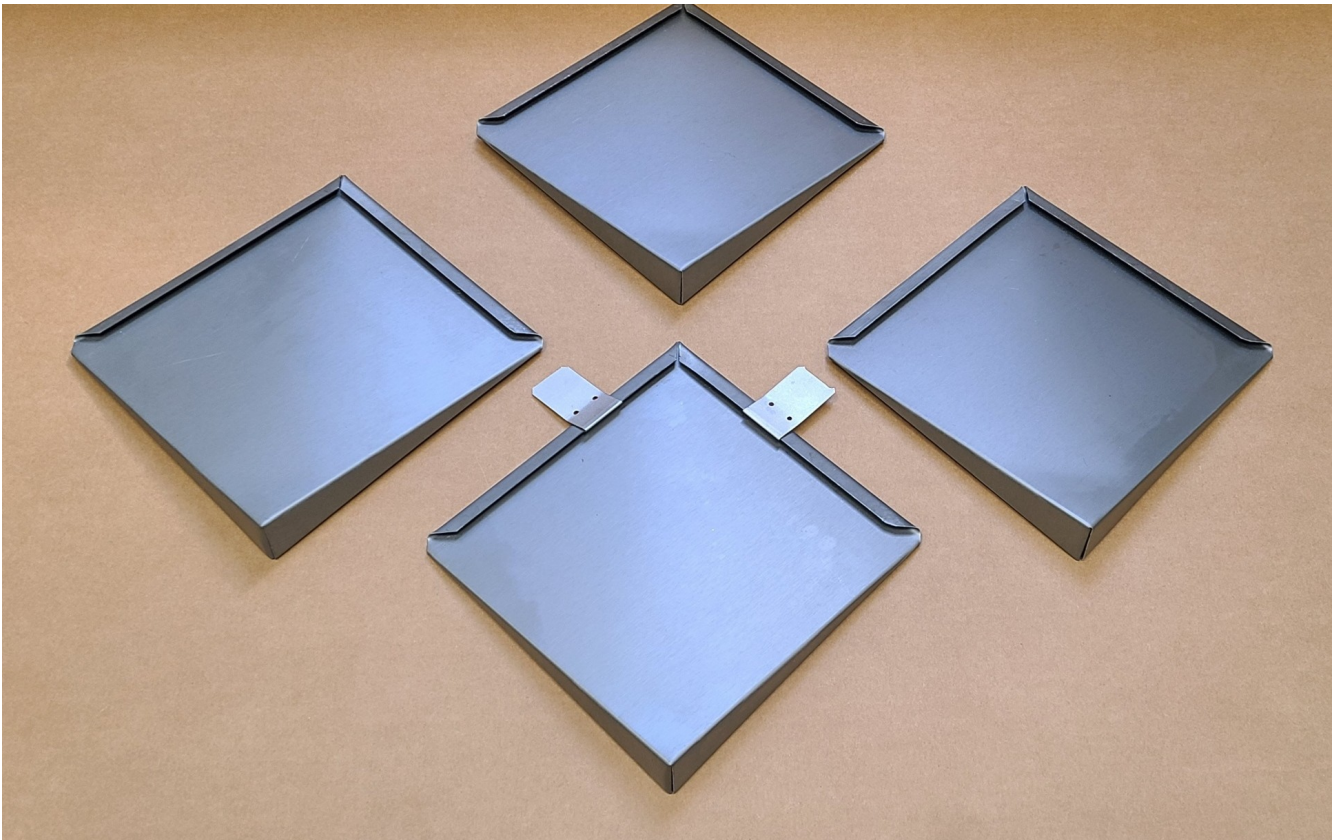
To install the shingles start at the bottom of the roof or wall (at the drip edge flashing, starter trim or base J-Channel on a wall application)

After installing the drip edge flashing, described elsewhere, draw up the guide lines onto the roof, using a chalk line for example.

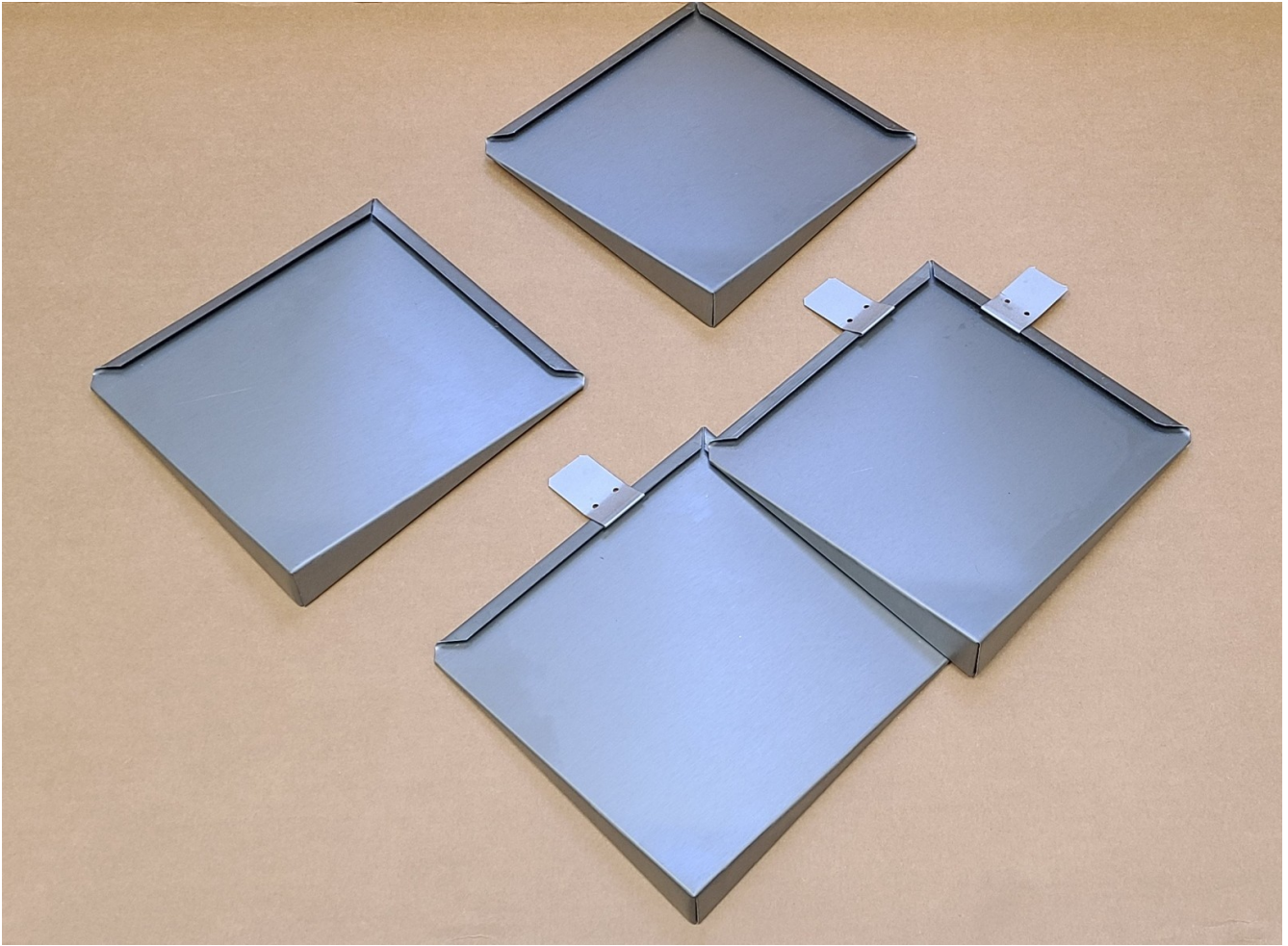
Make sure that the drawn lines are:

- Perpendicular (90°) to the drip edge for the metal shingle columns
- Parallel to the drip edge for the metal shingle rows
- Accurate measurements for the lines are provided in the product delivery, which depends on metal chosen and material thickness

Interlock the shingles with each other after you apply the necessary fasteners to the individual shingles and secure them properly to the roof sheathing. Make sure that the upper shingle's lower tip is over hanging / protruding a half an inch-ish the intersecting joints from the preceding shingles below as show in the pictures below

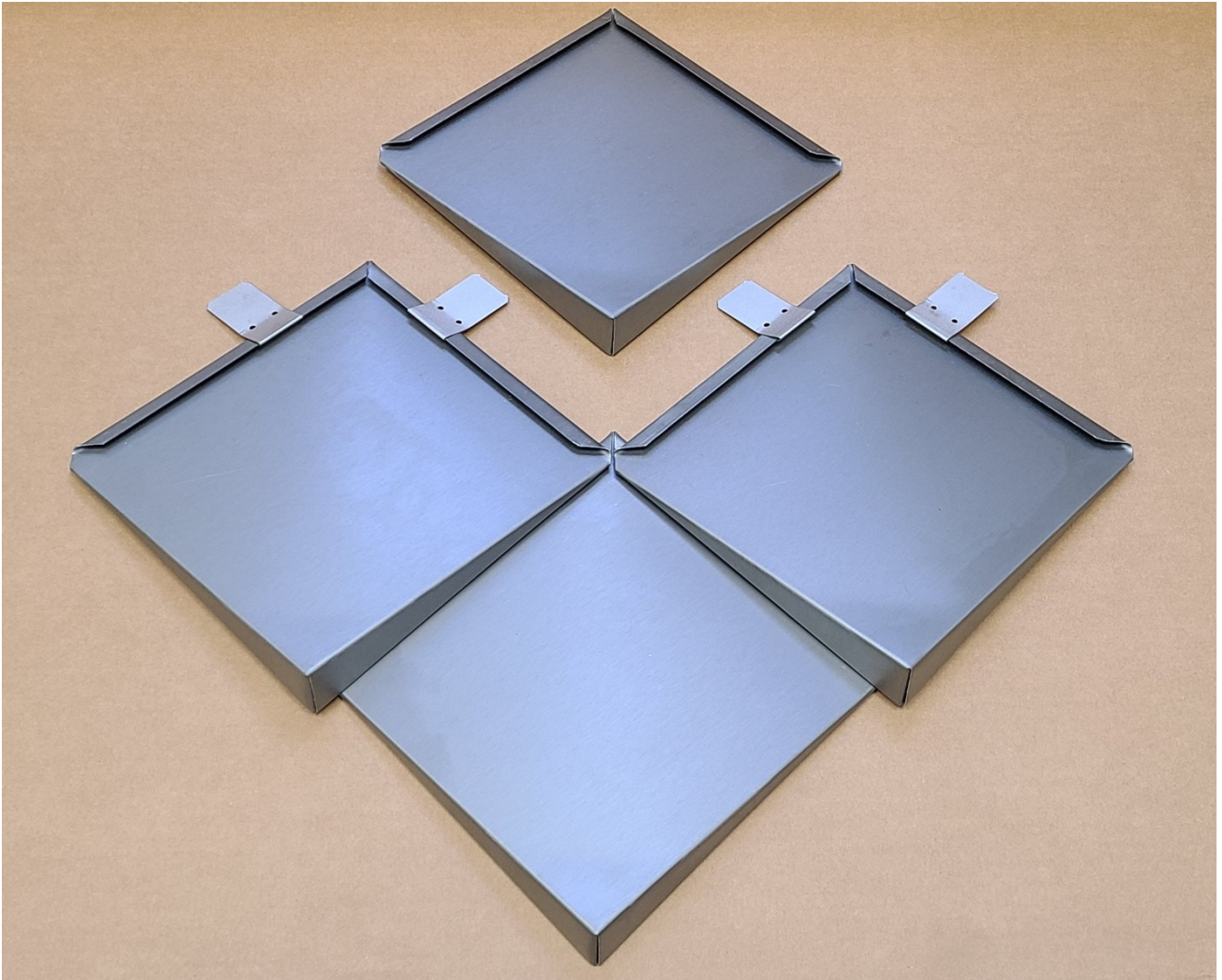


After placing the first shingle apply the required amount of fastening clips and 2 fasteners per clip

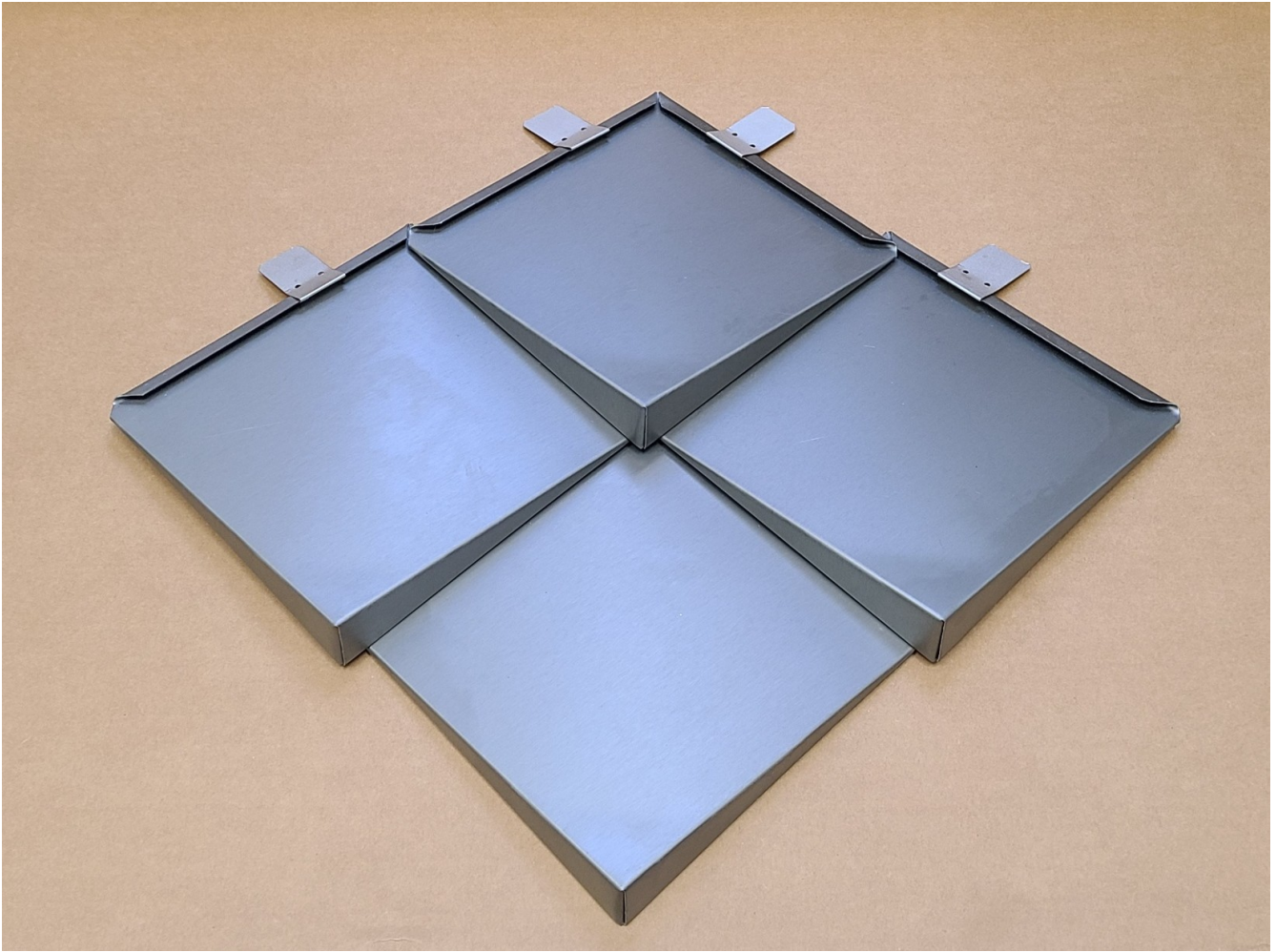


Interlock the next shingle with the shingle, or shingles, below it in a way that the seams appear staggered.

- Do Not align the seams to a straight line. Make them look like stairs – like the picture above
- Apply the required fasteners as before



Interlock the next to its side shingle and apply the fastener. Between the two adjacent shingles there should a small channel appear to allow condensation water to escape



Interlock the next shingle a top of the shingles below so the lower tip over hangs a half an inch and apply the fasteners to it.