TAMKO Roofing Products, Inc.

METALWORKS Steel Shingles

PART 1 GENERAL REQUIREMENTS

1.01 DESCRIPTION OF WORK

A. Furnish and install steel shingles and accessories in accordance with TAMKO's Steel Shingle Standards. Roof Support (Structural) Systems are not included in this section.

1.02 SUBMITTALS

A. Product Data – Submit TAMKO METALWORKS Steel Shingle specification and installation guide.
B. Shop Drawings – Submit small-scale roof plan and details as needed. Indicate details of flashing conditions, anchoring methods and penetrations.
C. Samples – Submit actual shingle along with sample of color.

1.03 QUALITY ASSURANCE

A. Regulatory Requirements – Comply with all applicable local, state, or national building codes.

1.04 DELIVERY, STORAGE, AND HANDLING

A. TAMKO METALWORKS Steel Shingles should be kept in a dry place.
B. Limit stacking to a maximum of 3 boxes high on each pallet and only two pallets high. Boxes should be stacked on their sides. Do not lay boxes flat.

1.05 WARRANTY

A. Provide 50 year manufacturer's limited warranty against manufacturing defects which result in leaks.

PART 2 PRODUCTS

2.01 APPROVED MANUFACTURER

A. TAMKO Roofing Products, Inc.
P.O. Box 1404
Joplin, MO 64802
Phone: 800-641-4691, FAX: 800-841-1925
B. Alternative products with identical physical characteristics must be approved in writing by Architect 14 days prior to General Contractor Bid Date.

2.02 METAL SHINGLE MATERIALS

A. TAMKO's METALWORKS Steel Shingles are manufactured using G90 galvanized steel with a PVDF paint coating to form simulated shingle sections of various widths and depths. Each steel shingle locks on all four (4) edges to provide for mechanical connection to adjacent components. PVDF paint finish for the exposed surface is available in multiple standard colors. The back surface of the shingle will be primed and wash-coated.

B. Type
   1. AstonWood Steel Shingles
   2. StoneCrest Tile Steel Shingles
   3. StoneCrest Slate Steel Shingles

C. Dimensions
   Width – Overall 39-3/4" (100.965 cm)
   Length – Overall 12 5/8" (32.0675 cm)
   Exposed Area – 3.28 sq. ft. (0.3047 m^2)
   (39-3/8" x 12") (100.0125 cm x 30.48 cm)

D. AstonWood Steel Shingles:
   Weight per shingle: 2 lbs.
   Weight per square: 61 lbs.
   StoneCrest Tile & StoneCrest Slate Steel Shingles:
   Weight per shingle: 2.5 lbs.
   Weight per square: 74 lbs.

E. AstonWood Steel Shingles:
   Thickness – Shingle material = nominal 0.0135" (0.014418 cm) thickness, including G90 galvanization and paint coatings.
   StoneCrest Tile & StoneCrest Slate Steel Shingles:
   Thickness – Shingle material = nominal 0.0162" (0.041148 cm) thickness, including G90 galvanization and paint coatings.

F. Thickness – Clip material = nominal 0.015" (0.0381 cm) thickness, G90 galvanized.

G. Paint Coating – Shingles and accessories shall be manufactured using PVDF coated G90 galvanized steel coil.
   1. Exposed Surface Finish: Fluropolymer (PVDF) with anti-corrosion primer, total 1.0 mil dry film thickness.
   2. Back Surface Finish: Wash-coat with anti-corrosion primer, total .6 mil dry film thickness.

H. Shingle Coverage
   1. AstonWood Steel Shingles shall be manufactured and boxed 30 panels to a box with 98.4 sq. ft. (9.14165 m^2) to a box.
   2. StoneCrest Tile and StoneCrest Slate Steel Shingles shall be manufactured and boxed 15 panels to a box with 49.2 sq. ft. (4.57082 m^2) to a box.

I. Shingle Accessories – Hip/Ridge, Starter/Eave, Gable/Rake, Valley Pan, and all other accessories as manufactured by TAMKO.

PART 3 EXECUTION

3.01 EXAMINATION AND PREPARATION

A. Preparation and basic requirements for TAMKO's METALWORKS Steel Shingles
   1. The minimum required slope is 3:12 (7.62 cm in 30.48 cm)
   2. All nails, screws, and rivets used will be galvanized steel.
   3. The minimum length of nail is 1.5" (3.8 cm), but in a roof over, the nail must penetrate the deck by at least 1/2" (1.27 cm). Nails are to be 11 or 12 gauge galvanized roofing nails with 3/8" (1 cm) heads. (Stainless steel is not acceptable)
   4. All field formed flashing will be formed from METALWORKS Trim Coil.

B. Sheathing
   1. New Roof Deck Construction: Roof deck must be smooth, dry and free from warped surfaces.
   2. Reroofing: Before reroofing it is recommended that old metal drip edges be removed at eaves and rakes.
   3. Plywood: All plywood shall be exterior grade as defined by the American Plywood Association. Plywood shall be a minimum of 3/8" (1 cm) thickness and applied in accordance with the recommendations of the American Plywood Association.

C. Ventilation

To help ensure adequate ventilation and circulation of air, place louvers of sufficient size high in the gable ends and install an adequate number of roof vents and soffit vents. FHA minimum property standards require one square foot of net free ventilation area for each 150 square feet of attic floor area, or one square foot per 300 square feet if a vapor barrier is installed on the warm side of the ceiling or if at least one half of the ventilation is provided near the ridge. If the ventilation openings are screened, the total area should be doubled. For further information on proper ventilation contact your architect, building contractor, building materials supplier or TAMKO's Technical Services Department.

3.02 INSTALLATION

A. Manufacturer's standards. All METALWORKS Steel Shingles and accessories to be installed per TAMKO's METALWORKS Steel Shingle Installation Guide.

B. All detail work demands careful consideration. It is important to consider water flow and overlap materials in proper sequence.

C. UL Class "A" Fire Rated Roof
   1. For roof applications requiring Underwriters Laboratories, Class "A" fire rated roof, the entire roof area must be covered with 1/4" (.635 cm) DensDeck® available from Georgia-Pacific, 1/2" (1.27 cm) gypsum board, or VersaShield® available from Elk, (one or two layers, depending

on local building codes). One of the products listed must be applied directly over the sheathing or existing roof, underneath the underlayment, and must be fastened in accordance with the manufacturer's specifications. One layer of appropriate underlayment shall be applied over the selected product listed prior to installing shingles. Roof shingle fasteners must be long enough to sufficiently penetrate the roof sheathing by at least 1/2" (1.27 cm).

D. UL Class A over existing Asphalt Shingles
    1. Must be existing Class A rated system with asphalt glass fiber mat shingles.

E. UL Class C Fire-Rated Roof
    1. Minimum 15/32" (1.2 cm) thick sheathing and one layer of underlayment listed in section F.1. shall be used in roof applications requiring Underwriters Laboratories, Inc. Class C fire rating.

F. Underlayment
    1. Products which are acceptable for use as underlayments are: TAMKO No. 30 Asphalt Saturated Organic Felt, any non-perforated asphalt saturated organic felt which meets ASTM: D226, Type II, or TAMKO TW Metal & Tile Underlayment.
    2. The entire roof must be covered (prior to shingle application) with an acceptable underlayment (double layer at eaves and valleys). This applies to new roof or reroof applications.
    3. For roof slopes of 3 inches per foot to 4 inches per foot (7.62 to 10.16 cm in 30.48 cm) , TAMKO's self-adhering TW Metal & Tile Underlayment must be applied over the entire deck for new roof construction.
    4. Apply the underlayment parallel to the eaves, starting with the lowest course, lapping each course 2" (5.1 cm). Where ends join, lap 4" (10.16 cm).
    5. When covering hips and valleys, always overlap felt by extending 24" (60.96 cm) beyond the center line of the hip or valley.

G. Ice and Rain Protection
    1. For new construction where there is a possibility of ice forming along eaves or in valleys causing a backup of water, TAMKO's TW Metal & Tile Underlayment should be used in lieu of the lowest layer of underlayment. Extend from the eave's edge to a point at least 24" (61 cm) beyond the exterior wall line of the building and along the entire length of the valley, 19" (48 cm) on each side of the centerline.

H. Roof Traffic
    1. Appropriate fall protection methods should be used whenever working on roofs. Use caution, product may be slippery.
    2. Wear soft-soled shoes.
    3. Walk only on the top portion of the shingles and avoid walking on the locks.