

SECTION 07610

SHEET METAL ROOFING

1 PART 1 GENERAL

1.1 SUMMARY

- A. Section includes pre-finished galvanized steel roofing and associated flashings, and gutters and downspouts.

1.2 SYSTEM DESCRIPTION

- A. Metal Roofing System: Conform to criteria of SMACNA "Architectural Sheet Metal Manual."
 - 1. Standing seam roofing: SMACNA Details
 - 2. Gutters: SMACNA Details
 - 3. Downspouts: SMACNA Details
 - 4. Flashings: SMACNA Details
- B. Gutters and Downspouts: Size components for rainfall intensity determined by a storm occurrence of 1 in 10 years in accordance with SMACNA recommendations.

1.3 SUBMITTALS

- A. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, termination, and installation details.
- B. Samples: Submit two samples, of metal roofing mounted on plywood backing illustrating typical seam, external corner, internal corner, valley, ridge, junction to vertical dissimilar surface, material, color, and finish.

1.4 WARRANTY

- A. Provide twenty year manufacturer warranty for finishes.

2 PART 2 PRODUCTS

2.1 SHEET METAL ROOFING

- A. Fabricators: Equal to
 - 1. Metal Sales: "Vertical Seam" w/ 16" exposure, Flat Pan
 - 2. Pac-Clad: "Snap-Clad" w/16" exposure
- B. Product Description: Metal roofing of brake formed metal sheets; standing seam; prefinished. This section also includes sheet metal gutters and downspouts.
- C. Seam Height: 1 3/4"
- D. Panel Dimension: 16"
- E. Factory produced eave notching for trimmed eave panels
- F. Texture: Smooth texture

- G. Rating: UL 90 rating for wind uplift
- H. Flashing and trim: Shall match panel material
- I. Fasteners: Galvanized steel, non-penetrating high performance clips for roofing applications and UL90 rated assemblies.

2.2 COMPONENTS

- A. Pre-Finished hot-dipped galvanized steel sheet: ASTM A653/A653M, G90 (Z275) zinc coating; 24 gage core steel, shop pre-coated with Kynar 500 coating, color as selected from manufacturer's standard

2.3 ACCESSORIES

- A. Fasteners: Stainless steel
- B. Underlayment: ASTM D226 No. 30 asphalt saturated roofing felt.
- E. Protective Backing Paint: FS TT-C-494, bituminous.
- F. Sealant: Exterior metal lap joint butyl or polyisobutylene sealant as specified in Section 07900.
- G. Plastic Cement: ASTM D4586, Type I.
- H. Reglets: Surface mounted Recessed type, galvanized steel
- I. Eave Protection Sheet: Rubberized asphalt bonded to sheet polyethylene, 40 mil (1 mm) total thickness, with strippable treated release paper.

2.4 FABRICATION

- A. Form components true to shape, accurate in size, square, and free from distortion or defects. Form pieces in longest practical lengths.
- B. Fabricate cleats and starter strips of same material as sheet, continuous, interlockable with sheet.
- C. Hem exposed edges on underside, miter and seam corners. Fabricate vertical faces with bottom edge formed outward and hemmed to form drip.
- D. Fabricate flashings to allow toe to extend 2 inches (50 mm) over roofing gravel paver. Return and brake edges.
- E. Form joints as indicated. At moving joints, use sealed lapped, bayonet-type, or interlocking hooked seams.
- F. Fabricate corners in one piece, long legs; seam for rigidity, seal with sealant.
- G. Form sheet metal pans with upstand, and flanges.

2.5 SHOP FINISHING

- A. Manufacturer's standard four coat protection system. Kynar 500/Hylar 5000
- B. Primer Coat: Finish concealed side of metal sheets with primer compatible with finish system as recommended by finish system manufacturer.

3 PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify roof openings, roof penetrations, cant strips and reglets in place, and nailing strips are properly located.
- B. Verify deck is dry and free of snow or ice. Verify joints in wood deck are solidly supported and fastened.

3.2 PREPARATION

- A. Paint concealed metal surfaces and surfaces in contact with dissimilar metals with protective backing paint to a minimum dry film thickness of 15 mil (0.4 mm).
- B. Prepare wood deck to fill knots before eave protection.

3.3 INSTALLATION

- A. Eave (Ice Dam) Protection: Place eave edge and gable edge metal flashings tight with fascia boards. Weather lap joints and seal with plastic cement. Secure flange with nails.
 - 1. Apply eave protection sheet.
 - 1. Extend eave protection sheet minimum 4 feet upslope beyond interior face of exterior wall.
- B. General Roofing Installation Requirements:
 - 1. Apply underlayment over entire roof area in single layer laid perpendicular to slope; weather lap edges 2 inches (50 mm) and nail in place. in 2 layers; the first layer laid parallel to slope with joints lapped 6 inches (150 mm), second layer laid perpendicular to slope with 2 inch (50 mm) lapped edges. Minimize nail quantity.
 - 2. Use plastic cement for joints between metal and bitumen and for joints between metal and felts.
 - 3. Provide formed metal pans for protrusions through roof. Fill pans watertight with plastic cement.
- C. Gutters and Downspouts Installation.
 - 1. Provide integral gutters and downspouts of the same material as metal roofing system.
 - 2. Conform to SMACNA CDA details
- D. Flashing Installation:
 - 1. Conform to SMACNA details

...END OF SECTION 07610