

## SECTION 07620

### SHEET METAL FLASHING AND TRIM

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION

- A. This Section describes the requirements for furnishing and installing flashing and sheet metal.
- B. Related Sections:
  - 1. Polyvinyl-chloride roofing is specified in Section 07542.
  - 2. Self-adhering sheet flashing is specified in Section 07656.

##### 1.02 SUBMITTAL

- A. Product Data: Manufacturer's product data, installation instructions and general recommendations for each specified sheet material and fabricated product.
- B. Samples: 8-inch square samples of specified sheet materials to be exposed as finished surfaces.
- C. Shop Drawings: Show layout, profiles, method of joining, and anchorage details.

##### 1.03 PROJECT CONDITIONS

- A. Coordinate work of this Section with interfacing and adjoining work for proper sequencing of each installation.

#### PART 2 - PRODUCTS

##### 2.01 METALS

- A. Galvanized Steel: ASTM A653, G90, commercial or lock-forming quality, hot-dip galvanized steel sheet with 0.20-percent copper, mill phosphatized for painting; not less than 22-gauge.
- B. Coil-Coated Galvanized Steel Sheet: Zinc-coated, commercial quality steel sheet conforming to ASTM A755, G60 coating designation, coil coated with high performance fluoropolymer coating; not less than 18-gauge for parapet wall caps.

##### 2.02 REGLETS

- A. Approved Manufacturers: Fry Reglet Corporation, W.P. Hickman Co., Keystone Flashing Company or approved equal.
- B. General: Units of type, material, and profile indicated, formed to provide secure interlocking of separate reglet and counterflashing pieces and compatible with flashing indicated.
- C. Surface Mounted Type: Provide with slotted holes for fastening to substrate, with neoprene or other weatherproofing washers, and with channel for sealant at top edge.
- D. Stucco Type: Provide with upturned fastening flange and extension leg of length to match thickness of applied finish materials.
- E. Counterflashing Wind-Restraint Clip: Provide clips to be installed before counterflashing to prevent wind uplift of the counterflashing lower edge.

##### 2.03 MISCELLANEOUS MATERIALS AND ACCESSORIES

- A. Solder: ASTM B32, Grade Sn50, used with rosin flux.
- B. Fasteners: Same metal as flashing and sheet metal or other non-corrosive metal recommended by sheet manufacturer. Match finish of exposed heads with material being fastened.
- C. Asphalt Mastic: SSPC - Paint 12, solvent type asphalt mastic, nominally free of sulfur and containing no asbestos fibers, compounded for 15-mil dry film thickness per coat.

- D. Mastic Sealant: Polyisobutylene; non-hardening, non-skinning, non-drying, non-migrating sealant.
- E. Epoxy Seam Sealer: 2-part non-corrosive metal seam cementing compound, recommended by metal manufacturer for exterior/interior non-moving joints including riveted joints.
- F. Metal Accessories: Provide sheet metal clips, straps, anchoring devices and similar accessory units as required for installation of work, matching or compatible with material being installed, non-corrosive, size and gauge required for performance.
- G. Roofing Cement: ASTM D4586, Type I, asbestos free, asphalt based.

## 2.04 FABRICATION

- A. General Sheet Metal Fabrication Standard: Fabricate to comply with recommendations of SMACNA "Architectural Sheet Metal Manual" that apply to design, dimensions, and metal.
- B. Comply with details indicated. Fabricate to fit substrates and to provide waterproof and weather-resistant performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
- C. Form exposed sheet metal without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems.
- D. Seams: Fabricate nonmoving seams in sheet metal with flat-lock seams. Tin edges to be seamed, form seams, and solder.
- E. Expansion Provisions: Space movement joints at maximum of 10-feet with no joints within 24-inches of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently waterproof, form expansion joints of intermeshing hooked flanges, not less than 1-inch deep, filled with mastic sealant concealed within joints.
- F. Sealed Joints: Form non-expansion, but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA standards.
- G. Separate metal from non-compatible metal or corrosive substrates by coating concealed surfaces at locations of contact with asphalt mastic or other permanent separation as recommended by manufacturer.
- H. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of sheet metal exposed to view.
- I. Fabricate cleats and attachment devices from same material as sheet metal component being anchored or from compatible, non-corrosive metal recommended by sheet metal manufacturer.
- J. Hanging Gutters:
  1. Fabricate hanging gutters in sections not less than 8-feet long, except at ends of runs where shorter lengths are required.
  2. Gutter Bead: Stiffen outer edge of gutter by folding edge over approximately 3/4-inch toward roof and down approximately 3/4-inch unless otherwise indicated.
  3. Gutter Spacers: Fabricate of same material and thickness as gutter. Fabricate 1-inch wide strap and fasten to gutters not over 36-inches on center. Turn back edge up 1-inch and lap front edge over gutter bead. Rivet and solder to gutter.
  4. Outlet Tubes: Form outlet tubes to connect gutters to downspouts of same metal and thickness as gutters and extend into the downspout 3-inches. Flange upper end of outlet tube 1/2-inch. Lock and solder longitudinal seam. Solder tube to gutter.
  5. Fabricate basket strainers of same material as gutters.
  6. Gutter Brackets: Fabricate of same metal as gutter. Fabricate to gutter profile. Drill two 3/16-inch diameter holes in anchor leg for countersunk flat head screws.

- K. Downspouts:
1. Fabricate downspouts of same metal and thickness as gutters in sections approximately 10-feet long with 3/4-inch wide flat locked seams.
  2. Fabricate elbows by mitering, riveting, and soldering. Lap upper section to the inside of the lower piece.
  3. Fabricate brackets or hangers of same material as gutter, 1/16-inch thick x 1-inch minimum width. Form to support conductors 1-inch from wall surface in accordance with Architectural Sheet Metal Manual Plate 34, Design E for round shapes.
- L. Scuppers:
1. Fabricate scuppers with minimum 4-inch wide flange.
  2. Fabricate exterior wall side to project not less than 1/2-inch beyond face of wall with drip at bottom outlet edge.
  3. Fabricate exterior wall flange for through wall scupper not less than 1-inch wide on top and sides with edges hemmed.
  4. Fabricate scupper not less than 8-inch wide and not less than 5-inch high for through wall scupper, unless otherwise indicated.
  5. Solder joints watertight.

## 2.05 COIL-COATED GALVANIZED STEEL SHEET FINISH

- A. High-Performance Organic Coating Finish: Manufacturer's standard 2-coat, thermocured system composed of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70-percent polyvinylidene fluoride resin by weight; complying with AAMA 605.2. Color to match color sample furnished by the Architect.

## PART 3 - EXECUTION

### 3.01 INSTALLATION

- A. General:
1. Except as otherwise indicated or specified, comply with manufacturer's installation instructions and recommendations, and with SMACNA "Architectural Sheet Metal Manual."
  2. Anchor units securely in place, allowing for thermal expansion.
  3. Conceal fasteners where possible.
  4. Set units true to line and level as indicated.
  5. Install work with laps, joints and seams which will be permanently watertight and weatherproof.
- B. Install exposed sheet metal work free of excessive oil canning, buckling, and tool marks, true to line and levels indicated, with exposed edges folded back for form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistance performance.

- C. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets to be soldered to a width of 1-1/2-inches, except where pre-tinned surface would be exposed to view in the finished work.
  - 1. Do not used torches for soldering.
- D. Sealed Joints: Form non-expansion, but movable joints to accommodate elastomeric sealant. Comply with SMACNA standards.
- E. Seams: Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.
- F. Install reglets to receive counterflashing.
- G. Counterflashing: Coordinate installation with installation of assemblies to be protected by counterflashing. Install in reglets or receivers. Secure in a waterproof manner by means of snap-in installation and sealant, lead wedges and sealant, interlocking folded seams, or blind rivets and sealant. Lap joints a minimum of 2-inches and bed with sealant.
- H. Roof-Drainage System: Install drainage items fabricated from sheet metal, with straps, adhesives, and anchors recommended by SMACNA "Architectural Sheet Metal Manual" to drain roof. Coordinate roof drain flashing with roof drainage system installation.
- I. Equipment Support Flashing: Coordinate equipment support flashing installation with roofing and equipment installation. Weld or seal flashing to equipment support member.
- J. Roof-Penetration Flashing: Coordinate roof-penetration flashing installation with roofing and installation of items penetrating roof.
  - 1. Turn lead flashing down inside vent piping, being careful not to block vent piping with flashing.
  - 2. Seal and clamp flashing to pipes penetrating roof, other than lead flashing on vent piping.
- K. Splash Pans: Install where downspouts discharge on low-sloped roofs. Set in roof cement or sealant compatible with roofing membrane.

### 3.02 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces, removing substances which might cause corrosion of metal or deterioration of finishes.
- B. Protection: Protect flashing and sheet metal work during construction to ensure that work will be without damage or deterioration other than normal weathering at time of final completion.

END OF SECTION