

SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Formed wall flashing and trim.

1.2 ACTION SUBMITTALS

- A. Product Data: For each product indicated.
- B. Shop Drawings: Show layouts, profiles, shapes, seams, dimensions, and details for fastening, joining, supporting, and anchoring sheet metal flashing and trim.
- C. Samples: For each exposed finish and for joint sealants.

1.3 INFORMATIONAL SUBMITTALS

- A. Sealant Compatibility and Adhesion Test Reports: From sealant manufacturer for each combination of joint substrate, primer, backing, and sealant.
- B. Product Certificates: For each type of coping and roof edge flashing that is SPRI ES-1 tested.

1.4 QUALITY ASSURANCE

- A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.
- B. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual." Conform to dimensions and profiles shown unless more stringent requirements are indicated.
- C. Sealant Compatibility and Adhesion Testing: Use sealant manufacturer's standard test methods to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
- D. Pre-Installation Conference: Conduct conference at Project site.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 SHEET METALS

- A. Copper Sheet: ASTM B 370, Temper H00 or H01, cold-rolled copper sheet.
- B. Lead-Coated Copper Sheet: ASTM B 101, Temper H00 and H01, cold-rolled copper sheet, of weight indicated below, coated both sides with lead weighing not less than 12 lbs./100 sq. ft. nor more than 15 lbs./100 sq. ft. of copper sheet (total weight of lead applied equally to both sides).
- C. Aluminum Sheet: ASTM B 209, Alloy 3003, 3004, 3105, or 5005, Temper suitable for forming and structural performance required, but not less than H14, finished as follows:
 - 1. Mill Finish: Standard one-side bright.
 - 2. Alclad Finish: Metallurgically bonded surfacing to both sides.
 - 3. Factory Prime Coating: Factory-applied, baked-on epoxy primer coat.
 - 4. Siliconized-Polyester Coating: Epoxy primer and silicone-modified, polyester-enamel topcoat.
 - a. Color: As selected by Architect from manufacturer's full range.
 - 5. High-Performance Organic Finish: Three-coat, thermocured system containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with AAMA 2604.
 - a. Color: As selected by Architect from manufacturer's full range.
 - 6. Clear Anodic Finish, Coil Coated: Class II, AA-M12C22A41, complying with AAMA 611, 0.018 mm or thicker.
 - 7. Color Anodic Finish: Class II, AA-M12C22A34, complying with AAMA 611.
 - a. Color: [Light bronze] [Medium bronze] [Dark bronze] [Black].
- D. Stainless-Steel Sheet: ASTM A 240/A 240M, Type 304, No. [2D] [2B] [3] [4] finish.
- E. Zinc-Tin Alloy-Coated Stainless-Steel Sheet: ASTM A 240/A 240M, Type 304, dead-soft, fully annealed stainless-steel sheet, coated on both sides with a zinc-tin alloy (50 percent zinc, 50 percent tin).
- F. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 coating designation; structural quality, mill phosphatized for field painting.

- G. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A 792/A 792M, Class AZ50 coating designation, Grade 40; structural quality with manufacturer's standard clear acrylic coating both sides.
- H. Prepainted, Metallic-Coated Steel Sheet: Steel sheet metallic coated by the hot-dip process and prepainted by the coil-coating process to comply with ASTM A 755/A 755M.
1. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 coating designation; structural quality.
 2. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A 792/A 792M, Class AZ50 coating designation, Grade 40; structural quality.
 3. Exposed Finishes: Apply the following coil coating:
 - a. Factory Prime Coating: Factory-applied, baked-on epoxy primer coat.
 - b. Siliconized-Polyester Coating: Epoxy primer and silicone-modified, polyester-enamel topcoat; with a dry film thickness of not less than 0.2 mil for primer and 0.8 mil for topcoat.
 - 1) Color: As selected by Architect from manufacturer's full range.
 - c. High-Performance Organic Finish: Three-coat thermocured system containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with physical properties and coating performance requirements of AAMA 2604, except as modified for below:
 - 1) Humidity and Salt Spray Resistance: 2000 hours.
 - 2) Color: As selected by Architect from manufacturer's full range.
- I. Lead Sheet: ASTM B 749, Type L51121, copper-bearing lead sheet.

2.3 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.
- B. Felt Underlayment: ASTM D 226, Type II (No. 30), asphalt-saturated organic felt, nonperforated.
1. Slip Sheet: Rosin-sized paper, minimum 3 lbs./100 sq. ft..
- C. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads.
1. Nails for Copper Sheet: Copper or hardware bronze, 0.109 inch minimum and not less than 7/8 inch long, barbed with large head.

2. Exposed Fasteners: Heads matching color of sheet metal by means of plastic caps or factory-applied coating.
 3. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws, gasketed, with hex washer head.
 4. Blind Fasteners: High-strength aluminum or stainless-steel rivets.
- D. Sealing Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealing tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape.
- E. Elastomeric Sealant: ASTM C 920 and Section 07 92 00 "Joint Sealants," elastomeric [polyurethane] [silicone] polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- F. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant, polyisobutylene plasticized, heavy bodied for hooked-type expansion joints with limited movement.
- G. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound.
- H. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15 mil dry film thickness per coat.

2.4 FABRICATION, GENERAL

- A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated. Shop fabricate items where practicable. Obtain field measurements for accurate fit before shop fabrication.
- B. Fabricate sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
1. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
 2. Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
- C. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA recommendations.
- D. Expansion Provisions: Where lapped or bayonet-type expansion provisions in the Work cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with butyl sealant concealed within joints.
- E. Conceal fasteners and expansion provisions where possible on exposed-to-view sheet metal flashing and trim, unless otherwise indicated.

- F. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal, and in thickness not less than that of metal being secured.

2.5 WALL SHEET METAL FABRICATIONS

- A. Openings Flashing in Frame Construction: Fabricate through wall head, sill, and similar flashings to extend 4 inches beyond wall openings. Form head and sill flashing with 2-inch-high end dams. Fabricate from the following material:
 - 1. Copper: 16 oz./sq. ft. thick.
 - 2. Lead-Coated Copper: 17.2 oz./sq. ft. thick.
 - 3. Aluminum: 0.0320 inch thick.
 - 4. Stainless Steel: 0.0156 inch thick.
 - 5. Zinc-Tin Alloy-Coated Stainless Steel: 0.015 inch thick.
 - 6. Galvanized Steel: 0.0217 inch thick.
 - 7. Aluminum-Zinc Alloy-Coated Steel: 0.0217 inch thick.
 - 8. Prepainted, Metallic-Coated Steel: 0.0217 inch thick.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions and other conditions affecting performance of work.
 - 1. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
 - 2. Proceed with installation only after unsatisfactory conditions have been corrected.
- B. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
 - 1. Torch cutting of sheet metal flashing and trim is not permitted.
- C. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by fabricator or manufacturers of dissimilar metals.
- D. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.

- E. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and butyl sealant.
- F. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
 - 1. Space cleats not more than 12 inches apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.
- G. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with butyl sealant concealed within joints.
- H. Fasteners: Use fasteners of sizes that will penetrate substrate not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.
 - 1. Galvanized or Prepainted, Metallic-Coated Steel: Use stainless-steel fasteners.
 - 2. Aluminum: Use aluminum or stainless-steel fasteners.
 - 3. Copper: Use copper or stainless-steel fasteners.
 - 4. Stainless Steel: Use stainless-steel fasteners.
- I. Seal joints with butyl sealant as required for watertight construction. Comply with recommendations of ASTM C 1193 and Section 07 92 00 "Joint Sealants."
- J. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pretin edges of sheets to be soldered to a width of 1-1/2 inches except where pretinned surface would show in finished Work.
 - 1. Do not solder [**prepainted, metallic-coated steel**] [**and**] [**aluminum**] sheet.
 - 2. Pretinning is not required for [**lead-coated copper**] [**zinc-tin alloy-coated stainless steel**] [**and**] [**lead**].

3.4 WALL FLASHING INSTALLATION

- A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to SMACNA recommendations and as indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.
- B. Openings Flashing in Frame Construction: Install continuous through wall head, sill, and similar flashings to extend 4 inches beyond wall openings.
- C. Overhead-Piping Safety Pans: Suspend pans from pipe and install drain line to plumbing waste or drain line.

- D. Equipment Support Flashing: Coordinate installation of equipment support flashing with installation of roofing and equipment. Weld or seal flashing with [**elastomeric**] [**butyl**] sealant to equipment support member.
- E. Clean exposed metal surfaces for uniform oxidation and weather exposure; neutralize flux materials; clean off excess solder and sealants; and remove strippable films, if any.

END OF SECTION 07 62 00