

SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Copings.
2. Gravel stops / metal edge flashing.
3. Counter flashings.
4. Downspouts.
5. Sheet metal trim.
6. Reglets and receivers.

1.2 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, layouts at 1/4 inch scale, details at 3 inch scale

1. Show layout, joining profiles, and anchorage's of fabricated work, including major counter flashings, trim and fascia units, gutters, downspouts, scuppers and expansion joint systems.

C. Samples:

1. Manufacturer's standard size samples of specified sheet materials to be exposed as finished surfaces.
2. Manufacturer's standard size samples of completely finished units of specified factory fabricated products exposed as finished work.

1.3 QUALITY ASSURANCE

A. 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.

1.4 WARRANTY

A. Contractor's Warranty: Warranty for sheet metal flashing and trim for roofing shall be covered in the roofing installer's full system warranty and shall warrant sheet metal work to be free of leaks and defects in materials and workmanship for two years after date of final acceptance of Owner.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. SPRI Wind Design Standard: Manufacture and install copings and roof edge flashings tested according to SPRI ES-1 and capable of resisting design pressure as indicated on Drawings.
- C. Manufacturer shall certify that reglet and counter flashing system to resist anticipated wind loads when tested in accordance with ASTM D3161-95a for a minimum of two continuous hours as verified by independent test results.

2.2 SHEET METALS

- A. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, **G90 (Z275)** coating designation; structural quality, mill phosphatized for field painting.
- B. Metallic-Coated Steel Sheet: Provide zinc-coated (galvanized) steel sheet in accordance with ASTM A653/A653M, **G90 (Z275)** coating designation or aluminum-zinc alloy-coated steel sheet in accordance with ASTM A792/A792M, **Class AZ50 (Class AZM150)** coating designation, **Grade 40 (Grade 275)**; prepainted by coil-coating process to comply with ASTM A755/A755M.
 - 1. Surface: Smooth, flat.
 - 2. Exposed Coil-Coated Finish:
 - a. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent polyvinylidene fluoride (PVDF) resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - 1) Color: As specified on drawings or in Division 01 Section "Exterior Finishes and Colors."
 - 3. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with minimum total dry film thickness of **0.5 mil (0.013 mm)**.
- C. Aluminum Sheet: **ASTM B209 (ASTM B209M)**, alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required; with smooth, flat surface.
 - 1. Factory Prime Coating: Where painting after installation is required, pretreat metal with white or light-colored, factory-applied, baked-on epoxy primer coat; minimum dry film thickness of **0.2 mil (0.005 mm)**.

2. Exposed Coil-Coated Finish:
 - a. Two-Coat Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent polyvinylidene fluoride (PVDF) resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - 1) Color: As specified on drawings or in Division 01 Section "Exterior Finishes and Colors."
3. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with minimum total dry film thickness of 0.5 mil (0.013 mm).

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-lb/100 sq. ft. (0.16-kg/sq. m).
- 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. Exposed Fasteners: Heads matching color of sheet metal by means of plastic caps or factory-applied coating.
 2. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws, gasketed, with hex washer head.
 3. Blind Fasteners: High-strength aluminum or stainless-steel rivets.
- D. Elastomeric Sealant: ASTM C 920, elastomeric silicone polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- E. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant, polyisobutylene plasticized, heavy bodied for hooked-type expansion joints with limited movement.

2.4 FABRICATION, GENERAL

- A. General: Provide either prefabricated or field/factory formed sheet metal flashing and trim as indicated on the Drawings.

- B. 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.
- C. 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. Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder where applicable.
- D. Sealed Joints: Form non-expansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA recommendations.
- E. 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 (25 mm)** deep, filled with elastomeric or butyl sealant concealed within joints.
- F. Conceal fasteners and expansion provisions where possible on exposed-to-view sheet metal flashing and trim, unless otherwise indicated.
- G. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal, and in thickness not less than one gauge heavier than that of metal being secured.

2.5 ROOF DRAINAGE SHEET METAL FABRICATIONS

- A. General: Provide either prefabricated or field formed roof drainage sheet metal fabrications.
- B. Downspouts: Fabricate downspouts complete with mitered elbows. Furnish with metal hangers, from same material as downspouts, of size and thickness as recommended by SMACNA, and anchors.
 - 1. Fabricate from prepainted, metallic-coated steel, 24-gage, **0.0239-inch (0.607-mm)** minimum uncoated steel thickness.
- C. Parapet Scuppers: Fabricate scuppers of dimensions required with closure flange trim to exterior, **4-inch- (100-mm-)** wide wall flanges to interior, and base extending **4 inches (100 mm)** beyond cant or tapered strip into field of roof.
 - 1. Fabricate from prepainted, metallic-coated steel, 24-gage, **0.0239-inch (0.607-mm)** minimum uncoated steel thickness.

2.6 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

- A. General: Provide either prefabricated or field formed low-slope roof sheet metal fabrications.
- B. Roof Edge Flashing (Gravel Stop/Metal Edge) and Fascia Caps: Fabricate in minimum **96-inch- (2400-mm-)** long, but not exceeding **10-foot- (3-m-)** long, sections. Furnish with **6-inch- (150-mm-)** wide joint cover plates. Install along perimeters, and parapets exceeding **18 inches**

(457 mm) across the top dimension except for gabled walls as indicated in "Copings" paragraph below.

1. Fabricate from prepainted, metallic-coated steel, 24-gage, 0.0239-inch (0.607-mm) minimum uncoated steel thickness.
- C. Copings: Fabricate in minimum 96-inch- (2400-mm-) long, but not exceeding 10-foot- (3-m-) long, sections, maximum top dimension of 18 inches (457mm). Fabricate joint plates of same thickness as copings. Furnish with concealed anchorage, concealed splice plates with same finish as coping caps, mitered corner units, and continuous cleats to support edge of external leg. Exception shall be for gabled walls with minimum slope of 1 inch (25 mm) in 12 inches (305 mm), seamed with flat lock seams.
 1. Fabricate from prepainted, metallic-coated steel, minimum 24-gage, 0.0239-inch (0.607-mm) minimum uncoated steel thickness.
- D. Sleeve Flashings: Fabricate from prepainted, metallic-coated steel, 24-gage, 0.0239-inch (0.607-mm) minimum uncoated steel thickness, and minimum 8 inches (203 mm) above finished roof surface.
- E. Roof-Penetration Flashing: Fabricate from galvanized steel, 24-gage, 0.0239-inch (0.607-mm) minimum uncoated steel thickness.

2.7 SHEET METAL TRIM

- A. Sheet Metal Trim Around Main Entrance Feature: Fabricate as detailed on Drawings from the following materials:
 1. Aluminum: 0.040 inch (1.024 mm) thick.

2.8 COUNTERFLASHING AND FLASHING RECEIVER SYSTEM

- A. Provide prefabricated units of type, material, and profile indicated, formed to provide secure interlocking of separate reglet and counterflashing pieces, and compatible with flashing indicated with factory- mitered and -welded corners and junctions.
 1. Product:
 - a. Fry Reglet Corporation; Springlock Flashing System; 800-237-9773.
 - b. Metal-Era, Inc.; 2-PC Counter Flashing; 800-558-2162.
 - c. OMG, Inc.; Reglet and Flashing System; 800-892-9173.
 2. Material: Prepainted, metallic-coated steel.
 3. Thickness: 24-gage, 0.0239-inch (0.607-mm) minimum uncoated steel thickness.
 4. Color: As specified on drawings or in Division 01 Section "Exterior Finishes and Colors."

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. 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.
- B. 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.
- C. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.
- D. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and elastomeric or butyl sealant.
- E. 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.
- F. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet (3 m) with no joints allowed within 24 inches (600 mm) 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 (25 mm) deep, filled with elastomeric or butyl sealant concealed within joints.
- G. Fasteners: Use stainless-steel fasteners of sizes that will penetrate substrate not less than 1-1/4 inches (32 mm) for nails and not less than 3/4 inch (19 mm) for wood screws.
- H. Seal joints with elastomeric or butyl sealant as required for watertight construction.

3.2 ROOF DRAINAGE SYSTEM INSTALLATION

- A. General: Install sheet metal roof drainage items to produce complete roof drainage system according to SMACNA recommendations and as indicated. Coordinate installation of roof perimeter flashing with installation of roof drainage system.
- B. Downspouts: Join sections with 1-1/2-inch (38-mm) telescoping joints. Locate straps at top and bottom and at approximately 60 inches (1500 mm) o.c. in between.

3.3 ROOF FLASHING INSTALLATION

- A. General: Install sheet metal roof flashing and trim to comply with performance requirements and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight.
- B. Roof Edge Flashing: Anchor to resist uplift and outward forces according to recommendations in FMG Loss Prevention Data Sheet 1-49.
 - 1. Interlock bottom edge of roof edge flashing with continuous cleats anchored to substrate at **12-inch (300-mm)** centers minimum.
- C. Copings: Anchor to resist uplift and outward forces according to recommendations in FMG Loss Prevention Data Sheet 1-49.
 - 1. Interlock exterior bottom edge of coping with continuous cleats anchored to substrate at **12-inch (300-mm)** centers minimum.
 - 2. Anchor interior leg of coping with screw fasteners and washers at **18-inch (450-mm)** centers.
- D. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Secure in a waterproof manner. Extend counterflashing **4 inches (100 mm)** over base flashing.

3.4 SHEET METAL TRIM INSTALLATION

- A. Install sheet metal trim without excessive oil canning, buckling, and tool marks.
- B. Install sheet metal trim as detailed on Drawings and standard details.
- C. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.

END OF SECTION 07 62 00

BLANK SHEET