

SECTION 07 62 00

SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Fabricated sheet metal items, including flashings, counterflashings, gutters, downspouts, sheet metal roofing, and other items indicated in Schedule.
 - 2. Flashings, counterflashings and fabricated sheet metal items.
 - 3. Reglets and accessories.
- B. Related Sections
 - 1. Section 06 10 00 - Rough Carpentry: Roof curbs for mechanical equipment.
 - 2. Section 07 92 00 - Joint Sealants.

1.02 REFERENCE STANDARDS

- A. ASTM International:
 - 1. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - 2. ASTM D4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free.
- B. Sheet Metal and Air Conditioning Contractors' National Association:
 - 1. SMACNA (ASMM) - Architectural Sheet Metal Manual.

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate details with details of adjacent work to assure watertightness, proper attachments, sealed joints, tight flashings, and clean junctions.
- B. [Preinstallation Meeting:]
- C. [Sequencing:]
- D. Scheduling:
 - 1. Insure timely delivery of items to be embedded in work of other sections and furnish setting drawings or templates and setting instructions for exact installation.

1.04 [SUSTAINABLE CHARACTERISTICS]

- A. Section 01 35 63 - Sustainability Project Requirements: Requirements for sustainable design compliance.
- B. Materials and Resources Characteristics:
 - 1. [Recycled Content Materials: Furnish materials with maximum available recycled content including:

SPEC NOTE *List materials specified in this section required to have recycled content.*

- a. [_____.]
- 2. [Regional Materials: Furnish materials extracted, processed, and manufactured within 500 miles of Project site.]

SPEC NOTE *List materials specified in this section required to be regional materials.*

a. [_____.]

1.05 SUBMITTALS

- A. See Section 01 33 00 - Submittal Procedures, for submittal procedures.
- B. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.
- C. Samples: Only as requested.

1.06 [SUSTAINABLE DESIGN SUBMITTALS]

- A. Section 01 35 63 - Sustainability Project Requirements: Requirements for sustainable design submittals.
- B. Manufacturer's Certificate: Certify products meet or exceed specified sustainable design requirements.
 - 1. Materials Resources Certificates:
 - a. Certify recycled material content for recycled content products.
 - b. Certify source for regional materials and distance from Project site.
- C. Product Cost Data: Submit cost of products to verify compliance with Project sustainable design requirements. Exclude cost of labor and equipment to install products.
 - 1. Provide cost data for the following products:
 - a. Products with recycled material content.
 - b. Regional products.

1.07 QUALITY ASSURANCE

- A. Perform work in accordance with SMACNA Architectural Sheet Metal Manual requirements and standard details, except as otherwise indicated.
- B. Maintain one copy of each document on site.
- C. Fabricator and Installer Qualifications: Company specializing in sheet metal work with 3 years of documented experience.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle packaged materials in original containers with seals unbroken and labels intact until time of use.
- B. Store delivered products in clean, safe, dry area.
- C. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- D. Prevent contact with materials which may cause discoloration or staining.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

- A. Galvanized Steel: ASTM A653/A653M, with G90/Z275 zinc coating; minimum 0.02 inch thick base metal.

2.02 ACCESSORIES

- A. Fasteners: Galvanized steel, with soft neoprene washers.
- B. Slip Sheet: Rosin sized building paper.
- C. Solder and Flux Items: Remelted or reworked solder will not be permitted. Types as recommended by manufacturer of sheet metal to be soldered.
- D. Expansion Shields, Packing, and Wedges: Lead or other nonferrous alloys as approved by University's Representative.
- E. Flashing Compound/Tape:
 - 1. Description: Polyisobutylene type, nonskinning, nondrying.
 - 2. Product: Schnee-Morehead, Inc.'s "SM5229 Tacky Tape Industrial Tape Sealant"; or equal.
- F. Primer: Zinc chromate type.
- G. Protective Backing Paint: Zinc molybdate alkyd.
- H. Reglets: Surface mounted type, galvanized steel, sleeves and coping.

2.03 [STANDARD CATALOG PRODUCTS]

- A. [Reglets:]
 - 1. Description: Fabricate of 24 gauge galvanized sheet metal to match typical sheet metal.
 - 2. Manufacturer: Fry Reglet Corp.; or equal.
 - 3. Reglet Types: [As indicated on Drawings.]
 - a. Type 1, Stucco Reglet: Fry Reglet Corp.'s "Springlok Flashing System STX Stucco Reglet".
 - b. Type 2, Masonry Reglet: Fry Reglet Corp.'s "Springlok Flashing System MA Masonry Reglet".
 - c. Type 2, Concrete Reglet: Fry Reglet Corp.'s "Springlok Flashing System CO Concrete Reglet".

2.04 FABRICATION

- A. Preparation: Verify measurements in field and coordinate with related work as required for proper and adequate fabrication and installation.
- B. General Requirements:
 - 1. Items of standard manufacture may be furnished in lieu of specially fabricated items provided such items meet requirements shown or noted.
 - 2. As far as practicable, form and fabricate sheet metal items in shop. Where circumstances require on-site fabrication provide quality equal to shop work.
 - 3. Accurately reproduce profiles and bends as shown or noted. Ensure that intersections are sharp, even, and true; that plane surfaces are free from buckles and waves; that seams follow direction of water flow.
 - 4. Form sections true to shape, accurate in size, square, and free from distortion or defects.
 - 5. Where work is not otherwise shown or noted, design and fabricate in accordance with SMACNA.

6. Reinforce properly as required for strength and appearance.
 7. Cut, fit, and drill sheet metal as required to accommodate accessory items and work adjacent or adjoining.
 8. Form pieces in longest possible lengths.
 9. Exposed Edges of Sheet Metal: Hem exposed edges on underside 1/2 inch; no raw edges will be permitted.
 10. Fabricate corners from one piece with minimum 18 inch long legs; seam for rigidity, seal with sealant.
 11. Fabricate vertical faces with bottom edge formed outward 1/4 inch (6 mm) and hemmed to form drip.
 12. Fabricate flashings to allow toe to extend 2 inches over roofing gravel. Return and brake edges.
 13. Form material with flat lock seams, except where otherwise indicated.
- C. Sheet Metal Usage:
1. Where items are noted as typical sheet metal, use [galvanized sheet steel] ~~--or--~~ [] of thickness noted under Materials article unless otherwise noted.
 2. For interior sheet metal items, use galvanized sheet steel unless otherwise noted.
- D. Sheet Metal Joints:
1. In general, provide lock joints; where impractical, lap, rivet, and solder.
 2. Turn lock joints on exposed surfaces in direction of flow.
 3. Solder joints and miters.
 4. Where positive joining is required, arc-weld in accordance with AWS D1.1, AWS D1.3, or braze.
- E. Soldering:
1. Pre-tin edges 1-1/2 inch both sides prior to soldering.
 2. Use heavy soldering coppers of blunt design.
 3. Immediately after applying flux, solder slowly with well-heated coppers, thoroughly heating seams and completely sweating solder through full width with at least 1 inch width along seams.
 4. After soldering, immediately neutralize any acid flux and flush with clean water.
- F. [Expansion-Contraction of Sheet Metal Runs: Provide loose locking slip joint at maximum 8 feet from external or internal corners, at every 24 feet of straight runs unless manufacturer recommends more frequent interval, and one at center of runs less than 20 feet but more than 8 feet long.]

2.05 FINISHES

- A. Sheet Metal: Manufacturer's standard finish unless otherwise noted.
1. Galvanized Sheet Steel: After fabrication, touch-up abraded surfaces.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine areas to receive items and verify that:
1. Dimensions are correct to receive items.
 2. Adjacent or adjoining surfaces are clean, dry, reasonably smooth, and free from defects; that wood surfaces to be in contact with sheet metal are free from projecting nails.
 3. Roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.

4. Roofing termination and base flashings are in place, sealed, and secure.
5. There is absence of other conditions that will adversely affect installation.

B. Do not start work until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mils.
- B. Where flashing and sheet metal work is related to built-up bituminous roofing, install under supervision of built-up bituminous roofing applicator.

3.03 INSTALLATION

- A. General Requirements:
 1. Install items in accordance with SMACNA unless otherwise noted.
 2. Standard Catalog Products: Install in strict accordance with manufacturer's instructions unless otherwise noted.
 3. Where installation requires performing work of fabrication, meet requirements of applicable standards of Fabrication Article of this Section.
 4. Apply flashing compound at slip joints or wherever else metal-to-metal contact occurs and movement may be anticipated.
 5. Unless otherwise noted or required by manufacturer, fasten sheet metal runs to underlying material by nailing through slotted holes in flange at 3 inches on center. Provide waterproof washers wherever required fasteners penetrate flashings. Where sheet metal occurs over roofing materials or other sheet metal, use nails with 1 inch metal disks.
 6. Ensure that items are installed in true and accurate alignment with other items and related work; that joints are accurately fitted; that exposed surfaces are free from dents; that corners are reinforced; that seams are watertight.
 7. Secure sheet metal flashing and trim in place using concealed fasteners. Use exposed fasteners only where permitted.
 8. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.
 9. Seal metal joints watertight.
- B. Install starter and edge strips, and cleats before starting installation.
- C. Install surface mounted reglets true to lines and levels. Seal top of reglets with sealant.
- D. [Flashing and Counterflashing: Where lips and caulking are not practical for securing items in reglets, use lead wool packed tight with lead wedges on vertical surfaces and molten lead on horizontal surfaces.]
- E. [Gutters:]
 1. Install such that high points are equidistant from drains.
 2. Slope gutters 1/4 inch per foot minimum.
 3. Joints: Lap not less than 1 inch in direction of drain and solder.
 4. Secure straps or brackets to gutter not more than 30 inches on center in manner to permit free movement of gutter.
 5. Attach straps or brackets as noted using at least two screws.
 6. Basket Strainers: Insure placement at outlets.
- F. [Rainwater Leaders and Downspouts:]
 1. Fit correctly with gutter outlets to ensure proper drainage.

2. Secure to building with straps or other suitable anchorage as approved by University's Representative.

3.04 FIELD QUALITY CONTROL

- A. See Section 01 45 19 - Inspection of Work, for field inspection requirements.
- B. Inspection will involve surveillance of work during installation to ascertain compliance with specified requirements.

3.05 PROTECTION

- A. Protect sheet metal work as required against construction damage; remove prior to final acceptance.

END OF SECTION