

SECTION 07620
SHEET FLASHING AND TRIM

PART 1 GENERAL

1.1 RELATED SECTIONS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 specification sections, apply to work in this section.
- B. Wood Curbs and Nailers - Section 06100.
- C. Modified Bitumen Roofing System - Section 07510.
- D. Joint Sealants - Section 07900.

1.2 SECTIONS INCLUDE:

- A. Shop or field-formed sheet metal work for moisture protection.
- B. Miscellaneous sheet metal accessories.

1.3 QUALITY ASSURANCE

- A. All welding personnel affiliated with the site construction shall be approved certified welders and shall supply certified welding certificates to the Florida Tech Project Facility Manager prior to commencing work.
- B. Applicator: Company specializing in sheet metal flashing work with minimum 5 years experience.

1.4 REFERENCES

- A. AISC - Stainless Steel, Uses in Architecture.
- B. ASTM A167 – Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate
- C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
- D. ASTM B32 – Standard Specification for Solder Metal
- E. ASTM B101 - Standard Specification for Lead-Coated Copper Sheet and Strip for Building Construction
- F. ASTM B209 – Standard Specification for Aluminum and Alloy Sheet and Plate
- G. ASTM B370 – Standard Specification for Copper Sheet and Strip for Building Construction
- H. ASTM B813 - Standard Specification for Liquid and Paste Fluxes for Soldering of Copper and Copper Alloy Tube.
- I. ASTM D226 – Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing
- J. ASTM D4586 – Standard Specification for Asphalt Roof Cement, Asbestos-Free
- K. FS O-F-506 - Flux, Soldering, Paste and Liquid
- L. NRCA (National Roofing Contractors Association) - Roofing Manual
- M. SMACNA - Architectural Sheet Metal Manual
- N. Florida Building Code.

1.5 SUBMITTALS:

- A. Product Data: Submit manufacturer's product data, installation instructions and general recommendations for each specified sheet material and fabricated product.
- B. Samples: Submit 8" square samples of specified sheet materials to be exposed as finished surfaces. Submit 12" long, completely finished units of specified factory-fabricated products.
- C. Shop Drawings: Submit shop drawings showing layout, joining, profiles and anchorages of fabricated work, including but not limited to counter-flashings, gravel stops, trim/fascia units, gutters, downspouts, scuppers, and expansion joint systems.

PART 2 PRODUCTS

2.1 FLASHING AND SHEET METAL MATERIALS:

- A. Sheet Metal Flashing/Trim:
 - 1. Aluminum Sheet: Commercial quality, ASTM B209, 6063-T5 alloy, mill finish, shop pre-coated, 0.032" thick (minimum) except as otherwise indicated.
 - 2. Copper: ASTM B370, cold rolled 20-oz/sq ft; lacquered finish.
 - 3. Galvanized Steel: ASTM A653, Grade A, G90 zinc coating; 24-gauge core steel.
 - 4. Stainless Steel: ASTM A167, Type 304, 0.028" soft temper; smooth patterned finish.
- B. Aluminum Gutters:
 - 1. Form gutters in sections as long as possible, but not less than 8' in length complete with end pieces, outlet tubes, and special pieces as required.
 - 2. Keep joints to minimum, but any joint that is required, rivet and seal.
 - 3. Unless otherwise indicated, provide expansion joint with cover plate where indicated.
 - 4. Furnish gutter supports constructed of same metal as gutters, spaced at 3'-0" o.c. per SMACNA plate 13, Chart 9. Provide standard aluminum wire ball strainers at each outlet.
 - 5. Gutters shall be fabricated from commercial quality, shop pre-coated (color as shown), 0.0320" thick aluminum sheet.
 - 6. The Architect shall base the gutter size upon a minimum rainfall rate of eight inches per hour for a five-minute duration.
- C. Aluminum Downspouts:
 - 1. Form downspouts in sections as long as possible, but not less than 10' in length complete with special pieces as required.
 - 2. Keep joints to minimum, but any joint that is required, rivet and seal.
 - 3. Unless otherwise indicated, provide expansion joint with cover plate where indicated.
 - 4. Furnish downspout supports constructed of same material as gutters, spaced per SMACNA plate 13, Chart 9.
 - 5. Downspouts shall be fabricated from commercial quality, shop pre-coated (color as shown), 0.0320" thick (or thicker) aluminum sheet.
 - 6. The Architect shall design the downspout size and spacing to prevent back-up and overflow of the gutters.
- D. PVC Downspouts (Internal):
 - 1. All downspouts shall be PVC Schedule 40, painted, unless otherwise approved by FL Tech Architect.
 - 2. Space 8-gauge aluminum downspout straps at a maximum of 4' o.c.
 - 3. All strap edges shall be rolled or smooth.
 - 4. Downspout size and configuration shall be at a minimum the sizes and locations shown on the drawings.
 - 5. Configure supports to avoid forming ladders for students using to climb to the roof.

6. The Architect shall design the downspout size and spacing to prevent back-up and overflow of the gutters.
- E. Vent Stack Flashing:
 1. Preformed stainless steel vent extensions with a vandal proof cap.
 2. Field verify the flashing height prior to ordering/installation to comply with the plans.
- F. Finish: All aluminum flashing, trim, gutters, and downspout guards shall be mill finish or as otherwise called out on the contract drawings.
- G. Reglets and Counter-flashings: Shall be prefabricated, 24-gauge with factory mitered corners.
 1. Provide continuous foam backer rod and elastomeric sealant where shown.
- H. Miscellaneous Materials and Accessories:
 1. Solder: Provide approved sheet metal compatible lead free solder with resin flux.
 2. Fasteners: Stainless Steel or other non-corrosive metal as recommended by sheet manufacturer. Match finish of exposed heads with material being fastened.
 3. Bituminous Coating: FS TT-C-494 or SSPC-Paint 12, solvent type bituminous mastic, nominally free of sulfur, compounded for 15-mil dry film thickness per coat.
 4. 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.
 5. Roofing Cement: ASTM D4586 with no asbestos.
 6. Master Sealant: For slipping joints in flashings shall be polyisobutylene and be non-hardening, non-migrating, non-skinning, and non-drying.
 7. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15-mil.

2.2 FABRICATED UNITS

- A. Shop-fabricate work to greatest extent possible and to comply with details shown and with applicable requirements of SMACNA Architectural Sheet Metal Manual.
- B. Form the work to fit substrates. Comply with material manufacturer instructions and recommendations for forming material.
- C. Form exposed sheet metal work without excessive oil-canning, buckling and tool marks, true to line and levels indicated with exposed edges folded back to form hems.
- D. Fabricate non-moving seams in sheet metal with flat-lock seams.
 1. For metal other than aluminum, on seamed tin edges form seams and solder.
 2. After soldering, remove flux and wash joints clean.
- E. When movable expansion type joints indicated on plans or required for proper performance of work, form metal to provide for proper installation of elastomeric sealant, in compliance with SMACNA standards.

2.3 ACCESSORIES

- A. Splash Pads: Precast concrete type, of sizes and profiles indicated; minimum 3000 psi at 28 days, with minimum 5% air entrainment.

PART 3 EXECUTION

3.1 INSTALLATION REQUIREMENTS

- A. Except as otherwise indicated, comply with manufacturer's installation instructions and recommendations and with SMACNA Architectural Sheet Metal Manual.

- B. Anchor units of work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners and set units true to line and level as indicated.
- C. Install work with laps, joints and seams that will be permanently watertight and weatherproof. Drip edge flashing shall be provided with concealed splice plates for joints 10' o. c.
- D. Bed flanges of work in a thick coat of bituminous roofing cement where required for waterproofing performance.
- E. Provide for separation of metal from non-compatible metal or corrosive substrates by coating concealed surfaces at locations of contact, with bituminous coating to other permanent separation as recommended by manufacturer/fabricator.
- F. Install reglets to receive counter-flashing in manner and by methods recommended by manufacturer.
- G. Install counter-flashing in reglets by snap-in seal arrangement.
- H. Install elastic flashing in accordance with manufacturers' recommendations. Where required, provide for movement at joints by forming loops or bellows in width of flashing. Locate cover or filler strips at joints to facilitate complete drainage of water from flashing. Seam adjacent flashing sheets with adhesive, seal and anchor edges in accordance with manufacturer's recommendations.

3.2 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.
- B. Provide for surveillance and protection of flashings and sheet metal work during construction, to ensure the work will be without damage or deterioration, other than natural weathering at time of substantial completion.

END OF SECTION