SECTION 07 6200

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Fascia and frieze board coverings
2. Perforated soffits.
3. Edge flashings.
4. Gutters and downspouts.
5. Window and door flashings
6. Counter-flashings at roof mounted equipment and utility penetrations.

B. Related Sections:
1. Division 01: Administrative, procedural, and temporary work requirements.
2. Section 07 9200 - Joint Sealers.

1.2 REFERENCES

A. American Architectural Manufacturers Association (AAMA):
1. 611 - Voluntary Specification for Anodized Architectural Aluminum.
2. 620 - Voluntary Specifications for High Performance Organic Coatings on Coil Coated Architectural Aluminum Substrates.
3. 621 - Voluntary Specifications for High Performance Organic Coatings on Coil Coated Architectural Hot Dipped Galvanized (HDG) and Zinc-Aluminum Coated Steel Substrates.
4. 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Architectural Extrusions and Panels.
5. 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Architectural Extrusions and Panels.
6. 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Architectural Extrusions and Panels.

B. American National Standards Institute/Single Ply Roofing Institute (ANSI/SPRI) ES-1 - Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems.

C. ASTM International (ASTM):
1. A167 - Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
2. A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process.
3. A792/A792M - Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
4. B32 - Standard Specification for Solder Metal.
5. B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
6. B370 - Standard Specification for Copper Sheet and Strip for Building Construction.
7. B506 - Specification for Copper-Clad Stainless Steel Sheet and Strip for Building Construction.
8. B749 - Standard Specification for Lead and Lead Alloy Strip, Sheet, and Plate Products.

D. Copper Development Association (CDA) - Contemporary Copper, A Handbook of Sheet Copper Fundamentals, Design, Details and Specifications.

E. Sheet Metal and Air Conditioning Manufacturer's Association International (SMACNA) - Architectural Sheet Metal Manual.

1.3 SUBMITTALS

A. Submittals for Review:
   1. Shop Drawings: Show locations, types and thicknesses of metal, profiles, dimensions, fastening methods, provisions for expansion and contraction, and joint details.

1.4 QUALITY ASSURANCE

A. Fabricator and Installer Qualifications: Minimum 5 years experience in work of this Section.

B. Design, fabricate, and install edge flashings in accordance with ANSI/SPRI ES-1.

C. Conform to SMACNA Manual for nominal sizing of gutters and downspouts for rainfall intensity determined by a storm occurrence of 1 in 50 years.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Galvanized Steel Sheet:
   1. ASTM A653/A653M, Structural Quality, G90 coating class, 24 gage core steel unless noted otherwise.
   2. Finish:
      - Wall and roof flashings: Natural
      - Roof edge trim: painted
      - Flashing above windows and doors: painted

B. Aluminum Sheet:
   1. ASTM B209, alloy 3003, temper H14, 0.032 inch thick.
   2. Finish:
      - Gutters and Downspouts: factory baked enamel, color to be selected by Owner from mfg. standard colors.
      - Fascias, soffits and Frieze board covers: factory baked enamel, color to be selected by Owner from mfg. standard colors.
      - Window/door flashing attached to aluminum frames: AAMA 611, Architectural Class I anodized, finish and color to match windows or doors.

C. Lead Sheet: ASTM B749, Type L50049, common lead, weighing 4 pounds per square foot.

2.2 ACCESSORIES

A. Solder: ASTM B32.

B. Fasteners: Same material and finish as sheet metal with neoprene gasket washers where exposed. Use concealed fasteners when possible.

C. Joint Sealers: Specified in Section 07 9200.

2.3 FABRICATION

A. Fabricate components in accordance with SMACNA Manual.

B. Profiles:
   1. Gutters: fabricated per SMACNA and as indicated in drawings
   2. Downspouts: fabricated per SMACNA and as indicated on drawings
   3. Fabricate end caps, downspout outlets and headers, straps, and brackets in profile to suit gutters and downspouts.
   4. Fascia and Frieze board covers: of size and profile indicated on drawings
   5. Exterior soffits: perforated aluminum as indicated on drawings of size and profile required.

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6. Roof and wall flashings: Galvanized sheet steel as indicated on drawings or as required to make building water-tight.

C. Pre tin edges of sheet.

D. Solder shop formed joints. After soldering, remove flux and wash clean.

E. Fabricate corners in single units with minimum 18 inch long legs.

F. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed to form drip.

G. Form sections accurate to size and shape, square and free from distortion and defects.

H. Provide for thermal expansion and contraction in sheet metal:
   1. Gutters:
      a. Place expansion joints at maximum 50 feet on center.
      b. Locate expansion joints between downspouts; prevent water flow over joint.
   2. Other sheet metal:
      a. Provide expansion joints in sheet metal exceeding 15 feet in running length.
      b. Place expansion joints at 10 feet on center maximum and maximum 2 feet from corners and intersections.
   3. Joint width: Consistent with types and sizes of materials, minimum width 1/4 inch.

I. Fabricate expansion joints in edge flashings with cover plates formed to flashing profile and minimum 4 inches long.

J. Unless otherwise indicated, provide minimum 3/4 inch wide flat lock seams; lap in direction of water flow.

K. Fabricate cleats and starter strips of same material as sheet metal.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install flashing and sheet metal as indicated and in accordance with SMACNA Manual.

B. Install cleats and starter strips before starting installation of sheet metal.

C. Expansion Joints: in Edge Flashings:
   1. Seal expansion space between ends of flashing sections.
   2. Apply continuous bead of joint sealer between cover plate and flashing sections at each end.

D. Secure flashings with concealed fasteners where possible.

E. Apply plastic cement between metal and bituminous flashings.

F. Fit flashings tight, with square corners and surfaces true and straight.

G. Seam and seal field joints.

H. Separate dissimilar metals with bituminous coating or non-absorptive gaskets.

I. Reglets:
   1. Install reglets true to line and level. Seal top of surface mounted reglet with joint sealer.
   2. Install flashings into reglets to form tight fit. Secure with lead or plastic wedges at 9 inches on center maximum. Seal remaining space with joint sealer.

J. Gutters: Secure with straps spaced maximum 36 inches on center and within 12 inches of ends. Gutter shall be formed such that the outside lip is a minimum of 1” below the back flange of gutter.

K. Downspouts:
   1. Secure with straps spaced maximum 8 feet on center and within 2 feet of ends and elbows.
   2. Flash downspouts minimum 3 inches into gutters and fasten.
   3. Flash upper sections into lower sections minimum 2 inches at joints; fasten sections together.

L. Apply joint sealers as specified in Section 07 9200.

3.2 CLEANING

A. Clean sheet metal; remove slag, flux, stains, spots, and minor abrasions without etching surfaces.

END OF SECTION

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