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DIVISION 07 - THERMAL AND MOISTURE PROTECTION

SECTION 07600

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SECTION 07600

FLASHING AND SHEETMETAL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this section to the extent referenced:

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1/D1.1M	(2002) Structural Welding Code - Steel
AWS D1.2	(1997) Structural Welding Code Aluminum

ASTM INTERNATIONAL (ASTM)

ASTM A 167	(1999) Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip
ASTM B 29	Standard Specification for Refined Lead
ASTM B 209/B 209M	(2001) Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
ASTM C 920	(2001) Standard Specification for Elastomeric Joint Sealants

SHEET METAL & AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)

SMACNA ASMM	(1993) Architectural Sheet Metal Manual

1.2 SUBMITTALS

The following shall be submitted in accordance with Section 01330, "Submittal Procedures," in sufficient detail to show full compliance with the specification:

SD-02 Shop Drawings

Fabrication drawings for the following items shall include material, description, and thickness.

Installation drawings shall indicate location, dimensions, configuration, construction details, type of seams and fastening method for the following items:

Fabrication and installation drawings for accessories shall be in accordance with paragraphs entitled, "Minimum Dimensions and Thicknesses" and "Miscellaneous Components," and shall meet all design specifications as required by referenced standards within

this section.

Flashing
Sheet Metal

SD-07 Certificates

Certificates for the following items shall be submitted showing conformance with referenced standards contained in this section.

Fasteners
Sealing Compound

Certificates for the following types of sheetmetal shall be submitted showing conformance with referenced standards contained in this section.

Stainless Steel

PART 2 PRODUCTS

2.1 SHEET METAL MATERIALS

2.1.1 Stainless Steel

All sheet metal flashing material to be stainless steel.

Conforming to ASTM A167, Type 304, 24 gauge minimum. Exposed stainless steel sheet metal shall have a Class 4 mill finish, unless otherwise specified.

2.1.2 Minimum Dimensions and Thicknesses

Materials shall be in accordance with SMACNA ASMM and shall be not less than is required to meet the FMG wind uplift classification for the Roof System.

2.2 CEMENTS AND SEALING COMPOUNDS

As required by Roofing System Manufacturer.

2.2.1 Sealing Compound

Sealant shall be on elastomeric, (Type S) single-component, nonsag or gunnable (Grade NS) Class 50 sealant, conforming to ASTM C 920. Base material shall be polysulfide.

2.3 FASTENERS

Fasteners shall be the same metal or a metal compatible with the material joined.

For Option Bid work: fasteners shall be stainless steel material.

PART 3 EXECUTION

3.1 GENERAL

All sheetmetal flashing shall be stainless steel.

Sheetmetal work shall be similar to existing and to the applicable plate number and design and installation recommendations of SMACNA ASMM. Finished sheetmetal installation shall be free from water leakage.

Surfaces to receive sheetmetal work shall be clean, smooth, dry, and free from defects and projections which might affect the work. Surfaces shall be plumb and true to a tolerance of not more than 1/2 inch in 40 feet, with no dips, waves, or uneven surfaces exceeding 1/8 inch in 10 feet in any direction. Lines, arises, and angles shall be sharp and uniform. Exposed edges of sheetmetal shall be folded back to form a 1/2-inch wide hem on the concealed side.

All cleats to be fabricated from matching material conforming to either stainless steel conforming to ASTM A 167, Type 304, 22 gauge minimum, or .050 inch minimum aluminum conforming to ASTM B 209/B 209M.

Provide 6 inches minimum wide joint covers matching profile and finish for new fascias and copings. Material shall be as noted above.

Provide performed inside and outside corner sections of matching material, finish and profile for all sheet metal work.

Provide miscellaneous roofing accessories fabricated from sheet metal in the location indicated and of the sizes and profiles indicated (or to match adjacent construction). Fabricate with soldered or welded seams for waterproof construction, and provide flanges for integration with roofing, flashing on other work as indicated.

Termination Bar: Conforming to ASTM A 167, Type 304 and 316 stainless steel, 18 gauge, 1-1/2 inch wide with prepunched holes at 4 inches on center.

Lead flashing for vent stacks, drain sumps and similar penetrations: Standard 0.062 inch thick lead sheet weighing 4 pounds per square foot, conforming to ASTM B 29 (1984).

Rosin paper: Unsaturated, 5 pound minimum, Type 1, Grade A

Rain Hoods: 24 gauge stainless steel conforming to ASTM 167, Type 304, or as compatible with surfaces to which it is in contact.

Draw Bands: Adjustable stainless steel draw bands and clamping rings for penetrations, conforming to ASTM A 167, Type 304 or 316.

3.1.1 Fastening Methods

All fastening of flashing shall meet FMG for wind uplift classification. The roofing manufacturer shall submit fastening system and show intent of FMG is achieved for each sheet metal component per Table 1.0, Section 01019 "Project Description", required.

To extent possible fasteners shall be concealed. Only one edge shall be nailed to permit freedom of expansion perpendicular to the line of nailing. Nails shall be spaced at not more than 3 inches on center. Nails shall penetrate backing by not less than 1 inch.

Cleats shall be used for securing edges of sheetmetal members over 12-inches wide and at other designated locations. Cleats shall be fastened

with two nails and the end folded over the nails. Other end of the cleat shall be locked into the seam or the folded edge of member being fastened. Cleats shall be spaced at not more than 12 inches on center.

Screws shall be fitted with neoprene washers to protect surface of metal sheet and provide a watertight connection.

3.1.2 Seams

Seams and lock joint construction shall conform to SMACNA ASMM.

Seams shall be straight and uniform in height, width, and finish as follows:

Flat-lock seams shall be not less than 3/4-inch wide.

Lap seams, when soldered, shall finish not less than 1-inch wide.

Lap seams, not soldered, shall overlap not less than 3 inches.

Loose-lock expansion seams shall be not less than 3-inches wide and shall provide for not less than a 1-inch movement within the joint. Joint shall be completely filled with the specified sealant applied at not less than 1/8-inch bed thickness.

Flat seams shall be made in the direction of flow. Seams not soldered shall be completely filled with plastic cement.

For Loggia Option Bids: Joints, seams and connections of aluminum shall be lopped except where a screws and hard setting sealant connection is indicated.

Procedures for manual shielded metal-arc welding, the appearance and quality of welds made, and the methods used in correcting welding work shall conform to AWS D1.1/D1.1M and AWS D1.2.

3.1.3 Dissimilar Metals

Dissimilar metals shall be isolated from each other by painting with bituminous paint.

3.2 FLASHING

3.2.1 Reglets and Flashing Receivers

Reglets and flashing receivers shall conform to SMACNA ASMM, and Project Drawings. Masonry joints or concrete shall be cut to form a saw-cut reglet. Slots shall be cut to a depth not less than 1-1/2 inches and approximately 3/16-inch thick.

3.2.2 Edge Strips

Edge trim strips shall have a formed drip edge.

3.2.3 Flashing at Roof Penetrations and Equipment Supports

Metal flashing conforming to SMACNA ASMM, shall be installed where piping, conduit, or equipment supports penetrate roof surfaces.

Single-pipe vents shall be flashed with lead flashing or a two-piece

formed-metal housing of the specified sheetmetal, installed as indicated in SMACNA ASMM.

For Loggia Option Bids: Neoprene flashing shall be installed where structural supports penetrate roof surfaces.

3.2.4 Pitch Pans

A metal pitch pan conforming to SMACNA ASMM, shall be installed where structural members, anchors, and equipment supports penetrate roof construction.

Pan shall be installed over the final roofing ply. Flanges shall be set in bituminous plastic cement and shall receive two plies of stripped-in composition flashing.

3.3 FASCIAS

Fascias shall be installed at exposed edges of roofs. Configuration shall conform to SMACNA ASMM, and shop drawings. Lower edge of each fascia section shall be secured in place by hooking over a continuous edge strip or cleat or surface fasteners to achieve the wind uplift classifications listed in Table 1.0, Section 01019 "Project Description". Flanges of each section shall extend out on the top of roofing felts not less than 3-1/2 inches.

A 1/4-inch open joint shall be provided between each fascia section, with a 12-inch wide plate centered on the joint. System shall be installed in accordance with SMACNA ASMM.

3.4 CLEANING

Exposed sheetmetal work shall be cleaned of all surface contaminants and imperfections at completion of installation.

-- End of Section --