SECTION 07600

FLASHING AND SHEET METAL

PART 1 - GENERAL

1.01 SUMMARY

A. Provide flashing and sheet metal not specifically described in other Sections of these Specifications but required to prevent penetration of water through the exterior shell of the building.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

C. Codes: Materials and work shall conform to the governing Building Code. In case of conflict between these specifications, the standard specifications, and the Building Code, the more stringent shall govern.

1.02 SUBMITTALS

A. Comply with pertinent provisions of Section 01300.

B. Product data: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
   1. Materials list of items proposed to be provided under this Section;
   2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
   3. Shop Drawings in sufficient detail to show fabrication, installation, anchorage, and interface of the work of this Section with the work of adjacent trades;
   4. Manufacturer's recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

1.03 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. In addition to complying with pertinent codes and regulations, comply with pertinent recommendations contained in current edition of "Architectural Sheet Metal Manual" published by the Sheet Metal and Air Conditioning Contractors National Association (SMACNA).

C. Standard commercial items may be used for flashing, trim, reglets, and similar purposes provided such items meet or exceed the quality standards specified.

D. All sheet metal applied in relation to roofing shall be installed by workmen experienced in roofing sheet metal installation.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Comply with pertinent provisions of Section 01600.

PART 2 - PRODUCTS

2.01 MATERIALS AND GAGES

A. Where sheet metal is required, and no material or gage is indicated on the Drawings, provide the highest quality and gage commensurate with the referenced standards. Minimum 24 gauge.

2.02 GALVANIZED IRON

A. Provide sheet metal or sheet iron of a standard brand of open-hearth copper-bearing steel, copper-molybdenum iron, or pure iron sheets.

B. Zinc-coating:
1. Where galvanizing is required, provide zinc coating by hot-dip galvanize to all surfaces.
2. Weight:
a. Provide not less than 1-1/4 oz per sq. ft, nor more than 1-1/2 oz per sq. ft, to surfaces required to be galvanized.
3. Comply with ASTM A123-84.

2.03 NAILS, RIVETS, AND FASTENERS

A. Use only soft iron rivets having rust-resistive coating, galvanized nails, and cadmium plated screws and washers in connections with galvanized iron and steel.

B. Screws with neoprene washers.

2.04 FLUX

A. Where flux is required, use raw muriatic acid.

2.05 SOLDER

A. Where solder is required, comply with ASTM B32.

2.06 OTHER MATERIALS

A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 WORKMANSHIP

A. General:
   1. Form sheet metal accurately and to the dimensions and shapes required, finishing molded and broken surfaces with true, sharp, and straight lines and angles and, where intercepting other members, coping to an accurate fit and soldering securely.
   2. Unless otherwise specifically permitted by the Architect, turn exposed edges back 1/2".

B. Form, fabricate, and install sheet metal so as to adequately provide for expansion and contraction in the finished Work.

C. Weatherproofing:
   1. Finish watertight and weathertight where so required.
   2. Make lock seam work flat and true to line, sweating full of solder.
   3. Make lock seams and lap seams, when soldered, at least 1/2" wide.
   4. Where lap seams are not soldered, lap according to pitch, but in no case less than 3".
   5. Make flat and lap seams in the direction of flow.

D. Joints:
   1. Join parts with rivets or sheet metal screws where necessary for strength and stiffness.
   2. Provide suitable watertight expansion joints for runs of more than 40'-0", except where closer spacing is indicated on the Drawings or required for proper installation.

E. Nailing:
   1. Whenever possible, secure metal by means of clips or cleats, without screwing through the exterior metal.
   2. In general, space nails, rivets, and screws not more than 8" apart and, where exposed to the weather, use neoprene washers.
   3. For nailing into wood, use barbed roofing nails 1- 1/4" long by 11 gage.
   4. For nailing into concrete, use drilled plugholes and plugs.
      1. Metal to be primed and allowed to dry.
      2. Metal to be nailed 4" staggered.

3.03 EMBEDMENT

A. Embed metal in connection with roofs in a solid bed of sealant, using materials and methods described in Section 07920 of these Specifications or other materials and methods approved in advance by the Architect.

B. Flashing is to be incorporated into roof by roofing contractor. Supplied by sheet metal/plumber/electrician.

3.04 SOLDERING

A. General:
   1. Thoroughly clean and tin the joint materials prior to soldering.
   2. Perform soldering slowly, with a well-heated copper, in order to heat the seams thoroughly and to completely fill them with solder.
   3. Perform soldering with a heavy soldering copper of blunt design, properly tinned for use.

4. Make exposed soldering on finished surface neat, full flowing, and smooth.

B. After soldering, thoroughly wash acid flux with a soda solution.

3.05 TESTS

A. Upon request of the Architect, demonstrate by hose or standing water that the flashing and sheet metal are completely watertight.

END OF SECTION - 07600