SECTION 07620

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section describes the requirements for furnishing and installing flashing and sheet metal.

B. Related Sections:

1. Flashings associated with single ply membrane roofing are specified in Section 07530.

2. Joint sealants are specified in Section 07920.

1.02 SUBMITTAL

A. Product Data: Manufacturer's product data, installation instructions and general recommendations for each specified sheet material and fabricated product.

B. Shop Drawings: Show layout, profiles, method of joining, and anchorage details.

1.03 PROJECT CONDITIONS

A. Coordinate work of this Section with interfacing and adjoining work for proper sequencing of each installation.

PART 2 - PRODUCTS

2.01 METALS

A. Galvanized Steel: ASTM A526, G90, commercial quality or ASTM A527, G90, lock-forming quality, hot-dip galvanized steel sheet with 0.20-percent copper, mill phosphatized for painting; not less than 22-gague.

B. Lead Sheet: ASTM B749, copper-bearing sheet lead, minimum 0.0625-inch except not less than 0.0937-inch for burning (welding).

2.02 REGLETS

A. Approved Manufacturers: Fry Reglet Corporation, W.P. Hickman Co., Keystone Flashing Company or approved equal.

B. General: Units of type, material, and profile indicated, formed to provide secure interlocking of separate reglet and counterflashing pieces and compatible with flashing indicated.

C. Counterflashing Wind-Restraint Clip: Provide clips to be installed before counterflashing to prevent wind uplift of the counterflashing lower edge.

2.03 MISCELLANEOUS MATERIALS AND ACCESSORIES

A. Solder: ASTM B32, Grade Sn50, used with rosin flux.

B. Fasteners: Same metal as flashing and sheet metal or other non-corrosive metal recommended by sheet manufacturer. Match finish of exposed heads with material being fastened.

C. Asphalt Mastic: SSPC - Paint 12, solvent type asphalt mastic, nominally free of sulfur and containing to asbestos fibers, compounded for 15-mil dry film thickness per coat.

D. Mastic Sealant: Polyisobutylene; non-hardening, non-skinning, nondrying, non-migrating sealant.

E. Epoxy Seam Sealer: 2-part non-corrosive metal seam cementing compound, recommended by metal manufacturer for exterior/interior non-moving joints including riveted joints.

F. 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.

G. Roofing Cement: ASTM D4586, Type I, asbestos free, asphalt based.

H. Elastomeric Flashing: Modified bituminous sheet rubber, self-adhesive-backed rubberized asphalt, in continuous length x widths as required. W.R. Grace "Bituthene" or "Ice & Water Shield" or approved equal. Provide where indicated.

2.04 FABRICATION

A. General Sheet Metal Fabrication Standard: Fabricate to comply with recommendations of SMACNA "Architectural Sheet Metal Manual" that apply to design, dimensions, and metal.

B. Comply with details indicated. Fabricate to fit substrates and to provide waterproof and weather-resistant performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.

C. Form exposed sheet metal without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems.

D. Seams: Fabricate nonmoving seams in sheet metal with flat-lock seams. Tin edges to be seamed, form seams, and solder.

E. Expansion Provisions: Space movement joints at maximum of 10-feet with no joints within 24-inches of corner or intersection. Form expansion joints of intermeshing hooked flanges, not less than 1-inch deep, filled with mastic sealant concealed within joints.

F. Sealed Joints: Form non-expansion, but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA standards.

G. Separate metal from non-compatible metal or corrosive substrates by coating concealed surfaces at locations of contact with asphalt mastic or other permanent separation as recommended by manufacturer.

H. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of sheet metal exposed to view.

I. Fabricate cleats and attachment devices from same material as sheet metal component being anchored or from compatible, non-corrosive metal recommended by sheet metal manufacturer.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General:

1. Except as otherwise indicated or specified, comply with manufacturer's installation instructions and recommendations, and with SMACNA "Architectural Sheet Metal Manual."

2. Anchor units securely in place, allowing for thermal expansion.

3. Conceal fasteners where possible.

4. Set units true to line and level as indicated.

5. Install work with laps, joints and seams which will be permanently watertight and weatherproof.

B. Install exposed sheet metal work free of excessive oil canning, buckling, and tool marks, true to line and levels indicated, with exposed edges folded back for form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistance performance.

C. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pretin edges of sheets to be soldered to a width of 1-1/2-inches, except where pretinned surface would be exposed to view in the finished work.

D. Sealed Joints: Form non-expansion, but movable joints to accommodate elastomeric sealant. Comply with SMACNA standards.

E. Seams: Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.

F. Separations: Separate metal from non-compatible metal or corrosive substrates by coating concealed substrates.

G. Install reglets to receive counterflashing.

H. Counterflashing: Coordinate installation with installation of assemblies to be protected by counterflashing. Install in reglets or receivers. Secure in a waterproof manner by means of snap-in installation and sealant, lead wedges and sealant, interlocking folded seams, or blind rivets and sealant. Lap joints a minimum of 2-inches and bed with sealant.

I. Equipment Support Flashing: Coordinate equipment support flashing installation with roofing and equipment installation. Weld or seal flashing to equipment support member.

J. Roof-Penetration Flashing: Coordinate roof-penetration flashing installation with roofing and installation of items penetrating roof.

3.02 CLEANING AND PROTECTION

A. Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.

B. Protection: Protect flashing and sheet metal work during construction to ensure that work will be without damage or deterioration other than normal weathering at time of final completion.

3.03 WASTE MANAGEMENT

A. Scrap metal shall be collected for recycling.

END OF SECTION

SECTION 07656

MODIFIED BITUMINOUS SHEET FLASHING

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section describes the requirements for furnishing and installing self-adhering bituminous membrane (SMWP) under sheet metal flashing and trim and where indicated.

B. Related Sections:

1. Sheet metal flashing and trim is specified in Section 07620.

2. Window and door flashing is specified in Section 07657.

1.02 SUBMITTALS

A. Product Data: Furnish manufacturer's standard product data sheets and installation recommendations and instructions.

1.03 JOB CONDITIONS

A. Apply flexible flashings in fair weather at temperatures of 40-deg. F. and above.

B. Provide adequate ventilation of enclosed spaces where primer is used.

PART 2 - PRODUCTS

2.01 APPROVED MANUFACTURERS

A. Grace Construction Products "Ultra" or approved equal.

2.02 MATERIALS

A. Membrane: Composite of polyethylene film and self-adhesive rubberized asphalt, conforming to the following physical properties:

1. Thickness: 30-mils minimum.

2. Tensile Strength: 250-psi minimum when tested in accordance with ASTM D412.

3. Elongation: 250-percent minimum when tested in accordance with ASTM D412 (Die C) modified.

4. Pliability, 180-deg. F. bend (1-inch mandrel at -25-deg. F): Unaffected when tested in accordance with ASTM D146.

5. Optional Facing: 2-mil aluminum foil.

B. Primer: As recommended by membrane manufacturer for priming substrates to receive flexible flashing.

PART 3 - EXECUTION

3.01 PREPARATION

A. Remove dust, dirt, loose fasteners and other protrusions.

B. Prime masonry and concrete surfaces with primer at the rate of 250- to 350-sq. ft. per gallon.

3.02 INSTALLATION

A. Cut the membrane into 10- to 15-foot lengths and re-roll.

B. Peel-back 1- to 2-feet of release paper, align on the lower edge and place the first 1- to 2-feet. Pull the release paper under the membrane and continue to peel it from the membrane.

C. Press and roll the membrane in place to assure full adherence to the substrate.

D. Lap ends at least 6-inches and sides at least 3-1/2-inches.

E. Installed membrane shall be covered with subsequently applied covering material.

END OF SECTION

SECTION 07657

WINDOW AND DOOR FLASHING

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section describes the requirements for furnishing and installing self-adhering modified bituminous membrane flashing around doors, windows, and other exterior wall openings.

B. Related Sections:

1. Modified bituminous sheet flashing (SASM) is specified in Section 07656.

1.02 SUBMITTALS

A. Product Data: Furnish manufacturer's standard product data sheets and installation recommendations and instructions.

1.03 QUALITY ASSURANCE

A. Mock-up: Construction an on-site mock-up showing installation of modified bituminous sheet flashing at a typical door and window approved by the Architect. Mock-up shall incorporate materials to be used and installation techniques to be employed. Do not begin installation of modified bituminous sheet flashing until mock-up is approved by the Architect. Approved mock-up shall serve as an installation quality standard for modified bituminous sheet flashing on the Project.

1.04 JOB CONDITIONS

A. Apply flexible window and door flashings in fair weather at temperatures of 40-deg. F. and above.

B. Provide adequate ventilation of enclosed spaces where primer is used.

PART 2 – PRODUCTS

2.01 APPROVED MANUFACTURERS

A. Grace Construction Products "Grace V40 Weather Barrier Strips", Fortifiber Corporation "FortiFlash" or approved equal.

2.02 MATERIALS

A. Membrane: Composite of polyethylene film and self-adhesive rubberized asphalt, conforming to the following physical properties:

1. Thickness: 40-mils minimum.

2. Carrier Film: Cross-laminated HDPE.

3. Adhesive: Rubberized asphalt.

4. Release Liner: Paper.

5. Roll Width: As appropriate for openings to be flashed.

B. Primer: As recommended by membrane manufacturer for priming substrates to receive flexible window and door flashing.

PART 3 – EXECUTION

3.01 PREPARATION

A. Remove dust, dirt, loose fasteners and other protrusions.

B. Prime masonry and concrete surfaces with primer at the rate of 250- to 350-sq. ft. per gallon.

3.02 INSTALLATION

A. Cut the membrane to proper length.

B. Peel back the release liner, align the strip, and press in place with heavy hand pressure. Lap ends 3-inches.

C. Mechanically fasten strip at vertical terminations.

D. Install so all laps shed water. Work from the low point to the high point.

E. Installed membrane shall be covered with subsequently applied covering material.

END OF SECTION