

SECTION 07600
FLASHING AND SHEET METAL

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Work included: 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. See Manufacturers data 07610/BER for sheet metal required at cupola.

1.2 SUBMITTALS

- A. Product data: Within 7 calendar days after the Contractor has received the Owner's Notice of Award, 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 fabrications, installation, anchorage, and interface of the work of this Section with the work of adjacent trades.
- B. Roofing at cupola to be as manufactured by BERRIDGE Manufacturing Company. 1720 Maury St., Houston TX. 77026. Phone 1-800-231-8127. Fax 713-236-9422. Website www.berridge.com
 - 1. Curved Tee Panel.
 - 2. Color: Copper Cote®
- C. Flashing manufactured by Petersen Aluminum PAC-CLAD. Approved color is Sierra Tan.

PART 2 – EXECUTION

2.1 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.

END OF SECTION
FLASHING AND SHEET METAL
07600-1

MANUFACTURER

Berridge Manufacturing Company
1720 Maury Street
Houston, Texas 77026
Phone: (800) 231-8127 Outside TX
(713) 223-4971 In TX
Fax: (713) 236-9422
PREFORMED METAL ROOFING

SECTION 07610 PREFORMED METAL ROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Preformed, prefinished metal roofing and flashings.
- B. Miscellaneous trim, flashing, closures, drip flashing, and accessories.
- C. Sealant
- D. Fastening devices.

1.02 RELATED SECTIONS

- A. Section 05120: Structural Steel Framing.
- B. Section 05500: Miscellaneous metal fabrication.
- C. Section 06100: Rough Carpentry.
- D. Section 07631: Flashing and Sheet Metal Gutters.
- E. Section 07900: Sealants.

1.03 REFERENCES

- A. American Iron & Steel Institute (AISI) Specification for the Design of Coldformed Steel Structural Members.
- B. ASTM A-525 Steel Sheet, Zinc-Coated (Galvanized)
- C. ASTM E-1680
- D. ASTM E-1646
- E. ASTM E-1592
- E. Spec Data Sheet - Aluminum Zinc Alloy Coated Steel (Galvalume) Sheet Metal by Bethlehem Corp.
- F. SMACNA - Architectural Sheet Metal Manual.
- G. Building Materials Directory - Underwriter's Laboratories, Test Procedure 580.

1.04 ASSEMBLY DESCRIPTION

- A. The roofing assembly includes preformed sheet metal panels, related accessories, valleys, hips, ridges, eaves, corners, rakes, miscellaneous flashing and attaching devices.

1.05 SUBMITTALS

- A. Submit detailed drawings showing layout of panels, anchoring details, joint details, trim, flashing, and accessories. Show details of weatherproofing, terminations, and penetrations of metal work.
- B. Submit a sample of each type of roof panel, complete with factory finish.
- C. Submit results indicating compliance with minimum requirements of the following performance tests:
 - 1. Air Infiltration ASTM E 1680
 - 2. Water Infiltration ASTM E 1646
 - 3. Wind Uplift - U.L.90
- D. Submit calculations with registered engineer seal, verifying roof panel and attachment method resists wind pressures imposed on it pursuant to applicable building codes.

1.06 QUALITY ASSURANCE

- A. Manufacturer: Company specializing in Architectural Sheet Metal Products with ten (10) years minimum experience.
- B. No product substitutions shall be permitted without meeting specifications.
- C. Substitutions shall be submitted 10 Days prior to Bid Date and acceptance put forth in an addendum.
- D. No substitutions shall be made after the Bid Date.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Upon receipt of panels and other materials, installer shall examine the shipment for damage and completeness.
- B. Panels should be stored in a clean, dry place. One end should be elevated to allow moisture to run off.
- C. Panels with strippable film must not be stored in the open, exposed to the sun.
- D. Stack all materials to prevent damage and to allow for adequate ventilation.

1.08 WARRANTY

- A. Paint finish shall have a twenty year guarantee against cracking, peeling and fade (not to exceed 5 N.B.S. units).
- B. Galvalume material shall have a twenty year guarantee against failure due to corrosion, rupture or perforation.
- C. Applicator shall furnish guarantee covering watertightness of the roofing system for the period of two (2) years from the date of substantial completion.

PART 2 PRODUCT

2.01 ACCEPTABLE MANUFACTURERS

- A. Berridge Manufacturing Company, Houston, Texas.
- B. Substitutions shall fully comply with specified requirements.

2.02 SHEET MATERIALS

- A. Prefinished Metal shall be [Hot-Dipped Galvanized - ASTM A653-94 Grade C G90 Coating A924-94 24 Gauge core steel] or [prefinished Galvalume 24 Gauge core steel - ASTM 792-86 AZ-55].
- B. Unfinished Metal shall be Grade C Aluminum Zinc Alloy Coated Steel ASTM 792-86, AZ 55, "Satin Finish".
- C. Finish shall be [full strength Kynar 500 or Hylar 5000 Fluoropolymer coating] [Copper-Cote][Antique Copper-Cote] [Lead-Cote][Zinc-Cote][Prewheathered Galvalume][Champagne] coating, applied by the manufacturer on a continuous coil coating line, with a top side dry film thickness of 0.70 to 0.90 mil over 0.25 to 0.35 mil prime coat, to provide a total dry film thickness of 0.95 to 1.25 mil. Bottom side shall be coated with primer with a dry film thickness of 0.25 mil. Finish shall conform to all tests for adhesion, flexibility, and longevity as specified by the Kynar 500 finish supplier.
- D. Strippable film shall be applied to the top side of the painted coil to protect the finish during fabrication, shipping and field handling. This strippable film must be removed immediately before installation.

2.03 ACCESSORY MATERIALS

- A. Fasteners: [Galvanized Steel] [Stainless Steel] [Cadmium Plated Steel] with washers where required.
- B. Sealant: Sealant must be a ultra low modulus, high performance, one-part, moisture curing silicone joint sealant. (do not use a clear sealant or sealants which release a solvent or acid during curing).

Sealant must be resistant to environmental conditions such as wind loading, wind driven rain, snow, sleet, acid rain, ozone, ultraviolet light and extreme temperature variations.

Features must include joint movement capabilities of +100% & -50% ASTM C-719, capable of taking expansion, compression, transverse and longitudinal movement, service temperature range -65°F to 300°F (-54°C to 149°C), Flow, sag or slump: ASTM C-639; Nil, Hardness (Shore A): ASTM C-661; 15, Tensile strength at maximum elongation: ASTM D-412; 200 psi, Tensile strength at 100% elongation: ASTM D-412; 35 psi, Tear strength, (die "C"); ASTM D-624; 40 pli, Peel strength (Aluminum, Glass, Concrete): ASTM C-794; 30 pli

- C. Vinyl Weatherseal Insert.

2.04 FABRICATION

- A. All exposed adjacent flashing shall be of the same material and finish as the roof panels.
- B. Hem all exposed edges of flashing on underside, 1/2 inch.

2.05 PREFORMED METAL PANELS, SHINGLES, ETC. (PICK APPROPRIATE STYLE)

A. BERRIDGE STANDING SEAM TEE-PANEL

1. Panels shall have 12 3/4" on-center seam spacing with a seam height of 1" and shall have no exposed fasteners.
2. Panels shall be site-formed with the Berridge Model SS-14 Portable Roll Former in continuous lengths from eave to ridge or factory fabricated to 40' max.
3. Snap-on seams shall be 1" in height and shall contain the Berridge factory-applied Extruded Vinyl Weather Seal Insert (Patent No. 4641475) to prevent siphoning of moisture through the standing seam.
4. Concealed anchor clips shall be spaced as required to meet uplift loads (maximum of 24" on center).
5. When required, Panel assembly shall bear Underwriter's Laboratories Label UL90, pursuant to Construction Number 296 and applicable Fire Ratings.
6. Certification shall be submitted, based on independent testing laboratory, indicating no measurable water penetration or air leakage beyond allowable tolerances through the system when tested in accordance with ASTM E-1680 and E-1646.

J. BERRIDGE CEE-LOCK STANDING SEAM PANEL

1. Panels shall have 1-1/2" high vertical legs, spaced 16-1/2" on center and shall have no exposed fasteners.
2. Standing seam to be of an interlocking, "snap-lock" design.
3. Panels shall be site-formed with the Berridge Model CL-21 Portable Roll Former in continuous lengths from ridge to eave or factory-formed to maximum 40'.
4. Continuous Cee Rib to be 2-1/8" wide and 1-3/8" in height. Rib shall be connected to purlin with two #12-14 x 1" self-drilling/tapping fasteners [Cee-Clips at 3'-0" max.].
5. Optional Vinyl Weatherseal (U.S. Patent No. 4641475) to be factory/machine-installed over Continuous Cee Rib.
6. When required, Panel assembly to bear Underwriter's Laboratories Label UL90, pursuant to Construction Number 334 and applicable Fire Ratings.
7. Certification shall be submitted, based on independent testing laboratory, indicating no measurable water penetration or air leakage through the system when tested in accordance with ASTM E-1680 and E-1646.