

SECTION 07610 – Sheet Metal Roofing

MANUFACTURER

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BERRIDGE "R" & "M" PANEL

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-653 & ASTM A924 Steel Sheet, Zinc-Coated (Galvanized)
- C. Spec Data Sheet - Galvalume Sheet Metal by Bethlehem Corp.
- D. SMACNA - Architectural Sheet Metal Manual.
- E. 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. Wind Uplift - U.L.90

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 Aluminum-Zinc Alloy Coated (AZ-55 Galvalume®) Steel Sheet, 24-Gauge or 22-Gauge, ASTM 792-08, Grade 40, yield strength 40 ksi min.
- B. Finish shall be full strength Kynar 500® or Hylar 5000™ fluoropolymer coating applied by the manufacturer on a continuous coil coating line, with a top side dry film thickness of 0.75 ± 0.05 mil over 0.20 ± 0.05 mil prime coat, to provide a total top side dry film thickness of 0.95 ± 0.10 mil. Bottom side shall be coated with a primer and beige urethane coating with a total dry film thickness of 0.35 ± 0.05 mil. Finish shall conform to all tests for adhesion, flexibility, and longevity as specified by the Kynar 500® or Hylar 5000™ finish supplier.
- C. Color shall be _____.
- D. Strippable film shall be applied to the top side of all prefinished metal to protect the finish during fabrication, shipping and field handling. This strippable film MUST be removed immediately before installation.
- E. Unpainted metal shall be Aluminum-Zinc Alloy Coated (AZ-55 Acrylic Coated Galvalume®) Steel Sheet, 24-Gauge or 22-Gauge, ASTM 792-08, Grade 40, yield strength 40 ksi min., with clear acrylic coating on both sides of material.
- F. Field protection must be provided by the contractor at the job site so stacked or coiled material is not exposed to weather and moisture.
- G. Flashing maybe factory fabricated or field fabricated. Unless otherwise specified all exposed adjacent flashing shall be of the same material and finish as panel system.

Note: The rolling process of sheet metal results in inherent surface unevenness referred to as "oil-canning." This condition is also caused by several factors including thermal expansion and contraction, dark colors, both medium and high-gloss finishes, and uneven substrate. "Oil-canning" in itself is not sufficient cause for material rejection.

2.03 ACCESSORY MATERIALS

- A. Fasteners: [Galvanized Steel] [Stainless Steel] [Cadmium Plated Steel] with washers where required.
- B. Sealant: As specified in Section 07900 [] Type.

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 BERRIDGE "R" & "M" PANEL

1. Overall panel width to be 38-1/4", with 36" net coverage.
2. Panels shall be factory-formed to 40' max.
3. 1-1/4" high ribs to be spaced 12" on center, with 3/4" wide by 1/4" high minor ribs spaced 4" on center between major ribs ("R" Panel).
4. Panel-to-panel and panel-to-purlin connections to be with No. 12-14 self-drilling tapping fasteners, 1" min. for panel-to-purlin connections, 3/4" minimum for panel-to-panel connections.
5. Compressible blanket insulation to be maximum 4-1/2" thickness before compression.
6. For roof applications, a line of tape sealant for weathertightness shall be used at panel side laps and end laps.
7. Where required, panel assembly shall bear Underwriter's Laboratories Label UL90, pursuant to Construction Number 161.

PART 3 EXECUTION

3.01 INSPECTION

A. Substrate:

1. Examine plywood or metal deck to ensure proper attachment to framing.
2. Inspect roof deck to verify deck is clean and smooth, free of depressions, waves or projections, level to +/- 1/4" in 20', and properly sloped to [valleys] (or) [eaves].
3. Verify roof openings, curbs, pipes, sleeves, ducts or vents through roof are solidly set, cant strips and reglets in place, and nailing strips located.
4. Verify deck is dry and free of snow or ice. [Flutes in steel deck to be clean and dry] or [joints in wood deck to be solidly supported and nailed].

B. Underlayment:

1. Verify #30 unperforated asphalt saturated roofing felt underlayment has been installed over solid sheathing and fastened in place.
2. One (1) layer of #30 asphalt roofing felt paper for roof slopes of 3:12 and up, two (2) layers for roof slopes of 1:12 - 3:12 in moderate climates (check with Berridge).
3. Grace Ice & Water Shield underlayment to be used on all curved applications and on low (less than 1:12) slope or complex roofs per Berridge recommendation.
4. Ensure felt installed horizontally, starting at eave to ridge with a 6" minimum overlap and 18" endlaps.
5. Ensure that all nail heads are totally flush with the substrate. Nails shall be galvanized roofing nails with Berridge Coated Felt Caps.

3.02 INSTALLATION

- A. Comply with manufacturers standard instructions and conform to standards set forth in the Architectural Sheet Metal Manual published by SMACNA, in order to achieve a watertight installation.
- B. Install panels in such a manner that horizontal lines are true and level and vertical lines are plumb.
- C. Install starter and edge trim before installing roof panels.
- D. Remove protective strippable film prior to installation of roof panels.
- E. Attach panels using manufacturer's standard fasteners, spaced in accordance with approved shop drawings.
- F. Install sealants for preformed roofing panels as approved on shop drawings.
- G. Do not allow panels or trim to come into contact with dissimilar materials.
- H. Do not allow traffic on completed roof. If required, provide cushioned walk boards.
- I. Protect installed roof panels and trim from damage caused by adjacent construction until completion of installation.
- J. Remove and replace any panels or components which are damaged beyond successful repair.

3.03 CLEANING

- A. Clean any grease, finger marks or stains from the panels per manufacturer's recommendations.
- B. Remove all scrap and construction debris from the site.

3.04 FINAL INSPECTION

- A. Final inspection will be performed by a firm appointed and paid for by the owner in accordance with section 01410.

END OF SECTION

NOTE: Please reference Berridge Manufacturing Company's current Sweet's Catalog 07610/BER, Sweet's BuyLine 49510 and 07410/BER for standard product offering with regard to materials, gauges, finishes and colors available.