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This MANU-SPEC® utilizes the Construction Specifications Institute (CSI) *Project Resource Manual* (PRM), including *MasterFormat*™, *SectionFormat*™ and *PageFormat*™. A MANU-SPEC is a manufacturer-specific proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by brackets []; delete optional text in final copy of specification. Specifier Notes typically precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text. Metric conversion, where used, is soft metric conversion.

This MANU-SPEC specifies structural metal roofing. These products are manufactured by Merchant & Evans, Inc. Revise MANU-SPEC section number and title below to suit project requirements, specification practices and section content. Refer to CSI *MasterFormat* for other section numbers and titles.

SECTION 07 61 13 STANDING SEAM SHEET METAL ROOFING

PART 1 GENERAL

1.01 SUMMARY

- A. Related Sections:
1. Purlin Framing: Division 05 structural steel sections.
 2. Underlayment: Division 06 rough carpentry sections.
 3. Sealants: Division 07 sealant sections.

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Section 01 42 19 - Reference Standards may establish the edition date of standards. This article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section.

1.02 REFERENCES

- A. ASTM International (ASTM):
1. ASTM A653/A653M-06 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 2. ASTM A792/A792M Standard Specification for Steel Sheet, 55 % Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
 3. ASTM B209 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
 4. ASTM E283 Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
 5. ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
 6. ASTM E646 Standard Test Method for Tensile Strain-Hardening Exponents (n -Values) of Metallic Sheet Materials.



7. ASTM E1592 Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference.
 8. ASTM E1680 Standard Test Method for Rate of Air Leakage Through Exterior Metal Roof Panel Systems.
 9. ASTM E2140 Standard Test Method for Water Penetration of Metal Roof Panel Systems by Static Water Pressure Head.
- B. FM Global (Factory Mutual):
1. Approval Guide.
- C. Underwriters Laboratories, Inc. (UL):
1. UL 580 Tests for Uplift Resistance of Roof Assemblies.

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor either before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Section [01 33 00 - Submittals Procedures] [_____].

1.03 SYSTEM DESCRIPTION

- A. Design Requirements: Design roof system to withstand dead loads and live loads prescribed by the governing building code.
- B. Performance Requirements:
1. Air Infiltration: Not more than 0.5 ft³ (0.014 m³) per minute at a static pressure of 1.57 psf (7.7 kg/m²) when tested in accordance with ASTM E283/ASTM E1680.
 2. Water Infiltration: No water leakage when tested in accordance with ASTM E331/ASTM E646 with a water spray of 5 gal/hr ft² (18.9 L/hr m²) at a static pressure of 15 psf (73 kg/m²).
 3. Wind Uplift:
 - a. As tested to ASTM E1592.
 - b. Class 90, when tested in accordance with UL 580, and listed in the UL "Roofing Materials and Systems Directory."

Specifier Note: Usually retain both "b" above and "c" below; revise class to conform to project requirements.

- c. Class 1-90 when tested and approved by FM Global.

1.04 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Section [01 33 00 - Submittal Procedures] [_____].
- B. Product Data: Submit product data, including manufacturer's SPEC-DATA® sheet, for specified products.

Specifier Note: Article below should include prerequisites, standards, limitations and criteria that establish an overall level of quality for products and workmanship for this section. Coordinate article below with Division 01 Quality Assurance Section.

- C. Shop Drawings: Submit drawings reviewed by or drawn by roofing manufacturer showing arrangement of panels and orientation of panel joints, details of panel joints and panel terminations, details of attachment to supporting structure and details of flashing and closure trim.
- D. Samples: Submit 8 1/2 inch x 11 inch (216 x 279 mm) samples of specified coating(s) showing texture and color.
- E. Quality Control Submittals:
1. Design Data: Submit structural calculations prepared by a structural engineer licensed in the state in which the project is located.
 2. Certificates: Manufacturer's certification that the installer is acceptable.
 3. Manufacturer's Instructions: Manufacturer's installation instructions.
- F. Closeout Submittals:
1. Warranty: Manufacturer's standard warranty document executed by authorized company official. Manufacturer's

warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Trained by and acceptable to the manufacturer.

Specifier Note: Paragraph below should list obligations for compliance with specific code requirements particular to this section. General statements to comply with a particular code are typically addressed in Conditions of the Contract and Section 01 41 00 - Regulatory Requirements. Repetitive statements should be avoided.

- B. Regulatory Requirements: In accordance with Section [01 41 00 - Regulatory Requirements] [_____].

1.06 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Section [01 61 00 - Common Product Requirements] [_____].
- B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

Specifier Note: Coordinate article below with Conditions of the Contract and with Section 01 78 36 - Warranties.

1.07 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
- B. Manufacturer's Warranty: Submit in accordance with Section [01 78 36 - Warranties] [_____] for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.
1. Warranty Period: [_____] years commencing on Date of Substantial Completion.

PART 2 PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

2.01 SHEET METAL ROOFING

Specifier Note: Paragraph below is an addition to CSI *SectionFormat* and a supplement to MANU-SPEC. Retain or delete paragraph below per project requirements and specifier's practice.

- A. Manufacturer: Merchant & Evans, Inc.
1. Contact: 308 Connecticut Dr., Burlington, NJ 08016; Telephone: (800) 257-6215, (609) 387-3033; Fax: (609) 387-4838; E-mail: marketing@ziprib.com; website: www.ziprib.com.

Specifier Note: Select system(s) and system components below; if more than one system is retained, create designators and coordinate with the drawings.

- B. ZIP-RIB Structural Standing Seam Roofing System:
1. Seam Height: 2 1/2 inches (64 mm).
 2. Metal: [Alum-zinc coated steel] [Galvanized coated steel] [Aluminum] [Stainless steel] [Copper] [Zinc].
 3. Texture: [Smooth] [Stucco embossed].

Specifier Note: Fluoropolymer and mill finishes are standard; brushed and anodized finishes are also available. Contact the manufacturer.

4. Finish: [Fluoropolymer] [Mill].
5. Pan Width: [12 inches (305 mm)] [16 inches (406 mm)].

C. ZIP-RIB Canopy System:

1. Seam Height: 2 1/2 inches (64 mm).
2. Metal: [Alum-zinc coated steel] [Galvanized coated steel] [Aluminum].
3. Texture: [Smooth] [Stucco embossed].

Specifier Note: Fluoropolymer and mill finishes are standard; brushed and anodized finishes are also available. Contact the manufacturer.

4. Finish: [Fluoropolymer] [Mill].

D. Customform BD-1520 System:

1. Seam Height: 2 inches (51 mm).
2. Metal: [Alum-zinc coated steel] [Galvanized coated steel] [Aluminum] [Stainless steel] [Copper] [Zinc].
3. Texture: [Smooth] [Stucco embossed].

Specifier Note: Pan widths up to 42 1/2 inches (1080 mm) are available.

4. Pan Width: [_____] inches (mm).

Specifier Note: Fluoropolymer and mill finishes are standard; brushed and anodized finishes are also available. Contact the manufacturer.

5. Finish: [Fluoropolymer] [Mill].

2.02 MATERIALS

Specifier Note: Metals below are manufacturer's standards; see manufacturer's SPEC-DATA sheet for alternative metals.

A. Sheet Metal:

1. Alum-Zinc Coated Steel AZ-50: ASTM A792/A792M, [24] [22] [20] [18] gauge.
2. Alum-Zinc Coated Steel AZ-55: ASTM A792/A792M, [24] [22] [20] [18] gauge.
3. Galvanized Coated Steel: ASTM A653/A653M, G90, [24] [22] [20] [18] gauge.
4. Aluminum: ASTM B209, 3004-H274 Alloy, [0.032 inch (0.81 mm)] [0.040 inch (1 mm)] [0.050 inch (1.3 mm)] thick for ZIP-RIB panel systems.
5. Aluminum: ASTM B209, 3005 Alloy, [0.032 inch (0.81 mm)] [0.040 inch (1 mm)] [0.050 inch (1.3 mm)] thick for BD-1520

B. Roof Panel Assembly:

1. UL Class A fire rated.
2. Tested and approved in accordance with UL Category CETW.

Specifier Note: If mill finish was selected above, delete the following article.

2.03 FACTORY FINISHING

- A. Fluoropolymer: Coil coated 70% Kynar 500 or Hylar 5000 based fluorocarbon coating.

Specifier Note: Refer to roof manufacturer's standard available colors and insert color selection below.

1. Color: [_____].

2.04 PRODUCT SUBSTITUTIONS

Specifier Note: Retain appropriate Subparagraph below to suit project requirements. If substitutions are permitted, submit requests not less than 15 days prior to bid.

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- A. Substitutions: Substitutions in accordance with Section [01 25 13 - Product Substitution Procedures] [No substitutions permitted] [_____].

PART 3 EXECUTION

Specifier Note: Paragraph below is an addition to CSI *SectionFormat* and a supplement to MANU-SPEC. Retain or delete paragraph below per project requirements and specifier's practice.

3.01 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

3.02 EXAMINATION

- A. Site Verification of Conditions: Verify that substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.

3.03 CLEANUP

- A. Proceed in accordance with Section [01 74 13 - Cleaning] [_____].
- B. Upon completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

END OF SECTION