

**SECTION 07 61 13
METAL ROOF PANELS**

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. General provisions of the Contract, including General and Supplementary Conditions and Division 1 - General Requirements, apply to work specified in this Section.

1.2 DESCRIPTION OF WORK

- A. Extent of this work as indicated on the drawings and or specified herein. Including but not limited to pre-coated metal roofing panels and associated, wall, rake, valley, and counter flashings.

1.3 REFERENCES

- A. ASCE 7 – Minimum Design Loads for Buildings and other Structures
- B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
- C. ASTM B32 – Standard Specification for Solder Metal
- D. ASTM D226/D226M – Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing
- E. ASTM D2178/D2178M – Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing
- F. ASTM D4586/D4586M – Standard Specification for Asphalt Roof Cement, Asbestos-Free
- G. FED A-A-51145 - Flux, Soldering, Non-Electronic, Paste and Liquid
- H. NRCA (National Roofing Contractors Association) - Roofing Manual
- I. SMACNA - Architectural Sheet Metal Manual
- J. FBC - Florida Building Code

1.4 QUALITY ASSURANCE

- A. Manufacturer: Company specializing in manufacturing the products specified in this Section with minimum of 10-years documented experience.
- B. Installer: A Company specializing in sheet metal roof installations with 5-years documented experience, approved, and certified by the manufacturer.
- C. Job Supervisor shall have a minimum of 5-years documented trade experience in supervising on projects of this size and type.

1.5 SUBMITTALS

- A. Provide shop drawings with erection layouts, details, and manufacturer's installation instructions.
 - 1. Details and layouts shall show weights, gauges, or thickness of sheet metal, jointing, fastening, and expansion joint spacing and installation procedures.
 - 2. The Contractor is responsible for detailing and fabrication and for the correct fitting of sheet metal roofing shown on the shop drawings.
 - 3. May submit scaled catalog cuts for factory-fabricated items.
- B. Submit two samples of all materials, and accessories with a full color range proposed for use illustrating standing seam, materials, and finish.
- C. Certification: Submit written certification prepared, signed, and sealed by a Professional Engineer, registered to practice in the State of Florida verifying that the metal roof system design meets indicated loading requirements and codes of authorities having jurisdiction.

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- D. Submit certification verifying that metal roofing system is tested and approved to meet the requirements of ASCE 7.
 - E. Submit fall protection plan/system for use both during construction and Owners use after construction for roof repair, meeting OSHA requirements.
 - 1. Provide for a permanent tie-off system.
 - F. Provide copy of Florida or Miami-Dade product approval documentation to Architect and the District Building Code Services Department.
- 1.6 PRE-INSTALLATION CONFERENCE
- A. Prior to start of roofing installation and accessory work, conduct an on-site meeting with installer, architect, owner, manufacturer's representative, the District's building inspector, representative from the Building Envelope Group, and other parties with a direct involvement in the process.
- 1.7 PRODUCT HANDLING
- A. Pack factory fabricated components in cartons, with the Manufacturer's name or trademark.
 - B. Carefully handle sheet metal items to prevent damage to the surfaces, edges, and ends, and store at the site above the ground in a covered, dry location.
 - C. Damaged items that cannot be restored to like-new condition will be rejected at no additional cost to the Owner.
- 1.8 WARRANTY
- A. Provide manufacturers written weather-tightness warranty for a minimum of 20-years against leaks in roof panels arising out of or caused by wear and tear under weather and atmospheric conditions.
 - 1. Both the metal roofing system manufacturer and the metal roofing system contractor shall sign warranty.
 - B. Warranty: Cover damage to building resulting from failure to resist penetration of water with no dollar limit to the value of repairs or replacements covered by the warranty.
 - C. Provide manufacturer's standard written warranty for 20-years against perforation of metal roof panels due to corrosion under normal weather and atmospheric conditions.
 - 1. Metal roofing system manufacturer shall sign warranty.
 - D. Inspection and Report Services:
 - 1. Metal roof system manufacturer or his authorized agent shall perform an inspection of the entire roof system and shall submit a written report to the Owner detailing all conditions requiring maintenance and repair by parties under the above warranties.
 - 2. Perform inspections and reports once every other year over the 20-year weather-tightness warranty period.
 - 3. Cost of Inspection and Report Service shall be included in the contract amount.
 - E. Manufacturer's Certification: Submit written certification signed by the manufacturer stating that the metal roof system manufacturer will provide warranties and inspection and Report Service specified herein.
- 1.9 JOB CONDITIONS
- A. Weather: Proceed with roofing work only when weather conditions permit work performance in accordance with manufacturer's recommendations and warranty requirements.

PART 2 PRODUCTS

2.1 MATERIAL

- A. Metal roofing, drip edge, wall, rake, valley, counter flashing, and related metal shall be 24-gauge Galvalume.
 - 1. Architect shall select finish from the manufacturers standard color range.
 - 2. Profile of standing seam pans shall be (*Architect to fill in number*) on-center (min.) spacing with a (1½") or (2") standing seam height.
- B. Roofing underlayment shall be 1-layer of "Protecto Wrap" lay dry with minimum salvage 32" lap horizontally and 6" minimum end laps or an approved equal peel & stick self-adhering waterproof membrane.
 - 1. Install per manufacturers recommendations.
- C. Fasteners, sealants, primer, and roof accessories shall be in accordance with manufacturer's written recommendations.
- D. Substrate shall be ¾" CDX plywood deck secured to 22-ga metal deck attached to structure as required to conform to ASCE 7 wind loading, unless noted otherwise on the contract drawings.
- E. Directly apply self-adhering ice and water shield underlayment to plywood deck.

2.2 SHEET METAL ACCESSORIES

- A. General: Unless otherwise indicated, provide accessories of same material as roofing system.
 - 1. Fasteners:
 - a. Galvanized steel and Stainless steel with neoprene washers, and in accordance with manufacturers written recommendations.
 - b. Design all fasteners to withstand a wind uplift load to meet ACSE 7.
 - 2. Primer: Zinc chromate or Galvanized iron type.
 - 3. Protective Backing Paint: Zinc chromate alkyd or bituminous.
 - 4. Sealant, install in accordance with manufacturer's written recommendations.
 - 5. Bedding Compound, install in accordance with manufacturer's recommendations.
 - 6. Reglets: Recessed type galvanized steel, face and ends covered according to manufacturer's recommendation and Architect's designs.

PART 3 EXECUTION

3.1 SURFACE PREPARATION

- A. Surfaces that are to receive sheet metal roofing and roofing underlayment shall be even, smooth, sound, thoroughly clean and dry and free from defects that may affect the application.
- B. Thoroughly cover the deck with roofing underlayment before installation.

3.2 INSTALLATION

- A. Conform to quality, procedures and methods recommended by NRCA & SMACNA, where they apply.
 - 1. Accurately form, fit snugly, and have exposed edges folded under at least 2" and no sharp corners left exposed.
 - 2. Securely fasten the product to form watertight roof system.
- B. Any materials furnished but installed by others shall be in condition for final installation.
 - 1. Do all cutting, fitting, drilling, or other operation in metal required to accommodate work of other trades.

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2. Provide any items essential to complete the installation though not specifically shown or specified.
3. Such items shall be of the same kind, quality, and type as similar items utilized elsewhere in the building.
4. Apply all sealant and butyl tape per requirements of manufacturer.

3.3 APPLICATION:

- A. Install metal roofing system including insulation board in strict accordance with manufacturer's directions and approved shop drawings.
- B. Erect all work plumb, level, square, and in proper alignment with work of other trades.
- C. Lay all seams in the direction of the roof slope.
- D. Sheet Metal Accessories: Install sheet metal accessories per Manufacturer's recommendations unless indicated otherwise for positive anchorage to building and weather-tight mounting.

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3.4 PROTECTION

- A. Dissimilar Metals: When aluminum materials are in contact with or fastened to dissimilar metals, with the exception of stainless steel or zinc, cover the contact surface of the dissimilar metal with 1-layer of 30-pound roofing felt.
- B. Masonry or Plaster: When aluminum materials are in contact with or built into masonry or plaster, cover with a heavy brush coat of alkali-resistant bituminous paint or clear methacrylate lacquer.
- C. Wood:
 - 1. When aluminum materials are in contact with green or wet wood, or any other absorptive material subjected to repeated wetting, or treated wood with a non-compatible preservative, cover the contact surfaces with 1-layer of 30-pound roofing felt.
 - 2. Seal joints with approved caulking material.

3.5 PATCHING

- A. Maintain the finish of roofing and siding at all times.
- B. Rusted areas and scarred during installation shall be thoroughly cleaned and touched-up with an approved manufacturer's paint.

END OF SECTION