

SECTION 07410
STANDING SEAM METAL ROOFING

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

- A. General provisions of the Contract, including General and Supplementary Conditions and Division I - 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. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
- B. ASTM B32 – Standard Specification for Solder Metal.
- C. ASTM D226 – Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
- D. ASTM D2178 – Standard Specification for Asphalt Impregnated Glass Mat for Roofing and Waterproofing.
- E. ASTM D4586 – Standard Specification for Asphalt Roof Cement, Asbestos-Free.
- F. FS O-F-506 - Flux, Soldering, Paste and Liquid.
- G. NRCA (National Roofing Contractors Association) - Roofing Manual.
- H. SMACNA - Architectural Sheet Metal Manual.
- I. Florida Building Code.
- J. Current ASCE Minimum Design Loads for Buildings and other Structures.

1.4 QUALITY ASSURANCE:

- A. Manufacturer: Company specializing in manufacturing the products specified in this Section with minimum of ten-years documented experience.
- B. Installer: Company specializing in sheet metal roof installations with five- years documented experience and approved and certified by the manufacturer.

1.5 SUBMITTALS:

- A. Shop drawings showing complete erection layouts, details and manufacturer's installation instructions shall be submitted for approval. Details and layouts shall show weights, gauges or thickness of sheet metal, jointing, fastening, expansion joint spacing and procedures to be followed during installation. The Contractor shall be responsible for detailing and fabrication and for the correct fitting of sheet metal roofing shown on the shop drawings. Scaled catalog cuts may be submitted 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 and 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.
- D. Submit certification verifying that metal roofing system to be installed has been tested and approved to meet the requirements of Current ASCE Minimum Design Standards.
- E. Submit fall protection plan/system for use both during construction and owners use after construction for roof repair, meeting OSHA requirements.
 - 1. System to be permanently installed by this contractor.

1.6 PRE-INSTALLATION CONFERENCE

- A. Prior to start of roofing installation and accessory work, conduct an on site meeting with installer, architect, owner, manufacturers representative, district's roofing inspector, 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. 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. 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. 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 twenty years against perforation of metal roof panels due to corrosion under normal weather and atmospheric conditions. Metal roofing system manufacturer shall sign warranty.
- D. Inspection and Report Services: 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. Perform inspections and reports once every other year over the 20-year weather-tightness warranty period. 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 existing and forecasted weather conditions will permit work to be performed in accordance with manufacturer's recommendations and warranty requirements.

1.10 SPECIAL PROJECT WARRANTY

- A. Provide "sole source" 20-year roofing systems warranty issued by the manufacturer of the primary roofing materials and co-signed by his authorized installer (Contractor) attesting to a warranty that any defective materials that make up the roofing system (i.e. sheathing, roofing underlayment, metal roofing, accessories, flashing, etc.) and or workmanship or any loss of water-tightness due to any nature, except as excluded herein, will be promptly repaired and defective materials replaced without cost to the Owner during the lifetime of the said warranty.
 - 1. The installer (Contractor) shall respond to warranty work by having workmen on the job within 8-hours from time of notification by telephone upon discovery of loss of water-tightness. The manufacturer of the primary materials and the installer (contractor) shall indemnify the Owner against material damage incurred.
 - 2. Also, provide written warranty signed by the manufacturer of primary roofing materials allowing Owner to make emergency repairs to roof without voiding manufacturer's warranty.
- B. The special written warranty shall provide for a watertight roofing system for a period of no less than 20-years from 30-days after the date of substantial completion, not the roofing system completion date. Costs for repairs shall not be prorated but remain at full value. The first two years of the warranty period is to be covered by the General Contractor and/or Roofing Contractor, whichever is appropriate, with the remaining years covered by the manufacturer.
- C. Any deviations or changes from the Manufacturer approved plans and specifications made by the authorized Installer (Contractor) prior to written approval or where inspection determines the installation to be ineligible for the warranty specified, all unauthorized installation shall be considered the joint responsibility of the manufacturer and Installer (Contractor) and shall be a single source responsibility until the special warranty can be issued.
- D. Full costs of the warranty shall be included in the original cost.

PART 2 PRODUCTS

2.1 MATERIAL:

- A. Metal roofing, drip edge, wall, rake, valley, counter flashing and related metal shall be 22-gauge Galvalume. Finish shall be selected from the manufacturers standard color range.
 - 1. Profile of standing seam pans shall be ___" on-center (min.) spacing with a (1½") (2") standing seam height.
- B. Roofing underlayment shall be 1-layer of "Protecto Wrap" or equal, laid dry with minimum salvage 32" lap horizontally and 6" minimum end laps. Install per manufacturers recommendations.
- C. Fasteners, sealants, primer and roof accessories shall be in accordance with manufacturers written recommendations.
- D. Substrate shall be ¾" CDX plywood deck secured to 22-ga metal deck attached to structure as required to conform with the Current ASCE Wind Load Design Standards.

2.2 SHEET METAL ACCESSORIES

- A. General: Unless otherwise indicated, provide accessories of same material as roofing system.
 - 1. Fasteners: Galvanized steel and Stainless steel with neoprene washers, and in accordance with manufacturers written recommendations. All fasteners shall be designed to withstand a wind uplift load to meet the Current ASCE Minimum Design.
 - 2. Primer: Zinc chromate or Galvanized iron type.
 - 3. Protective Backing Painting: Zinc chromate alkyd or bituminous.
 - 4. Sealant: In accordance with manufacturer's written recommendations.
 - 5. Bedding Compound: 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. Before installation the deck shall be thoroughly covered by the roofing underlayment.

3.2 INSTALLATION:

- A. Conform to quality, procedures and methods recommended by NRCA & SMACNA, where they apply. Accurately form, fit snugly, and have exposed edges folded under at least 2" and no sharp corners left exposed. Make-work securely fastened and absolutely watertight.
- B. Any materials furnished but installed by others shall be in condition for final installation. Do all cutting, fitting, drilling or other operation in metal required to accommodate work of other trades. Provide any items essential to complete the installation though not specifically shown or specified. Such items shall be of the same kind, quality and type as similar items utilized elsewhere in the building. 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. All work shall be erected plumb, level, square, and in proper alignment with work of other trades.
- C. Seams shall be laid 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.

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: 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. Seal joints with approved caulking material.

3.5 PATCHING:

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

END OF SECTION