

SECTION 05 31 23

METAL DECKING - ROOF

PART 1 GENERAL

1.1 SCOPE

- A. This section shall cover all furnishing, fabrication, connection and erection of steel roof deck complete.

1.2 WORK INCLUDED AND FURNISHED

- A. All labor, tools, materials, scaffolding, bracing hoists and other construction equipment required for the complete erection and installation of roof deck.
- B. Shop drawings showing complete erection details shall be submitted in quadruplicate to the Architect for approval before fabrication is begun.
- C. Furnishing of steel deck, accessories and clips necessary for the completed deck, including rubber type and closures.
- D. Shop and field painting.

1.3 RELATED SECTIONS

- A. Section 01 40 00 – Quality Control: Required Special Inspections
- B. Section 05 12 23: Structural Steel
- C. Section 05 21 00: Open Web Steel Joists
- D. Section 05 44 00: Cold-Formed Steel Trusses
- E. Section 05 50 00: Metal Fabrications

1.4 STANDARDS

- A. Design properties shall be computed in strict accordance with the latest edition of "Specifications for the Design of Light Gage Structural Members" of the AISI. Steel decking shall meet SDI Specifications and Certification.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Roof deck shall be manufactured from steel conforming to A-1008 having a minimum yield value of 40,000 P.S.I.
- B. Steel roof deck as installed shall be capable of supporting a total load of 50 P.S.F. with a maximum bending stress of 20,000 P.S.I. with a maximum deflection of $L/240$ of the span for a live load of 30 P.S.F., but in no case shall properties of the deck be less than that indicated on plans or herein these specifications.
- C. Deck shall be steel sheets with a shop coat of primer.
- D. Steel Deck Types
 - 1. **1 1/2" Steel Deck:** Deck shall have continuous integral ribs 1 1/2" deep, spaced no more than 6 1/4" on center. Ribs at bearing points shall be commonly referred to as "wide rib". Gauge of material shall be as noted on contract plans, but in no case shall be less than 22 gauge, 'B' deck.

PART 3 EXECUTION

3.1 INSTALLATION

- A. General: Install roof deck units and accessories in accordance with manufacturer's recommendations and shop drawings.
- B. Placing Roof Deck Units.
 - 1. Position roof deck units on supporting steel framework and adjust to final position with ends bearing on supporting members and accurately aligned end to end before being permanently fastened.
 - 2. Lap ends not less than 2 1/2 inches. Laps shall occur at a support.
 - 3. Do not stretch or compress the side lap interlocks.
 - 4. Place deck units flat and square, and secure to adjacent framing without warp or deflection.
- C. Fastening Deck Units
 - 1. Secure roof deck units to supporting members with 5/8" diameter puddle welds at spacing as noted in structural notes on structural drawings.
 - 2. Welding to conform to AWS D1.1-Current Edition.
 - 3. Side laps shall have 2 #10 screw fasteners between each support or welded according to structural notes on structural drawing.

- D. Cutting and Fitting
 - 1. Cut and fit roof deck units and accessories around projections through roof decking.
 - 2. Make cuts neat, square, and trim.
 - 3. Cut openings in roof deck true to dimensions using metal saws, drills or cutting torches.
 - 4. Do not use cutting torches where a finished appearance is required.
- E. Closure Strips: Install closure strips at all open uncovered ends and edges of roof decking, and in voids between decking and other construction.
- F. All erection work shall be coordinated with other trades to provide the necessary vents, hangers, openings, etc. required.
- G. After installation, deck shall be a continuous, clean, dry surface ready for roofing materials.
- H Architect and structural engineer shall observe the finished roof deck prior to placing of covering materials.

3.2 JOINT SEALING

- A. Remove dust, dirt, and moisture from joint surfaces.
- B. Apply sealant in accordance with manufacturer's instructions.

3.3 TOUCH-UP PAINTING

- A. Wire brush, clean and paint scarred areas, welds, and rust spots on top and bottom surfaces of decking units and supporting steel members.
- B. Touch-up shop painted surfaces with same paint used in shop, and apply as recommended by manufacturer.
- C. Touch-up paint shall match existing paint in exposed areas.

3.4 SPECIAL INSPECTIONS

- A. Inspection of steel deck placement and connections for conformance to the construction documents and the IBC shall be completed by the designated third party Special Inspector.

END OF SECTION

05 31 23-3