

Composite Floor Deck Specifications

Part I-General

1.01 Work Included

- A. Furnish all materials and labor necessary to complete metal decking installation per the Contract Documents.

1.02 Related Work, Specified Elsewhere

- A. The work of this Section shall be closely coordinated with that of Section 05100-Structural Steel Framing; Section 05200-Steel Joists.

1.03 Reference Standards for Quality Assurance

- A. Codes/Standards- The work and materials of this section shall comply with:
1. Section properties shall be derived in accordance with AISI "Specification for Design of Cold-Formed Steel Structural Members, Latest Edition."
 2. Metal decking is to be attached to the structural frame in conformance with AWS D1.1 and D1.3 "Specification for Welding Sheet Steel in Structures."
 3. ICC Evaluation Service Report No. 1414 and 2408
* Note to Specifier:
Insert the appropriate L.A. City Research Report No. when applicable, 23783, 23784, 25762
 4. ASTM reference numbers:
(a) ASTM A653, Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron alloy-coated (Galvannealed) By The Hot-Dip Process, Structural (Physical) Quality.
 5. Steel Deck Institute (SDI)-Metal floor deck profiles shall be in conformance with SDI standards.

1.04 Submittals

- A. Shop Drawings
1. Prior to fabrication; prepare shop drawings for work under this section and submit to Architect. Shop drawings are to include deck layout, framing and support of openings, layout and quality of studs on beams, dimensions and sections, details of accessories and type and location of welds.
 2. Manufacturer's product literature and relevant approvals are to be submitted with the shop drawings.
 3. Where metal decking is part of a fire rated assembly, the metal deck manufacturer shall provide all data to insure compliance with the UL design number and with ICG.

1.05 Product Handling

- A. Metal deck
Transport, store and erect metal deck and its accessories in a manner that will prevent corrosion, deformation or other damage. Store deck clear of the ground with one end elevated to promote drainage; protect metal deck from water and the elements with a water resistant material. Do not use as a storage platform.

Part 2 - Products

2.01 Materials and Finishes

- A. Metal floor deck to be ASC Steel Deck [select appropriate profile(s) and gauge(s).]
1. B-36, (22,20,18,16) gauge, 1 1/2" deep x 36" wide.
 2. N-24 (22,20,18,16) gauge, 3" deep x 24" wide.
 3. 2W-36 (22,21,20,19,18,16) gauge, 2 1/8" deep x 36" wide.
 4. 3W-36 (22,21,20,19,18,16) gauge, 3" deep x 36" wide.
 5. ASC2 or ASC3 (20/20, 20/18, 20/16, 18/20, 18/18, 18/16, 16/16, 3" deep x 24" wide.
 6. BF-36 (20/20, 20/18, 20/16, 18/20, 18/18, 18/16, 16/16) gauge; 1 1/2" deep x 36" wide.
 7. NF-24 (20/20, 20/18, 20/16, 18/20, 18/18, 18/16, 16/16) gauge; 3" deep x 24" wide.
 8. 2WF-36 (20/20, 20/18, 20/16, 18/20, 18/18, 18/16, 16/16) gauge; 2 1/8" deep x 36" wide.
 9. 3WF-36 (20/20, 20/18, 20/16, 18/20, 18/18, 18/16, 16/16) gauge; 3" deep x 36" wide.
- Deck units are to be fabricated from sheet steel conforming to ASTM A653, Fy = 38 KSI with a galvanized coating, (select appropriate coating) G-60, G-90.

*Note to Specifier:

2W-36, 3W-36, 2WF-36 and 3WF-36 are available in 24" wide panels; when specified, the designations are 2W-24, 3W-24, 2WF-24 and 3WF-24.

*Note to Specifier: When specifying CF-1/2, CF-7/8 or CF-1 3/8, use the following:

1. CF-7/8 (26,24,22,20) gauge, 7/8" deep.
2. CF-1 3/8 (26,24,22,20,18) gauge, 1 3/8" deep.

Deck units are to be fabricated from sheet steel conforming to ASTM A653, Structural Grade E (26, 24, 22, 20 ga) with a galvanized coating, G-90. CF 1 3/8" (18 ga) is to be fabricated from sheet steel conforming to ASTM A653, Fy = 38 KSI with a galvanized coating, G-90.

*Note to Specifier: When specifying Deep Deck, use the following:

1. Deep Deck (20, 18, 16, 14) gauge; 4 1/2", 6" or 7 1/2" deep deck x 12" wide.

Deck units are to be fabricated from sheet steel conforming to ASTM A653, Fy=33KSI with a galvanized coating.

2.02 Fabrication

A. Metal Deck

Manufacture deck units to lengths as indicated on shop drawings. Panel end conditions are to be butted. Sidelaps are to be male/female interlocking type, suitable for button punching.

*Note to specifier: When specifying CF-7/8 or CF-1 3/8 delete the last sentence and insert:

Sidelaps are to be overlapping type.

B. Accessories

Fabricate steel deck accessories from the same gauge and material as adjacent steel deck.

Part 3 - Execution

3.01 Inspection

- A. Examine the areas and conditions under which the work of this Section is to be performed. Correct any conditions which are detrimental to the timely and proper completion of the work of this Section. Do not proceed with work until unsatisfactory conditions are corrected.

The General Contractor shall be responsible for obtaining coupons, randomly selected from the steel deck delivered to the job site. These coupons shall be tested by an independent lab to verify that the base metal thickness is within 95% of the deck manufacturer's published design "t".

3.02 Installation

A. General

Install the metal deck and accessories in compliance with the manufacturer's written recommendations and approved shop drawings.

B. Placing Metal Deck Units.

Place metal deck units on supporting members and adjust to proper position. Ensure proper bearing on

supporting members and accurate alignment of end-laps and sidelaps prior to permanently attaching units.

C. Attachment of Metal Deck Units

Welded attachment of metal deck units to the supporting members shall conform to AWS D1.1 and D1.3.

Welders shall be certified prior to commencing work.

Attach metal deck units to supporting members with 1/2" effective diameter puddle welds.

* Note to Specifier: When specifying CF-7/8 or CF-1 3/8 (24 and 26 gauges only) delete the second paragraph and insert:

Attach metal deck units to supporting members with plug welds using a 14-gauge weld washer having a 3/8" diameter hole and (when attachment method requires) a 16-gauge anchor washer having a 7/16" diameter hole.

Welds to supporting members and the method of sidelap attachment are to be as per the structural drawings.