

Roof Deck Specifications

Specification 05300 Metal Roof Deck

Part 1 - 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; and Section 07240 - Rigid Insulation.

Note to Specifier: Several additional sections, such as 03340-Insulating Concrete; 07600 - Flashing and Sheet Metal and 09900 - Painting may apply to Related Work depending upon the nature of the project.

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. ICBO Research Report No. 2757.

*Note to Specifier: Insert the appropriate L.A. City Research Report No. when applicable; 23783, 23784, 23803.

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 roof deck profiles shall be in conformance with SDI standards.
6. Factory Mutual (FM) – Metal roof deck profiles shall be in conformance with FM where applicable.

1.04 Submittals

- A. Shop drawings:
Prior to fabrication, prepare shop drawings for work under this section and submit to Architect. Shop drawings are to include deck layout, deck type and gauge, framing and support of openings, dimensions and sections, details of accessories and type and location of welds. Manufacturer's product literature and relevant approvals are to be submitted with the shop drawings.

1.05 Product Handling

- A. Metal Deck:
Transport, store and erect metal deck and 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.

*Note to Specifier: Include the following when Acustadek™ is specified;

- B. Acustadek™ Sound Absorption Batts
Store batts in an enclosed area, protected from the elements.

Part 2 - Products

2.01 Materials and Finishes

- A. Metal roof deck to be IMSA Building Products [select appropriate profile(s) and gauge(s)].
1. B-36, (22, 20, 18, 16) gauge;
1 1/2" deep x 36" wide.
 2. Q-Max® (22, 20, 18, 16) gauge; 1 1/2" deep x 36" wide; with 16-gauge Shear Resistance Angle.
 3. ShearVent™ (22, 20, 18, 16) gauge, positive vented,
1 1/2" deep x 36" wide with 16-gauge Shear Resistance Angle.
 4. N-24 (22, 20, 18, 16) gauge; 3" deep x 24" wide.
 5. 2W-36 (22, 20, 18, 16) gauge; 2" deep x 36" wide.
 6. 3W-36 (22, 20, 18, 16) gauge; 3" deep x 36" wide.
 7. BF-36 (20/20, 20/18, 20/16, 18/20, 18/18, 18/16, 16/16) gauge; 1 1/2" deep x 36" wide.
 8. NF-24 (20/20, 20/18, 20/16, 18/20, 18/18, 18/16, 16/16) gauge; 3" deep x 24" wide.

Deck units are to be fabricated from sheet steel conforming to ASTM A653, Fy = 38 KSI with a galvanized coating.

*Note to Specifier: 2W-36 and 3W-36 are available in 24" wide panels; when specified, the designations are 2W-24 and 3W-24.

*Note to Specifier: When specifying CP-32, use the following:

1. CP-32 (26, 24, 22, 20) gauge; 1 3/8" deep x 32" wide.

Deck units are to be fabricated from sheet steel confirming to ASTM A653, Structural Grade E with a G-90 galvanized coating.

*Note to Specifier: When specifying Deep Deck and Deep Cellular, using the following:

1. Deep Deck (20, 18, 16, 14) gauge; 4 1/2", 6" or 7 1/2" deep x 12" wide.
2. Deep Deck Cellular (20/20, 20/18, 20/16, 18/20, 18/18, 18/16, 16/16) gauge; 4 1/2", 6" or 7 1/2" deep x 24" wide.

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

Note to Specifier: When specifying Acustadek™ use the following:

- A. Metal roof deck to be IMSA Building Products [select appropriate profile(s) and gauge(s)].
1. B-36 Acustadek™ (22, 20, 18, 16) gauge,
1 1/2" deep x 36" wide.
 2. N-24 Acustadek™ (22, 20, 18, 16) gauge,
3" deep x 24" wide.
 3. BF-36 Acustadek™ (20/20, 20/18, 20/16, 18/20, 18/18, 18/16, 16/16) gauge; 1 1/2" deep x 36" wide.
 4. NF-24 Acustadek™ (20/20, 20/18, 20/16, 18/20, 18/18, 18/16, 16/16) gauge; 3" deep x 24" wide.
 5. Deep Deck Acustadek™ (20, 18, 16, 14) gauge; 4 1/2", 6" or 7 1/2" deep x 12" wide.

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6. Deep Deck Cellular Acustadek™ (20/20, 20/18, 20/16, 18/20, 18/18, 18/16, 16/16) gauge; 4 1/2" 6" or 7 1/2" deep x 24" wide.
 7. 2WF-36 Acustadek™ (20/20, 20/18, 20/16, 18/20, 18/18, 18/16, 16/16) gauge; 2" deep x 36" wide.
 8. 3WF-36 Acustadek™ (220/20, 20/18, 20/16, 18/20, 18/18, 18/16, 16/16) gauge; 3" deep x 36" wide.
- B. Acustadek™ perforations are 1/8" or 5/32" diameter holes on staggered centers. The noise reduction Coefficient is to be (select from chart on pages 23 and 24) . The NRC values were developed in accordance with ANSI C423, as performed by Riverbank Laboratory.

2.02 Fabrication

A. Metal Deck

Manufacture deck units to lengths as indicated on shop drawings. Panel end conditions are to be butted or endlapped, 2" minimum. Sidelaps are to be male/female interlocking type, suitable for button punching. Sidelaps are to be nestable or interlocking when using screw-type fasteners.

Note to Specifier: When specifying CP-32 delete the last two sentences and insert:

Sidelaps are to be overlapping type.

B. Accessories

Fabricate steel deck accessories (not including cell closures) from the same gauge and materials as adjacent steel deck.

Part 3 – Execution

3.01 Inspection

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 endlaps 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 CP-32 delete the second paragraph and insert: "Attach metal deck units to supporting member 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, as required for diaphragm shear capacity. Welds to supporting members and the method of sidelap attachment are to be as per the structural drawing."

Materials and Finishes

The B, Q-Max®, ShearVent™, Deep Deck, N, NF and BF profiles are manufactured from steel conforming to ASTM A653. CP-32 profile is manufactured from steel conforming to ASTM A653, Structural Grade E.

The standard galvanized coatings are G-60 (.60 oz./ft²) or G-90 (.90 oz./ft²) in accordance with ASTM A653. The B, Q-Max®, ShearVent™, Deep Deck, N, 2W, 3W, NF and BF are available in G-60 and G-90. The CP-32 profile is available in G-90. Please inquire for the availability of alternate coatings.

Please note: Spot weld discoloration will not be a reason for rejection of cellular deck.

The cellular decking listed in this catalog is manufactured from two sections of galvanized steel that are jointed with resistance welds. The deck coating and finish will be removed, from the area of the resistance weld, during this process. This condition should be considered when determining the fitness of this product for a specific application. This condition will also not be an acceptable cause for rejection of the material. Please contact your IMSA Building Products representative for additional information on this subject.

IMSA Building Products Inc. reserves the right to make revisions in the design and/or specifications of our products without prior notice. Dimensions and specifications of products are subject to normal manufacturing tolerances. Consult factory concerning availability of product.

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