

Short Form Specification for Steel Roof Deck

1. General

1.1. Related Documents: Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section.

1.2 Summary

This section pertains to steel roof deck.

A. Related Sections:

1. Division 5 Sections: Structural Steel, Steel Joists or Cold-Formed Steel Framing that support the steel roof deck

B. Requirements for field painting, fireproofing, roof sumps, flashings, drains, collars, gutters, downspouts, insulation and other miscellaneous items are specified elsewhere.

1.3 Submittals

A. General: Submit each item in this Article according to the conditions of the Contract and Division 1 Specification Sections.

B. Product Data for each type of decking specified, including dimensions of individual components, profiles, and finishes.

C. Shop Drawings showing location of deck units, anchorage details, accessories specified on the contract documents, and other information required for a thorough review.

D. Product Certificates (if required) certifying that the supplied products comply with specified requirements.

E. Welder Certificates signed by the Contractor certifying that welders comply with requirements specified under "Quality Assurance" Article 1.4. If mechanical fasteners are used, independent test reports or evaluation reports shall be provided by the fastener manufacturer

1.4 Quality Assurance

- A. Codes and Standards: Comply with applicable provisions of the following specifications:
 - 1. AISI S100-07 w/S2-10, North American Specification for the Design of Cold-Formed Steel Structural Members, Including Supplement 2 (February 2010)
 - 2. AWS D1.3:2008, Structural Welding Code-Sheet Steel
 - 3. ANSI/SDI RD-2010, Standard for Steel Roof Deck
- B. Certify that each welder has satisfactorily passed AWS qualification tests for welding processes involved, and, if applicable, has undergone recertification.

1.5 Delivery, Storage, and Handling

- A. Protect steel deck from corrosion, deformation, and other damage during delivery, storage and handling.
- B. If ground storage is needed, the deck bundles must be stored off the ground, with one end elevated to provide drainage. Bundles must be protected against condensation with a ventilated waterproof covering. Bundles must be stacked so there is no danger of tipping, sliding, rolling, shifting or material damage. Bundles must be periodically checked for tightness, and retightened as necessary.
- C. Deck bundles placed on the building frame must be placed near a main supporting beam at a column or wall. In no case are the bundles to be placed on unbolted frames or on unattached and/or unbridged joists. The structural frame must be properly braced to receive the bundles.

2. Products

- 2.1 A manufacturer offering deck products to be incorporated into the work must be a member of the Steel Deck Institute.

- 2.2** Materials: [The specifier must choose the appropriate section(s) and eliminate those not applicable.]
- A. Sheet steel for deck and accessories shall conform to ANSI/SDI RD - 2010, Section 2.1.A, 2.1.B, 2.1C, and 2.1.D.
 - B. Steel deck and accessories shall be [ASTM A1008 bare steel] [galvanized to G60 minimum in accordance with ASTM A653] [ASTM A1008 steel prime painted with manufacturer's standard prime paint].
 - C. The deck type and thickness shall be as shown on the plans.
or
 - D. The deck shall be ___ with a minimum metal thickness of ____.
or
 - E. The deck shall be selected to provide the load capacities shown on the drawings and as determined using the ANSI/SDI RD - 2010 construction loading criteria.
 - F. Whenever possible, the deck shall be multi-span.
 - G. The deck type provided shall be capable of supporting the superimposed live loads as shown on the plans.
 - H. Ridge and valley plates, flat plates at changes of deck direction, sump pans and side closures shall be the standard type provided by the deck manufacturer unless indicated otherwise on the plans.

3. Execution

- 3.1** Examine support framing and field conditions for compliance with requirements for installation tolerances and other conditions affecting performance of work of this section. All OSHA rules for erection must be followed.

3.2 Preparation

- A. Place deck in accordance with approved installation drawings.
- B. Locate deck bundles to prevent overloading of support members.

3.3 Installation: General

- A. Install deck panels and accessories according to ANSI/SDI RD - 2010 and in accordance with approved installation drawings and requirements of this Section.
- B. Place deck panels on structural supports and adjust to final position with ends aligned. Attach firmly to the supports immediately after placement in order to form a safe working platform.
- C. Cut and neatly fit deck units and accessories around openings and other work projecting through or adjacent to the decking.
- D. Trades that subsequently cut unscheduled openings through the deck are responsible for reinforcing the openings.

3.4 Installation: Roof Deck

- A. Fasten deck and accessories in accordance with requirements of ANSI/SDI RD - 2010, Sections 3.1, 3.2, 3.3 and 3.4.
- B. End Bearing: Install deck ends over supports with a minimum end bearing of 1-1/2 inches (38 mm) unless otherwise shown on approved installation drawings or manufacturers literature.
- C. Side Closures: Fasten to supporting structure and deck in accordance with approved installation drawings.
- D. Ridge and valley plates, flat plates at changes of deck direction and sump pans, shall be fastened to the deck in accordance with approved installation drawings.

3.5 Repairs

Before placement of roof insulation and roof covering, the deck shall be inspected for tears, dents or other damage that may prevent the deck from acting as a structural roof base. The need for repair of damaged deck shall be determined by the Architect or Engineer of Record based on structural performance, unless aesthetics have been specifically addressed in the contract documents

3.6 Construction Guidelines

- A. Do not use deck units as a working platform or storage area until units are in position and permanently attached to the structure.
- B. Construction loads must not exceed load carrying capacity of the deck.