

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Steel roof deck and accessories.

1.2 REFERENCES

- A. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- B. ASTM A 780 - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
- C. AISI - North American Specification for the Design of Cold-Formed Steel Structural Members.
- D. AWS D1.3 - Structural Welding Code - Sheet Steel.
- E. Factory Mutual (FM) Guide Listing - FM Approval Guide, Building Materials
- F. Factory Mutual (FM) loss Prevention Data Sheet 1- 29
- G. SDI Code of Standard Practice - 2014
- H. SDI RD - Standard for Steel Roof Deck
- I. SDI RDDM - Roof Deck Design Manual
- J. SDI MOC2 - Manual of Construction with Steel Deck
- K. UL - Fire Resistance Directory.

1.3 DESIGN / PERFORMANCE REQUIREMENTS

- A. AISI Specifications: Comply with calculated structural characteristics of steel deck according to AISI's North American Specification for the Design of Cold-Formed Steel Structural Members and SDI RDDM Roof Deck Design Manual.
- B. Roof Decking:
 - 1. Deck shall meet the minimum design gage and yield strength specified on the drawings, or meet minimum specified section properties at specified yield strength.
 - 2. Whenever possible, the deck shall be multi-span.
- C. Factory Mutual Guide Listing: Provide steel roof deck evaluated by FM and listed in its "Approval Guide, Building Materials" for Class 1 fire rating and Class 1-90 windstorm ratings.
- D. Fire-Test-Response Characteristics: Where indicated, provide steel deck units that are approved by UL, LLC and listed in the UL and ULC Fire Resistance Directories.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Deck property information for the proposed deck units as outlined in section

5.6 of SDI COSP-2014.

2. Preparation instructions and recommendations.
 3. Storage and handling requirements and recommendations.
 4. Erection instructions.
- C. Shop Drawings: Show location, connections, bearing on supports, methods of anchoring, attachment of accessories, adjusting plate details and the manufacturer's erection instructions and pertinent details.
- D. Welders Certificates: Certify welders employed on the Work, verifying AWS qualification within previous 12 months.
- E. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Member in good standing of Steel Deck Institute (SDI).
- B. Testing Agency Qualifications: An independent agency qualified according to ASTM E 329 for testing indicated.
- C. Welding: Qualify procedures and personnel according to AWS D1.3, Structural Welding Code - Sheet Steel.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in compliance with SDI MOC2
- B. Separate sheets and store on dry wood sleepers; slope for positive drainage. Cut plastic wrap to encourage ventilation. Protect with a waterproof covering and ventilate to avoid condensation.

1.7 SEQUENCING

- A. Ensure that locating templates and other information required for installation of products of this section are furnished to affected trades in time to prevent interruption of construction progress.
- B. Coordinate installation of sound-absorbing insulation strips and non-corrosive spacers (lath when required) in the topside ribs of cellular acoustical deck as specified in Section 07 25 00 - WeatherBarriers to ensure protection of insulation strips against damage from effects of weather and other causes.

PART 2 PRODUCTS

2.1 ROOF DECK

- A. Steel Roof Deck - General: Fabricate deck to comply with SDI RD - Standard for Steel Roof Deck, with the minimum section properties indicated. Deck type and thickness shall be as indicated on the Drawings:
 1. Type B Intermediate Rib deck is 1-1/2 inches deep, 36 inches wide with nested side laps.
- B. Deck Materials
 1. Sheet steel for galvanized deck shall conform to ASTM A 653/A 653M Structural Steel, with a minimum yield strength of 33 ksi (230 MPa) or other galvanized structural sheet steels or high strength low alloy steels in accordance with AISI S100, Section A2.

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- C. Deck Finish:
 - 1. Galvanized coating shall comply with ASTM A 924/A 924M with zinc coating as follows:
 - a. G30
 - 2. Primer-painted finish gray on both the top and bottom sides.

2.2 ACCESSORIES

- A. Column closures, end closures, side closures and cover plates shall be the standard type provided by the deck manufacturer unless indicated otherwise on the Drawings.
- B. Galvanizing Repair Paint for Roof Decks: High-zinc-dust content paint for re-galvanizing welds in galvanized steel conforming to ASTM A 780
- C. Fasteners: As manufactured by Hilti, Buildex, Simpson Strong-Tie or approved equal.
- D. Flexible Closure Strips.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not install roof deck until supporting construction is in place.
- B. Examine support framing and field conditions for compliance with requirements for installation tolerances and other conditions affecting performance of work of this section.
- C. If supporting construction is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Locate deck bundles to prevent overloading of support members.

3.3 INSTALLATION - GENERAL

- A. Install deck panels and accessories in accordance with the Contract Documents 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. Install and fasten deck and accessories in accordance with the Contract Documents, approved installation drawings and requirements of ANSI/SDI RD.
- 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.

- C. Side Closures: Fasten to supporting structure and deck in accordance with the Contract Documents, approved installation drawings and requirements of ANSI/SDI RD.
- D. Ridge and valley plates, flat plates at changes of deck direction and sump pans, shall be fastened to the deck in accordance with the Contract Documents, approved installation drawings and requirements of ANSI/SDI RD.

3.5 INSPECTION AND REPAIR

- A. Before roof insulation placement, the deck shall be inspected for tears, dents, or other damage that may prevent the deck from acting as a tight and substantial form. Replace decking which has been damaged or permanently deflected.
- B. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on both surfaces of deck with galvanized repair paint.
- C. Repair Painting: Apply repair paint, of same color as adjacent shop-primed deck, to bottom surfaces of deck exposed to view.

3.6 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION