

SECTION 053100 - STEEL DECKING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this section.

1.2 SUMMARY

- A. Description:
 - 1. This section includes Roof Deck and Composite Floor Deck.
- B. Related Documents and Standards:
 - 1. All referenced standards and cited publications shall be those specifically denoted within the applicable building code noted in the General Notes of the Construction Drawings.
 - 2. All Steel Deck work on this project shall conform to the Construction Documents, applicable building code including referenced standards, and the requirements of Steel Deck Institute's (SDI) "Standard Specification" and "Code of Standard Practice."
- C. Related Sections:
 - 1. Division 05 Specifications – Steel Construction.
 - 2. Division 09 Specification – Finishes

1.3 QUALITY ASSURANCE

- A. Welding: Qualify procedures and personnel according to AWS D1.3, "Structural Welding Code - Sheet Steel."
- B. 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."

1.4 SUBMITTALS

- A. Product Data: For each type of deck, accessory, and product indicated on Construction Drawings and/or Shop Drawings.
- B. Shop Drawings: Show layout and types of deck panels, anchorage details, reinforcing channels, pans, cut deck openings, special jointing, accessories, and attachments to other construction.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Protect steel deck from corrosion, deformation, and other damage during delivery, storage, and handling.
- B. Stack steel deck on platforms or pallets and slope to provide drainage. Protect with a waterproof covering and ventilate to avoid condensation.

PART 2 - PRODUCTS

2.1 ROOF DECK

- A. Steel Roof Deck: Fabricate panels, without top-flange stiffening grooves, to comply with "SDI Specifications and Commentary for Steel Roof Deck," in SDI Publication No. 31, and with the following:
 - 1. Coordinate additional requirements with Construction Drawing General Notes and plan notes.

2.2 COMPOSITE FLOOR DECK

- A. Composite Steel Floor Deck: Fabricate panels, with integrally embossed or raised pattern ribs and interlocking side laps, to comply with "SDI Specifications and Commentary for Composite Steel Floor Deck," in SDI Publication No. 31, with the minimum section properties indicated, and with the following:
 - 1. Coordinate additional requirements with Construction Drawing General Notes and plan notes.

2.3 ACCESSORIES

- A. General: Provide manufacturer's standard accessory materials for deck that comply with requirements indicated.
- B. Mechanical Fasteners: Self-drilling tapping screws that are in compliance with ASTM C1513 and that have been tested in accordance with AISI standards S904 and S905.
- C. Miscellaneous Sheet Metal Deck Accessories: Steel sheet, minimum yield strength of same material and finish as deck; of profile indicated or required for application.
- D. Pour Stops and Girder Fillers: Steel sheet, minimum yield strength of same material and finish as deck, and of thickness and profile recommended by SDI Publication No. 30 for overhang and slab depth.
- E. Column Closures, End Closures, Z-Closures, and Cover Plates: Steel sheet, of same material, finish, and thickness as deck, unless otherwise indicated.
- F. Flat Sump Plate: Single-piece steel sheet of same material and finish as deck. For drains, cut holes in the field.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine supporting frame and field conditions for compliance with requirements for installation tolerances and other conditions affecting performance.

3.2 INSTALLATION, GENERAL

- A. Install deck panels and accessories according to applicable specifications and commentary in SDI Publication No. 30, manufacturer's written instructions, and requirements in this Section.
- B. Install deck with corrugations running perpendicular to supports. Deck sheet shall be supported by a minimum of four supports (three span condition).

3.3 ROOF-DECK INSTALLATION

- A. Miscellaneous Roof-Deck Accessories: Install roof sump pans, sump plates, ridge and valley plates, finish strips, end closures, and reinforcing channels according to deck manufacturer's written instructions.
 - 1. Weld cover plates at changes in direction of roof-deck panels, unless otherwise indicated.

3.4 FLOOR-DECK INSTALLATION

- A. Pour Stops and Girder Fillers: Weld steel sheet pour stops and girder fillers to supporting structure according to SDI recommendations, unless otherwise indicated.
- B. Floor-Deck Closures: Weld steel sheet column closures, cell closures, and Z-closures to deck, according to SDI recommendations, to provide tight-fitting closures at open ends of ribs and sides of deck.

3.5 REPAIRS AND PROTECTION

- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on both surfaces of deck with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.
- B. Repair Painting: Wire brush and clean rust spots, welds, and abraded areas on both surfaces of prime-painted deck immediately after installation, and apply repair paint.
- C. Provide final protection and maintain conditions to ensure that steel deck is without damage or deterioration at time of Substantial Completion.

END OF SECTION 053100