

STANDARD SPECIFICATION
JANUARY 2010

DIVISION 5

SECTION 5D COMPOSITE FLOOR DECK

5D.01 GENERAL: Comply with all of the Contract Document

5D.02 SCOPE OF WORK

- A. Provide all labor, materials and equipment necessary or incidental to perform the work of this section and related work as indicated in the Contract Documents. Refer to "Division Scope of Work" section for complete scope of work for this section which form a part of the contract specifications.

5D.03 MATERIALS

- A. Decking units shall have a ribbed section providing a satisfactory surface for reception of concrete. Units shall be of sufficient length to span four or more supports where possible. Decking units shall be as manufactured by Wheeling Corrugating Company, Wheeling, West Virginia, Walker, Division of Butler manufacturing Company or United Steel Deck Inc., South Plainsfield, N.J. or approved equal as determined by Architect/Engineer. Deck shall be approved for use in New York City; BSA #620-76-SM and 621-76-SM.

5D.04 STEEL FINISH

- A. Galvanized deck is required, the coating shall be the hot dip galvanize process in accordance with ASTM A525 and Federal Specification QQ-S775.
- B. Steel deck manufacturer shall supply decking free of amounts of lubricants or oils which would significantly impair the adhesion of sprayed fireproofing.

5D.05 DECK DESIGN

- A. The derivation of sectional properties of Super-Bond Composite Floor Decking shall conform to the AISI Specification for the Design of Cold Formed Steel Structural Members.
- B. The depth and gauge of deck shall be Super-Bond 150N, 18 gauge, unless otherwise noted, chosen to accommodate a maximum design stress of 33 KSI under construction loading as indicated by the SDI recommendations. Deflection due to dead load of wet concrete and deck shall not exceed 1/180th of the span relative to the deck supports. The deck shall extend over three or more spans if possible.
- C. The composite slab shall be capable of supporting a super-imposed design live load without deflecting more than 1/240th of the span relative to the deck supports.

STANDARD SPECIFICATION
JANUARY 2010

5D.06 DECK ACCESSORIES

- A. Column closures, closure angles, cover plates, etc. shall be used as necessary based upon recommendations of the deck manufacturer.

5D.07 DECK INSTALLATION

- A. Super-Bond Composite Floor Decking shall be placed in accordance with the manufacturer's guidelines. Each deck unit shall be placed on supporting steel framework and adjusted to final position before being permanently fastened. The unit shall be brought to proper bearing on the support beams. The field cutting of deck units shall be done in a workmanlike manner. No opening exceeding 12" in width parallel to the deck supports shall be cut unless approved by Architect/Engineer.
- B. Deck shall be welded to supports with a 5/8" diameter puddle weld at each support so that average weld spacing does not exceed 12" on centers. Side lap attachment shall not exceed 36" on centers.
- C. Concentrated construction loading and traffic as well as storage areas on the deck units require specification for the protection of the deck sheets and workmen below. Planking shall be used as deemed necessary to prevent profile damage to the deck units.
- D. End closures shall not be used where minimum end bearing exceeds depth of deck profile. Deck ribs shall align at all butt joints.
- E. If shoring is required, temporary shoring and ledgers (at right angle to slab span) shall be placed as shown on installation drawings. Deck units shall not be used as a working platform prior to installation of shoring. Shoring shall not be removed until concrete has reached full strength and subject to the approval of Architect/Engineer.

5D.08 CONCRETE

- A. Placement of concrete shall conform to the applicable sections of the ACI Specifications. Immediately prior to the place of concrete, Super-Bond Composite Floor Deck units shall be cleaned of all dirt, debris, oil or other foreign matter to insure intended mechanical interlock. Supports for screeds shall be located directly over permanent or temporary floor deck supports. Construction joints shall be made at the center of the slab span and shall be keyed.

NOTE: ANY ADMIXTURE CONTAINING CHLORIDE SALTS SUCH AS CALCIUM CHLORIDE MUST NOT BE USED ON SUPER-BOND COMPOSITE FLOOR DECKING. CHLORIDE SALTS HAVE PROVEN DELETERIOUS TO THE STEEL AND DECK FINISH.

5D.09 SHOP DRAWINGS

STANDARD SPECIFICATION
JANUARY 2010

- A. Submit for approval complete erection plans and details. Shop drawings shall include layout of the work, dimensions and details of units and accessories, materials of construction, method of protecting the units from weather and other hazards until the slabs are in place, and installation instructions. Details and layouts shall show location of supporting members when necessary to implement erection, quantity and marking of units, size and location of holes to be cut, and the location, type and sequence of welded connections. Shop drawings shall be accompanied by design computations or manufacturer's data certifying the structural properties of the units.

5D.10 DELIVERY AND STORAGE

- A. Materials shall be delivered to the site in a dry and undamaged condition, stored out of contact with the ground and under a weather-tight covering permitting good air circulation. Finish of decking units shall be maintained at all times, using touch-up paint whenever necessary to prevent the formation of rust. Touch-up paint for zinc-coated units shall be an approved high zinc dust content, galvanizing repair paint.

5D.11 GUARANTEES

- A. Guarantee all items of work furnished and installed under this Section for (1) one year, in addition to manufacturer's standard warranties. All guarantees to be from the date, when **Final Certificate of Occupancy** is issued from Department of Buildings.

END OF SECTION