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## Product Guide Specification

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) three-part format. The specification must be carefully reviewed and edited by the Architect or Engineer to meet the requirements of the project and local building code. Coordinate this section with other specification sections and drawings. Delete all "Specifier Notes" when editing this section.

Section numbers are from *MasterFormat* 2004.

### SECTION 03 24 00

#### STEEL FIBER REINFORCEMENT FOR COMPOSITE STEEL DECK-SLABS

Specifier Notes: This section covers steel fibers for use in concrete for composite steel decks. The fibers are intended to serve as what the Steel Deck Institute calls "reinforcement for crack control purposes other than to resist stresses from quantifiable structural loadings." This is commonly referred to as shrinkage and temperature reinforcement, because it is meant to control cracks caused by drying shrinkage and temperature changes.

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Steel fibers used to reinforce concrete in composite steel decks, for the purpose of controlling cracks caused by drying shrinkage and thermal contraction, in compliance with SDI C-2011.

##### 1.2 RELATED SECTIONS

Specifier Notes: Edit the following list of related sections as required for the project. List other sections with work directly related to this section.

- A. Section 01 33 00 - Submittal Procedures.
- B. Section 03 30 00 - Cast-in-Place Concrete.
- C. Section 05 30 00 - Steel Decking.

##### 1.3 REFERENCES

Specifier Notes: List standards cited in this section, complete with designations and titles. This article does not require compliance with standards, but is merely a listing of those used.

- A. ASTM A820 - Standard Specification for Steel Fibers for Fiber-Reinforced Concrete.
- B. ASTM C94 - Standard Specification for Ready-Mixed Concrete.
- C. ASTM C1116 - Standard Specification for Fiber-Reinforced Concrete.
- D. SDI C-2011, Standard for Composite Steel Floor Deck-Slabs.

#### **1.4 SUBMITTALS**

- A. Comply with Section 01330 - Submittal Procedures.
- B. Submit manufacturer's product data, including but not limited to fiber length, aspect ratio, and conformity with ASTM A820, Type V.

### **PART 2 PRODUCTS**

#### **2.1 MANUFACTURER**

- A. Concrete Fiber Solutions, Buffalo Grove, IL.

#### **2.2 STEEL FIBER REINFORCEMENT**

- A. Manufacturer's designation: CFS150-5
- B. Fiber type: Type V as defined in ASTM A820.
- C. Fiber dimensions:
  - 1. Length: 1.5 inch, plus or minus 10%.
  - 2. Aspect ratio: 38, plus or minus 15%.
- D. Fiber deformations: continuous.

### **PART 3 EXECUTION**

#### **3.1 FIBER DOSAGE**

- A. Add fibers at the rate of 25 pounds of fibers per cubic yard of concrete.

#### **3.2 DELIVERY AND STORAGE**

- A. Deliver steel fibers in the manufacturer's original, unopened boxes, marked with the product name and the mass of fibers.
- B. Store fibers in their original boxes, protected from rain and snow.

### **3.3 BATCHING AND MIXING**

- A. All concrete mixing equipment shall meet the requirements of ASTM C94.
- B. Batch fibers by mass, following the rules of ASTM C1116, paragraph 8.
- C. Mix for at least 75 revolutions after adding fibers.

### **3.4 CONCRETE TESTING**

- A. All testing of fiber-reinforced concrete, including any testing needed for approval of the mix design, shall occur after the addition of fibers.

**END OF SECTION**