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03 30 00	<b>Cast-in-Place Concrete</b>
03 40 00	<b>Precast Concrete</b>
03 70 00	<b>Mass Concrete</b>
03 37 13	<b>Shotcrete</b>
31 74 16	<b>Precast Concrete Tunnel Lining</b>



# MasterFiber® 510

## Type I Steel Fiber

### Description

MasterFiber 510 product is a low carbon, cold-drawn wire fiber manufactured in compliance with ASTM A820/A820M "Standard Specification for Steel Fibers for Fiber-Reinforced Concrete". MasterFiber 510 product can be used in producing Type I Steel Fiber-Reinforced Concrete meeting the requirements of ASTM C1116/C1116M "Standard Specification for Fiber-Reinforced Concrete".

### Applications

Recommended for use in:

- Industrial flooring
- Commercial flooring
- Residential foundations
- Basement walls
- Pavements
- Compression layers
- Precast tunnel segments
- Final tunnel lining
- Mass concrete
- Overlays
- Footings/Foundations
- Precast elements
- Shotcrete

### Features

- Uniform distribution throughout the concrete matrix
- Loose fibers specially designed to avoid balling problems
- Excellent placement and finishability

### Benefits

- Effective tight crack control
- Provides excellent control of settlement cracking
- Provides uniform shrinkage and temperature reinforcement
- Can be used as the primary reinforcement, depending on the application
- Reduces construction time and overall labor and material costs
- Increases flexural toughness, impact and shatter resistance
- Can help reduce concrete thickness required
- Can be used for shear resistance in accordance with ACI CODE 318-19 Building Code Requirements for Structural Concrete
- Provides higher energy absorption and increases concrete ductility
- Facilitates sustainable construction

### Performance Characteristics

#### Typical Physical Properties

Specific Gravity	7.85
Melting Point	2000 °F (1093 °C)
Length	1.38 in. (35 mm)
Aspect Ratio	47
Tensile Strength	160 – 203 ksi (1100 – 1400 MPa)



## Guidelines for Use

**Dosage:** For most applications, the typical recommended dosage will be in the range of 15 to 80 lb/yd<sup>3</sup> (9 to 48 kg/m<sup>3</sup>). However, depending on the specific application, dosages outside of the typical range and as high as 200 lb/yd<sup>3</sup> (120 kg/m<sup>3</sup>) may be required. Please contact your local sales representative, if dosages outside the recommended range are required.

**Mixing:** Never add fibers as the first component in the mixer or during the addition of cementitious materials. Fiber bags should be opened, and the fibers introduced together with sand and coarse aggregates.

## Suggested Specification Language

Steel fiber shall meet the requirements of ASTM A820/A820M Type I steel fiber and designed for use in making fiber-reinforced concrete complying with ASTM C1116/C1116M. Product shall be MasterFiber 510 by Master Builders Solutions.

## Storage and Handling

**Storage Temperature:** MasterFiber 510 product should be stored in a clean, dry area. Avoid storing near wet and high humidity areas. Use caution when stacking to avoid unstable conditions.

## Packaging

MasterFiber 510 product is packaged in 44 lb (20 kg) bags.

## Additional Information

For additional information on the MasterFiber 510 product, contact your local sales representative.

*Master Builders Solutions creates technologies for the construction industry inspiring people to build better. We are active in ~40 countries and operate 35 production sites with over 1,600 employees. We develop, produce, and market high-quality chemical admixtures, as well as adjacent core technologies, to master the challenges of today and support a decarbonized future. Our people are pivotal and pair leading technologies and a strong brand heritage to surpass our customers' expectations and drive continuous value creation.*

## Limited Warranty Notice

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