



### Description:

UltraFiber<sup>®</sup> 500 reinforcement fiber for concrete is 100% virgin specialty cellulose fiber with a patented alkaline resistant coating specifically engineered and manufactured in an ISO 9001 certified facility. UltraFiber 500<sup>®</sup> provides secondary reinforcement in concrete (temperature and shrinkage crack control) and meets ICC evaluation criteria for use in slab on grade. UltraFiber 500<sup>®</sup> is manufactured in the USA from renewable resources and complies with National Building Codes, ASTM C1116-08 and ASTM D7357-07. A dosage rate of 1.0 to 4.0 lb/yd<sup>3</sup> is recommended depending on the application. In areas where freeze/thaw performance is a significant factor, a 2.0 lb/cy dosage rate is strongly recommended with a 1.5 lb/cy dosage rate minimum

### Applications:

- Commercial & Residential Slabs
- Composite Metal Decks
- Paving
- Pervious Paving
- Curb and Gutter
- Slip Form
- Architectural & Decorative
- Pre-Cast
- Shotcrete
- Walls
- White Topping

## Secondary Reinforcement Fiber for Concrete

### Advantages:

UltraFiber 500<sup>®</sup> provides excellent secondary reinforcement from high fiber surface area, close fiber spacing, excellent bonding within the cement matrix, high fiber tensile strength, and easy dispersion in concrete so it is always positioned correctly. It is safe, easy to use, and offers superior finish-ability. UltraFiber 500<sup>®</sup> provides significant benefits in numerous applications.

### Benefits:

- Alternate system to traditional secondary reinforcement in concrete
- Reduces the formation of intrinsic cracking in concrete
- Reduces concrete permeability and absorption.
- Improves concrete freeze/thaw resistance
- Improves concrete durability
- Provides enhanced hydration which improves concrete strength properties
- Improves concrete impact resistance
- Improves concrete shatter resistance
- Improves bond strength between rebar and cement paste

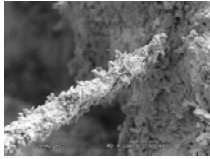
### Concrete Fire Resistance:

- UL Classified for use in all composite metal deck Designs No. D700, D800 & D900.
- UL Classified for use in composite metal deck Design No. D973 Reduced Thickness of NWC (normal weight concrete) while achieving a 2 Hour Fire Rating

### Performance Characteristics:

|                          |                               |
|--------------------------|-------------------------------|
| Water Absorption         | Up to 80% of the fiber weight |
| Specific Gravity         | 1.10                          |
| Avg. Fiber Length        | 2.1 mm                        |
| Projected Fiber Diameter | 18 um                         |
| Fiber Tensile Strength   | 90 -130 ksi                   |
| Alkali Resistance        | High (ASTM D6942)             |

# UltraFiber® 500



UltraFiber  
Excellent Bond



Polypropylene Fiber  
Minimal Bond

## UltraFiber 500® vs. Synthetic Fibers

| Attribute, units                 | UF-500      | Synthetic Fiber |
|----------------------------------|-------------|-----------------|
| Avg. Length, mm                  | 2.1         | 16              |
| Denier, g/9,000m                 | 2.5         | 6               |
| Diameter, um                     | 18          | 30              |
| Count, fibers/lb.                | 720,000,000 | 44,000,000      |
| Density, g/cm <sup>3</sup>       | 1.10        | 0.91            |
| Tensile, N/mm <sup>2</sup>       | 600 - 900   | 200 - 500       |
| Surface area, cm <sup>2</sup> /g | 25,000      | 1,500           |
| Fiber Spacing, um                | 640         | 950             |

## Application Rate

The minimum application rate for Solomon UltraFiber 500® is 1.0 lb/yd<sup>3</sup>. A dosage of 1.5 lb/yd<sup>3</sup> is recommended for most commercial slab on grade applications. Dosages of 2.0 to 4.0 lb/yd<sup>3</sup> may be used for applications requiring maximum impact and/or abrasion resistance and crack control.

## Mix Design

The addition of UltraFiber 500® reinforcing fibers at normal dosage rates does not require any mix design changes. UltraFiber 500® is compatible with typical admixtures and other mix constituents.

## Finish-ability

UltraFiber 500® reinforcing fiber provides superior finish-ability and has no restrictions or barriers to normal finishing techniques. These finishes include: trowel, swirl, broom, exposed, decorative, colored, and stained. All finishes exhibit excellent results, and the finisher can use normal timing.

## Compatibility

UltraFiber 500® reinforcing fiber is compatible with all normal concrete constituents and admixtures and will not adversely affect their performance or concrete workability.

## Usage Guideline

UltraFiber 500® reinforcing fiber can be used as an alternate system to provide secondary reinforcement. It cannot be used as an alternative for structural reinforcement. UltraFiber 500® fiber should not be used to alter the concrete design for thickness or strength. ACI recommended curing practices, joint spacing and depth should be followed.

## Mixing Procedure

UltraFiber 500® reinforcing fibers disperse best when added at the beginning of the batching sequence. Follow normal mixing, time and speed, as recommended by ASTM C94.

## Packaging

UltraFiber 500® reinforcing fibers are available in 1.0 pound and 1.5 pound, water-soluble bags. Larger 20 pound non-soluble bags are also available. For automated dispensing, 500 pound bulk bags are recommended.

## Engineering Specification

Use only 100% virgin alkali-resistant cellulose fibers manufactured for use in concrete for secondary reinforcement. Dosage rates are 1.0 lb/yd<sup>3</sup> (minimum), 1.5 lb/yd<sup>3</sup> (recommended), and up to 4.0 lb/yd<sup>3</sup> for special applications. Solomon UltraFiber 500® fiber is for the control of cracking due to plastic shrinkage and thermal expansion/contraction, to reduce water migration, and for increased impact capacity and shatter resistance. Fiber manufacturer must provide compliance with applicable building codes, ISO 9001 certification of manufacturing facility and ASTM C1116-08 compliance. Fibrous concrete reinforcement shall be manufactured by Solomon Colors, Inc. 4050 Color Plant Road, Springfield, IL 62702 Phone: 800-624-0261, Fax: 217-522-3145

Website: [www.ultrafiber500.com](http://www.ultrafiber500.com).



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**Spirit Bank Event Center**  
**UltraFiber added @ 3.0 lbs/cyd**