

# FIBERCAST™ 500

## PRODUCT DATA SHEET

### FIBERCAST™ 500 SYNTHETIC FIBER

FiberCast 500, formerly Harbourite®, micro-reinforcement system for concrete—100 percent virgin homopolymer polypropylene fibers containing no reprocessed olefin materials. Specifically engineered and manufactured in an ISO 9001-2000 certified facility for use as concrete reinforcement for precast applications at a minimum of 0.1% by volume. UL Classified. Complies with National Building Codes and ASTM C III6 Type III 4.1.3., ASTM C III6 Performance Level I and Residual Strength.

### ADVANTAGES

Accepted by national codes as an alternate method of secondary reinforcing to traditional reinforcement • Non-magnetic • Rustproof • Alkali proof • Requires no minimum amount of concrete cover • Is always positioned in compliance with codes • Safe and easy to use • Reduces construction time

### FEATURES & BENEFITS

- Alternate construction system to traditional reinforcement commonly used for secondary (crack control) reinforcing in concrete.
- Inhibits and controls the formation of intrinsic cracking in concrete
- Reinforces against impact forces
- Reinforces against the effect of shattering forces
- Reinforces against material loss from abrading forces
- Reinforces against water migration
- Imparts toughness to hardened concrete
- Reduces plastic shrinkage and settlement cracking
- Provides residual strength
- Provides increased green strength

### PRIMARY APPLICATIONS

Applicable to all types of concrete which demonstrate a need for toughness, resistance to intrinsic cracking and improved water tightness.

- Septic tanks
- Manhole cones and risers
- Statuaries
- Agricultural products
- Marine products
- Hazardous material storage
- Utility structures
- Burial vaults

### CHEMICAL AND PHYSICAL PROPERTIES:

Absorption	Nil	Modulus (Young's)	0.5 (3.5 kN/mm <sup>2</sup> )
Specific Gravity	0.91	Melt Point	324°F (162°C)
Fiber Length	1.5" - 2" (38mm - 50mm)	Ignition Point	1,100°F (593°C)
Thermal Conductivity	Low	Electrical Conductivity	Low
Acid & Salt Resistance	High	Alkali Resistance	Alkali Proof

### DO SPECIFY FIBERCAST 500 FIBERS:

- Reduced plastic shrinkage cracking
- Alternative to traditional reinforcement
- Improved impact, shatter and abrasion resistance
- Improved residual strength
- Reduced water migration and damage from freeze/thaw
- Improved durability
- Areas requiring non-metallic materials
- Improved green strength

### DO NOT SPECIFY FIBERCAST 500 FIBERS:

- Crack control from external stresses
- Replacing any moment or structural steel



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## PRODUCT USE

**MIXING DESIGNS AND PROCEDURES:** Fibercast™ 500 micro reinforcing is a mechanical, not chemical, process. The addition of Fibercast 500 fiber does not require any additional water nor other mix design changes at normal rates. Fibercast 500 fiber is added to the mixer before, during or after batching the other concrete materials. Mixing time and speed are specified in ASTM C 94.

**FINISHING:** Fibercast 500 micro-reinforced concrete can be finished by normal finishing technique.

**APPLICATION RATE:** The standard application rate for Fibercast 500 fibers is 0.1% (minimum 1.5 lbs per cubic yard, 0.9 kg/m<sup>3</sup>) by volume. For specialty performance see your local SI Concrete Systems representative for recommendations regarding increased application rates.

## GUIDELINES

Fibercast 500 fibers should not be used to replace structural, load bearing reinforcement. Fibercast 500 fibers should not be used as a means of using thinner concrete sections than original design.

## COMPATIBILITY

Fibercast 500 fibers are compatible with all concrete admixtures and performance enhancing chemicals, but require no admixtures to work.

## PACKAGING

Fibercast 500 fibers are available in a variety of packaging options. Special packaging is available for full truckload addition. Bags are packed into cartons, shrink wrapped and palletized for protection during shipping.

## TECHNICAL SERVICES

Trained SI® Concrete Systems specialists are available worldwide to assist and advise in specifications and field service. SI Concrete Systems representatives do not engage in the practice of engineering or supervision of projects and are available solely for service and support of our customers.

## SPECIFICATION CLAUSE

Use only 100 percent virgin polypropylene Fibercast 500 fibers containing no reprocessed olefin materials and specifically manufactured for use as concrete secondary reinforcement. Application rate per cubic yard shall equal a minimum of 0.1% (minimum 1.5 lbs per cubic yard, 0.9 kg/m<sup>3</sup>) by volume. Fibercast 500 fibers are for the control of cracking due to drying shrinkage and thermal expansion/contraction, lowered permeability, increased impact capacity, shatter resistance, abrasion resistance and residual strength. Fiber manufacturer must document evidence of 10 year satisfactory performance history, ISO 9001-2000 certification of manufacturing facility, compliance with applicable building codes and ASTM C III6 Type III, 4.1.3, ASTM C III6 (Ref: ASTM C 1018) Performance Level I, I5 outlined in Section 21, Note 17 and an average minimum Residual Strength of 50 psi, of 4 beams from a single batch. Fibrous concrete reinforcement shall be manufactured by SI® Concrete Systems, 4019 Industry Drive, Chattanooga, Tennessee, USA, 37416. Phone: (423) 892-8080, Fax: (423) 892-0157, e-mail: [fibermesh@sind.com](mailto:fibermesh@sind.com).



*For those who prefer performance to tradition.*

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