

FIBERCAST™ 510

PRODUCT DATA SHEET

FIBERCAST™ 510 MACRO-SYNTHETIC FIBER BLEND

FiberCast 510 secondary reinforcement system for concrete—A blend of polypropylene/polyethylene high performance macro-monofilament fibers with patented sinusoidal deformations and 100% virgin polypropylene collated-fibrillated fibers containing no reprocessed olefin materials. Engineered and manufactured in an ISO 9001-2000 certified facility for use as concrete reinforcement at a minimum addition rate of one degradable 5 pound bag per cubic yard (3.0 kg per cubic meter). Complies with ASTM C III6 Type III 4.1.3.

ADVANTAGES

Requires no minimum amount of concrete cover • Is always positioned in compliance with codes • Safe and easier to use than traditional reinforcement
• Saves time and hassle

FEATURES & BENEFITS

- Macro synthetic and fibrillated synthetic fiber blend for secondary reinforcement
- Inhibits formation of plastic shrinkage and plastic settlement cracks
- Provides impact, abrasion and shatter resistance
- Lowered water migration
- Provides higher levels of residual strength
- Provides improved durability
- Provides increased green strength
- Control of drying shrinkage and temperature cracking
- Good finishing characteristics
- Pumpable reinforcement

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:

Polypropylene Component:

Absorption	Nil
Specific Gravity	0.91
Fiber Length	Multi-Design Gradation
Electrical Conductivity	Low
Melt Point	324°F (162°C)

Coarse Macro-Monofilament Polypropylene Component:

Absorption	Nil
Specific Gravity	0.91
Nominal Filament Diameter	0.033 in. (0.83 mm)
Fiber Length	2.0 in. (50 mm)
Electrical Conductivity	Low
Melt Point	328°F (164°C)

DO SPECIFY FIBERCAST 510 FIBERS:

- Reduced plastic shrinkage cracking
- Alternative to traditional steel for temperature/shrinkage and flexural reinforcement
- Improved impact, shatter and abrasion resistance
- Improved residual strength
- Reduced water migration and damage from freeze/thaw
- Improved durability
- Improved green strength

DO NOT SPECIFY FIBERCAST 510 FIBERS:

- Replacing structural levels of steel reinforcement



FIBERCAST™ 510

PRODUCT USE

MIXING DESIGNS AND PROCEDURES: FiberCast™ 510 reinforcing is a mechanical, not a chemical process. The addition of FiberCast 510 fibers does not require additional water nor other mix design changes at normal rates. FiberCast 510 degradable bags should be added to the mixer with the coarse aggregate. Complete dispersion of fibers requires maximum shear and turbulence. Therefore, actual mix time to ensure complete dispersion of the fibers should be carefully monitored.

FINISHING: FiberCast 510 reinforced concrete can be finished with normal finishing techniques.

APPLICATION RATE: The standard application rate for FiberCast 510 is one 5 pound degradable bag per cubic yard (3.0 kg/m³) of concrete.

GUIDELINES

FiberCast 510 should not be used to replace structural, load bearing reinforcement. FiberCast 510 fibers should not be used as a means of using thinner concrete sections than original design.

COMPATIBILITY

FiberCast 510 is compatible with all commonly used concrete admixtures and performance enhancing chemicals.

PACKAGING

FiberCast 510 fibers are available in 5 lb. degradable bags. The macro-monofilament fiber is collated in small bundles within the degradable bag for rapid distribution. FiberCast 510 fibers are packaged, 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

FiberCast 510 will be used for shrinkage and temperature protection of the concrete. FiberCast 510 is a blend of high performance macro-monofilament fiber with patented sinusoidal deformations and collated-fibrillated polypropylene fibers. All fibrous concrete shall conform to ASTM C 1116 and produce an Average Residual Strength (ARS) of no less than 215 psi from a test set of 5 beams in accordance with ASTM C 1399 Test Method for determining Average Residual Strength of Fiber Reinforced Concrete. Application rate shall be a minimum of one degradable 5-pound bag per cubic yard (3 kg/m³) of concrete. Fiber manufacturer must document evidence of satisfactory performance history, compliance with applicable building codes, ASTM C 1116 Type III, 4.1.3. 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.



For those who prefer performance to tradition.

USA
4019 Industry Drive
Chattanooga, Tennessee 37416
TEL: (423) 892-8080
FAX: (423) 892-0157

INTERNATIONAL
Hayfield House, Devonshire Street,
Chesterfield, Derbyshire, S41 7ST. UK
TEL: +44 (0) 1246 564200
FAX: +44 (0) 1246 564201

www.siconcretesystems.com

"Fibermesh", "Novomesh", "Novocon", and "e3®" are registered trademarks of SI® Corporation.

Warranty and limitation of claims. This guide is intended solely for use by personnel who it is contemplated will evaluate the significance and limitations of the information provided herein ("information"). SI Corporation warrants that products which it manufactures that are described herein ("products") will be of marketable quality, free of any defect in material and workmanship. Because SI Corporation has no control over the design, manufacture, use or testing of the projects which incorporate the products, SI makes no warranty of results to be obtained. The ultimate customer and user of the products should assume sole responsibility for the final determination of the suitability of the information and the products for the contemplated and actual use. SI Corporation disclaims any and all responsibility and liability for the accuracy and the application of the information. The foregoing limited warranty is in lieu of and excludes all other warranties, whether express or implied, by operation of law or otherwise, including but not limited to, any implied warranties of merchantability or fitness for a particular purpose.

© SI Corporation, Inc. CS-512 01/05