

Premium Polypropylene Fiber



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PRODUCT DATA SHEET

Premium Polypropylene Fiber is a micro-reinforcement system for concrete... 100% virgin homopolymer polypropylene multifilament fibers containing no reprocessed olefin materials. Specifically engineered and manufactured in an ISO 9001:2000 certified facility for use as concrete reinforcement at an application rate of 1.0 to 1.5 lbs per cubic yard (.60 to .90 kg per cubic meter). UL Classified. Complies with National Building Codes and ASTM C III6/C III6M, Type III fiber reinforced concrete.

ADVANTAGES

Non-magnetic • Rustproof • Alkali proof • Requires no minimum amount of concrete cover • Is always positioned in compliance with codes • Safe and easy to use • Saves time and hassle.

FEATURES & BENEFITS

- Inhibits and controls the formation of intrinsic cracking in concrete
- Reinforces against impact forces
- Reinforces against abrasion
- Reinforces against the effect of shattering forces
- Reinforces against water migration
- Provides improved durability
- Reduces plastic shrinkage and settlement cracking
- Alternate system to traditional reinforcement when used for secondary (crack control) reinforcing in concrete.

PRIMARY APPLICATIONS

Applicable to all types of concrete which demonstrate a need for resistance to intrinsic cracking and improved water tightness and an aesthetic finish.

- Slabs-on-ground
- Slope paving
- Curbs
- Driveways
- Stucco
- Sidewalks
- Exposed aggregate
- Overlays & toppings

CHEMICAL AND PHYSICAL PROPERTIES

Absorption	Nil
Melt Point	324°F (162°C)
Crack Elongation	15-20%
Tensile Strength (Mpa)	7.57 cN/dtex
Density	0.91 g/cm ³
Diameter	0.02 ± 0.005 mm
Ignition Point	1100°F (593°C)
Fiber Length	1/4 or 1/2 inch
Thermal Conductivity	Low
Electrical Conductivity	Low
Alkali Resistance	Alkali Proof
Acid & Salt Resistance	High

DO SPECIFY

Premium Polypropylene Fiber

- Reduced plastic shrinkage cracking
- Improved impact, shatter and abrasion resistance
- Reduced water migration and damage from freeze/thaw
- Improved durability
- Areas requiring nonmetallic materials
- Concrete that needs an architectural finish

PRODUCT USE

MIXING DESIGNS AND PROCEDURES: Premium Polypropylene Fiber reinforcing is a mechanical, not chemical, process. The addition of Premium Polypropylene Fibers does not require any additional water or other mix design changes at normal rates. Premium Polypropylene Fibers are added to the mixer before, during or after batching the other concrete materials. Mixing time and speed are specified in ASTM C 94.

FINISHING: Premium Polypropylene Fiber reinforced concrete can be finished by any finishing technique. Exposed aggregate, broomed and tined surfaces are no problem.

APPLICATION RATE: The application rate for Premium Polypropylene Fibers is 1.0 to 1.5 lbs per cubic yard (.60 to .90 kg per cubic meter). Note: 0.75 lbs per cubic yard (0.44 kg per cubic meter) may be acceptable based on local building codes.

GUIDELINES

Premium Polypropylene Fibers should not be used to replace structural, load-bearing reinforcement. Premium Polypropylene Fibers should not be used as a means of using thinner concrete sections than original design. Premium Polypropylene Fibers should not be used to increase joint spacing past those dimensions suggested by PCA and ACI industry standard guidelines.

COMPATIBILITY

Premium Polypropylene Fibers are compatible with all concrete admixtures and performance enhancing chemicals, but require no admixtures to work.

PACKAGING

Premium Polypropylene Fibers are available in a variety of packaging options. Special packaging is available for full truckload addition. Premium Polypropylene Fibers are packaged, packed into cartons, shrink-wrapped and palletized for protection during shipping.

REFERENCE DOCUMENTS

- ASTM C 94/C 94M Standard Specification for Ready-Mixed Concrete.
- ASTM C III6/C III6M Standard Specification for Fiber Reinforced Concrete.
- ASTM C 1399 Standard Test Method for Obtaining Average Residual-Strength of Fiber-Reinforced Concrete.
- ASTM C 1436 Standard Specification for Materials for Shotcrete.
- ASTM C 1609/C 1609M Standard Test Method for Flexural Performance of Fiber-Reinforced Concrete (Using Beam with Third-Point Loading). Replaces ASTM C 1018.
- ACI 304 Guide for Measuring, Mixing, Transporting and Placing Concrete.
- ACI 506 Guide for Shotcrete. • International Code Council (ICC) NER-414 Evaluation Report.

SPECIFICATION CLAUSE

Use Premium Polypropylene Fiber only 100 percent virgin polypropylene multifilament fibers containing no reprocessed olefin materials and specifically engineered and manufactured in an ISO 9001:2000 certified facility for use as concrete secondary reinforcement. Application per cubic yard shall equal a minimum of 1.0 lb/yd³ (.60 kg/m³). Fibers are for the control of cracking due to plastic shrinkage, plastic settlement and thermal expansion/contraction, lowered permeability, increased impact, abrasion and shatter resistance. Fiber manufacturer shall document evidence of ten year satisfactory performance history, ISO 9001:2000 certification of manufacturing facility, compliance with applicable building codes and ASTM C 1116/C 1116M, Type III fiber reinforced concrete. Fibrous concrete reinforcement shall be manufactured by InCide Technologies, Inc.