

PRODUCT DATA • SIKA® FIBERMESH® 650S



SIKA FIBERMESH 650S MACRO-SYNTHETIC FIBER

Sika Fibermesh 650S is an engineered graded macro-synthetic fiber manufactured to an optimum gradation and highly oriented to allow greater surface area contact within the concrete resulting in increased interfacial bonding and flexural toughness efficiency. Fibermesh 650S is made with 100% virgin olefin materials. Specifically engineered and manufactured in an ISO 9001 certified manufacturing facility for use as concrete reinforcement.

FEATURES & BENEFITS

- Graded macro-synthetic fiber for concrete reinforcement used as an alternative to traditional steel wire fabric
- Provides impact, abrasion and shatter resistance
- Greater surface area provides increased flexural toughness (residual strength)
- Provides improved durability
- Control of drying shrinkage and temperature cracking
- Pumpable reinforcement

PRIMARY APPLICATIONS

- Sprayed Concrete
- Slope stabilization
- Precast

COMPLIANCE

- Complies with European Standard EN 14889-2: 2006 Fibres for Concrete Part 2: Class II and carries CE marking
- ISO 9001 Quality Assured Facility
- Complies with ASTM C 1116/C 1116M, Type III fiber reinforced concrete

CHEMICAL AND PHYSICAL PROPERTIES

Absorption	Nil	Ignition Point	759.2°F (404°C)
Acid & Salt Resistance	High	Melt Point	320°F (160°C)
Alkali Resistance	Alkali Proof	Specific Gravity	0.91
Electrical Conductivity	Low	Thermal Conductivity	Low
Fiber Length	Graded		

ADVANTAGES OF SIKA FIBERMESH 650S MACRO FIBERS:

- Non-magnetic
- Rustproof
- Alkali proof
- Requires no minimum amount of concrete cover
- Always positioned in compliance with codes
- Safe and easier to use than traditional reinforcement
- Reduces construction time

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PRODUCT USE

MIXING: Fibermesh 650S macro reinforcing is a mechanical, not chemical, process. Due to fiber efficiency, minor mix design modifications may be required depending on the application. Consult your Sika Fiber representative for recommendations. Fibermesh 650S fiber is added to the mixer during or after batching the other concrete materials. After the addition of the fibers, the concrete should be mixed for a sufficient time (batch plant: minimum 5 minutes or 70 revolutions) at full mixing speed to ensure uniform distribution of the fibers throughout the concrete mix. Mixing times may vary, please contact Sika Fiber representative.

PLACING: Fibermesh 650S macro-reinforced concrete can be pumped, sprayed or placed using conventional equipment.

FINISHING: Fibermesh 650S macro-reinforced concrete can be finished by normal finishing techniques.

APPLICATION RATE: The standard application rate for Fibermesh 650S fibers is a minimum 5 lbs/yd³, (3 kg/m³). For specific performance and dosage recommendations see your local Sika Fiber representative.

COMPATIBILITY

Fibermesh 650S fibers are compatible with all concrete admixtures and performance enhancing chemicals.

SAFETY

No special handling is required with Fibermesh 650S fibers. Full Safety Data Sheets are available upon request.

PACKAGING

Fibermesh 650S fibers are available in 2.2 lb (1.0 kg) degradable paper bags, which are designed to be placed directly into the concrete mixer. Fibermesh 650S macro-synthetic fibers are also available in collated water soluble bundles/pucks packaged in 10 kg cartons. Other packaging options are available. Store materials in a cool dry place. Do not store in direct sunlight.

TECHNICAL SERVICES

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

REFERENCE DOCUMENTS

- ACI 506 Guide for Shotcrete
- ASTM C 1116/C1116M Standard Specification for Fiber-Reinforced Concrete and Shotcrete
- 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 1550 Standard Test Method for Flexural Toughness of Fiber Reinforced Concrete (Using Centrally Loaded Round Panel)
- ASTM C 1609 /C 1609M Standard Test Method for Flexural Performance of Fiber-Reinforced Concrete (Using Beam With Third-Point Loading)
- European Standard EN 14889-2: 2006 Fibres for Concrete
- European Standard EN 14488-2: 2006 Testing Sprayed Concrete. Compressive Strength of Young Sprayed Concrete

SPECIFICATION CLAUSE

Fibers for concrete shall be Sika Fibermesh 650S, 100 percent virgin polyolefin fibers, containing no reprocessed olefin materials. The fibers shall conform to ASTM C1116 Type III and manufactured specifically for the reinforcement of concrete.

or

Fibers for concrete shall be Sika Fibermesh 650S, 100 percent virgin polyolefin fibers containing no reprocessed olefin materials. The fibers shall conform to EN 14889-2: 2006 Class II and manufactured specifically for the reinforcement of concrete.

The fibers shall be manufactured in an ISO 9001 certified manufacturing facility. Unless otherwise stated, Sika Fibermesh 650S macro-synthetic fibers shall be mixed at the batch plant, at the recommended rate of ... lbs/yd³ (... kgs/m³), and mixed for sufficient time (minimum 5 minutes) to ensure uniform distribution of the fibers throughout the concrete mix. Fibrous concrete reinforcement shall be manufactured by Sika Fibers, LLC, 4019 Industry Drive, Chattanooga, TN. 37416 USA, tel: 833.236.1255, web site: www.Fibermesh.com.

Sika Fibers, LLC • 4019 Industry Drive • Chattanooga, TN 37416 • SIKAFIBERS@US.SIKA.COM
NORTH AMERICA: +1.833.236.1255 • EUROPE: +44.1246.564200 • AUSTRALIA: +61.0.2.9965.3792 • LATIN AMERICA: +1.813.285.2287

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