

# SikaFiber® Force 600

## Macro-Synthetic Fiber

Concrete

<b>Description</b>	SikaFiber® Force 600 is a macro synthetic fiber designed for maximum performance in shotcrete application and as a replacement for welded wire mesh (WWM) in a wide range of concrete applications, from industrial slabs on grade to precast structures. SikaFiber® Force 600 meets the material specifications of ASTM C-1116, Type III fiber.																
<b>Applications</b>	<p>SikaFiber® Force 600 fibers are designed for use as an effective replacement for welded wire mesh (WWM) in concrete. SikaFiber® Force 600 fibers exhibit excellent bond with the cement matrix producing an enhanced cross section in concrete, Independent testing laboratory results demonstrate that concrete containing SikaFiber® Force 600 fibers show significant reduction in plastic shrinkage cracks, higher flexural strength and post peak flexural strength when compared to welded wire mesh (WWM). SikaFiber® Force 600 fibers are chemically inert with high UV resistance and will not degrade in the high alkaline environments of concrete. SikaFiber® Force 600 fibers can be used in traditional ready mix concrete and in self-consolidating concrete applications to replace welded wire mesh.</p> <p>Typical applications include - interior and exterior slab-on-grade concrete slabs, bridge decks and loading decks. SikaFiber® Force 600 can also be used for precast products like septic tanks, burial vaults, manholes, and architectural panels, and for shotcrete applications.</p>																
<b>Benefits</b>	<ul style="list-style-type: none"><li>■ Provides secondary/post-first crack reinforcement in concrete.</li><li>■ Significant reduction of plastic shrinkage cracking.</li><li>■ Multi-dimensional reinforcement for improved durability.</li><li>■ Reduced permeability of hardened concrete with high impact, shatter and abrasion resistance.</li><li>■ High chemical and UV resistance improving plastic and hardened concrete properties.</li><li>■ Improved ductility, toughness and resistance to spalling.</li></ul>																
<b>Typical Data</b>	<table><tr><td><b>Material:</b></td><td>Polypropylene</td></tr><tr><td><b>Color:</b></td><td>Grey</td></tr><tr><td><b>Specific Gravity:</b></td><td>0.91</td></tr><tr><td><b>Length:</b></td><td>2" (50 mm)</td></tr><tr><td><b>Tensile Strength:</b></td><td>65 ksi (448 MPa) average</td></tr><tr><td><b>E-Modulus:</b></td><td>580 ksi (4 GPa)</td></tr><tr><td><b>Melt Point:</b></td><td>328°F (164°C)</td></tr><tr><td><b>Alkali Resistance:</b></td><td>High</td></tr></table> <p>RESULTS MAY DIFFER BASED UPON STATISTICAL VARIATIONS DEPENDING UPON MIXING METHODS AND EQUIPMENT, TEMPERATURE, APPLICATION METHODS, TEST METHODS, ACTUAL SITE CONDITIONS AND CURING CONDITIONS.</p>	<b>Material:</b>	Polypropylene	<b>Color:</b>	Grey	<b>Specific Gravity:</b>	0.91	<b>Length:</b>	2" (50 mm)	<b>Tensile Strength:</b>	65 ksi (448 MPa) average	<b>E-Modulus:</b>	580 ksi (4 GPa)	<b>Melt Point:</b>	328°F (164°C)	<b>Alkali Resistance:</b>	High
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**How to Use****Dosage**

The dosage for SikaFiber® Force 600 will vary depending on the application, mix design and the specific requirements of each project. For precast application an average dosage varies between 5-10 lbs per cubic yard. For shotcrete application the dosage varies between 8-15 lbs per cubic yard. Dosages outside the recommended ranges may be used to meet specific requirements of fiber reinforced concrete / shotcrete. If this is the case, please contact your Sika representative for technical support

**Mixing**

SikaFiber® Force 600 fibers can be added to the mixture at any time prior to placement of concrete. It is recommended to add any fiber material at the ready-mix concrete plant during batching. Fibers must be mixed with concrete for a minimum of five minutes at maximum mixing speed to ensure complete dispersion and uniformity.

**Tooling & Finishing**

Refer to ACI 544.3R for detailed mixing and placing instructions. Make sure the bleed water is gone and concrete is sufficiently set before trowelling. Since concrete with fibers appears stiffer, finishers must exercise care to avoid trowelling concrete too soon. Proper finishing procedures will reduce exposed fibers on finished concrete surfaces. If additional workability is required, a Sika water-reducer or superplasticizer is recommended instead of extra mixing water. At high addition rates of SikaFiber® Force 600 fiber, cement paste may need to be increased and use of a Sika superplasticizer is highly recommended. SikaFiber® Force 600 concrete should be cured using the same methods as for conventional concrete.

**Packaging**

SikaFiber® Force 600 is available in 2" (50 mm) length and 5 lb (2.67 kg) degradable bags.

**Storage and Shelf Life**

SikaFiber® Force 600 should be stored in a dry warehouse. Protect product from the rain.

If stored in dry conditions shelf life is 5 years.

**KEEP CONTAINER TIGHTLY CLOSED • KEEP OUT OF REACH OF CHILDREN • NOT FOR INTERNAL CONSUMPTION • FOR INDUSTRIAL USE ONLY • FOR PROFESSIONAL USE ONLY**

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**South East:** Conyers, GA, Phone: (770) 760-1300  
**Western Region:** Santa Fe Springs, CA, Phone: (972) 289-6480

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