

## PRODUCT DATA SHEET

# SikaFiber® Force-48

48 mm long synthetic macro fibers for concrete and sprayed concrete

### PRODUCT DESCRIPTION

SikaFiber® Force-48 are 48 mm long polyolefin macro fiber complying with ASTM C1116, Type III. SikaFiber® Force-48 is intended for use in concrete and sprayed concrete. Specifically engineered and manufactured in a ISO 9001 certified facility.

### USES

SikaFiber® Force-48 can be successfully used as a safe and simple alternative to wire mesh and rebar. Due to its mechanical properties SikaFiber® Force-48 is recommended for use in following applications:

- Precast concrete elements
- Rock and ground support
- Concrete linings
- Slope stabilization
- Sprayed concrete

### CHARACTERISTICS / ADVANTAGES

- High increased energy absorption for sprayed concrete at lower dosage rates
- Cost-effective, three-dimensional reinforcement alternative to secondary wire mesh or rebar, and steel fibers.
- Can be utilized to reduce rebar or wire mesh
- Increased safety on job site; remove lifting of reinforcement, bending to tie, and remove tripping hazard
- Reduction in construction time. No cutting, placing, tying, and chairing required
- Reducing embodied carbon through the replacement of convention steel reinforcement with synthetic structural fibers
- Increase ductility, flexural toughness and post first

- crack reinforcement of concrete.
- Increased durability due to high chemical resistance and corrosion free
- Inhibits plastic shrinkage and settlement cracking
- Greater energy absorption at higher displacements
- Improves impact, shatter, and abrasion resistance of concrete.
- Reduces permeability
- Pumpable reinforcement with reduced wear on pumps and hoses
- Toss in degradable bags make it easy to batch.

### ENVIRONMENTAL INFORMATION

Lowers carbon footprint through the removal of rebar or wire mesh reinforcing which has a higher GWP.

A Type III Product-Specific Environmental Product Declaration (EPD) and a Manufacturer Inventory are available for SikaFiber® Force-48. For further information, please visit:

<https://usa.sika.com/en/sustainability.html>

### APPROVALS / STANDARDS

- SikaFiber® Force-48 is UL/ULC certified and approved for usage in all D700, D800 and D900 series decks as an alternate to welded wire fabric.
- SikaFiber® Force-48 CE marking and declaration of performance based on EN14889-2:2006 Fibers for Concrete — Polymer fibers
- Complies with ASTM C1116/C1116M, Type III fiber reinforced concrete and ASTM D7508.

## PRODUCT INFORMATION

<b>Product Declaration</b>	EN 14889-2:2006	Class II: Macro fibers
<b>Chemical Base</b>	Polyolefin	
<b>Packaging</b>	Fiber strands formed into pucks and wrapped with soluble film which dissolves in contact with water, packaged in 3 or 5 kg bags which degrade in the mixing process.	
<b>Shelf Life</b>	5 years from date of production	
<b>Storage Conditions</b>	The Product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +30 °C and a relative humidity below 75 %. Always refer to packaging. IMPORTANT Protect bags from moisture while in storage. Refer to the current Safety Data Sheet for information on safe handling and storage.	
<b>Appearance / Color</b>	Straight, white, embossed fibers	
<b>Dimensions</b>	Equivalent diameter	0.84 mm (0.033 in)
	Length	48 mm (1.9 in)
<b>Density</b>	0.91 kg/L	
<b>Melting Point</b>	+164 °C (327 °F)	

## TECHNICAL INFORMATION

<b>Tensile Strength</b>	550 N/mm <sup>2</sup> (MPa)	(ASTM D-2256)
<b>Tensile Modulus of Elasticity</b>	8.5 kN/mm <sup>2</sup> (GPa)	(ASTM D-2256)

## APPLICATION INFORMATION

<b>Recommended Dosage</b>	The dosage will vary according to the type of application and the performance requirements of the project. Standard recommend dosage rates is between 5 to 14 pcy (3–8 kg/m <sup>3</sup> ). Dosages outside the dosage range can be used to meet project specific requirements. If this is the case please contact your Sika representative for technical support.
<b>Compatibility</b>	Compatible with Sika® concrete admixtures

## BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

## ENVIRONMENTAL, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

## OTHER RESTRICTIONS

See Legal Disclaimer.

## LEGAL DISCLAIMER

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

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the

product's most current product label, Product Data Sheet and Safety Data Sheet which are available at [usa.sika.com](http://usa.sika.com) or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within the product's shelf life. User determines suitability of product for intended use and assumes all risks. User's and/or buyer's sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs.

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Sale of SIKA products are subject to the Terms and Conditions of Sale which are available at <https://usa.sika.com/en/group/SikaCorp/termsandconditions.html> or by calling 1-800-933-7452.

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**Product Data Sheet**

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