

PRODUCT DATA SHEET

SikaFiber® Force-48

48 mm long synthetic macro fibers for concrete and sprayed concrete

DESCRIPTION

SikaFiber® Force-48 are 48 mm long polyolefin macro fibers for use in concrete and sprayed concrete. Suitable for use in hot and tropical climatic conditions.

USES

The Product is used in:

- Building construction
- Infrastructure construction
- Precast concrete elements
- Ground-bearing slabs
- Permanent and temporary rock and ground support
- Permanent and temporary concrete linings

FEATURES

- Fibers packed in pucks to reduce balling
- Suitable for automated dosing units
- Increases ductility
- Increases toughness
- Increases energy absorption
- Increases strength
- Reduces permeability
- Dissipates stresses and strains
- Reduces structural cracking

- Increases abrasion resistance
- Increases resistance to freeze-thaw attack
- Replaces non-structural steel reinforcement
- Reduces structural reinforcement
- Homogeneously embedded
- Fibers fill edges, corners and difficult shapes
- Non-corroding
- Alkali-resistant

CERTIFICATES AND TEST REPORTS

- CE marking and declaration of performance based on EN14889-2:2006 Fibers for concrete — Polymer fibers

PRODUCT INFORMATION

Product declaration	EN 14889-2:2006	Class II: Macro fibers
Composition	Polyolefin	
Packaging	Fiber strands formed into pucks and wrapped with soluble film which dissolves in contact with water, packaged in 5 kg bag which dissolves in the mixing process. Refer to the current price list for available packaging variations.	
Shelf life	5 Years from date of production	

Storage conditions	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.	
Appearance and colour	Straight, white, embossed fibers	
Dimensions	Diameter	0.84 mm (500 tex)
	Length	48 mm
Density	0.91 kg/L	
Melting point	+164 °C	

TECHNICAL INFORMATION

Tensile strength	550 N/mm ² (MPa)	(ASTM D2256)
	530 N/mm ² (MPa)	(EN ISO 2062)
Modulus of elasticity in tension	8.5 kN/mm ² (GPa)	(ASTM D2256)

APPLICATION INFORMATION

Recommended dosage	3–10 kg/m ³
Compatibility	Compatible with Sika® concrete admixtures.

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

ECOLOGY, 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.

APPLICATION INSTRUCTIONS

MIXING

Concreting guidance

Note: Follow the standard rules of good concreting practice, concerning production as well as placing.

1. Carry out laboratory trials before concreting on site, especially when using a new mix design or producing new concrete components.
2. Cure fresh concrete properly and apply curing as early as possible, especially at low temperatures.

The Product can be mixed using the following techniques:

- Pan mixers in the concrete production plant
- Rear discharge truck mixers at the concrete production plant or on job site

Observe the following general notes:

- The Product will not improve the quality of poor concrete.
- Do not add the Product directly into the mixing water.
- Add the Product in the dissolving bags or loosely as pucks.
- Dispose of unused, empty bags in paper recycling. Alternatively they will disintegrate in water when agitated.

PAN MIXER: WITH MIXED CONCRETE

1. Add fibers as the last item.
2. While the pan mixer is mixing, add as loose pucks slowly, not in bags.
3. Include additional mixing time until all the pucks have dispersed, and the concrete is homogeneously mixed.
4. Just before application, mix the concrete in the truck mixer for 3 minutes at full revolutions.

PAN MIXER: WITH DRY COMPONENTS

1. If adding to the weight hopper, add as pucks with the aggregates.
2. If adding on the aggregate belt, add as pucks or bags and distribute evenly. Do not stack the bags.
3. Include additional mixing time until all the bags or pucks have dispersed, and the concrete is homogeneously mixed.
4. Just before application, mix the concrete in the truck mixer for 3 minutes at full revolutions.

TRUCK MIXING: WITH DRY COMPONENTS

1. Revolve the drum at maximum revolutions per minute.
2. Add one bag at a time after 1 full mixing revolution.
3. After adding all the fibers, add the water.
4. Mix at full revolutions for minimum 5 minutes until all pucks have dispersed and the concrete is homogeneously mixed.
5. Just before application, mix the concrete in the truck mixer for 3 minutes at full revolutions.

Note: This does not apply if the Product is added in the concrete on the construction site.

TRUCK MIXER: WITH MIXED CONCRETE

1. Revolve the drum at maximum revolutions per minute.
2. Add one bag at a time after 1 full mixing revolution. Do not add more than one bag between two fins.
3. Mix at full revolutions for minimum 1 extra minute for every 1 m³ of concrete in the mixer, or until all pucks have dispersed and the concrete is homogeneously mixed.
4. Just before application, mix the concrete in the truck mixer for 3 minutes at full revolutions.

Note: This does not apply if the Product is added in the concrete on the construction site.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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ISO 9001, 14001, 45001 – SGS
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ISO 9001, 14001 – SGS
- Sika Saudi Arabia Limited
ISO 9001, 14001 – TÜV
- Sika MB Construction Chemicals LLC
- Master Builders Solutions LLC

All products are supplied under a management system certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001, ISO 14001 and ISO 45001.



Product Data Sheet

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