

PRODUCT DATA SHEET

SikaFiber® Force-60

SYNTHETIC MACRO FIBER FOR CONCRETE AND SHOTCRETE.

DESCRIPTION

SikaFiber® Force-60 is a macro synthetic fiber for structural use in shotcrete and concrete.

USES

SikaFiber® Force-60 is suitable for the use in sprayed concrete and in-situ cast concrete.

The main uses for SikaFiber® Force-60 are in the following applications:

- Sprayed concrete for excavation stabilisation in tunnelling and mining
- Sprayed concrete for rock and ground stabilisation
- Sprayed concrete for temporary stabilisation use
- Replacement of steel reinforcement in sprayed concrete applications
- Slab on grade concrete applications / industrial floors based on ground
- Foundations with fiber reinforced concrete
- Precast concrete elements
- Concrete applications, especially surfaces with high abrasion resistance

CHARACTERISTICS / ADVANTAGES

With the addition of SikaFiber® Force-60, the following improvements in the hardened concrete characteristics can be achieved:

- Highly increased energy absorption for sprayed concrete
- Crack bridging capacity, especially at large crack openings
- Increased durability due to high chemical resistance
- Rust-free surfaces

APPROVALS / CERTIFICATES

CE-marking and Declaration of Performance as polymer fibres for use in concrete, mortar or grout according to EN 14889-2:2006, based on certificate of constancy of performance of the construction product issued by notified product certification body.

PRODUCT INFORMATION

Composition	Polyolefine
Packaging	SikaFiber® Force-60 is available in water soluble pucks packed in 5kg water soluble paper bags or bigbags
Appearance / Colour	white, straight fibers with embossing
Shelf life	24 months shelf life from date of production if stored properly in undamaged, unopened, original sealed packaging.
Storage conditions	Storage at temperatures between 5 °C and 30 °C. Protect from direct sunlight, frost, water and contamination.
Density	~0,91 kg/l
Dimensions	length ~60 mm, equivalent diameter ~0,84 mm (500 tex)

TECHNICAL INFORMATION

Concreting Guidance	The standard rules of good concreting practice, concerning production and placing, are to be followed. Laboratory trials shall be carried out before concreting on site, especially when using new mix design or producing new concrete components. Fresh concrete must be cured properly and curing applied as early as possible.	
Concrete Mixing Time	In order to ensure a homogeneous distribution of the fibers in the concrete it might be useful to extend the mixing time, especially at high dosages of the fibers (> 6 kg/m ³).	
Tensile Strength	~430 MPa (~48 cN/tex)	(EN 10002-1, strain rate: 7 %/min)
Modulus of Elasticity in Tension	~6 GPa	(EN 10002-1, strain rate: 7 %/min)
Recommended Dosage	3–10 kg/m ³	
Dispensing	SikaFiber® Force-60 is dosed directly in the concrete mixer together with the aggregates. SikaFiber® Force-60 can also be dosed to the truck mixer. In that case an additional mixing time of at least 1 minute per m ³ is required.	

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.

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 the exact product data and uses.

ECOLOGY, HEALTH AND SAFETY

REGULATION (EC) NO 1907/2006 - REACH

This product is an article as defined in article 3 of regulation (EC) No 1907/2006 (REACH). It contains no substances which are intended to be released from the article under normal or reasonably foreseeable conditions of use. A safety data sheet following article 31 of the same regulation is not needed to bring the product to the market, to transport or to use it. For safe use follow the instructions given in the product data sheet. Based on our current knowledge, this product does not contain SVHC (substances of very high concern) as listed in Annex XIV of the REACH regulation or on the candidate list published by the European Chemicals Agency in concentrations above 0,1 % (w/w)

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.

Sika Manufacturing Nigeria LTD
10, Western Industrial Avenue,
Isheri Riverview Estate,
Lagos-Ibadan Expressway,
Nigeria.
Tel.: +234 80 90 44 22 21
nga.sika.com



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