

## PRODUCT DATA SHEET

# SikaFiber®-54 Force

Synthetic macro fiber for concrete and shotcrete.

### PRODUCT DESCRIPTION

SikaFiber®-54 Force is a macro synthetic fiber complying with ASTM C1116, Type III. SikaFiber®-54 Force is intended for structural use in shotcrete and concrete. Specifically engineered and manufactured in an ISO 9001 certified manufacturing facility.

### USES

SikaFiber®-54 Force can be successfully used as a safe and simple alternative to wire mesh and rebar. Due to its mechanical properties SikaFiber®-54 Force is recommended for use in following applications:

- Precast concrete elements
- Permanent and temporary rock and ground support
- Permanent and temporary concrete linings
- Slope stabilization
- Sprayed concrete

### CHARACTERISTICS / ADVANTAGES

- Increased energy absorption for sprayed concrete
- Crack bridging capacity, especially at large crack openings
- 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®-54 Force. For further information, please visit:

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

### APPROVALS / STANDARDS

Complies with ASTM C 1116/C1116M Type III Fiber Reinforced Concrete, and ASTM D 7508/7508M

NSF/ANSI 61 Approved

## PRODUCT INFORMATION

<b>Chemical Base</b>	Polyolefin
<b>Packaging</b>	SikaFiber®-54 Force is available in water soluble pucks packed in 8kg boxes.
<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. Always refer to packaging.
<b>Appearance / Color</b>	Straight, white, embossed fibers
<b>Dimensions</b>	<ul style="list-style-type: none"><li>▪ length 54 mm (2.13 in)</li><li>▪ equivalent diameter 0.84 mm (0.033 in)</li></ul>
<b>Density</b>	0.91 kg/l
<b>Melting Point</b>	164 °C (327 °F)

## TECHNICAL INFORMATION

<b>Tensile Strength</b>	550 MPa	(ASTM D-2256)
<b>Tensile Modulus of Elasticity</b>	8.5 GPa	(ASTM D-2256)

## APPLICATION INFORMATION

<b>Recommended Dosage</b>	The dosage of the SikaFiber®-54 Force will vary according to the type of application and the performance requirements of the project. Standard recommended dosage rate of SikaFiber®-54 Force is between 5–17 lbs/cu. yd. (3–10 kg/m <sup>3</sup> ) of concrete. Dosages outside the recommended dosage range can be used to meet project specific requirements. If this is the case please contact your Sika representative for technical support.
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## 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

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

## 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. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

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**  
SikaFiber®-54 Force  
June 2024, Version 03.01  
021408021000000128

SikaFiber-54Force-en-US-(06-2024)-3-1.pdf

