

# PRODUCT DATA SHEET

## SikaWrap® FX-50 C

### CARBON FIBRE STRING FOR STRUCTURAL STRENGTHENING AND CONNECTION, AND ANCHORING OF SIKAWRAP® STRENGTHENING SYSTEMS

#### PRODUCT DESCRIPTION

SikaWrap® FX-50 C is a unidirectional carbon fibre string, encased in a plastic envelope, which is used as near surface mounted strengthening and as fibre connector for the anchorage of SikaWrap® fabrics.

#### USES

SikaWrap® FX-50 C may only be used by experienced professionals.

- Anchoring SikaWrap® carbon and glass fibre fabrics on concrete or masonry
- Connecting SikaWrap® carbon or glass fibre fabrics through concrete or masonry structures
- Flexible near surface mounted strengthening (NSM)

#### CHARACTERISTICS / ADVANTAGES

- Carbon fibre, corrosion resistant, durable
- Multifunctional use
- Easy to install

#### PRODUCT INFORMATION

<b>Construction</b>	Unidirectional carbon fibre string encased in a plastic envelope	
<b>Fibre type</b>	Carbon fibre	
<b>Packaging</b>	25 m roll on a plastic reel dispenser	
<b>Shelf Life</b>	24 months from date of production	
<b>Storage Conditions</b>	Store in undamaged, original sealed packaging, in dry conditions at temperatures between +5 °C and +35 °C. Protect from direct sunlight.	
<b>Dry Fibre Density</b>	1.82 g/cm <sup>3</sup>	
<b>Cross Section</b>	≥ 28 mm <sup>2</sup> (based on carbon fibre content)	
<b>Mass per Unit Length</b>	≥ 50 g/m (carbon fibre content)	
<b>Dry Fibre Tensile Strength</b>	4 000 N/mm <sup>2</sup>	(ASTM D 4018)
<b>Dry Fibre Modulus of Elasticity in Tension</b>	240 kN/mm <sup>2</sup>	(ASTM D 4018)
<b>Dry Fibre Elongation at Break</b>	≥ 1.6 %	(ASTM D 4018)

## TECHNICAL INFORMATION

<b>Laminate Nominal Cross Section</b>	78 mm <sup>2</sup>	
<b>Laminate Tensile Strength</b>	~2 000 N/mm <sup>2</sup> (related to fibre cross section)* *Impregnating resin: Sikadur®-300, Sikadur®-52 N or Sikadur®-52 LP *Values in longitudinal direction of the fibres ** Standard adapted to fit sample shape	(EN 2561**)
<b>Laminate Tensile Modulus of Elasticity</b>	~230 kN/mm <sup>2</sup> (related to fibre cross section)* *Impregnating resin: Sikadur®-300, Sikadur®-52 N or Sikadur®-52 LP *Values in longitudinal direction of the fibres ** Standard adapted to fit sample shape	(EN 2561**)

## SYSTEM INFORMATION

<b>System Structure</b>	The system build-up and configuration as described must be fully complied with and may not be changed.	
	Impregnating / laminating resin	Sikadur®-300 or Sikadur®-52 N
	Anchorage resin	Sikadur®-330 or Sika AnchorFix®- 1 or Sikadur®- 33
	Structural strengthening fabric	SikaWrap® carbon or glass fibre fabric

The embedded composite will have a diameter of approx. 10 mm  
For detailed information on Sikadur®-330, Sikadur®-300, Sikadur®-52 N or AnchorFix®- 1 and Sikadur®- 33, together with the resin and fabric application details, please refer to the relevant Product Data Sheets.

## APPLICATION INFORMATION

<b>Consumption</b>	Anchor impregnation: 110–150 g/m SikaWrap® fabrics: Please refer to the relevant product data sheet
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## APPLICATION INSTRUCTIONS

### SUBSTRATE QUALITY

Minimum substrate tensile strength: 1.0 N/mm<sup>2</sup> or as specified in the strengthening design.  
Also refer to the relevant Technical Information Manual for further information.

### SUBSTRATE PREPARATION

Concrete must be cleaned and prepared to achieve a laitance and contaminant free, open textured surface.  
Also refer to the relevant Technical Information Manual for further information.

### APPLICATION METHOD / TOOLS

SikaWrap® FX-50 C can be cut with special scissors.  
Also refer to the relevant Technical Information Manual for installation of SikaWrap® FX and for the impregnating / laminating procedure of the fabrics.

## FURTHER DOCUMENTS

### Technical Information Manuals

Ref. 850 41 09: Installation of SikaWrap® FX  
Ref. 850 41 02: SikaWrap® manual dry application  
Ref. 850 41 03: SikaWrap® manual wet application  
Ref. 850 41 04: SikaWrap® machine wet application

## LIMITATIONS

- SikaWrap® FX-50 C shall only be applied by trained and experienced professionals.
- A specialist structural engineer must be consulted for any structural strengthening design calculation.
- Notes and limitations mentioned in the Technical Information Manual installation of SikaWrap® FX (Ref. 850 41 09) must be respected.
- The SikaWrap® products are coated to ensure maximum bond and durability with the Sikadur® adhesives / impregnating / laminating resins. To maintain and ensure full system compatibility, do not interchange different system components.
- The SikaWrap® system can be over coated with a cementitious overlay or other coatings for aesthetic and / or protective purposes. The over coating system selection is dependent on the exposure and the project specific requirements. For additional protection against UV light in exposed areas use Sikagard®-550 W Elastic, Sikagard® ElastoColor-675 W or Sikagard®-680 S.
- Also refer to relevant Technical Information Manuals for further information, guidelines and limitations.

## VALUE BASE

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

## LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

## ECOLOGY, HEALTH AND SAFETY

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 this 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.

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