

PRODUCT DATA SHEET

SikaWrap® FX-50 C

Carbon fibre unidirectional cord for structural strengthening, connection and anchoring of SikaWrap® strengthening systems

DESCRIPTION

SikaWrap® FX-50 C is a unidirectional structural carbon fibre cord encased in a plastic sleeve. It is used to anchor or connect SikaWrap carbon and glass fibre structural fabrics. The Product is also used to provide flexible near surface mounted strengthening and cantilever anchoring.

USES

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

The Product is used as a:

- Anchor for SikaWrap® structural fabrics
- Anchored near surface mounted (NSM) strengthening for cantilevers
- Connection point for SikaWrap® structural fabrics
- Flexible near surface mounted (NSM) strengthening
- Reinforcement cord for structural strengthening systems

Please note:

- A specialist structural engineer must be consulted for any structural strengthening design calculation.
- The Product may only be used by experienced professionals.

CHARACTERISTICS / ADVANTAGES

- Continuous tows without the need for splicing
- Prevents delamination of SikaWrap® fabrics at the edges in shear strengthening applications
- Suitable for installation in complex or difficult access locations
- 100 % durable carbon fibre
- Multifunctional use
- Resistant to corrosion
- Installation with standard site anchoring equipment
- Minimal breakout required

ENVIRONMENTAL INFORMATION

- Contributes towards satisfying Materials and Resources (MR) Credit: Building Product Disclosure and Optimization — Material Ingredients under LEED® v4

APPROVALS / STANDARDS

- National Technical Assessment Sika CarboDur® kit, ITB, No. ITB-KOT-2019/0415 v.1
- Technical Agreement, CTPC, No. 016-011401-2019
- Technical Approval Sika CarboDur, Nr. IBDiM-KOT-2019-0361 v.2
- Technical Approval, CSTB, Avis Technique 3.3/19-1005_V1

PRODUCT INFORMATION

Construction	Fibre orientation	0° (longitudinal, unidirectional) in a plastic sleeve
	Warp (longitudinal)	Black carbon fibre
Packaging	Roll length	25 m roll on a plastic reel dispenser
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 +35 °C.	

Protect the Product from direct sunlight. Always refer to packaging.

Dry fibre density	1.82 g/cm ³
Cross section	Dry fibre ~28 mm ²
Mass per length	Dry fibre ~50 g/m

TECHNICAL INFORMATION

Dry fibre tensile strength	4000 N/mm ²	(ISO 10618)
Dry fibre modulus of elasticity in tension	240 kN/mm ²	(ISO 10618)
Dry fibre elongation at break	> 1.60 %	(ISO 10618)
Laminate nominal cross section	~28 mm ²	
Laminate tensile strength	Mean 2000 N/mm ²	(EN 2561)
All values refer to design nominal thickness and design nominal cross section.		
Laminate modulus of elasticity in tension	Mean 230 kN/mm ²	(EN 2561)
All values refer to design nominal thickness and design nominal cross section.		

SYSTEM INFORMATION

System structure	Impregnating or laminating resin options	Sikadur [®] -300 IN Sikadur [®] -55 LP IN
	Anchorage resin options	Sikadur [®] -330 IN Sika AnchorFix [®] -3030
	Structural strengthening fabric	SikaWrap [®] carbon or glass fibre fabric
	The system structure as described in table must not be changed. Refer to the relevant Product Data Sheets and Sika Method Statements.	

APPLICATION INFORMATION

Consumption	Resin for impregnation	110–150 g/m
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BASIS OF PRODUCT DATA

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.

FURTHER DOCUMENTS

Reference must be made to the following Sika[®] Method Statements:

- 850 41 09 Method Statement SikaWrap[®] FX Fibre Connector
- 850 41 02 Method Statement SikaWrap[®] manual dry application
- 850 41 03 Method Statement SikaWrap[®] manual wet application
- 850 41 04 Method Statement SikaWrap[®] saturator application

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)

APPLICATION INSTRUCTIONS

APPLICATION

IMPORTANT

Application by trained personnel

The application of this Product must only be carried out by an applicator that is trained or approved by Sika. The applicator must also be experienced in this type of application.

IMPORTANT

Do not interchange different system components

SikaWrap® fabrics are coated to ensure maximum bond and durability with the Sikadur® adhesives, impregnating and laminating resins. To maintain and ensure full system compatibility, do not interchange different system components.

SikaWrap® FX can be cut with special scissors. Refer to the relevant Sika Method Statement for the installation of SikaWrap® FX and for either the impregnating or laminating procedure of the fabric:

- 850 41 09 Method Statement SikaWrap® FX Fibre Connector
- 850 41 02 Method Statement SikaWrap® manual dry application
- 850 41 03 Method Statement SikaWrap® manual wet application
- 850 41 04 Method Statement SikaWrap® saturator application

Overcoating SikaWrap® fabrics

Note: SikaWrap® fabrics can be over coated with a cementitious overlay or other coatings for aesthetic or protective purposes. The over coating system selection is dependent on the exposure and the project specific requirements. For additional UV light protection in exposed areas use Sikagard®-550 W IN, Sikagard® PU UR or Sikagard®-680 S MY.

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.

Sika India Pvt. Ltd.
620, Diamond Harbour Road
Commercial Complex II
Kolkata - 700 034
West Bengal, India

Contact:
Phone: +91 33 2447 2448
Fax: +91 33 2397 8688
info.india@in.sika.com
www.sika.in



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