

PRODUCT DATA SHEET

SikaWrap® FX-50 C

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

DESCRIPTION

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

USES

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

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

CHARACTERISTICS / ADVANTAGES

- Complies to standard specification for DPWH Item 416 - Carbon fiber sheet
- Carbon fibre, corrosion resistant, durable
- Multifunctional use
- Easy to install

PRODUCT INFORMATION

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

TECHNICAL INFORMATION

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

SYSTEM INFORMATION

System Structure	The system build-up and configuration as described must be fully complied with and may not be changed.	
	Impregnating / laminating resin	Sikadur [®] -300
	Anchorage resin	Sikadur [®] -330 or Sika AnchorFix [®] -3001
	Structural strengthening fabric	SikaWrap [®] carbon or glass fiber fabric

The embedded composite will have a diameter of approx. 10 mm
For detailed information on Sikadur[®]-330, Sikadur[®]-300, and AnchorFix[®]-3001, together with the resin and fabric application details, please refer to the relevant Product Data Sheets and the Method Statements.

APPLICATION INFORMATION

Consumption	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/mm² or as specified in the strengthening design.
Please also refer to the relevant Method Statement for further information.

SUBSTRATE PREPARATION

Concrete must be cleaned and prepared to achieve a laitance and contaminant free, open textured surface.
Please also refer to the relevant Method Statement for further information.

APPLICATION METHOD / TOOLS

SikaWrap[®] FX-50 C can be cut with special scissors.
Please refer to the relevant Method Statement for installation of SikaWrap[®] FX and for the impregnating / laminating procedure of the fabrics.

- 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 Method Statement 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 (Sikacrete-213 FMY) or other coatings for aesthetic and / or protective purposes. The over coating system selection is dependent on the exposure and the project specific requirements.
- Please refer to the Method Statement of SikaWrap[®] manual dry application (Ref. 850 41 02), SikaWrap[®] manual wet application (Ref. 850 41 03) or SikaWrap[®] machine wet application (Ref. 850 41 04) for further information, guidelines and limitations.

FURTHER DOCUMENTS

Method Statements

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

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.

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

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet (available upon request) containing physical, ecological, toxicological and other safety-related data.

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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Product Data Sheet
SikaWrap® FX-50 C
August 2019, Version 01.01
020206020040000008

SikaWrapFX-50C-en-PH-(08-2019)-1-1.pdf