

**Product Data Sheet**

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 Identification no.  
 SikaWrap® FX-50 C

## SikaWrap® FX-50 C

Carbon fiber rope for structural connection and anchoring of SikaWrap strengthening systems

<b>Description</b>	SikaWrap® FX-50 C is a unidirectional carbon fibre string, encased in a plastic envelope, that serves as fibre connector for the anchorage of SikaWrap® fabrics.
<b>Where to Use</b>	<ul style="list-style-type: none"> <li>■ Anchoring SikaWrap® carbon and glass fibre fabrics on concrete or masonry</li> <li>■ Connecting SikaWrap® carbon or glass fibre fabrics through concrete or masonry structures</li> <li>■ Flexible near surface mounted strengthening (NSM)</li> </ul>
<b>Advantages</b>	<ul style="list-style-type: none"> <li>■ Carbon fibre, corrosion resistant, durable</li> <li>■ Multifunctional use</li> <li>■ Easy to install</li> </ul>
<b>Coverage</b>	Primer layer: 0.5 – 0.7 kg/m <sup>2</sup> Anchor impregnation: 25 – 30 g/100 mm SikaWrap® fabrics: Please refer to the relevant product data sheet
<b>Packaging</b>	82 ft (25m) rolls on plastic reel dispenser in a box

### Typical 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.

<b>Fibre Type</b>	Carbon Fiber
<b>Construction</b>	Unidirectional carbon fiber rope encased in a plastic envelope
<b>Packaging</b>	25 m roll on a plastic reel dispenser
<b>Storage Conditions/Shelf-Life</b>	Unlimited, provided there is no exposure to direct sunlight (UV light), in dry conditions and at temperatures of max. 122°F (50°C) Transportation only in the original packaging, or otherwise adequately protected against any mechanical damage
<b>Weight</b>	≥ 15.24 g/ft (carbon fibre content)
<b>Fibre Cross Section</b>	≥ .034 in <sup>2</sup> (based on carbon fibre content)
<b>Fibre Density</b>	1820 g/l

#### Dry fibre properties Values in longitudinal direction of the fibres

<b>Tensile Modulus</b>	3.48 *10 <sup>7</sup> psi (2.4x10 <sup>5</sup> MPa)
<b>Tensile Strength</b>	5.8 x 10 <sup>5</sup> psi (4000 MPa)
<b>Elongation at break</b>	>1.6% (nominal)
<b>Composite Cross Section</b>	.086 sq.in. (assumption: 50% fibre content)

\*Values according to ASTM D 4018

#### Composite Properties

<b>Impregnating Resin</b>	Sikadur®-300, Sikadur®-330
<b>Composite Cross Section</b>	0.1 sq.in. (assumption: 50% fibre content)
<b>Tensile Modulus</b>	3.33 *10 <sup>7</sup> psi (2.3x10 <sup>5</sup> MPa)
<b>Tensile Strength</b>	3.04 x 10 <sup>5</sup> psi (2100 MPa)



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## How To Use

### Surface Preparation

Minimal substrate tensile strength: 1.0 N/mm<sup>2</sup> or as specified in the strengthening design. For further details, see also the Method Statements of installation of SikaWrap® FX (Ref. 850 41 09) 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).

**Concrete and masonry:** Substrates must be sound, dry, clean and free from laitance, ice, standing water, grease, oils, old surface treatments or coatings and any loosely adhering particles. Concrete must be cleaned and prepared to achieve a laitance and contaminant free, open textured surface.

**Repairs and levelling:** If carbonized or weak concrete cover has to be removed or levelling of uneven surfaces is needed, the following systems can be applied: Structural repair materials: Sikadur®-41 epoxy repair mortar, Sikadur®-30 adhesive or the Sika® MonoTop®-412 (horizontal, vertical, overhead) or Sika® MonoTop®-438 (horizontal, top-side) range (cementitious). (Details on application and limitation see the relevant Product Data Sheets)

For further details, see also the Method Statements of installation of SikaWrap® FX (Ref. 850 41 08), 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).

### Application

The system build-up and configuration as described must be fully complied with and may not be changed.

Anchorage resin: Sikadur®-330, Sikadur® 300/Hex 300 or Anchorfix®-3001.

Impregnating / laminating resin: Sikadur®-300/Hex 300

Structural strengthening fabric: SikaWrap® carbon or glass fibre fabric

For detailed information on Sikadur®-330 or Sikadur®-300/Hex 300 together with the resin and fabric application details, please refer to the relevant Product Data Sheets and the Method Statements of SikaWrap® manual dry application (Ref. 850 41 02), SikaWrap® manual wet application (Ref. 850 41 03) and Installation of SikaWrap® FX (Ref. 850 41 09).

### Tooling & Finishing

#### Application Method / Tools

The SikaWrap® FX can be cut with special scissors. Please refer to the Method Statement of Installation of SikaWrap® FX (Ref. 850 41 09) for the anchor installation and the Method Statement of SikaWrap® manual wet application (Ref. 850 41 03) or SikaWrap® machine wet application (Ref. 850 41 04) for the impregnating / laminating procedure of the fabrics.

#### Notes on Application / Limitations

This product should only be used by trained and experienced professionals.

The strengthening application is inherently structural and great care must be taken when choosing suitably experienced contractors.

Notes and limitations mentioned in the Method Statement Installation of SikaWrap® FX (Ref. 850 41 08) must be taken into account.

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 UV light protection in exposed areas use Sikagard®-550 W or Sikagard 670W.

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.



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## Limitations

- This product should only be used by trained and experienced professionals.
- The strengthening application is inherently structural and great care must be taken when choosing suitably experienced contractors.
- Notes and limitations mentioned in the Method Statement Installation of SikaWrap® Fibre Connectors (Ref. 850 41 08) must be taken into account.
- The SikaWrap® products are coated to ensure maximum bond and durability with the SikadurR 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 UV light protection in exposed areas use Sikagard®-550 W Elastic, Sikagard® ElastoColor-675 W or Sikagard®-680 S.
- 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.

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