

PRODUCT DATA SHEET

SikaWrap®-410 C

WOVEN UNIDIRECTIONAL 400 g/m² CARBON FIBRE FABRIC, DESIGNED FOR CFRP STRUCTURAL STRENGTHENING APPLICATIONS

DESCRIPTION

SikaWrap®-410 C is a unidirectional woven carbon fibre fabric with high strengths, designed for installation using the dry or wet application process.

USES

SikaWrap®-410 C may only be used by experienced professionals.

Structural strengthening of reinforced concrete, masonry, brickwork and timber elements or structures, to increase flexural and shear loading capacity for:

- Improved seismic performance of masonry walls
- Replacing missing steel reinforcement
- Increasing the strength and ductility of columns
- Increasing the loading capacity of structural elements
- Enabling changes in use / alterations and refurbishment
- Correcting structural design and / or construction defects
- Increasing resistance to seismic movement
- Improving service life and durability
- Structural upgrading to comply with current standards

CHARACTERISTICS / ADVANTAGES

- Manufactured with heat-set weft fibres to keep the fabric stable
- Multifunctional fabric for use in many different strengthening applications
- Flexible and accommodating to different surface planes and geometry (beams, columns, chimneys, piles, walls, soffits, silos etc.)
- Available in different widths for optimum utilization
- Low density for minimal additional weight
- Extremely cost effective in comparison to traditional strengthening techniques

PRODUCT INFORMATION

Construction	Fibre orientation	0° (unidirectional)	
	Warp	Black carbon fibres 98 %	
	Weft	Thermoplastic fibres 2 %	
Fibre Type	Selected high strength carbon fibres		
Packaging	Fabric length per roll	Fabric width	
	1 roll in cardboard box ≥ 100 m	500 mm	
Shelf Life	60 months from date of production		

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	1.80 g/cm ³
Dry Fibre Thickness	~0.43 mm
Area Density	420 g/m ² (-8/+21 g/m ²)

TECHNICAL INFORMATION

Dry Fibre Tensile Strength	4,900 N/mm ²	(ISO 10618)
Dry Fibre Modulus of Elasticity in Tension	230,000 N/mm ²	(ISO 10618)
Dry Fibre Elongation at Break	1.7 %	(ISO 10618)

SYSTEM INFORMATION

System Structure	The system build-up and configuration as described must be fully complied with and may not be changed.	
	Concrete substrate adhesive primer	Sikadur®-330 or epoxy primer according to project specification
	Impregnating / laminating resin	Sikadur®-330, Sikadur®-300, or epoxy resin according to project specification
	Structural strengthening fabric	SikaWrap®-410 C
	For detailed information on Sikadur®-330 or Sikadur®-300, together with the resin and fabric application details, please refer to the Sikadur®-330 or Sikadur®-300 Product Data Sheet and the relevant Method Statement.	

APPLICATION INFORMATION

Consumption	Please also refer to the relevant Method Statement for further information.
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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

Method Statements

Ref. 850 41 002: SikaWrap® manual dry application
Ref. 850 41 003: SikaWrap® manual wet application

LIMITATIONS

- SikaWrap®-410 C shall only be applied by trained and experienced professionals.
- A specialist structural engineer must be consulted for any structural strengthening design calculation.
- SikaWrap®-410 C fabric is coated to ensure maximum bond and durability with the Sikadur® adhesives / impregnating / laminating resins, or epoxy resin according to project specification. To maintain and ensure full system compatibility, do not interchange different system components.
- SikaWrap®-410 C 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 41 002) or SikaWrap® manual wet application (Ref. 850 41 003) for further information, guidelines and limitations.

ECOLOGY

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

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

The fabric can be cut with special scissors or a Stanley knife (razor knife / box-cutter knife). Never fold the fabric.

SikaWrap®-410 C is applied using the dry or wet application process.

Please refer to the relevant Method Statement for details on the impregnating / laminating procedure.

LOCAL RESTRICTIONS

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

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