


**Product Data Sheet**  
Edition 18/02/2009  
Identification no:  
02 04 01 02 001 0 XXXXXXX  
SikaWrap®-150 C/30

(Template for local translation, only for internal use)

# SikaWrap®-150 C/30 (Provisional)

## Stitched Carbon Fiber Fabric for Structural Strengthening

<b>Product Description</b>	SikaWrap®-150 C/30 is a unidirectional stitched, light weight carbon fiber fabric for the dry application process.							
<b>Uses</b>	<p>Strengthening of reinforced concrete structures, brickwork and timber in case of flexural and shear load due to:</p> <ul style="list-style-type: none"> <li>■ Improved seismic performance of masonry walls</li> <li>■ Substitute missing rebars</li> <li>■ Strength and ductility of columns</li> <li>■ Increasing loading capacity of structural elements</li> <li>■ Changes of building utilisation</li> <li>■ Structural design construction defects</li> <li>■ Seismic movement</li> <li>■ Improved serviceability</li> <li>■ Structural upgrading to comply with current standards</li> </ul>							
<b>Characteristics / Advantages</b>	<ul style="list-style-type: none"> <li>■ Manufactured with a stitching process</li> <li>■ Multifunctional use for every kind of strengthening requirement</li> <li>■ Flexibility of surface geometry (Beams, columns, chimneys, piles, walls, silos)</li> <li>■ Low density for minimal additional weight</li> <li>■ Economical compared to traditional techniques</li> </ul>							
<b>Product Data</b>								
<b>Form</b>								
<b>Fiber Type</b>	Mid strength carbon fibers.							
<b>Fabric Construction</b>	<p>Fiber orientation: 0° (unidirectional).</p> <p>Warp: black carbon fibers (&gt;85% of total areal weight).</p>							
<b>Packaging</b>	<table border="1"> <thead> <tr> <th></th> <th>Fabric length / roll</th> <th>Fabric width</th> </tr> </thead> <tbody> <tr> <td>2 rolls in cardboard box</td> <td>≥ 100 m</td> <td>300 mm</td> </tr> </tbody> </table>			Fabric length / roll	Fabric width	2 rolls in cardboard box	≥ 100 m	300 mm
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## Storage

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**Storage Conditions / Shelf Life** 24 months from date of production if stored properly in undamaged original sealed packaging in dry conditions at temperatures between +5°C and +35°C. Protect from direct sunlight.

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**Technical Data \*)** \*) all technical data are provisional

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**Areal Weight** 175 g/m<sup>2</sup> ± 10 g/m<sup>2</sup> (total areal weight)  
155 g/m<sup>2</sup> ± 10 g/m<sup>2</sup> (carbon fiber content)

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**Fabric Design Thickness** 0.086 mm (based on fiber content).

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**Fiber Density** 1.81 g/cm<sup>3</sup>

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## Mechanical / Physical Properties

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**Dry Fiber Properties** Tensile strength:  
3'800 N/mm<sup>2</sup> (nominal).  
  
Tensile E-modulus:  
242'000 N/mm<sup>2</sup> (nominal).  
  
Elongation at break:  
1.55% (nominal).

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**Laminate Properties** Laminate thickness:  
1.0 mm per layer (impregnated with Sikadur<sup>®</sup>-330).  
  
Ultimate load:  
200 kN/m width per layer  
  
Tensile E-modulus:  
16.0 kN/mm<sup>2</sup> (based on typical laminate thickness of 1.0 mm).  
  
Note:  
The above values are typical and indicative only.  
The achievable laminate properties obtained from tensile test are dependant on the impregnating/laminating resin used and the type of tensile testing procedure.  
Apply material reduction factors according to the relevant design standard.

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**Design** Design strain:  
Max. 0.6% (this value is dependent on the type of loading and must be adapted according to the relevant local design standards)

Tensile strength: (theoretical tensile strength for the design):

- at elongation 0.4%: 64 kN/m width (= 20 kN / 30 cm)
  - at elongation 0.6%: 100 kN/m width (= 30 kN / 30 cm)
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## System Information

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**System Structure** The system configuration as described must be fully complied with and may not be changed.  
  
Concrete primer - Sikadur<sup>®</sup>-330.  
  
Impregnating / laminating resin - Sikadur<sup>®</sup>-330.  
  
Structural strengthening fabric - SikaWrap<sup>®</sup>-150 C/30.  
  
For detailed resin properties, fabric application details and general information, refer to Sikadur<sup>®</sup>-330 Product Data Sheet.

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## Application Details

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**Consumption** Depending on the roughness of the substrate.

- Impregnating of the first layer incl. primer: ~ 0.5 - 0.9 kg/m<sup>2</sup> (Sikadur<sup>®</sup>-330).
- Impregnating of the following layers: ~ 0.3 kg/m<sup>2</sup> (Sikadur<sup>®</sup>-330).

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<b>Substrate Quality</b>	Specific requirements: Minimal substrate tensile strength: 1.0 N/mm <sup>2</sup> or as specified in the strengthening design.
<b>Substrate Preparation</b>	<p><i>Concrete and masonry:</i> 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.</p> <p>Concrete must be cleaned and prepared to achieve a laitance and contaminant free, open textured surface.</p> <p>Repairs and levelling: If carbonised or weak concrete cover has to be removed or levelling of uneven surfaces is needed, the following systems can be applied: (Details on application and limitation see the relevant Product Data Sheets)</p> <ul style="list-style-type: none"> <li>- Protection of corroded rebars: SikaTop<sup>®</sup> Armatec<sup>®</sup> 110 EpoCem<sup>®</sup></li> <li>- Structural repair materials: Sikadur<sup>®</sup>-41 epoxy repair mortar, Sikadur<sup>®</sup>-30 adhesive or cementitious Sika<sup>®</sup> MonoTop<sup>®</sup>-412 (horizontal, vertical, overhead) or Sika<sup>®</sup> MonoTop<sup>®</sup>-438 (horizontal, top-side) range.</li> </ul>
<b>Application Instructions</b>	
<b>Application Method / Tools</b>	The fabric can be cut with special scissors or razor knife. Never fold the fabric! Refer to Sikadur <sup>®</sup> -330 Product Data Sheet for impregnating / laminating procedure.
<b>Notes on Application / Limitations</b>	<p>This product may only be used by experienced professionals.</p> <p>Minimum radius required for application around corners: &gt; 10 mm. Grinding edges or building up with Sikadur<sup>®</sup> mortars may be necessary.</p> <p>In fiber direction, overlapping of the fabric must be at least 100 mm depending on SikaWrap<sup>®</sup> type or as specified in the strengthening design.</p> <p>For side-by-side application, no overlapping length in the weft direction is required. Overlaps of additional layers must be distributed over the column circumference.</p> <p>The strengthening application is inherently structural and great care must be taken when choosing suitably experienced contractors.</p> <p>The SikaWrap<sup>®</sup>-150 C/30 fabric is coated to ensure maximum bond and durability with the Sikadur<sup>®</sup> impregnating/laminating resins. To maintain system compatibility do not interchange system parts.</p> <p>The SikaWrap<sup>®</sup>-150 C/30 may be / must be coated with a cementitious overlay or coatings for aesthetic and/or protective purposes. Selection will be dependent on exposure requirements. For basic UV protection use Sikagard<sup>®</sup>-550 W Elastic, Sikagard<sup>®</sup> ElastoColor-675 W or Sikagard<sup>®</sup>-680 S.</p>
<b>Value Base</b>	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.
<b>Local Restrictions</b>	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.
<b>Health and Safety Information</b>	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 containing physical, ecological, toxicological and other safety-related data.

## Legal Notes

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