

PRODUCT DATA SHEET

SikaWrap®-430 G

WOVEN UNIDIRECTIONAL GLASS FIBER FABRIC, DESIGNED FOR STRUCTURAL STRENGTHENING APPLICATIONS AS PART OF THE SIKA® STRENGTHENING SYSTEM.

DESCRIPTION

SikaWrap®-430 G is a unidirectional woven glass fiber fabric designed for installation using the dry or wet application process.

USES

SikaWrap®-430 G 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
- Increasing the strength and ductility of columns
- 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
- Blast mitigation (accidents or terrorism)
- Electrical environments that ask for non-conductive material

CHARACTERISTICS / ADVANTAGES

- Manufactured with heat-set weft fibers 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.)
- Low density for minimal additional weight
- Cost effective in comparison to traditional strengthening techniques
- Very low electrical conductivity
- Complies to ACI 440.2R

PRODUCT INFORMATION

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|---------------------|---|---|---------------------|
| Construction | Fiber orientation | 0° (unidirectional) | |
| | Warp | White glass fibres 98 % | |
| | Weft | White thermoplastic heat-set fibres 2 % | |
| Fibre Type | E-glass fibers | | |
| Packaging | | Fabric length per roll | Fabric width |
| | 1 roll in cardboard box | 80 m | 500 mm |
| Shelf Life | Unlimited shelf life if stored properly | | |

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| 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 | 2.56 g/cm ³ | | |
| Dry Fibre Thickness | 0.168 mm (based on total glass content) | | |
| Area Density | 450 g/m ² + 10 g/m ² (glass fibers only) | | |
| Dry Fibre Tensile Strength | 2 500 N/mm ² (measured on roving) | | (EN 2561) |
| Dry Fibre Modulus of Elasticity in Tension | 72 000 N/mm ² | | (EN 2561) |
| Dry Fibre Elongation at Break | 2.7 % (measured on roving) | | (EN 2561) |

TECHNICAL INFORMATION

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| Laminate Nominal Thickness | 0.168 mm | | |
| Laminate Nominal Cross Section | 168 mm ² per m width | | |
| Laminate Tensile Strength | Average | Characteristic | (EN 2561*) |
| | 1 500 N/mm ² | 1 400 N/mm ² | (ASTM 3039*) |
| Laminate Modulus of Elasticity in Tension | Average | Characteristic | (EN 2561*) |
| | 70 kN/mm ² | 68 kN/mm ² | (ASTM 3039*) |

* modification: sample with 50 mm
Values in the longitudinal direction of the fibres
Single layer, minimum 27 samples per test series

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| Laminate Elongation at Break in Tension | 2.14 % | | (based on EN 2561) (based on ASTM 3039) |
| Tensile Resistance | Average | Characteristic | (based on EN 2561) |
| | 252 kN/m | 235 kN/m | (based on ASTM 3039) |
| Tensile Stiffness | Average | Characteristic | (based on EN 2661) |
| | 11.8 MN/m | 11.4 MN/m | (based on ASTM 3039) |
| | 11.8 kN/m per ‰ elongation | 11.4 kN/m per ‰ elongation | |

SYSTEM INFORMATION

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| 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 | |
| | Impregnating / laminating resin | Sikadur®-330 or Sikadur®-300 | |
| | Structural strengthening fabric | SikaWrap®-430 G | |
| | 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

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| Consumption | Dry application with Sikadur®-330 | | |
| | First layer including primer layer | 1.2–1.6 kg/m ² | |
| | Following layers | 1.0 kg/m ² | |
| | Wet application with Sikadur®-300, primer Sikadur®-330 | | |
| | Primer layer | 1.3–1.8 kg/m ² | |
| | Fabric layers | ≥ 0.75 kg/m ² | |

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





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®-430 G is applied using the dry or wet application process.

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

FURTHER DOCUMENTS

Method Statements

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

- SikaWrap®-430 G shall only be applied by trained and experienced professionals.
- A specialist structural engineer must be consulted for any structural strengthening design calculation.
- SikaWrap®-430 G fabric is 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.
- SikaWrap®-430 G 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.
- Please refer to the Method Statement of SikaWrap® manual wet application (Ref. 850 41 03) or SikaWrap® machine wet application (Ref. 850 41 04) for further information, guidelines and 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.

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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 Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

REGULATION (EC) NO 1907/2006 - REACH

We follow PLC -Priority Chemical List and PICCS- Philippine Inventory of Chemicals and Chemical Substances but we don't indicate on our local PDS.

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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