

PRODUCT DATA SHEET

SikaWrap®-931 G IN

Woven unidirectional glass fibre fabric, designed for structural strengthening applications as part of the Sika® strengthening system

DESCRIPTION

SikaWrap®-931 G IN is a unidirectional woven glass fibre fabric. The Product is made of glass fibres with an area density of 930 g/m². It is used to increase the flexural and shear loading capacity of elements and structures. The fabric is designed for installation using the wet application process.

USES

SikaWrap®-931 G IN may only be used by experienced professionals.

SikaWrap®-930 G is used as a reinforcement fabric for externally bonded structural strengthening systems on concrete, masonry and wooden substrates.

Externally bonded structural strengthening systems are used for:

- Increasing the axial, flexural and shear loading capacity of elements and structures
- Enhancing the load-carrying capacity or ductility of structural members in compression
- Replacing missing steel reinforcement
- Structural upgrading of weak concrete elements or structures

- Enabling changes in use / alterations and refurbishment
- Correcting structural design and / or construction defects
- Improving impact resistance
- Passive strengthening for seismic event protection
- Blast mitigation (accidents or terrorism)

Please note:

- A specialist structural engineer must be consulted for any structural strengthening design calculation.

CHARACTERISTICS / ADVANTAGES

- Improves the service life of a structure
- Manufactured with thermo-welded 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 (such as beams, columns, chimneys, piles, walls, soffits and silos)
- Low density for minimal additional weight
- Very low electrical conductivity

PRODUCT INFORMATION

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|----------------------|---------------------------------------|---|---------------------|
| Chemical base | E-glass fibre | | |
| Construction | Fibre orientation | 0° (longitudinal, unidirectional) | |
| | Wrap (longitudinal) | White glass fibre, 98 % | |
| | Weft (transversal) | White thermoplastic heat-set fibre, 2 % | |
| Packaging | | Fabric length per roll | Fabric width |
| | 1 roll in cardboard box | ≥ 50 m | 500 mm |
| Fibre type | Selected high strength e-glass fibres | | |

| | |
|---------------------|---|
| Shelf life | 24 months from date of production |
| Storage conditions | The Product must be stored in undamaged, original sealed packaging, in dry conditions at temperatures between +10 °C and +35 °C and humidity between 35 and 85 %. Protect from direct sunlight. |
| Appearance / Colour | White fabric |
| Dry fibre thickness | 0.363 mm (based on total glass content) |
| Area density | (930 ± 15) g/m ² (glass fibres only) |
| Dry fibre density | 2.56 g/cm ³ |

TECHNICAL INFORMATION

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|--|-------------------------------------|--------------|
| Dry fibre modulus of elasticity in tension | 80 000 N/mm ² | (ASTM D3039) |
| Dry fibre tensile strength | 3750 N/mm ² | (ASTM D3039) |
| Dry fibre elongation at break | 4.8 % | (ASTM D3039) |
| Laminate nominal thickness | 0.363 mm | |
| Laminate nominal cross section | 363 mm ² per metre width | |

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 IN |
| | Impregnating / laminating resin | Sikadur®-300 IN |
| | Structural strengthening fabric | SikaWrap®-931 G IN |
| | For detailed information on Sikadur®-330 IN or Sikadur®-300 IN, together with the resin and fabric application details, please refer to the individual Product Data Sheet and the relevant Method Statement. | |

APPLICATION INFORMATION

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|-------------|--|---------------------------|
| Consumption | Wet application with Sikadur®-330 IN as primer and Sikadur®-300 IN as impregnating resin: | |
| | Fabric impregnation | 0.4–0.6 kg/m ² |
| | Primer layer | 0.8–1.1 kg/m ² |
| | Fabric layers | 0.5–0.8 kg/m ² |
| | Note: Consumption is for standard application only. Rough or uneven substrate surfaces, fabrics crossings, loss and wastage can lead to a higher resin consumption. Please also refer to the relevant Method Statement for further information. | |

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

Reference must be made to the following Sika® Method Statements:

- 850 41 03 Method Statement SikaWrap® manual wet application

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

Tensile adhesion strength of the substrate must be a minimum of 1.0 N/mm² or as specified in the strengthening design. If necessary, verify this by applying a test area first.

Refer to the relevant SikaWrap® Method Statement for further information.

SUBSTRATE PREPARATION

Clean and prepare concrete to achieve a laitance-free, contaminant-free, open-textured surface.

Refer to the relevant SikaWrap® Method Statement for further information.

APPLICATION

IMPORTANT

Application by trained personnel

The application of this Product must only be carried out by an applicator that is trained or approved by Sika. The applicator must also be experienced in this type of application.

IMPORTANT

Strictly follow installation procedures

Strictly follow installation procedures as defined in Method Statements, application manuals and working instructions which must always be adjusted to the actual site conditions.

IMPORTANT

Do not interchange different system components

SikaWrap® fabrics are coated to ensure maximum bond and durability with the Sikadur® adhesives, impregnating and laminating resins. To maintain and ensure full system compatibility, do not interchange different system components.

1. IMPORTANT Never fold the fabric. Cut the fabric with special scissors, a razor knife or a box-cutter knife.
2. Apply the SikaWrap fabric using the wet application process. Refer to 850 41 03 Method Statement SikaWrap® manual wet application.

OVERCOATING SIKAWRAP® FABRICS

SikaWrap® fabrics can be overcoated with a cementitious overlay or other coatings for aesthetic or protective purposes. The selection of the overcoating system depends on the exposure and project-specific requirements.

For additional protection from UV light in exposed areas, use one of the following:

- Sikagard®-550 W IN
- Sikagard®-680 MY
- Sikagard® PU UR

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Product Data Sheet

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LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

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.