

SikaWrap® - 100G

Glass Fiber Fabric for Structural Strengthening

Description

- Unidirectional, woven glass fiber fabric for the wet application process
- Equipped with weft fibers that keep the fabric stable (heat-set process)



Uses

Flexural, shear or confinement strengthening of structures based on reinforced concrete, brickwork and timber:

- Increase of loading capacity
- Changes of building utilisation
- Repair of defects (damage to structural parts, design or construction defects)
- Seismic strengthening (column wrapping, masonry walls)
- Meeting of changed standards or specifications

Advantages

- Flexibility of surface geometry (Beams, columns, chimneys, piles, walls)
- Excellent cost performance

Approvals

- ICBO Evaluation Report ER 5558 (USA)
- SOCOTEC (France)

Technical Data

Fiber type High strength E-glass fibers

Fiber orientation 0° (unidirectional)

Construction Warp: Glass fibers (98% of total areal weight)
Weft: Thermoplastic heat-set fibers (2 % of total areal weight)

Areal weight 935 g/m² ± 47 g/m²

Fiber Density 2.56 g/cm³

Fabric design thickness 0.36 mm (based on total glass content)

Tensile strength of fibers 2'300 N/mm² (nominal)

Tensile E-modulus of fibers 76'000 N/mm² (nominal)



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Strain at break of fibers	2.8 % (nominal)
Fabric length/ roll	≥ 50 m
Fabric width	600 mm
Shelf life	2 years from date of production
Package	1 roll in card board box

The achievable laminate properties in the tensile test are depending on impregnating resin used and the type of laminate testing method. A loss of up to 30 % for the measured actual strength compared to the theoretical values is possible. Apply material reduction factors according to the standard used for design.

Application

SikaWrap-100G is going to be applied with the low-viscosity impregnating resin Sikadur-300.

As a primer/sealer on smooth surface Sikadur-300 epoxy is used. On rough surfaces either Sikadur-330 or Sikadur-300 mixed with max. 5 % thixotropic agent Sikadur-513 is preferred.

SikaWrap-100G is applied with the low-viscosity impregnating resin Sikadur-300 in the wet application process. Pre-impregnation of the fabric is done preferably with a saturator or as an alternative manual on a PE sheet:

- **Distribute 2/3 of the expected impregnating resin amount on a clean PE sheet and impregnate then the fabric with the resin: always roll at the fiber direction. Distribute the remaining 1/3 of the resin on the fabric and roll it in.**

Apply the wetted fabric within the open time of the primer/sealer.

For detailed resin properties and application details see also Product Data Sheet Sikadur-300.

Primer/Sealer Consumption

Depending on the roughness of the substrate.
 Smooth surface: -approx. 0.5 kg/m² (Sikadur-300)
 Rough surface: -approx. 0.5..1.0 kg/m² (Sikadur-330 or Sikadur-300 mixed with max. 5 % thixotropic agent Sikadur-513)

Resin Consumption

≥ 0.75 kg/m² (Sikadur-300)

Important information

- The fabric can be cut with special scissors or a very sharp knife, but may never be folded.
- In warp fiber direction, overlapping of the fabric must be at least 200 mm or as per the project specifications. Overlapping sections of additional layers should be distributed over the column circumference.

Safety Instructions

SikaWrap-100G

SikaWrap-100G is non-reactive. However, caution must be used when handling since a fine glass dust may be present on the surface. Gloves must therefore be worn to protect against skin irritation.

Caution must also be used when cutting SikaWrap-100G to protect against airborne glass dust generated by the cutting procedure. Use of an appropriate approved respirator is recommended.



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