

SikaWrap®-300C

Carbon Fiber Fabric for Structural Strengthening

Description

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



Uses

Strengthening of reinforced concrete structures, brickwork and timber in case of flexural and shear load due to:

- Increase of loading capacity
- Changes of building utilisation
- Repair of defects
- Prevention of defects caused by earthquakes
- Meeting of changed standards or specifications

Advantages

- Multifunctional use as bending or shear reinforcement
- Flexibility of surface geometry (Beams, columns, chimneys, piles, walls)
- Resistance against chemicals and environmental conditions (no corrosion)
- Fabric available in 2 widths for optimum utilisation
- Fiber orientation tailor-made

Technical Data

Fiber type High strength carbon fibers

Fiber orientation 0° (unidirectional)

Construction Warp: Carbon fibers (99 % of total areal weight)
Weft: Thermoplastic heat-set fibers (1 % of total areal weight)

Areal weight 300g/m² ± 5 %

Fiber Density 1.80 g/cm³

Fabric design thickness 0.17 mm (based on total carbon content)

Tensile strength of fibers 3'900 N/mm² (nominal)

Tensile E-modulus of fibers 230'000 N/mm² (nominal)



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Strain at break of fibers 1.5 % (nominal)

Fabric length/ roll ≥ 50 m

Fabric width 300 / 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-300C can be impregnated either with the dry or the wet application method.**

Dry Application:

Sikadur-330 is a high quality mid-viscosity resin that requires no prior use of a primer to the prepared substrate.

For detailed resin properties and application details see Product Data Sheet Sikadur-330.

Wet Application

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.

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.

Resin Consumption **For both application methods the resin consumption is depending on the roughness of the substrate.**

Dry Application:

- First layer: approx. 1.0..1.5 kg/m² (Sikadur-330)
- Following layers: approx. 0.8 kg/m² (Sikadur-330)

Wet Application Primer/Sealer Consumption:

- 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)

Wet Application Resin Consumption:

- approx. 0.7 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 fiber direction, overlapping of the fabric must be at least 100 mm or as per the project specifications. Overlapping sections of additional layers should be distributed over the column circumference.

Safety Instructions

SikaWrap-300C

Sika Wrap-300C is non-reactive. However, caution must be used when handling since a fine carbon dust may be present on the surface. Gloves must therefore be worn to protect against skin irritation.

Caution must also be used when cutting Sika Wrap-300C to protect against airborne carbon dust generated by the cutting procedure. Use of an appropriate approved respirator is recommended.



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