

PRODUCT DATA SHEET

SikaWrap® Hex-100 G

GLASS FIBER FABRIC FOR STRUCTURAL STRENGTHENING

DESCRIPTION

SikaWrap® Hex-100 G is a unidirectional E-glass fiber fabric. Material is field laminated using Sikadur Hex 300 epoxy to form a glass fiber reinforced polymer (GFRP) used to strengthen structural elements.

USES

SikaWrap® Hex-100 G may only be used by experienced professionals.

- Load increases
- Seismic strengthening of columns and masonry walls
- Damage to structural parts
- Temporary strengthening
- Change in structural system
- Design or construction defects

CHARACTERISTICS / ADVANTAGES

- Approved by ICC ESR-3288
- Used for shear, confinement or flexural strengthening
- Flexible, can be wrapped around complex shapes
- Light weight
- Non-corrosive
- Acid resistant
- Low aesthetic impact

PRODUCT INFORMATION

Fibre Type	0 ° (unidirectional)
Packaging	Rolls: 50 in. (1.3 m) x 30 ft. (9 m), 50 in. (1.3 m) x 150 ft. (46 m)
Shelf life	n/a
Storage conditions	Store dry at 40–95 °F (4–35 °C)
Dry Fibre Density	0.092 lb./in ³ (2.5 g/cm ³)
Dry Fibre Thickness	0.014 in. (0.36 mm)
Area Density	0.092 lb./in ³ (2.5 g/cm ³)
Mass per Unit Length	27 osy (917 gsm)
Dry Fibre Tensile Strength	330 ksi (2,276 MPa)
Dry Fibre Modulus of Elasticity in Tension	10.5 msi (72.4 GPa)
Dry Fibre Elongation at Break	4.00 %

TECHNICAL INFORMATION

Laminate Nominal Thickness	Average Ultimate Value	Design Value	(-)
	-	0.04 in. (1.0 mm)	73 °F (23 °C) 50 % R.H.
Laminate Tensile Strength	Average Ultimate Value	Design Value	(ASTM D-3039)
	88.6 ksi (611 MPa)	78.4 ksi (541 MPa)*	73 °F (23 °C) 50 % R.H.
* Average ultimate value minus 3 standard deviations			
Laminate Modulus of Elasticity in Tension	Average Ultimate Value	Design Value	(ASTM D-3039)
	-	3.97 msi (27.4 GPa)	73 °F (23 °C) 50 % R.H.
Tensile Stiffness	Average Ultimate Value	Design Value	(ASTM D-7565)
	-	159 kips/in./ply	73 °F (23 °C) 50 % R.H.

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

Surface must be clean and sound. It may be dry or damp, but free of standing water and frost. Remove dust, laitance, grease, curing compounds, impregnations, waxes, foreign particles, disintegrated materials and other bond inhibiting materials from the surface. Consult Sikadur® 300, Sikadur® 301, Sikadur® Hex 300 and Sikadur® 330 technical data sheets for additional information on surface preparation.

Existing uneven surfaces must be filled with an appropriate repair mortar. The adhesive strength of the concrete must be verified following surface preparation by random pull-off testing (ASTM D4541) at the discretion of the engineer. Minimum tensile strength, 200 psi (1.4 MPa) with concrete substrate failure.

Preparation Work: Concrete - Blast clean, shotblast or use other approved mechanical means to provide an open roughened texture. In certain applications and at the engineer's discretion, the intimate contact between the substrate and the fabric may be determined to be non-critical. In these cases, a thorough cleaning of the substrate using low pressure sand or water blasting is sufficient.

Mixing: Consult Sikadur® 300 or Sikadur® Hex 300 data sheets for information on epoxy resins.

APPLICATION METHOD / TOOLS

Consult Sikadur® 300 or Sikadur® Hex 300 data sheets for information on epoxy resins. Prior to placing the fabric, the concrete surface is sealed using Sikadur® Hex 300 epoxy. Material may be applied by spray, brush or roller. SikaWrap® Hex-100 G can be impregnated using Sikadur® Hex 300 epoxy. For best results on larger projects, the impregnation process should be accomplished using a mechanically driven fabric saturator or similar device. In special cases where the size of the project does not justify the use of a saturator, the fabric may be saturated by hand using a roller prior to placement. In either case, installation of this system should be performed only by a specially trained, approved contractor. For overhead and vertical applica-

tions, prime concrete with Sikadur® 30 or Sikadur® 330 to improve tack. Saturate fabric with Sikadur® Hex 300.

Cutting SikaWrap®

Fabric can be cut to appropriate length by using a commercial quality heavy duty scissor. Since dull or worn cutting implements can damage, weaken or fray the fiber their use should be avoided. Consult MSDS for proper handling procedures.

IMPORTANT CONSIDERATIONS

- Design calculations must be made and certified by an independent licensed professional engineer.
- System is a vapor barrier. Concrete should not be encapsulated in areas of freeze/thaw.

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.

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

This product is an article as defined in article 3 of regulation (EC) No 1907/2006 (REACH). It contains no substances which are intended to be released from the article under normal or reasonably foreseeable conditions of use. A safety data sheet following article 31 of the same regulation is not needed to bring the product to the market, to transport or to use it. For safe use follow the instructions given in this product data sheet. Based on our current knowledge, this product does not contain SVHC (substances of very high concern) as listed in Annex XIV of the REACH regulation or on the candidate list published by the European Chem-

icals Agency in concentrations above 0.1% (w/w).

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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