

PRODUCT DATA SHEET

SikaWrap® Hex-100 G

GLASS FIBER FABRIC FOR STRUCTURAL STRENGTHENING

PRODUCT 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

Fiber 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

Nominal Ply Thickness	Average Ultimate Value	Design Value	(-)
	-	0.04 in. (1.0 mm)	73 °F (23 °C) 50 % R.H.
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			
Tensile Modulus	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 applications, 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.

LIMITATIONS

- 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

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

LOCAL RESTRICTIONS

See Legal Disclaimer.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

LEGAL DISCLAIMER

KEEP CONTAINER TIGHTLY CLOSED •KEEP OUT OF REACH OF CHILDREN •NOT FOR INTERNAL CONSUMPTION •FOR INDUSTRIAL USE ONLY •FOR PROFESSIONAL USE ONLY

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