SikaWrap® 1200C
High Modulus Carbon Fiber Fabric for Structural Strengthening

Description
SikaWrap® 1200C is a high strength, unidirectional carbon fiber fabric. Material is field laminated using either Sikadur® 300/Hex 300 epoxy as an impregnating resin to form a carbon fiber reinforced polymer (CFRP) used to strengthen structural elements. For applications to vertical and/or overhead surfaces, either Sikadur® 30 or Sikadur® 330 US is applied on the prepared concrete surface prior to placing the saturated fabric.

Where to Use

Load Increases
- Increasing the live loads in warehouses
- Increasing traffic volumes on bridges
- Installation of heavy machinery in industrial buildings
- Vibrating structures
- Changes of building utilization

Seismic Strengthening
- Column wrapping
- Masonry walls

Damage to Structural Parts
- Aging of construction materials
- Vehicle impact
- Fire
- Blast Resistance

Change in Structural System
- Removal of walls or columns
- Removal of slab sections for openings

Design or Construction Defects
- Insufficient reinforcement
- Insufficient structural depths

Typical Data (Material and curing conditions @ 73°F and 50% R.H.)

RESULTS MAY DIFFER BASED UPON STATISTICAL VARIATIONS DEPENDING UPON MIXING METHODS AND EQUIPMENT, TEMPERATURE, APPLICATION METHODS, TEST METHODS, ACTUAL SITE CONDITIONS AND CURING CONDITIONS.

<table>
<thead>
<tr>
<th>Property</th>
<th>SI Units</th>
<th>Avg. Ultimate Value</th>
<th>ASTM Test Method</th>
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<tbody>
<tr>
<td>Shelf Life</td>
<td></td>
<td>10 years</td>
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<tr>
<td>Storage Conditions</td>
<td></td>
<td>Store dry at 40°-95°F (4°-35°C)</td>
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<tr>
<td>Color</td>
<td></td>
<td>Black</td>
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<tr>
<td>Primary Fiber Direction</td>
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<td>0° (unidirectional)</td>
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<tr>
<td>Area Weight</td>
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<td>36.50 oz/sq.yd (1238 g/m²)</td>
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<tr>
<td>Tensile Strength</td>
<td>psi MPa</td>
<td>580,000 psi (4.00 GPa)</td>
<td>D3039/D7565</td>
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<tr>
<td>Tensile Modulus</td>
<td></td>
<td>35.0 x 10^6 psi (240 GPa)</td>
<td>D3039/D7565</td>
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<tr>
<td>Elongation</td>
<td></td>
<td>1.7%</td>
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<tr>
<td>Density</td>
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<td>0.065 lb/in³ (1.80 g/cm³)</td>
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<tr>
<td>Normal Fiber Thickness</td>
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<td>0.064 in. (1.63 mm)</td>
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<tr>
<td>Cured Laminate Properties</td>
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<tr>
<td>Tensile % Elongation</td>
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<tr>
<td>Nominal Ply Thickness</td>
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<tr>
<td>Tensile Strength per in. width</td>
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<tr>
<td>Stiffness (E&quot;f/A) per in. width</td>
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* Average ultimate value minus 3 standard deviations.

Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's current product data sheet, product label and safety Data Sheet which are available online at http://usa.sika.com/ or by calling Sika’s Technical Service Department at 800.933.7452. Nothing contained in any Sika materials relieves the user of the obligation to read and follow the warnings and instructions for each Sika product as set forth in the current product data sheet, product label and safety data sheet prior to product use.
Advantages
- Used for shear, confinement or flexural strengthening
- Flexible, can be wrapped around complex shapes
- High Strength
- Light Weight
- Non-corrosive
- Alkali Resistant
- Low Aesthetic Impact

Packaging
50 in. x 135 ft. (127 cm x 41.2 m)

How to Use
Surface 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. Existing uneven surfaces must be filled with an appropriate repair mortar. The adhesive strength of the concrete must be verified after surface preparation by random pull-off testing (ACI 503R) at the discretion of the engineer. Minimum tensile strength, 200 psi (1.4 MPa) with concrete substrate failure.

Concrete - Blast clean, shotblast or use other approved mechanical means to provide a roughened, open-textured surface. 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 blasting or water blasting is sufficient.

Mixing
Consult the current product data sheet(s) for recommendations on the specified Sikadur epoxy adhesive(s) needed.

Application
Prior to placing the fabric, the concrete surface is primed and sealed using the appropriate Sikadur® epoxy adhesive (e.g. Sikadur® 30, Sikadur® 330 US or Sikadur® 300/Hex 300). Material may be applied by spray, brush or roller. SikaWrap® 1200C can be impregnated using Sikadur® Hex 300 epoxy. For best results on larger projects, the impregnation process should be accomplished using Sikadur® 300/Hex 300 and a mechanically driven 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 contractor. For overhead and vertical applications, prime concrete with Sikadur® 30 or Sikadur® 330 US to improve tack. Saturate fabric with Sikadur® 300/Hex 300. Coat the exposed surface of final fabric layer using Sikagard® 670W or Sikagard® 62.

Tooling & Finishing
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.

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.
- Sika cannot and will not determine the location, spacing, and orientation of the SikaWrap® system installation on actual projects.

Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the current Product Data Sheet, Product Label and Safety Data Sheet which are available online at http://usa.sika.com or by calling Sika’s Technical Service Department at 800.933.7452. Nothing contained in any Sika materials relieves the user of the obligation to read and follow the warnings and instructions on the current Product Data Sheet, Product Label and Safety Data Sheet prior to product use.

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within shelf life. User determines suitability of product for intended use and assumes all risks. Buyer’s sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor. NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS. SALE OF SIKA PRODUCTS ARE SUBJECT SIKA’S TERMS AND CONDITIONS OF SALE AVAILABLE AT HTTP://USA.SIKA.COM OR BY CALLING 1-800-933-8900.

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Regional Information and Sales Centers. For the location of your nearest Sika sales office, contact your regional center.

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For further information and advice regarding transportation, handling, storage and disposal of chemical products, users should refer to the actual Safety Data Sheets containing physical, ecological, toxicological and other safety related data. Read the current actual Safety Data Sheet, product label and Safety Data Sheet which are available online at http://usa.sika.com or by calling Sika’s Technical Service Department at 800.933.7452. Nothing contained in any Sika materials relieves the user of the obligation to read and follow the warnings and instructions on the current Product Data Sheet, product label and Safety Data Sheet prior to product use.