SAFSTRIP® Carbon is a unidirectional, carbon fiber reinforced polymer (CFRP) comprised of high tensile strength and high modulus carbon fibers encapsulated in a thermoset resin through the pultrusion process. SAFSTRIP® Carbon is designed to be used as an externally applied reinforcement for strengthening concrete, timber, and masonry structures. A peelply fabric is adhered to the plate that, when removed, leaves a prepared bonding surface for adhesion to a prepared substrate.

**Typical Applications:**
- Structural Strengthening
- Seismic Strengthening
- Damage to Structural Parts
- Change in Structural System
- Design or Construction Defects
- Load Increases
- Serviceability Improvements

SAFSTRIP® Carbon is exclusively made in the USA and offers:
- High Tensile Strength
- Light Weight
- Corrosion Resistant
- Easy to Fabricate
- Continuous Lengths
- Color Blends with Most Structural Materials
### PRODUCT SUMMARY

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing Method</td>
<td>Pultrusion</td>
</tr>
<tr>
<td>Structure</td>
<td>Unidirectional fibers (0°)</td>
</tr>
<tr>
<td>Fiber Type</td>
<td>Carbon Fiber</td>
</tr>
<tr>
<td>Resin Type</td>
<td>Epoxy</td>
</tr>
<tr>
<td>Plate Width</td>
<td>4&quot; (100mm)</td>
</tr>
<tr>
<td>Plate Thickness</td>
<td>0.055&quot; (1.4mm)</td>
</tr>
<tr>
<td>Design Area</td>
<td>0.220 in² (140mm²)</td>
</tr>
<tr>
<td>Fiber Volume</td>
<td>70%</td>
</tr>
<tr>
<td>Density</td>
<td>0.054 lb/in³ (1.5 g/cm³)</td>
</tr>
<tr>
<td>Color</td>
<td>Black, Peelply</td>
</tr>
<tr>
<td>Surface Finish</td>
<td>Plain, Peelply</td>
</tr>
</tbody>
</table>

### PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile strength, longitudinal</td>
<td>400 ksi (2,800 MPa)</td>
</tr>
<tr>
<td>Modulus of Elasticity</td>
<td>24,000 ksi (165 GPa)</td>
</tr>
<tr>
<td>Elongation at break</td>
<td>2.3%</td>
</tr>
</tbody>
</table>

### ADVANTAGES

- Corrosion Resistant
- Light Weight
- Flexible
- High Tensile Strength
- Low Aesthetic Impact
- Continuous Lengths
- Excellent Fatigue Resistance
- Ease of Installation
- Thin Profile

### GENERAL USE INFORMATION AND CAUTIONS

- Concrete deterioration and steel corrosion must be resolved prior to application.
- Each structural and life safety application requires the design and certification of a licensed Professional Engineer.
- Store out of direct sunlight in a dry place between 50°F - 90°F (10°C - 32°C).
- Store as originally shipped until ready to use. Keep laminates dry and free from dust and oil.
- Plate may be overlaid with a protective or decorative coating, if desired.
- Plate can be cut to length using a reciprocating saw or circular saw with a fine tooth or diamond-grit blade. Care should be taken to support both sides of the plate to minimize splintering.
- Eye protection and gloves should be worn to protect against carbon dust irritation and exposed fiber ends. Use of an appropriate NIOSH-approved respirator is recommended. Always follow appropriate safety precautions.
- SAFSTRIP® Carbon is normally furnished as a 300 ft (90m) coil, weighing approximately 45 lb (20 kg). Custom coils or individual flat lengths may be available upon request.

### COMMON USES

#### Structural Strengthening:
- Increases the live load capacity of floor systems
- Increases the flexural strength of girders

#### Seismic Strengthening:
- Masonry shear wall strengthening
- Rehabilitation of deficient structures

#### Damage to Structural Parts:
- Corrects strength deficiency due to deterioration and corrosion
- Restores flexural strength of structural elements damaged by fire

#### Change in Structural System:
- Load redistribution due to removal of walls or columns
- Reinforces slabs for new openings

#### Design or Construction Defects:
- Insufficient amount of flexural reinforcement
- Incorrect size and/or placement of reinforcement

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

#### Serviceability Improvements:
- Decrease in deformation
- Stress reduction in steel reinforcement
- Crack width reduction

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### MORE CARBON PROFILES

Strongwell already produces a number of other profiles featuring carbon fiber. Custom profiles can be produced as well.

ISO 9001 Quality Certified Manufacturing Plants

<table>
<thead>
<tr>
<th>Location</th>
<th>Address</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bristol Location</td>
<td>400 Commonwealth Ave. Bristol, VA 24201 USA (276) 645-8000</td>
<td></td>
</tr>
<tr>
<td>Highlands Location</td>
<td>26770 Newbanks Road Abingdon, VA 24210 USA (276) 645-8000</td>
<td></td>
</tr>
<tr>
<td>Chatfield Location*</td>
<td>1610 Highway 52 South Chatfield, MN 55923-9799 USA (507) 867-3479</td>
<td></td>
</tr>
</tbody>
</table>

*SAFSTRIP® Carbon manufacturing location

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