

SAFSTRIP® Carbon

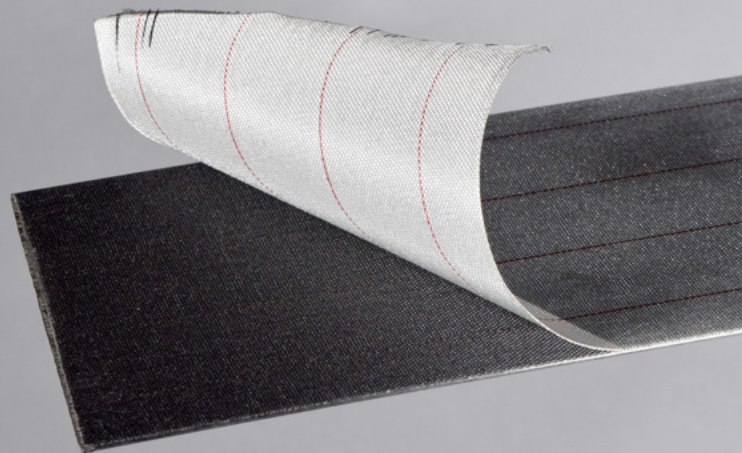
CFRP STRENGTHENING PLATE

- » High Tensile Strength
- » Light Weight
- » Corrosion Resistant
- » Easy to Fabricate
- » Continuous Lengths
- » Color Blends with Most Structural Materials

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



PRODUCT SUMMARY

Manufacturing Method	Pultrusion
Structure	Unidirectional fibers (0°)
Fiber Type	Carbon Fiber
Resin Type	Epoxy
Plate Width	4" (100mm)
Plate Thickness	0.055" (1.4mm)
Design Area	0.220 in ² (140mm ²)
Fiber Volume	70%
Density	0.054 lb/in ³ (1.5 g/cm ³)
Color	Black, Peelply
Surface Finish	Plain, Peelply

PROPERTIES

DESIGN VALUE PER ASTM D3039	
Tensile strength, longitudinal	400 ksi (2,800 MPa)
Modulus of Elasticity	24,000 ksi (165 GPa)
Elongation at break	2.3%

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

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

BRISTOL LOCATION
400 Commonwealth Ave.
Bristol, VA 24201 USA
(276) 645-8000

HIGHLANDS LOCATION
26770 Newbanks Road
Abingdon, VA 24210 USA
(276) 645-8000

CHATFIELD LOCATION*
1610 Highway 52 South
Chatfield, MN 55923-9799 USA
(507) 867-3479
*SAFSTRIP® Carbon manufacturing location

www.strongwell.com

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