BEST CONSTRUCTION CHEMICALS
Stick with Best

BESTCARBON FIBER

High Strength, Unidirectional Carbon Fiber

PRODUCT SCOPE:

Bestcarbon Fiber Unidirectional is a high strength, unidirectional carbon fiber fabric equipped with weft fibers that keep the fabric stable. The material is field laminated using RCF Saturant-Adhesive Epoxy to form a carbon fiber reinforced polymer (CFRP) used to strengthen structural concrete elements.

WHERE TO USE:

- Increase load capacity of structural elements (Beams, Slabs, Columns, Walls, Etc.)
- Restore structural integrity of damaged or deteriorated structural elements
- Repair for damaged or missing reinforcing steel/post tensioning
- Improved blast resistance of concrete, masonry, or stone in mining operations
- Additional Reinforcement to repair/withstand seismic events

ADVANTAGES

- Used for shear, confinement or flexural strengthening
- Non-corrosive
- Flexible, can be wrapped around complex geometries
- Alkali Resistant
- High Strength
- Low aesthetic impact
- Light Weight
- Economical

TYPICAL 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.

Storage Conditions	Store dry at 40° - 95°F (4° - 35°C)
Shelf Life	2 years from date of production
Color	Black
Primary Fiber Direction	Unidirectional
Areal Weight	600g/m2

FIBER PROPERTIES		
Property	English	Metric
Tensile Strength	710 ksi	4,900 MPa
Tensile Modulus	36.3 Msi	250 GPa
Elongation	1%	1%
Density	.065 lbs/in3	1.79 g/cm3
Nominal Thickness	.013 in	0.33 mm

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HOW TO USE:

SURFACE PREP

- Surface must be clean, sound, and dry. Remove a light layer of concrete from the surface to allow the epoxy to penetrate the substrate. (Refer to ICRI 310-2R for additional information.) Typical methods include shot blasting or grinding to achieve this open textured surface. Consult the epoxy adhesive data sheets for additional information on surface preparation.
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- Existing uneven surfaces must be filled with an appropriate repair mortar/hydraulic cement. The adhesive strength of the concrete must be verified after surface preparation by random pull-off testing (ASTM D-4541) at the discretion of the engineer. Minimum tensile strength, 200 psi (1.4 MPa) with concrete substrate failure.
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- Round all corners to 1/2" radius in certain "contact critical" applications and at the engineer's discretion, a thorough cleaning of the substrate using low pressure sand or water blasting may be sufficient.

APPLICATION:

Apply a prime coat of epoxy to the substrate, work the carbon fiber into the epoxy, then add final layer of epoxy to ensure the material is properly saturated. The fabric may also be pre saturated using accepted industry techniques. In either case, installation of this system should be performed only by a trained contractor. In fiber direction, overlapping of the fabric must be at least 6 in or as per the project specifications. Overlapping sections of additional layers should be distributed in location free of other laps.

TOOLING & FINISHING:

Fabric can be cut to appropriate lengths by using sharp heavy duty shears. Dull or worn cutting implements can damage, weaken or fray the fabric and 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 fully encapsulated in areas of freeze/thaw.

Disclaimer:

The information in this data sheet is given to the best of our knowledge based on laboratory testing and practical experience. However, as the product is often used under conditions beyond our control, we cannot guarantee anything but the quality of the product itself. We reserve the right to change the given data without notice.