

TECHNICAL DATA SHEET

Rhino Carbon Fiber 560 GSM Bidirectional | Revision Date 6/30/2022

8383 Riley Street,
Zeeland, MI USA 49464
P: +1 888 684 3889
E: info@rhinocarbonfiber.com

01

01: PRODUCT IDENTIFICATION

RHINO PRODUCTS USA, INC.
8383 Riley Street,
Zeeland, MI USA 49464

Product Name: Rhino Carbon Fiber 560 GSM Bidirectional

Product Code:	(Type-Width-Weight)	Weave Weight
BD-5.5-560		1.03 lb/SY (560 g/m ²)
BD-12-560		1.03 lb/SY (560 g/m ²)
BD-24-560		1.03 lb/SY (560 g/m ²)

02: DESCRIPTION

Rhino Carbon Fiber 560 GSM Bidirectional is a high-strength, bidirectional carbon fiber fabric. Material is field laminated using RCF Saturant-Adhesive Epoxy to form a carbon fiber reinforced polymer (CFRP) system used to strengthen structural concrete elements.

03: WHERE TO USE

Load Increases	<ul style="list-style-type: none"> •Increased loading capacity •Installation of heavy machinery in industrial buildings •Vibrating structures •Changes of building utilization •Meeting of changed standards or specifications
Seismic Strengthening	<ul style="list-style-type: none"> •Column wrapping •Masonry walls
Damage to Structural Parts	<ul style="list-style-type: none"> •Aging of construction material •Vehicle impact •Fire and blast resistance •Prevention of defects caused by earthquakes
Change in Structural System	<ul style="list-style-type: none"> •Removal of walls or columns •Removal of slab sections for openings
Design or Construction Defects	<ul style="list-style-type: none"> •Insufficient reinforcements •Insufficient structural depth

04: ADVANTAGES

- Used for shear, confinement or structural strengthening
- Flexible, can be wrapped around complex geometries
- High-Strength
- Lightweight
- Non-corrosive
- Alkali Resistant
- Low aesthetic impact
- Fiber orientation tailor-made

05: 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	Unlimited, if stored properly in original, unopened, undamaged packaging
Color	Black (red string)
Primary Fiber Direction	0° (Bidirectional) - Carbon
Areal Density / Weight:	560 g/m ² (16.52 oz/yd ²)

DRY FIBER PROPERTIES		
	Imperial	Metric
Thickness	-0.02205 in	-0.56 mm
Tensile Strength	≥493 ksi	≥ 3400 MPa
Tensile Modulus	≥ 33359 ksi	≥ 230 GPa
Elongation at Break %	1.6%	1.6%

¹Load and Chord Stiffness per Unit are computed based on CFRP laminate specimen width

²20 sample coupons per test series

³Average value of test series

⁴Average value minus 3 standard deviations per ACI440

TECHNICAL INFORMATION & COMPOSITE PROPERTIES					
	Tested/Experimental Average Value ¹		Design Value ²		Testing Method
	Imperial	Metric	Imperial	Metric	
Thickness	0.019 in.	0.48 mm	0.019 in.	0.48 mm	ASTM D3039
Tensile Strength	111 ksi	768 MPa	94 ksi	647 MPa	ASTM D3039
Tensile Modulus	6890 ksi	47.5 GPa	5750 ksi	39.7 GPa	ASTM D3039
Elongation at Break %	1.60%	1.60%	1.25%	1.25%	ASTM D3039
Tensile Strength per Unit Width	2259 lbs/in.	0.396 kN/mm	1945 lbs/in.	0.341 kN/mm	ASTM D3039



1-888-684-3889 | www.RhinoCarbonFiber.com

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06: HOW TO USE – SURFACE PREP

Refer to Rhino Carbon Fiber Application Instructions.

07: APPLICATION

Refer to Rhino Carbon Fiber Application Instructions.

08: TOOLING & FINISHING

Fabric can be cut to appropriate lengths by using scissors. Since the dull or worn cutting implements can damage, weaken or fray the fabric, their use should be avoided.

09: 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.



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