

PRODUCT DESCRIPTION:

Basalt fiber is a mineral fiber made from a one-stage process and from a single material, basalt rock. Basalt is the generic term for solidified volcanic lava.

The manufacture of basalt fiber requires heating clean crushed basalt to around 1500°C (2730°F). The molten rock is then extruded through small nozzles to produce continuous filaments of fiber.

Basalt Rebar is made of a unidirectional composite of basalt fibers along with resin by processes of pultrusion, winding, coating, and composite molding. Basalt rebar offers significant advantages over steel rebar in a variety of applications.

Basalt reinforcement is similar to carbon fiber and fiberglass technologies, having better properties than that of fiberglass, but being significantly cheaper than carbon fiber.

Here are some key benefits and superiority of basalt rebar over traditional reinforcements:

- Improved tensile strength
- Thermal expansion – Same coefficient of concrete
- Natural Product / Environmentally Friendly
- 89 % Lighter than steel: 1 ton = 9.6 tons of steel rebar
- Corrosion Proof / Weatherproof
- Chemical resistant
- Alkali resistant
- Does not conduct electricity or induce electric fields
- Advanced heat and sound insulating properties
- Non-combustible
- Smaller diameter basalt is equivalent to thicker steel rebar.
 - Basalt rebar is perfect for Marine environments and Chemical plants where corrosion is a continuous concern.
- Will not rust or corrode – Steel reinforcement corrosion usually occupy a much larger volume than what used to be the un-corroded steel and result in bursting stresses that cause cracking & spalling of concrete.



Packaging: 50 ft. Bundle = (10) 5 ft. long rods

Available Sizes:	
Product SKU:	Diameter:
FIB-BAROD-50-4mm	4 mm (0.157 in)
FIB-BAROD-50-6mm	6 mm (0.236 in)
FIB-BAROD-50-8mm	8 mm (0.315 in)

Finished Rebar Properties:			
	4 mm FIB-BAROD-50-4mm	6 mm FIB-BAROD-50-6mm	8 mm FIB-BAROD-50-8mm
Total Weight / Length	26 g / m	57 g / m	104 g / m
	0.917 oz / ft	2.011 oz / ft	3.668 oz / ft
Cross-Sectional Area	12.56 mm ²	28.26 mm ²	50.24 mm ²
	0.019 in ²	0.044 in ²	0.078 in ²
Tensile Strength	1350 MPa	1250 MPa	1200 MPa
	195,800 psi	181,297 psi	174,045 psi
Ultimate Tension	16.96 kN	35.33 kN	60.29 kN
	3,812.76 lbf	7,942.5 lbf	13,553.73 lbf
Limiting Strain	2.30 %	2.27 %	2.18 %
Elastic Modulus	55 GPa	55 GPa	55 GPa
	7,977.08 ksi	7,977.08 ksi	7,977.08 ksi
Shear Strength	190 - 220 MPa	190 - 220 MPa	190 - 220 MPa
	28 - 32 ksi	28 - 32 ksi	28 - 32 ksi

Basalt Fiber Filament - Thermal Properties	
Max Application Temp	982°C (1800°F)
Sustained Operating Temp	820°C (1508°F)
Min Operating Temp	-260°C (-436°F)
Thermal Conductivity	0.031 – 0.038 W/m K
Melting Temp	1450°C (2642°F) ±150°C
Vitrification Conductivity	1050°C (1922°F)
Glow Loss	1.91 %
Thermal Expansion Coefficient	8.0° ppm/ °C

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