Product Data Sheet

FIBERGLASS REBAR

Pirate Rebar products provide a durable, corrosion-resistant alternative to traditional steel rebar, offering excellent strength and longevity even in harsh environments. Made entirely in the USA, our FRP rebar is competitively priced with steel, lightweight, and easy to handle—ideal for projects demanding high performance.

APPLICATIONS

RAILWAY CONSTRUCTION

- Components for railway sleepers used in high-speed trains and underground railways.

RESIDENTIAL CONSTRUCTION ENGINEERING

- Building foundations
- Repair and reinforcement of load-bearing capacity in masonry and reinforced concrete structures.

HIGHWAY CONSTRUCTION

- Strengthening of roadbeds
- Pavements, airfields, and gray Portland cement slabs.

INDUSTRIAL ENGINEERING

- Reinforcement of concrete tanks, treatment facility storage, and sewage well covers.
- Components for chemical manufacturing facilities.
- Strengthening of concrete flooring.
- Water resource development facilities.

BRIDGE CONSTRUCTION AND REHABILITATION

- Building foundations.
- Repair and reinforcement of load-bearing capacity. in masonry and reinforced concrete structures.

FEATURES AND BENEFITS

CORROSION RESISTANCE
FRP rebar doesn't rust, ideal for coastal, marine, and chemical environments.

HIGH STRENGTH-TO-WEIGHT RATIO
Stronger yet lighter than steel, cutting transport and handling costs.

LONG TERM DURABILITY
Extended service life with reduced maintenance and lower long-term costs.

NON-CONDUCTIVE & NON-MAGNETIC
Perfect for applications needing electromagnetic neutrality, like MRI or electrical facilities.

LOWER LIFE CYCLE COSTS
Higher upfront cost, but long-term savings on maintenance and repairs.

CHEMICAL RESISTANCE
Resistant to chemicals and salts, ideal for aggressive environments.

EASE OF INSTALLATION
Lightweight and easy to cut, speeding up installation and reducing labor costs.

Made in USA

For more INFO

Bonifay, Florida, USA www.piraterebar.com info@piraterebar.com

Product Data Sheet

Physical / Mechanical Properties

	Units	#3	#4	#5	#6	#7	#8
Tensile Strength	kN	80	130	200	280	380	490
	MPa	1123	1008	1010	982	980	967
Weight	g/m	89	179	279	410	547	714
	lb/ft	0.06	0.12	0.19	0.28	0.37	0.48
Diameter (without ribs)	mm	10	13	16	20	22	25
	in	3/8	1/2	5/8	3/4	7/8	1
Nominal Cross Sectional Area	mm^2	71	129	198	285	388	507
	in^2	0.110	0.200	0.307	0.442	0.601	0.785
Transverse Shear Capacity	psi	>30,000					
	MPa	207					

Characteristic	Test Method
Tensile Testing	ASTM D7205-21
Transverse Shear	ASTM D7617-11(2017)
Linear Thermal Expansion	ASTM E831-24
Bond Strength	ASTM D7913-14(2020)
Ignition Loss	ASTM D2584-18

Property	Specification
Material	VE & Epoxy Systems
Void Content	No continuous voids
Modulus of Elasticity	6.65 MSI
Glass Fiber Content	> 80% by weight
Cross-Sectional Area Tolerance	– 0% / + 20%
Ultimate Elongation	2.28%
Transverse Shear Strength	> 30,000 psi (207 MPa)
Bond Strength to Concrete (D7913-14)	No continuous voids

Disclaimer: Physical and mechanical properties, including tensile strength, modulus, and strain data, are subject to change without notice.

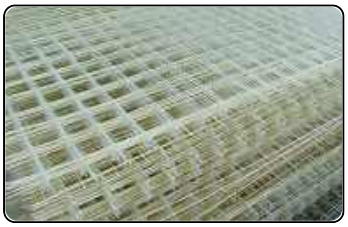
FRP vs. Steel Weight Comparison

Professional Engineers Certification

- **PirateBar® sizes #3 and #4 may replace steel rebar sizes #4 and #5, respectively, in typical residential and commercial foundation elements.**
- **Structural Compliance currently in Alabama, Arkansas, Colorado, Florida, Georgia, Kentucky, Louisiana, North Carolina, South Carolina, Tennessee, Texas - others pending**

PACKAGING AND STORAGE

Packaging	Polythene film, open air, available on pallets with or without carton boxes.
Storage	Store in a cool, dry place (15°C to 35°C, 35%-65% humidity). Allow 24 hours to acclimatize if stored at lower temperatures.



Mesh is a bendable, memory-free product currently available, **weighing only 40 lbs.**

Bend elements are coming in Q4 2025.

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