

Steel Rebar vs GFRP Bar

When confronting challenging, corrosive environments, traditional steel rebar often falls short, Glass Fiber Reinforced Polymer (GFRP) emerges as an innovative solutions that outperforms conventional steel . Here's how it stacks up against conventional options.

	GFRP Rebar	Steel Rebar
Cost	Higher initial cost	Lower initial cost
Corrosion Resistance	Resists a broad range of chemicals and is unaffected by water.	Subjected to oxidation and corrosion and might need some form of protection, escalating cost
Electrical Conductivity	No Electrical conductivity	Conducts electricity.
EMI/FRI Transparency	Transparent to Radio wave	Can interfere with signal transmission
Fabrication/Bending Schedule	Can be cut on site. cannot be bent on site.(Specialise bending)	Can be cut and bent on site.



Technical Document



Modulus of Elasticity > 50Gpa - 150Gpa

Shear Strength (MPa) > 250 (MPa)

Nominal Diameter	Nominal area (mm ²)	Ultimate Tensile Load (kN)
6mm	30	35
8mm	50	55
10mm	70	75
12mm	125	123
16mm	200	255
20mm	290	260
22mm	390	335
25mm	505	430
30mm	795	630

Shear Strength (MPa) \geq 250 (MPa)

Nominal Diameter:	Guaranteed Tensile Strength (MPa)	Weight (g/m)
	Minimum	Estimated
6mm	1500	66
8mm	1500	105
10mm	1500	150
12mm	1500	266
16mm	1500	417
20mm	1000	605
22mm	1000	813
25mm	1000	1348
30mm	1000	1665



Steel Rebar vs GFRP Bar

Structure	Steel bar	EnviraBar
Density (g/cm ³)	450 to 500	1500 (Starting)
Modulus of Elasticity (GPa)	>200	>50 – 150
Thermal conductivity (W/mK)	46	0
Adhesion Strength	10 – 14	15 +
Corrosion Resistant	No	Yes
Magnetism	Positive	Negative
Electrical conductivity	High	None
Bending Schedules	Possible	Specialised bending (Specific to client requirements)
Welding	Yes	No

Design Specific and Manufacture to order



EnviraMesh Products

GF Ref .100	grade 1	150x150 Grid	Specialised	4mm Green + Black Thread
GF Ref .100	grade 2	200x200 Grid	Standard	4mm
GF Ref .193	grade 1	150x150 Grid	Specialised	5mm Red + Blue Thread
GF Ref .193	grade 2	200x200 Grid	Standard	5mm
GF Ref . 245	grade 1	150x150 Grid	Specialised	7mm Yellow + Blue Thread
GF Ref . 245	grade 2	200x200 Grid	Standard	7mm
GF Ref .395	grade 1	150x150 Grid	Specialised	8mm Black + White Thread
GF Ref .395	grade 2	200x200 Grid	Standard	8mm

Custom Mesh Designed & Manufactured on Order
Design Specific and Manufacture to order

