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Glass Fiber Reinforced Polymer Rebar





Fiberglass rebar is made by the combination process of pultrusion and winding&coating. The raw materials of GFRP rebar is high strength glass fiberglass and vinyl ester or epoxy resin. Glass fibers increase the rod strength and vinyl ester or epoxy resin has excellent corrosion resistance properties in harsh chemical and alkaline environments.

GFRP Rebar Features:

Non-Corrosive -will not corrode exposed to a wide variety of corrosive elements including chloride ions.

High Strength-to-Weight Ratio - provides good reinforcement in weight sensitive applications.

Non-Conductive - provides excellent electrical and thermal insulation.

Excellent Fatigue Resistance - performs very well in cyclic loading situations.

Good Impact Resistance - resists sudden and severe point loading.

Magnetic Transparency - not affected by electromagnetic fields;

excellent for use in MRI and other types of electronic testing facilities.

Light Weight - easy to be transported, no need of lifting equipment, saving high machine and manual cost.

Surface strengthening of road, bridge, road, marine etc, station, water project, under-earth project etc;

Corrosive environment like sewage project, chemical plant, manhole and coast defense project;

Electro and magnetic environment like military

engineering, confidential project; FRP Rock bolt

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Туре	MG-16	MC-18	MG-20	MG-22	MG-24				
Properties	MG-10	MO-10	MO-20	MO-22	MU 24				
Diametre(mm)	16	18	20	22	24				
Tensile strength(Mpa)	500	500	550	550	<mark>600</mark>				
Shear strength (Mpa)	110	110	110	115	120				
weight (g/m)	300	450	600	<mark>680</mark>	920				
Rod Torque (N.m)	45	50	55	60	65				
anti-tensile ability of nut (kN)	80	80	80	80	90				
Load ability of plate (kN)	80	80	80	80	90				
Static ESD (Ω)	≤10 ⁷								
Flame retardant property (S)	According to standard requirement ASTM-184								





Specification

Item	Diameter (mm)	Cross Sectional Area (mm2)	Guaranteed Tensile Strength (Mpa)	Average Tensile strength (Mpa)	Average Tensile Load (KN)	ensile Modulus of Elasticity (Gpa)
UFRG01	6	28.26	900	1050	29.67	45
UFRG02	8	50.24	850	1050	52.75	45
UFRG03	10	78.5	850	1000	78.5	45
UFRG04	12	113.04	800	1000	113.04	45
UFRG05	14	153.86	800	950	146.17	45
UFRG06	16	200.96	750	900	180.86	45
UFRG07	18	254.34	720	850	216.19	45
UFRG08	20	314	690	850	266.9	45
UFRG09	22	379.94	680	800	303.95	45
UFRG10	25	490.63	650	780	382.69	45
UFRG11	28	615.44	630	770	473.89	45
UFRG12	30	706.5	620	760	536.94	45
UFRG13	32	803.84	620	750	602.88	45
UFRG14	36	1017.36	600	750	763.02	45
UFRG15	40	1256	600	750	942	45

Note:

 * Tensile and Modulus Properties are measured per ASTM D7205 - 06 <Standard Test Method for

Tensile Properties of Fiber Reinforced Polymer Matrix Composite Bars> . The tensile modulus is measured at approximately 10% to 50% of the ultimate load.

** The area used in calculating the tensile strength is the nominal cross sectional area. *** The "Guaranteed Tensile Strength", is as defined by ACI 440.1R as the average tensile strength of a given production lot, minus three times of the standard deviation. **** The "Tensile Modulus of Elasticity" is as defined by ACI 440.1R as the average modulus of a production lot.