Dextra

ASTEC Plus Permanent GFRP Rebar - as per ASTM D8505

Technical Data Sheet

ASTEC Plus Permanent GFRP Rebar

Dia	Nominal Dia. (mm)	Nominal CSA (mm^2)	Linear Weight (kg/m)	Grade: 60P (MoE**: 60 GPa)				
				Material		Mechanical Properties		
				Fiber	Resin	Ultimate Tensile Load (kN)	Ultimate Tensile Strength (MPa)	Ultimate Tensile Strain (%)
6	6.4	32	0.08	H	VE	42	1,300	2.16
8	7.6	45	0.13	H	VE	59	1,300	2.16
10*	9.5	71	0.17	H	VE	93	1,300	2.16
13*	12.7	129	0.29	H	VE	168	1,300	2.16
16*	15.9	199	0.46	H	VE	259	1,300	2.16
19*	19.1	284	0.66	H	VE	341	1,200	2.00
22*	22.2	387	0.89	H	VE	465	1,200	2.00
25*	25.4	510	1.20	H	VE	612	1,200	2.00
29	28.7	645	1.49	H	VE	710	1,100	1.83
32	32.3	819	1.87	H	VE	901	1,100	1.83
41***	41.3	1,338	3.10	H	VE	1,338	1,000	1.67

* *Avaiable bend bar diameters and shapes for general request, special shape & diamater upon customer's request*

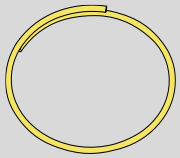
** *MoE is the abbreviation for Modulus of Elastic*

*** *Difficult to obtain effective tensile failure*

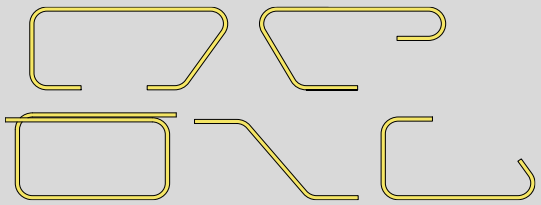
BEND BAR TYPE 1, MAX = 2.3m x 0.4m*

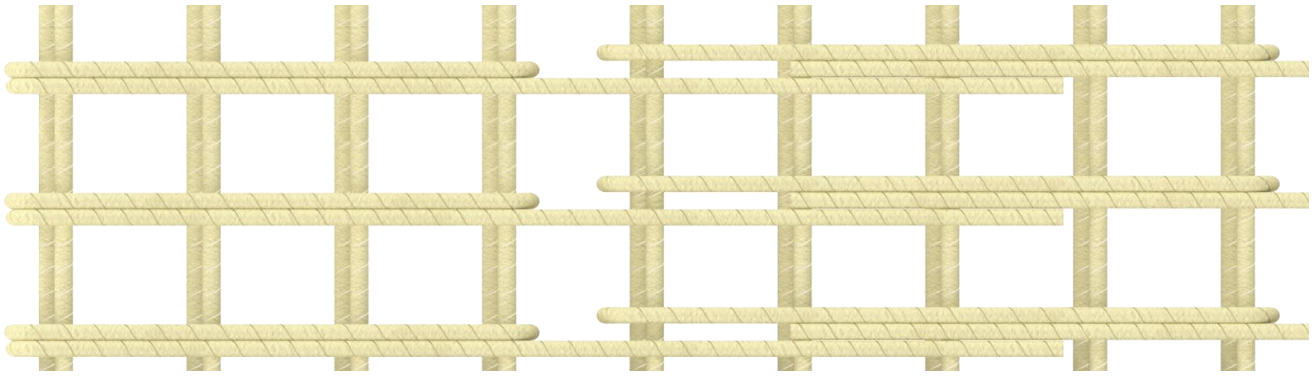


BEND BAR TYPE 2, MAX = Dia. 1.5m*



BEND BAR TYPE S, MAX = 4.5m x 1.5m*





Version: 01
Date: Mar. 25

Property Limits and Test Methods

Item #	Property	Dextra Spec.	Test Method	ASTM D8505 Limit
1	Fiber Content	≥75%	ASTM D2584	≥70%
2	Glass Transition Temperature - Tg	≥100℃	ASTM E1356	≥100℃
3	Degree of Cure	≥95%	ASTM E2160	≥95%
4	Measured CSA	Compliant with ASTM D8505 Table 3	ASTM D7205	ASTM D8505 Table 3
5	Ultimate Tensile Load	Refer to TDS	ASTM D7205	ASTM D8505 Table 3
	Ultimate Tensile Strength			754 - 1032MPa
	Ultimate Strain			≥1.1%
6	Tensile Modulus of Elasticity	≥60GPa	ASTM D7205	≥60GPa
7	Transverse Shear Strength	≥152MPa	ASTM D7617	≥152MPa
8	Apparent Horizontal Shear Strength	≥40MPa	ASTM D4475	≥37.9MPa
9	Water Absorption @ 24h	≤0.25%	ASTM D570	≤0.25%
10	Water Absorption to Saturation	≤1.00%	ASTM D570	≤1.00%
11	Bond Strength	≥9.6MPa	ASTM D7913	≥9.6MPa for Dia.≤22mm. ≥7.6MPa for Dia.≥25mm.
12	Bending Strength	Compliant with ASTM D7957 Table 1	ASTM D7914	≥60% of the value in ASTM D7957 Table 3
13	Creep rupture strength	49.3%	ASTM D7337	≥35% @ 1 million hours
14	Alkali Resistance without Load (90 days) - Tensile Retention	≥80%	ASTM D7705 Procedure A	≥80%
	Alkali Resistance with 3000 microstrain loading (90 days) - Tensile Retention	≥75%	ASTM D7705 Procedure B	≥75%

