

**V-Rod LM straight bars only, does not apply to bent bars**

		#3 GFRP	#4 GFRP	#5 GFRP	#6 GFRP	#8 GFRP
		V•ROD	V•ROD	V•ROD	V•ROD	V•ROD
Minimum guaranteed tensile strength *	MPa	880	1000	940	940	960
	ksi	128	145	136	136	139
Nominal tensile modulus	GPa	42,5 ±2,5				
	ksi	6159 ±363				
Tensile strain	%	2,07	2,35	2,21	2,21	2,26
Poisson's ratio	(-)	0,23	0,25	0,25	0,26	0,25

Nominal Flexural strength	MPa	899	825	800	733	654
	ksi	130	120	116	106	95
Nominal Flexural modulus	GPa	37,0	38,9	34,6	38,1	36,6
	ksi	5362	5638	5014	5522	5304
Flexural strain	%	2,43	2,12	2,31	1,92	1,79

Nominal Bond strength	MPa	12,5				
	psi	1812				
Bond dependent coefficient	(-)	0,8				

Longitudinal coefficient of thermal expansion	xE-6/°C	6,1				
	xE-6/°F	3,3				
Transverse coefficient of thermal expansion	xE-6/°C	24,1				
	xE-6/°F	13,4				
Moisture absorption	%	0,38	0,36	0,36	0,44	0,30
Glass content	% vol	65				
	% mass.	83				
Weight	g/m	135	232	380	606	925
	lb/ft	0,091	0,156	0,255	0,407	0,622
Effective cross-sectional area (including sand coating) **	mm <sup>2</sup>	81,0	125,0	197,0	259,0	460,0
	inch <sup>2</sup>	0,1256	0,1938	0,3054	0,4015	0,7130
Nominal cross-sectional area	mm <sup>2</sup>	71,3	126,7	197,9	285,0	506,7
	inch <sup>2</sup>	0,1104	0,1963	0,3068	0,4418	0,7854

\* the minimum guaranteed tensile strength must not be used to calculate the strength of the bent portion of a bent bar. Instead use the minimum guaranteed tensile strength found in the technical data sheet of bent V-Rod bars.

\*\* Please contact the manufacturer for dowelling applications.

Development and splice lengths are available upon request but should be properly calculated by a design engineer.

*Please refer to the bent bar data sheet for designs using bent V-Rod bars.*

*It is the responsibility of the design engineers to contact the bar manufacturer to get the latest updates of this technical data sheet (also available at [www.pultrall.com](http://www.pultrall.com)).*