



V-ROD STANDARD

Revision: July 2013

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

		#2 GFRP	#3 GFRP	#4 GFRP	#5 GFRP	#6 GFRP	#7 GFRP	#8 GFRP
		V•ROD	V•ROD	V•ROD	V•ROD	V•ROD	V•ROD	V•ROD
Minimum guaranteed tensile strength *	MPa	990	1100	1140	1130	1110	1100	800
	ksi	143	159	165	164	161	159	116
Nominal tensile modulus	GPa	52,5 ±2,5						
	ksi	7609 ±363						
Tensile strain	%	1,89	2,10	2,17	2,15	2,11	2,10	1,52
Poisson's ratio	(-)	0,25	0,21	0,26	0,25	0,25	0,25	0,28

Nominal Flexural strength	MPa	1200	1161	1005	930	882	811	776
	ksi	174	168	146	135	128	117	112
Nominal Flexural modulus	GPa	48,8	46,1	46,8	46,8	45,1	44,6	45,1
	ksi	7071	6685	6787	6786	6533	6466	6539
Flexural strain	%	2,46	2,52	2,15	1,99	1,96	1,82	1,72

Nominal Bond strength	MPa	14						
	psi	2029						
Bond dependent coefficient	(-)	0,8						

Longitudinal coefficient of thermal expansion	xE-6/°C	6,2						
	xE-6/°F	3,5						
Transverse coefficient of thermal expansion	xE-6/°C	23,8						
	xE-6/°F	13,2						
Moisture absorption	%	0,65	0,47	0,38	0,25	0,21	0,36	0,17
Glass content	% vol	65						
	% weight	83						
Weight	g/m	95	181	298	488	659	887	1132
	lb/ft	0,064	0,122	0,200	0,328	0,443	0,596	0,761
Effective cross-sectional area (including sand coating) **	mm ²	47,0	95,0	149,0	234,0	302,0	396,0	546,0
	inch ²	0,0729	0,1473	0,2310	0,3627	0,4681	0,6138	0,8463
Nominal cross-sectional area	mm ²	31,7	71,3	126,7	197,9	285,0	387,9	506,7
	inch ²	0,0491	0,1104	0,1963	0,3068	0,4418	0,6013	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).