



150 Dodd Street
Marietta, GA. 30060

Telephone: 770-973-6251
Email: info@mgs4u.com

Web Site: www.mgs4u.com
CAGE CODE : 7JZZ8

Fiberglass All Thread Rod / Threaded Rod / Square Nuts / and Flange Hex Nuts Typical Properties

Fiberglass All Thread Rods are a fiberglass reinforced Vinylester and FRP fastener system with superior physical and mechanical properties. The system typically outperforms traditional steel studs and nuts where severe corrosion is present.

The Following is a list of Properties of the basic resin systems used to Pultrude our various diameters of All Thread Rod Stock and accessories.

VNL (Vinylester Resin) – 155°C			Value – (Diameter – Threads Per Inch)				
PROPERTIES	ASTM	UNITS English <i>Metric</i>	3/8-16 (UNC) <i>9.5mm</i>	1/2-13 (UNC) <i>12.7mm</i>	5/8-11 (UNC) <i>15.9mm</i>	3/4-10 (UNC) <i>19.0mm</i>	1-8 (UNC) <i>25.4mm</i>
Ultimate Double Shear Strength (Transverse)	B-565	lb. <i>Newton</i>	4,142 <i>18,425</i>	7,071 <i>31,454</i>	7,186 <i>31,965</i>	11,446 <i>50,915</i>	22,987 <i>102,252</i>
Longitudinal Compressive Strength	D-695	psi <i>Mpa</i>	50,000 <i>344</i>	50,000 <i>344</i>	50,000 <i>344</i>	50,000 <i>344</i>	50,000 <i>344</i>
Flexural Strength	D-790	psi <i>Mpa</i>	64,405 <i>445</i>	68,703 <i>474</i>	65,170 <i>450</i>	58,119 <i>401</i>	54,421 <i>376</i>
Flexural Modules	D-790	psi x 10 ⁶ <i>Gpa</i>	2.4 <i>17.2</i>	2.8 <i>19.3</i>	2.7 <i>18.6</i>	2.8 <i>19.3</i>	2.6 <i>17.9</i>
Rod Weight		Lb./ft. <i>Kg./m</i>	0.075 <i>0.111</i>	0.1375 <i>0.205</i>	0.225 <i>0.335</i>	0.35 <i>0.52</i>	0.55 <i>0.819</i>
Longitudinal Coefficient of Thermal Expansion	D-696	10 ⁶ in./in/°F <i>10⁶ mm/mm/°C</i>	5 <i>10</i>	5 <i>10</i>	5 <i>10</i>	5 <i>10</i>	5 <i>10</i>
Flammability	D635	Self Extinguishing	(S.E.)	(S.E.)	(S.E.)	(S.E.)	(S.E.)
24-HR Water Absorption	D-570	% max., by wt	0.8	0.8	0.8	0.8	0.8
Arc Resistance		seconds	35	35	35	35	35
Dielectric Strength		volts/mil	420	420	420	420	420
Ultimate Thread Shear using MGS fiberglass square nut		lb. <i>Newton</i>	811 <i>3,608</i>	1,880 <i>8,363</i>	2,198 <i>9,778</i>	2,692 <i>11,975</i>	6,616 <i>29,430</i>
Square Nut Weight		lb. <i>gram</i>	0.011 <i>5</i>	0.022 <i>10</i>	0.039 <i>17.6</i>	0.059 <i>26.8</i>	0.137 <i>62.1</i>
Ultimate Thread Shear using MGS fiberglass flanged hex nut		lb. <i>Newton</i>	1,200 <i>5,338</i>	2,400 <i>10,676</i>	3,600 <i>16,014</i>	4,000 <i>17,793</i>	8,200 <i>36,476</i>
Flanged Hex Weight		lb. <i>gram</i>	0.008 <i>3.6</i>	0.016 <i>7.3</i>	0.036 <i>16.4</i>	0.062 <i>28.1</i>	0.131 <i>59.4</i>
Ultimate Torque Strength Fiberglass nut lubricated with SAE 10W30 motor oil		ft.-lb. <i>NewtonMeter</i>	8 <i>10</i>	16 <i>21</i>	35 <i>47</i>	50 <i>67</i>	110 <i>149</i>

Results obtained with this data cannot be guaranteed and final determination of the suitability of any material for use contemplated or the manner of use is the sole responsibility of the user.