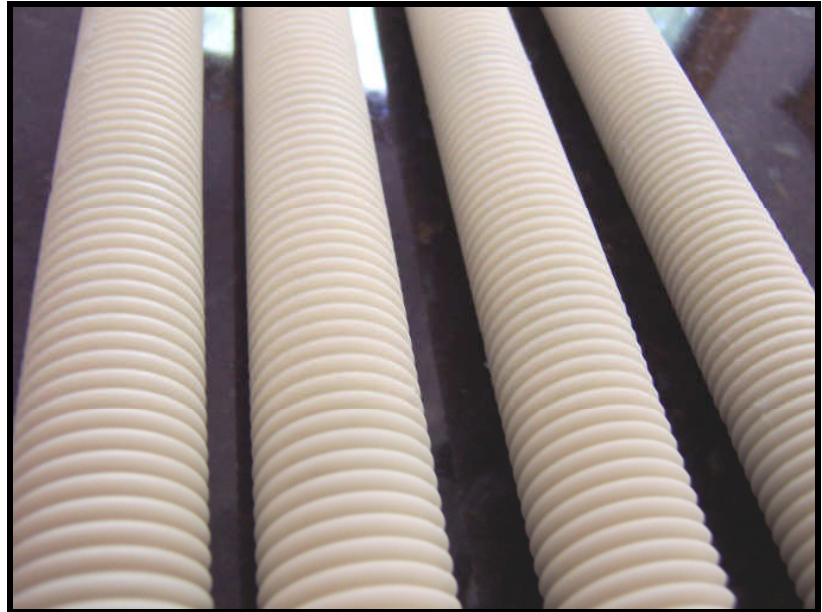


Fulcrum* Thermoplastic Composite Threaded Rod Products use a core of continuous fiber composite with a unique patent pending process to form the threads. This combination maximizes the tensile strength, shear strength and torque strength of the component. The rigid engineering thermoplastic polyurethane matrix resin offers excellent resistance to a broad range of chemicals, including acids, bases and organic liquids.

- **Excellent Corrosion resistance**
- **Low weight**
- **Non-conductive**
- **Electromagnetically transparent**
- **High thread strength**
- **Low thermal conductivity**
- **Easy to cut and fabricate**



Fulcrum threaded rod is available in a range of standard sizes and lengths. The unique process by which Fulcrum is manufactured not only enhances the mechanical and chemical properties of the threaded fasteners; it also offers considerably greater design freedom in manufacturing fasteners.

The following products can be produced to special order:

Hollow Threaded Rod

U Bolts

Large Diameter Bolts



* Fulcrum is a trademark of Fulcrum Composites, Inc.

Threaded Rod Properties

UNC Threaded Rod

	Units	3/8" – 16	1/2" - 13	5/8" – 11	3/4" – 10	1" - 8
Ultimate Tensile Strength ⁽¹⁾	lbs (N)	2,000 (8,900)	3,500 (15,600)	6,000 (27,750)	9,000 (40,000)	16,000 (71,000)
Design Strength	lbs (N)	1,500 (6,680)	2,600 (11,700)	4,100 (18,400)	6,700 (30,000)	12,000 (53,000)
Ultimate Torque Strength ⁽²⁾	ft-lbs (Nm)	8 (10.8)	25 (34)	35 (47)	60 (80)	125 (170)
Recommended Torque ⁽²⁾	ft-lbs (Nm)	4 (5.4)	12 (16)	17 (23)	30 (40)	60 (80)
CLTE	in/in/deg F (mm/mm/deg C)	5.0×10^{-6} (9.0×10^{-6})	5.0×10^{-6} (9.0×10^{-6})	5.0×10^{-6} (9.0×10^{-6})	5.0×10^{-6} (9.0×10^{-6})	5.0×10^{-6} (9.0×10^{-6})
Dielectric Strength	KV/in	400				
Water absorption	Equilibrium @ RT %	0.7	0.7	0.7	0.7	0.7
Max Use Temperature	deg F (deg C)	150 (70)	150 (70)	150 (70)	150 (70)	150 (70)
Weight – Threaded rod	lbs/ft (g/m)	0.07 (105)	0.11 (164)	0.18 (270)	0.27 (403)	0.49 (732)
Weight – Nuts	lbs (g)	0.01 (5)	0.02 (8)	0.05 (23)	0.08 (33)	0.13 (59)
Nut dimensions	Length in (mm)	0.75 (19.1)	0.855 (21.7)	1.220 (31.0)	1.590 (40.4)	1.750 (44.5)
	AF in (mm)	0.555 (14.1)	0.730 (18.5)	0.920 (23.4)	1.120 (28.4)	1.475 (37.5)
	Flange dia in (mm)	0.745 (18.9)	1.000 (25.4)	1.250 (31.8)	1.950 (49.5)	2.000 (50.8)

Metric Threaded rod

	Units	M12 x 1.75	M16 x 2.00	Other sizes can be produced on request. Custom thread forms can be produced on request		
Ultimate Tensile Strength	N (lbs)	8,000 (1,990)	26,750 (6,000)			
Design Strength	N (lbs)	6,670 (1,475)	20,000 (4,500)			
Ultimate Torque Strength ⁽²⁾	Nm (ft-lbs)	18 (13)	47 (35)			
Recommended Torque ⁽²⁾	Nm (ft-lbs)	9 (7)	23 (17)			
CLTE	mm/mm/deg C (in/in/deg F)	9.0×10^{-6} (5.0×10^{-6})	9.0×10^{-6} (5.0×10^{-6})			
Max Use Temperature	deg C (deg F)	70 (150)	70 (150)			
Weight – Threaded rod	g/m (lbs/ft)	145 (0.10)	270 (0.18)			
Weight – Nuts	g (lbs)	8 (0.02)	23 (0.05)			
Nut dimensions	Length in (mm)	21.7 (0.855)	31.0 (1.22)			
	AF in (mm)	18.5 (0.730)	23.4 (0.920)			
	Flange dia in (mm)	25.4 (1.000)	31.8 (1.250)			

(1) Strengths are average values, measured with a single nut with 1/2" of thread protruding beyond the nut.

(2) Torque strengths are measured unlubricated.

Notes for use.

Fulcrum Composites Inc believes the data supplied to be accurate at the time of publication. As with all composite products the performance in the final application is influenced by a number of factors including – load, duration, temperature, environment. Further data is available on the effects of these factors however it remains the responsibility of the end user to determine the suitability of these products under end use conditions.

FULCRUM COMPOSITES, INC.

1407 East Grove Street
Midland, Michigan 48640
USA
Tel: +1 989-636-1025
Fax: +1 989-837-1566

info@fulcrumcomposites.com
www.fulcrumcomposites.com

TOP GLASS s.p.a.

I-20096 Pioltello (MI)
Via Bergamo, 15
Italy
Tel +39 029291861
Fax +39 0292918620

info@topglass.it