

TUF-BAR

Fiberglass Rock Bolts



Rock Bolts, Soil Nails, Tiebacks

Engineered solution to meet your specific needs

PRODUCTS

- ▶ Rock Bolts
 - Left Hand Thread
 - Right Hand Thread
 - Square Head For Spinning
 - Any Length
- ▶ Soil Nails - Any Length
- ▶ Tiebacks - Any Length
- ▶ Composite Nuts
- ▶ Couplings and Other Fasteners

FEATURES

- ▶ Thread available on any part of any bar
- ▶ 100 plus years corrosion resistance
- ▶ Extremely high embedment strengths
- ▶ ¼ the weight of steel
- ▶ 2 times the strength of steel
- ▶ Easy to post tension
- ▶ Non-magnetic
- ▶ Low electric conductivity

APPLICATIONS

- ▶ Hard Rock Mining
- ▶ Ground Stabilization
- ▶ Salt Mines
- ▶ Tunneling
- ▶ Tiebacks
- ▶ Temporary Ground Support (Easy To Excavate)
- ▶ Permanent Ground Support (Excellent Corrosion Resistance)
- ▶ Specialty Applications
 - Custom Threaded Intervals
 - Custom Fasteners and Accessories
 - 3,000 Feet Continuous Coils



THREADED BAR

Nominal Diameter	22 mm	0.875 in
Cross-Sectional Area	337 mm ²	0.522 in ²
Ultimate Tensile Stress	799 MPa	115.9 ksi
Ultimate Tensile Strength	269.3 kN	60.54 kips
Transverse Shear Stress	181 MPa	26.3 ksi
Transverse Shear Strength	61 kN	13.7 kips
Bond Stress	14.0 MPa	2.0 ksi
Ultimate Elongation	1.95%	1.95%
Nominal Weight	0.63 kg/m	0.423 lbs/ft

4" CAP NUT

Strength	120 kN	27 kips
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Torque Limit 40 ft/lbs

4" FLAT NUT

Strength	120 kN	26.9 kips
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2" NUT

Strength	55 kN	12.3 kips
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- Independent testing performed by University of Sherbrooke in accordance with ISIS Product Certification of FRP Materials guidelines
- Independent testing performed by Intertek Testing Services NA Ltd. according to ACI 440.3R-04 and ASTM D 3916-02
- Other sizes and configurations are available upon request

“ Steel reinforcement damages our boring machines, and is difficult to remove. It costs us a lot in time and money to excavate.”

“ Have you ever had to haul steel around all day? You get tired, you get hurt. This stuff is great. No more back pain.”

“ Even in the most challenging of applications this product is flexible and safe enough to easily adapt to the environment.”

What makes our composite reinforcement so unique?

- ▶ Easy to cut, easy on equipment
- ▶ 100 plus years corrosion resistance
- ▶ Flexible bar for easy installation
- ▶ Light weight, reduces injuries
- ▶ High torsional strength prevents failures during installations
- ▶ Easy to use cap nut and bar system
- ▶ Designed for both temporary and permanent applications
- ▶ Complies with infrastructure and mining test requirements