

FF Rod (Technora® Rod)

AFRP Rod for tendon/prestressing concrete

No Rust, Light Weight, Non-Electromagnetic



The FF Rod is an AFRP (Aramid Fiber-Reinforced Polymer) cable/rod, spirally-wound with Technora®, a para-aramid fiber manufactured by Teijin, Ltd., pultruded and impregnated with a vinyl ester resin. Technora is 8 times stronger than steel and 3 times stronger than fiberglass, polyester, or nylon yarns. Its stiff and highly oriented molecular structure leads to a high modulus of elasticity, low creep and low stress relaxation. It also has low

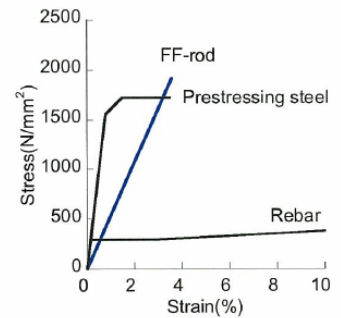


Fig.1 Stress-Strain Curve

thermal shrinkage, excellent dimensional stability. Thermal decomposition thresholds of 500°C, at 250°C, Technora maintains more than half of its room-temperature tensile strength. It is highly resistant to acids, alkalis, and organic solvents. It is not vulnerable to damages caused by steam or sea water. Deformed surface lends itself to higher bonding strength with concrete. FF Rod has similar tensile strength as prestressing steel elements, however, FF Rod has better stress elongation characteristics (see Fig.1), it is much lighter (1/6th of steel), it would not rust or corrode, or it would not magnetize or create electronic disturbances. Ideal for prestressing of concrete, concrete structures in marine and other tough environment, electronic and communication related buildings, and others.

FEATURES

- HIGH TENSILE STRENGTH
- HIGH DUCTILITY
- NO RUST/CORROSION
- ANTI ACID/ALKALIS
- NON-MAGNETIC/CONDUCTIVE
- LIGHT WEIGHT

SPECIFICATIONS

Nominal Strand Diameter (mm)	7.4	13
Effective cross section area (mm ²)	42.4	133
Effective modulus (kN/mm ²)	53	53
Design tensile strength (N/mm ²)	1760	1350
Guaranteed capacity (kN/rod)	81.4	205
Mass density (gram/meter)	64	171
Type of anchorage	Wedge	Potted



APPLICATION SAMPLE: A bridge on the Highway M-15 in Michigan: 10,000 ft of 7.4mm FF Rods and 6,500 feet of 13mm FF Rods were used to replace its rebars.



Technora® is a registered trademark of Teijin, Ltd.
Developed by Teijin, Ltd., FF Rod (Technora Rod) is
manufactured by Maeda Kosen K.K. in Fukui, Japan

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GREENSTONE INC. OF DELAWARE

A division of Greenstone Holdings, Inc.
35 Journal Square, Suite 481, Jersey City, NJ.07306

For more information:

Call: 877-387-3330 Email: Info@egreenstone.com
Fax: 646-304-2439 WWW.EGREENSTONE.COM

