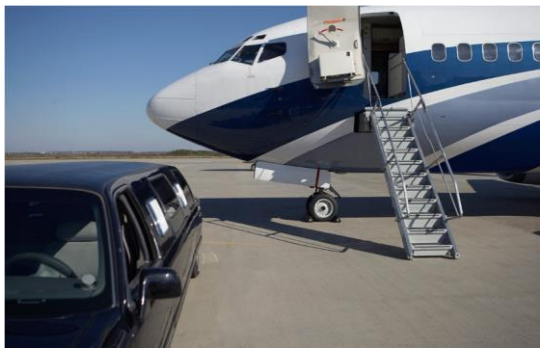
TUFROV® Long Fiber Thermoplastic Fiber Glass 4510 XM





Product Description

TUFROV* 4510 XM** roving fro is a continuous filament, single-end roving product manufactured with ***INNOFIBER specialty glass composition fibers. With higher modulus as compared to E-Glass, **INNOFIBER XM** glass fiber rovings enable enhanced performance in composites such as in longer wind blades and lighter weight automotive and aerospace applications. Engineered for performance, **INNOFIBER XM** rovings are specifically designed for highly oriented applications utilizing polyester, epoxy and vinyl ester resin systems. They are recommended for multi-axial fabric, filament winding, pultrusion and other resin-infusion applications that require maximum wet-out and saturation. The proprietary sizing chemistry on **TUFROV 4510 XM** rovings result in exceptional mechanical properties, including tensile strength and fatigue. **TUFROV 4510 XM** roving products are available in a variety of nominal tex or yields.

User Benefits

- Appropriate for highly oriented applications requiring high composite stiffness or lighter weight.
- Increased modulus enables weight reduction (energy savings) for automotive and aerospace applications and greater energy generation with longer wind blade applications.
- Exceptional mechanical properties include tensile strength and fatigue.
- Rapid, complete and consistent wet-out and saturation.
- Multi-compatible for polyester, vinyl ester and epoxy resins.
- Supported by NEG's extensive technical resources.
- Manufacturing facilities operate quality management systems that comply with ISO 9001:2015 requirements.

Packaging

- 48 packages/pallet
- 20 kg (44 lbs.) /package

Nippon Electric Glass Co., Ltd.

TUFROV®
Long Fiber Thermoplastic Fiber Glass

4510XM

Product Information

Type of Fiber	R-Glass ASTM C162-05 (2010)			
Type of Sizing	**Silane**			
Roving Tex, nominal (g/km)	1200	2400	4400	4800
Roving Yield, nominal (yd/lb)	413	206	113	103
Yield/Tex Tolerance	±6%	±5%	±7%	±5%
Average Fiber Diameter (µm)	17	17	24	24

Other Tex/Yield options are available upon request. Contact your NEG Account Manager.

Storage

These products should be stored in a dry area with ambient temperature and relative humidity, optimally from 20°C to 25°C and between 50% and 70%, respectively. Protect product from all sources of water at all times. A First-In-First-Out (FIFO) stock control system is recommended to minimize the influence of storage conditions. Prior to use, products should be conditioned in the work area for a minimum of 24 hours. If contents of a package unit are partially used, the unit should be closed until the next use. With proper storage, there are no known limitations on the shelf life of the product. To insure optimal performance, retesting is recommended for products stored more than two years from the initial production date.

Caution

To avoid the possibility of potential injury, maintain column stability by limiting pallet stacking to two (2) high as noted on individual shipping containers.

NOTE: This data is offered for informational purposes only in the selection of a composite reinforcement. The information contained in this bulletin is based on actual laboratory data. We believe that this information is reliable, but do not guarantee its applicability to the process of the user or assume any liability arising out of its use or performance. The user, by accepting the products described, agrees to be responsible for thoroughly testing any application to determine its suitability before committing to production. It is important for the user to determine the properties of its own commercial laminates when using this or any other reinforcement. ***Because of numerous factors affecting the results, we make no warranty of any kind, expressed or implied, including those of merchantability and fitness for a particular purpose. Statements in this document shall not be construed as representations or warranties or as inducements to infringe any patent or violate any law, safety code, or insurance regulation.***

Mechanical Properties

Impregnated Strand Tensile Testing (ASTM D2343)

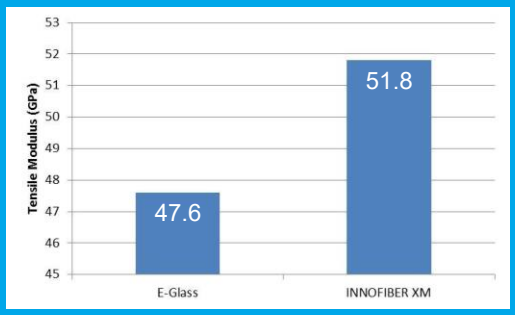
Tensile Strength (MPa/ksi)	= 3000/435
Glass Content by Weight (%)	= 64

Interlaminar Shear Strength (ASTM D2344)
Unsaturated Polyester

Horizontal Shear Dry (MPa/ksi)	= 64/9.25
Horizontal Shear Wet*(MPa/ksi)	= 59/8.55
Strength Retention (%)	= 92

Unidirectional Dry Wound Roving Resin Infusion Tensile Testing (ISO 527)
Epoxy

Tensile Strength 0° (MPa/Kpsi)	= 1351/196
Tensile Modulus 0° (GPa/Mpsi)	= 52/7.5
Fiber Volume Fraction (%)	= 60



More Information

https://www.neg.co.jp/inquiry/

https://www.neg.co.jp/en/inquiry/

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