

PYROFIL™ TRW40 50L

Product Data Sheet

Description

PYROFIL™ TRW40 50L is a higher filament count carbon fiber with standard tensile modulus. It is a continuous carbon fiber and has 50k(50,000) and filaments with approximately 7 microns diameter. **PYROFIL™ TRW40 50L** is a PAN based carbon fiber, which is made of non-textile precursor designed for high performance applications and suitable for many applications requiring high tensile strength.

Typical Fiber Properties

Fiber Properties	Typical Values
Strand Tensile Strength	4,100 MPa (600 ksi)
Strand Tensile Modulus	240 GPa (34.9 Msi)
Filament Density	1.81 g/cm ³
Mass Per Unit Length	3,750 mg/m
Elongation	1.7 %
Filament Count	50k (50,000)
Filament Diameter	7.0 μm

Standard Spool Selection

Properties		Typical Values	
Spool Weight		20.7 Lbs	9.4 kgs
Fiber Length		2,734 yds	2,500 m
Size Level		1.4 %	
Standard Case 1	# of Spools	2	
	Net Weight	41.4 Lbs	18.8 kgs
Standard Pallet 1	# of Cases	18	
	Net Weight	744.1 Lbs	337.5 kgs
Standard Case 2	# of Spools	63	
Standard Pallet 2	Net Weight	1,320.0 Lbs	590.6 kgs
Spool Outside Diameter		8.9 in	225 mm

The numbers of the above preliminary specifications are representative properties obtainable. Mitsubishi Rayon Co., Ltd. cannot accept responsibility for the misapplication of this products nor for their use under controlled conditions. Numerical values resulting from the application of this material are dependent on processing details. It is recommended that the users develop his/her own application techniques and generate data consistent with his/her specific applications and process.

Mechanical Properties of PYROFIL™ TRW40 50L Composite

Properties		Typical Value	Test Method	
Tensile Properties	0°	Strength	2,752 MPa	ASTM D 3039
		Modulus	144 GPa	ASTM D 3039
	90°	Strength	89 MPa	ASTM D 3039
		Modulus	8.6 GPa	ASTM D 3039
Compressive Properties	0°	Strength	1,676 MPa	SACMA SRM 1R
		Modulus	128 GPa	SACMA SRM 1R
	90°	Strength	257 MPa	ASTM D 3410
		Modulus	9.4 GPa	ASTM D 3410
Flexural Properties	0°	Strength	1,897 MPa	ASTM D 790
		Modulus	132 GPa	ASTM D 790
	90°	Strength	151 MPa	ASTM D 790
		Modulus	7.8 GPa	ASTM D 790
Shear Property	ILSS	Strength	94 MPa	ASTM D 2344

Safety Precautions

It is recommended that customers should notice precautions for handling carbon fibers and operators should handle the material with clean wear, special gloves and eyeglasses to prevent from contacting the materials.

Material Safety Data Sheets (MSDS) are prepared for all MITSUBISHI RAYON products and are available if required.

For More Information

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