

UHMWPE Fiber

Formula: UHMW PE

Length: 1m

Filament Diameter: 1.5mm

Number Of Filaments: 1

Tex Number: 1670

CAS Number: 9002-88-4

UOM Code: 027-575-95

SKU: 1000003330-group

Product Code: ET30-FB-000120

Material Properties for Polymers

Chemical Resistance

Element	Value
Acids - concentrated	Good-Fair
Acids - dilute	Good
Alcohols	Good
Alkalis	Good
Aromatic hydrocarbons	Fair
Greases and Oils	Good-Fair
Halogenated Hydrocarbons	Fair-Poor
Halogens	Fair-Poor
Ketones	Good-Fair

Mechanical Properties

Element	Value
Coefficient of friction	0.1-0.2
Hardness - Rockwell	R50-70
Poisson's ratio	0.46
Elongation at break(%)	500
Tensile modulus(GPa)	0.2-1.2
Izod impact strength(J m ²¹)	1000
Tensile strength(MPa)	20-40

Electrical Properties

Element	Value
Dielectric constant @ 1MHz	2.3
Dissipation factor @ 1MHz	1-10x 10 ⁻⁴
Dielectric strength(kV mm ⁻¹)	28
Surface resistivity(Ohm/sq)	10 ¹³
Volume resistivity(Ohmcm)	10 ¹⁷

Physical Properties

Element	Value
Flammability	HB
Radiation resistance	Fair
Resistance to Ultra-violet	Poor
Limiting oxygen index(%)	17
Water absorption - over 24 hours(%)	0.01
Density(gcm ⁻³)	0.94

Thermal Properties

Element	Value
Heat-deflection temperature - 0.45MPa(C)	69
Heat-deflection temperature - 1.8MPa(C)	42
Upper working temperature(C)	55-95
Specific heat(J K ⁻¹ kg ⁻¹)	1900
Thermal conductivity(W m ⁻¹ K ⁻¹)	0.42-0.51@23°C
Coefficient of thermal expansion(x10 ⁻⁵ K ⁻¹)	130-200