Energetic Industry Co., Ltd.

Tel: +86-755-89664362 Fax: +86-755-89664362

www.energetic-industry.com sales@energetic-industry.com

Add: Room 8103, Jinmaoyuan Building, Jinniu Western Road, Pingshan District, Shenzhen, China 518118

UHMW-PE Properties Data Sheet

Technical Data	Method of Verification	Unit	UHMW PE
Physical Properties			
Density	ISO 1183	g/cm3	0.96 ~ 0.98
Water absorption	ISO 62	%	0.01
Mechanical Properties			
Tensile strength at yield	ISO 527-2	MPa	17
Tensile strength at break	ISO 527-2	Mpa	40
Elongation at break	ISO 527-2	%	≥50
Modulus of elasticity after tensile test	ISO 527-2	MPa	650
Modulus of elasticity after flexural test	ISO 178	MPa	800
Hardness-Rockwell	ISO 2039-2		-
Hardness - Shore D	DIN 53505		61
Charpy impact strength at 23℃	ISO 179	kJ/m2	＞100
Friction coefficient	DIN 53375		0.25
Thermal Properties			
Heat deflection temperature - HDT/A	ISO 75-2	℃	42
Melting temperation	IS0-3146	℃	135 - 137
Max. service temperature - Short term		℃	120
Max. service temperature - Long term		℃	90
Thermal conductivity at 23 ℃	DIN 11359	W/(K*m)	0.42
Coefficient of linear thermal expansion	ISO 11359	$10^{-4*}K^{-1}$	2
Electrical Properties			
Dielectric constant at 1 MHz	IEC 60250	10^{6}Hz	3
Dielectric loss factor at 1 MHz	IEC 60250	10^{6}Hz	0.0001
Volume resistively	IEC 60093	Ohm (Ω) * cm	＞10^{14}
Surface resisively	IEC 60093	Ohm (Ω)	＞10^{11}
Dielectric strength	IEC 60243-1	kV/mm	45
Miscellaneous Data			
Flammability	UL 94	Class	HB
NOTE: 1 g/cm3 = 1,000 kg/m3, 1 Mpa = 1 N/mm2, 1kV/mm = 1 MV/m			

Statement:

NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Energetic will not provide any legally binding guarantee of certain properties, or any suitability.