

DATASHEET

UHMWPE (PE 1000)

UHMWPE (PE 1000) has high abrasion resistance, excellent sliding properties and high toughness. It has good chemical resistance, high impact strength and low moisture absorption. PE 1000 is also food compliant for all critical processing applications.

Applications

- Food Processing
- Conveyor & Bottling Industries
- General Machining
- Plant Engineering
- Bulk Material Handling

Availability

- Colour – Natural, Black & Green
- Type – Sheets & Rods
- Regularly produced in a wide variety of thicknesses

Typical Properties

General Properties	Method	Unit	Test Result
Physical Properties			
Specific Gravity	ISO 1183	g/cm ³	0.93
Water Absorption	ISO 62	%	0.01
Maximum Service – Higher Temp Limit	-	°C	80
Maximum Service – Lower Temp Limit	-	°C	-260
Mechanical Properties			
Tensile Strength at Yield	ISO 527	MPa	21
Elongation at Yield	ISO 527	%	11
Tensile Strength at Break	ISO 527	MPa	-
Elongation at Break	ISO 527	%	>300
Impact Strength	ISO 179	kJ/m ²	No break
Notch Impact Strength	ISO 179	kJ/m ²	>200
Ball Indentation / Rockwell Hardness	ISO 2039-1	MPa	38
Shore - D	DIN 53505	-	64
Flexural Strength	ISO 178	MPa	-
Modulus of Elasticity	ISO 527	MPa	700
Thermal Properties			
Vicat Softening Point VST/B/50	ISO 306	°C	82
Heat Deflection Temperature HDT/B	ISO 75	°C	-

Heat Deflection Temperature HDT/A	-	°C	-
Coefficient / Linear Thermal Expansion	DIN 53752	$K^{-1} \cdot 10^{-6}$	1.8
Thermal Conductivity at 20°C	DIN 52612	w/(m*k)	0.38
Electrical Properties			
Volume Resistivity	VDE 0303	$\Omega \times m$	-
Surface Resistivity	-	Ω	>10(14)
Dielectric Constant at 1MHz	-	-	-
Dielectric Loss Factor at 1MHz	DIN 53483	-	-
Dielectric Strength	VDE 0303	kV/mm	44
Tracking Resistance	IEC 60112	-	>600
Additional Information			
Bondability	-	-	No
Food Compliance	FDA	-	Yes
Flammability	UL 94	-	HB