



# UHMWPE Natural

PE-1000

(Ultra High Molecular Weight Polyethylene)

Colour: Natural

Density: 0.930g/cm<sup>3</sup>

## Material Data Sheet

Mechanical Properties	Value	Unit	DIN/EN/ISO
Tensile strength at yield	17	MPa	527/D638
Elongation at yield	11	%	527
Modulus of elasticity in tension	700	MPa	527/D638
Modulus of elasticity in flexure	800	MPa	178/D790
Impact strength	No br.	kJ/m <sup>2</sup>	179/D256
Creep rupture strength after 1000hrs with static load	-	MPa	-
Time yield limit for 1% elongation after 1000hrs	-	MPa	-
Coefficient of friction against hardened and ground steel P= 0.05 N/mm <sup>2</sup> , v= 0.6m/s	0.29	-	-
Ball indentation hardness	35	MPa	2039-1
Shore hardness D	64	-	868

Thermal Properties	Value	Unit	DIN/EN/ISO
Glass transition temperature	-	°C	53736
Crystalline melting point	135	°C	53736
Service temperature (short term)	120	°C	-
Service temperature (long term)	90	°C	-
Coefficient of thermal expansion	20	10 <sup>-5</sup> K	53483/D696
Specific heat	1.84	J/(g*K)	-
Coefficient of thermal conductivity	0.41	W/(K*m)	-

Electrical properties	Value	Unit	DIN/IEC
Surface resistivity	>10 <sup>14</sup>	Ohm	60093
Dielectric strength	44	kV/mm	60243-1

Other properties	Value	Unit	DIN/EN/ISO/IEC
Water absorption	<0.01	%	62
Resistance to hot water, washing soda	Resistant	-	-
Resistance to weathering	No	-	-
Flammability (UL94)	HB	-	-

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The following information corresponds with our current knowledge and indicates our products and possible applications. We cannot give a legally binding guarantee of certain properties or the suitability for a specific application. Existing commercial patents must be observed. A definitive quality guarantee is given in our general conditions of sales. Unless otherwise stated, these values represent averages taken from injection moulding samples. We reserve the right of technical alterations.