

Technical Data Sheet

PE1000 (UHMWPE)

PE1000 is a material with high abrasion resistance, very low coefficient of friction and excellent impact strength. PE1000 has good chemical resistance, low moisture absorption and improved lower working temperature range (-260°C to +80°C).



product information

Name: Ultra-High Molecular Weight
Polyethylene

Other names: Prolen 6000x dehoplast PE 1000,
Orbilan PE 1000

Abbreviation: PE1000, UHMWPE

key characteristics

- Excellent wear and abrasion resistance
- High impact strength at low temperature range
- Excellent machinability
- Food compliant

Applications

- Aggregate handling
- Food processing
- Pharmaceutical
- Bottle plants
- Cryogenic equipment
- Linings
- Conveyor Side Guides

PLASTICS



Certificate Number: 14352
ISO 9001



Care should be taken in selecting the most suitable quality for each application. Advice is available, but final responsibility remains with the customer.

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Physical Properties

	Test	Unit	Result
1. Specific gravity	ISO 1183	g/cm ³	0.93
2. Water absorption	ISO 62	%	0.01
3. Maximum service temp. Upper temp limit (no stronger mechanical stress involved)	-	°C	80
Lower temp limit	-	°C	-260

Mechanical Properties

	Test	Unit	Result
1. Tensile strength at yield	ISO 527	Mpa	21
2. Elongation at yield	ISO 527	%	11
3. Tensile strength at break	ISO 527	Mpa	-
4. Elongation at break	ISO 527	%	>300
5. Impact strength	ISO 179	kJ/m ²	No Break
6. Notch impact strength	ISO 179	kJ/m ²	>200
7. Ball indentation / Rockwell hardness	ISO 2039-1	Mpa	38
8. Shore-D	DIN 53505	-	64
9. Flexural strength	ISO 178	Mpa	-
10. Modulus of elasticity	ISO 527	Mpa	700

Thermal Properties

	Test Method	Unit	Result
1. Vicat-softening point VST/B/50	ISO 306	°C	82
2. Heat deflection temperature HDT/B HDT/A	ISO 75	°C	-
	-	°C	-
3. Coefficient of linear thermal expansion	DIN 53752	k ⁻¹ *10 ⁻⁴	1.8
4. Thermal conductivity at 20 °C	DIN 52612	W/(m*K)	0.38

Electrical Properties

	Test Method	Unit	Result
1. Volume resistivity	VDE 0303	Ω x m	-
2. Surface resistivity	-	Ω	> 10 ¹⁴
3. Dielectric constant at 1MHz	-	-	-
4. Dielectric loss factor at 1 MHz	DIN53483	0	-
5. Dielectric strength	VDE 0303	kV/mm	44
6. Tracking resistance (CTI)	IEC 60112	-	>600

Additional Data

	Test Method	Unit	Result
1. Bondability	-	-	-
2. Food compliance	FDA	-	+
3. Flammability	UL94	-	HB

All The above information is for guide purposes only. The data has been taken from standard test results provided by our manufacturers.

Key		
Yes	Limited	No or no data
+	0	-

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