

## Technical Data Sheet

### PE1000 (Metal Detectable) Sheet

Pressed and Planed

Dark Blue

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:

Abbreviation: PE1000MD, UHMWPE/MD

#### *key characteristics*

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

#### *applications*

- Aggregate handling
- Food processing
- Pharmaceutical
- Bottle plants
- Cryogenic equipment
- Linings



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 <sup>3</sup>	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 <sup>2</sup>	No Break
6. Notch impact strength	ISO 179	kJ/m <sup>2</sup>	>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 <sup>-1</sup> *10 <sup>-4</sup>	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 <sup>14</sup>
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

0

No or no data

-



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