

Technical Data Sheet

PE-UHMW ELS black

Ultra-high molecular weight polyethylene, electrostatically dissipative (PE-UHMW / PE 1000 ELS)

Typical Properties

- Electrostatically dissipative (ESD) treatment, reduced dust deposition
- Very low coefficient of friction
- High wear resistance
- High impact strength
- Good sliding properties, permanent self-lubrication
- Good chemical resistance

Typical Industries

- Conveyor technology & automation
- Machinery and plant engineering
- Meat, fish and poultry processing
- Baking and confectionery industry
- Beverage industry

	Test Method	Unit	Value
General Properties			
Density	DIN EN ISO 1183-1	g / cm ³	> 0.94
Moisture absorption	DIN EN ISO 62	%	0.01
Flammability (thickness 3 mm / 6 mm)	UL 94		HB
Molecular weight	-	g / mol	~9 · 10 ⁶
Mechanical Properties			
Tensile strength	DIN EN ISO 527	MPa	> 20
Elongation at break	DIN EN ISO 527	%	> 50
E-modulus	DIN EN ISO 527	MPa	> 700
Notched impact strength	DIN EN ISO 11542	kJ / m ²	> 50
Shore hardness	DIN EN ISO 868	scale D	> 63
Thermal Properties			
Melting temperature	ISO 11357-3	°C	130 ... 135
Thermal conductivity	DIN 52612-1	W / (m * K)	0.40
Heat capacity	DIN 52612	kJ / (kg * K)	1.90
Linear expansion coefficient	DIN 53752	10 ⁻⁶ / K	150 ... 230
Long-term service temperature	Average	°C	-150 ... 80
Short-term service temperature (max.)	Average	°C	130

	Test Method	Unit	Value
Vicat softening temperature	DIN EN ISO 306 (Vicat B)	°C	79
Electrical Properties			
Bulk resistance	DIN EN 62631-3-1	$\Omega \cdot \text{cm}$	10^9
Surface resistance	DIN EN 62631-3-2	Ω	10^9

The short-term maximum service temperature applies only to applications with very low mechanical load over a few hours. The long-term maximum service temperature is based on the thermal ageing of the plastic through oxidation, which results in a reduction of the mechanical properties. The electrical values were measured on black, dry material and describe the electrostatically dissipative treatment of this type (surface and bulk resistance in the ESD range of 10^6 to $10^{11} \Omega$); other colours or moist material may show deviations. The values stated are mean values secured through continuous statistical testing in accordance with DIN EN 15860. They serve only as information about our products and as an aid to material selection. We do not thereby provide a legally binding guarantee of specific properties or of suitability for particular applications. As the properties also depend on the dimensions of the semi-finished products and the manufacturing process, the actual property values of a specific product may deviate somewhat from the figures stated.

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