

EL.BO. Service s.a.s.

Electronic packaging

20025 Parabiago Italy Tel. +39-0331-490029 Fax +39-0331-491363 e.mail : elboservice@elboservice.com

LASTRA CONDUTTIVA ELBO - PE-UHMW

ISO designation	PE-UHMW Ultra High Molecular Weight Polyethylene		
Colour(s)	black		
Material properties	Standard	Unit	
Average molecular weight (average molecular mass)		(g/mol)	> 9*10 ⁶
Density	ISO 1183	(kg/m ³)	≥ 940
Water absorption at 23°C until saturation	ISO 62	(%)	0,05
Mechanical properties	Standard	Unit	
Tensile stress at yield (tensile strength)	ISO 527	(MPa)	≥ 15
Elongation at break	ISO 527	(%)	> 50
Tensile modulus	ISO 527	(MPa)	700
Impact strength (Charpy) at 23° C	ISO 179	(kJ/m ²)	no break
Notched impact strength (Charpy) at 23° C	ISO 11542-2	(kJ/m ²)	≥ 90
Ball indentation hardness	ISO 2039-1	(N/mm ²)	30 - 35
Shore-Hardness D, 15 s value	ISO 868	(-)	60 - 65
Friction coefficient	-	(-)	approx. 0,2
Abrasion (Sand-Slurry)	-	(%)	90
Thermal properties	Standard	Unit	
Melting point DSC, 10 K/min	ISO 3146	(°C)	130-135
Vicat softening point	ISO 306	(°C)	83
Coefficient of linear thermal expansion between 23 and 80° C	ISO 11359	(K ⁻¹)	approx. 2 * 10 ⁻⁴
Thermal conductivity	ISO 52612	(W/[m * K])	approx. 0,4
Use temperature (max.)	-	(°C)	80
Use temperature (briefly)	-	(°C)	120
Use temperature (min.)	-	(°C)	-150
Electrical properties	Standard	Unit	
Relative permittivity at 100 Hz	IEC 60250	(-)	-
Dissipation factor at 100 Hz	IEC 60250	(-)	-
Volume resistivity	IEC 60093	(Ohm * cm)	< 10 ⁶
Surface resistivity	IEC 60093	(Ohm)	< 10 ⁶
Dielectric strength	IEC 60243	(kV/mm)	-
Physiological properties	Standard	Unit	
Food conformances according to EU Directive 2002/72/EC			yes
FDA Regulation 21CFR177.1520			no
FDA Regulation 21CFR178.2010			N/A
FDA Regulation 21CFR178.3297			no

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 The technical data shown in this data sheet refers to a 40 mm thick sheet. Due to the production process the data may vary depending on the material thickness.