



Material data sheet PE 500 natural

PE 500 natural – is a high molecular low pressure polyethylene with a molecular weight of approx. 500.000 g/mol. (HMW-PE).

Colour: natural

Properties

- EU 1935/2004 - conform
- EU 10/2011 - conform
- FDA – conform



Target Industries

- Food industry
- Chemical industry

Characteristics and standard values

Properties Physical properties	Method	PE 500 - natural	
		SI	US
Molecular-weight	k.a	~ 0.5 Mio. g/mol.	~ 0.5 Mio. g/mol.
Density	DINENISO 1183-1 (04/2013) ASTM D792	> 0.950 g/cm ³	> 59.306 lb/ft ³
Notched impact strength	DINENISO 11542-2 (01/2010)	> 25 kJ/m ²	> 11.8875 ft-lb/in ²
Abrasion-Index (Sand-Slurry)	DINENISO 15527 (05/2013)	360 – 440	360 – 440
Tensile strength at yield (1B - 50mm/Min.)	DINENISO 527-2 (06/2012) ASTM D 638 (2010)	> 26 N/mm ²	> 3770 psi
Elongation (Break / 1B – 50 mm/Min.)	DINENISO 527-2 (06/2012) ASTM D 638 (2010)	> 350 %	> 350 %
Tensile-E-modulus (1B – 1 mm/Min.)	DINENISO 527-2 (06/2012) ASTM D 638 (2010)	> 1100 N/mm ²	> 159500 psi
Static Friction	ASTM D 1894 (2011)	~ 0.15 - 0.20	~ 0.15 - 0.20
Dynamic Friction	ASTM D 1894 (2011)	~ 0.10 - 0.15	~ 0.10 - 0.15
Shore-D-Hardness, 3 sec. Value 6 mm plate	DINENISO 868 (10/2003)	65 – 67 D	65 – 67 D
Ball indentation hardness	DINENISO 2039	~ 50 N/mm ²	~ 7250 psi
Water absorption	DINENISO 62 (05/2008)	< 0.01 %	< 0.01 %





Werkstoffdatenblatt PE 500 natural

Thermal properties	Method	PE 500 - natural	
		SI	US
Melting Point (DSC)	DINENISO 11357-1 (03/2010)	133 - 136 °C	271.4 – 276.8 °F
Thermal Conductivity	Wire method	~ 0.41 W/m*K	~ 2.84253 (BTU-in)/hr-ft ² -°F
Max. operation temperature	Literature	80 °C	176 °F
Coefficient of thermal expansion (23 – 80°C)	ISO 11359	~ 0.00015 - 0.00020 mm/mm °C	~ 0.000083 - 0.000111 in/in °F

Electrical properties			
Volume resistivity	DINEN 62631-3-1 (01/2017)	> 1.0E+14 Ohm*cm	> 1.0E+14 Ohm*cm
Surface resistivity	DINEN 62631-3-2 (10/2016)	> 1.0E+13 Ohm	> 1.0E+13 Ohm
ATEX-Directive – TÜV approved!	ATEX-Directive	---	---
ESD-D	---	--- Ohm	--- Ohm

Burning properties			
Fire resistance (Self-classification)	DIN 4102	B2 Class	B2 Class
Fire resistance (Self-classification)	UL94	HB Class	HB Class

Physiological properties			
Food compliant		EU/FDA	EU/FDA

The above data are based on the present knowledge and are given without guarantee. Existing laws and conditions are to be respected by the user of our products. The decision about the suitability of a material for a certain application must be made by the user. We reserve the right to alter the indicated values after for a 15 mm thick sheet.

2020/11/04

