

**Short description of Material:**

A partially crystalline thermoplastic with good toughness and high chemical resistance but low mechanical strength. Due to its very low molecular weight of 200.000 g/mol, PE-HD has a very high sliding wear rate but can be welded very easily.

**Application examples:**

- fittings
- shelves
- stacking containers
- construction parts in chemical equipment

**Colours:** natural (white), black

**Mechanical values**

		dry	
Density	ISO 1183	<b>0,95</b>	g / cm <sup>3</sup>
Yield stress	ISO 527	<b>22</b>	MPa
Elongation due to tearing	ISO 527	<b>300</b>	%
Modulus of elasticity resulting from tensile test	ISO 527	<b>800</b>	MPa
Modulus of elasticity resulting from bending test	ISO 178	<b>800</b>	MPa
Flexural strength	ISO 178	<b>32</b>	MPa
Impact strength <sup>1)</sup>	ISO 179	<b>o.B.</b>	kJ/m <sup>2</sup>
Notched-bar impact strength	ISO 179	<b>12</b>	kJ/m <sup>2</sup>
Ball indentation hardness H <sub>358/30</sub>	ISO 2039-1	<b>40</b>	MPa
Creep rate stress at 1% elongation <sup>2)</sup>	DIN 53 444	<b>3</b>	MPa
Sliding friction coefficient against steel (dry running) <sup>3)</sup>	—	<b>0,29</b>	—
Sliding wear against steel (dry running) <sup>3)</sup>	—	<b>7,4</b>	µm/km

**Thermal values**

Melting temperature	ISO 3146	<b>+ 128</b>	°C
Thermal conductivity	DIN 52 612	<b>0,38</b>	W/(K·m)
Specific thermal capacity	—	<b>1,86</b>	J/(g·K)
Coefficient of linear expansion <sup>4)</sup>	—	<b>18</b>	10 <sup>-5</sup> ·K <sup>-1</sup>
Operating temperature range (long-term) <sup>5)</sup>	—	<b>- 50 / + 50</b>	°C
Operating temperature range (short-term) <sup>5)</sup>	—	<b>+ 80</b>	°C
Fire behaviour	UL 94	<b>HB</b>	—

**Electrical values**

Dielectric constant <sup>6)</sup>	IEC 250	<b>2,4</b>	—
Dielectric loss factor <sup>6)</sup>	IEC 250	<b>0,004</b>	—
Specific volume resistance	IEC 93	<b>&gt; 10<sup>16</sup></b>	Ω·cm
Surface resistance	IEC 93	<b>10<sup>14</sup></b>	Ω
Dielectric strength	IEC 243	<b>47</b>	KV/mm
Creep current resistance	IEC 112	<b>KA 3c</b>	—

**Miscellaneous data**

Moisture absorption in normal climate until saturated	DIN 53 715	<b>&lt; 0,01</b>	%
Water absorption until saturated	ISO 62	<b>&lt; 0,01</b>	%

<sup>1)</sup>: Measured with a pendulum impact testing machine 0,1 DIN 51 222

<sup>2)</sup>: Tension resulting in 1% total elongation after 1.000 h

<sup>3)</sup>: against steel, hardened and ground, P = 0,05 MPa, V = 0,6 m/s, t = 60 °C near running surface

<sup>4)</sup>: For a temperature range of + 23 °C to + 60 °C

<sup>5)</sup>: Experience values established with finished parts that are not under any stress in heated air, depending on the type and form of heat exposure, short-term = max. 1 h, long-term = months

<sup>6)</sup>: at 10<sup>6</sup> Hz

w.b. = without breakage  
 1 MPa = 1 N/mm<sup>2</sup>  
 1 g/cm<sup>3</sup> = 1.000 kg/m<sup>3</sup>  
 1 kV/mm = 1 MV/m

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