

Material name, short description	PE-UHMW
Material name, based on technical standards	Polyethylen ultra high molecular weight
Density	.93 g/cm³
Color	natural (white)
Compound code	PE-UHMW 00.004-00

## Mechanical properties

Modulus of elasticity & tension 1	750 N/mm² ISO 527-1,-2
Yield stress	19 N/mm² ISO 527-1,-2
Elongation at break	≥ 50 % ISO 527-1,-2
Elongation at yield	15 % ISO 527-1,-2
Bending strength 1	17 N/mm² ISO 178
Hardness test value	60 Shore D
Ball indentation hardness	33 N/mm² ISO 2039-1
Impact strength	no break ISO 179-1/1eU
Notch impact strength	115.00 kJ/m² ISO 179-1/1eA
Abrasion	100 ISO 15527 Sand-Slurry Test

## Other attributes

Water absorption	0.01 % 23 °C
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## Thermal attributes

Min. operating temperature	-200 °C
Max. operating temperature long term	80 °C min. 20000 h
Max. operating temperature short term	120 °C
Coefficient of linear thermal expansion 1	200 * 10 <sup>-6</sup> K <sup>-1</sup> 23 °C - 100 °C
Crystalline melting point	135 °C ISO 11357-1,-2 DSC, 10 °C/min
Heat deflection temperature 1	42 °C ISO 75-1,-2 Methode A: 1.8 N/mm²
Thermal conductivity	0.4 W/(m·K) 23 °C

## Electrical attributes

Comparative tracking index	600 CTI IEC 60112
Dielectric dissipation factor 1	0.0004 IEC 60250 100 Hz
Dielectric dissipation factor 2	0.001 IEC 60250 1 MHz
Dielectric constant 1	2.1 IEC 60250 100 Hz
Dielectric constant 2	3 1 MHz
Dielectric strength 1	45 kV/mm IEC 60243-1
Surface resistivity	≥10 <sup>12</sup> Ω
Volume resistivity	≥10 <sup>14</sup> Ω*cm DIN IEC 60093

In compliance with **RoHS** and **REACH** directives.

This information is based on our available data. These values are measured on standard test specimens and are within the normal tolerance range of material properties and do not represent guaranteed property values. Therefore they shall not be used for specification purposes. The customer is solely responsible for quality and suitability of material for his application. He has to test usage and processing prior to use. Angst+Pfister makes no guarantees for the suitability of the material for any given application and assumes no obligation or liability in connection with the information provided above.

Approvals / Compliance

Food & Beverage	FDA CFR 21 - 177.1520 "Olefin polymers"
	EC No. 1935/2004 incl. last amendments ....
	Japan Food Sanitation Act positive list. For use under maximum temperature conditions III



EC No.1935:2004



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