

## Application purpose and characteristics

Bottling and food industry, mechanical engineering, bearing and packing industry  
High abrasion and wear resistance, low coefficient of friction, high impact strength

Material name, short description	PE-UHMW
Material name, based on technical standards	Polyethylen ultra high molecular weight
Density	.94 g/cm <sup>3</sup>
Color	blue
Compound code	PE-UHMW 00.001-02

## Mechanical properties

Yield stress	20 N/mm <sup>2</sup> DIN EN ISO 527
Elongation at rupture	≥ 200 % DIN EN ISO 527
Flexural modulus of elasticity	700 N/mm <sup>2</sup> DIN EN ISO 527
Hardness test value	63 Shore D
Notch impact strength	no break DIN EN ISO 179
Sliding wear	80 Sand-slurry

## Electrical attributes

Comparative tracking index	600 IEC 60112
Dielectric dissipation factor 1	0 IEC 60250 106 Hz
Dielectric constant 1	2.3 IEC 60250
Dielectric strength 1	45 kV/mm IEC 60243
Surface resistivity	≥10 <sup>14</sup> Ω DIN IEC 60093
Volume resistivity	≥10 <sup>14</sup> Ω*cm IEC 60093

## Thermal attributes

Min. operating temperature	-250 °C
Max. operating temperature long term	80 °C
Max. operating temperature short term	130 °C
Coefficient of linear thermal expansion 1	150-230 * 10 <sup>-6</sup> /K DIN 53752
Crystalline melting point	135 °C ISO 11357-3
Specific heat capacity	1.9 J/(g·K) DIN 52612
Thermal conductivity	0.4 W/(m·K) DIN 52612-1

## Other attributes

Moisture absorption	≤ 0.01 % DIN EN ISO 62
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## Approvals / Compliance

Food & Beverage	FDA CFR 21 - 177.1520 "Olefin polymers"
	EC No. 1935/2004 incl. last amendments ....
	Japan Food Sanitation Act positive list.



EC No.1935:2004



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.