

## APSOplast® PE-UHMW natural

## Engineering Plastic Technology Technical Data Sheet

### 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

### Product description

Material name, long description	Polyethylen ultra high molecular weight
Material name, short description	PE-UHMW
Material Code	PE-UHMW 00.001-00
Density	0.93 g/cm <sup>3</sup>
Color	natural

### Mechanical properties

Modulus of elasticity and tension	Test value: 680 MPa Test norm: DIN EN ISO 527
Yield stress	Test value: 20 MPa Test norm: DIN EN ISO 527
Elongation at break	Test value: > 200 % Test norm: DIN EN ISO 527
Notch impact strength	Test value: no break - Test norm: DIN EN ISO 179
Shore hardness	Test value: 63 Shore D Test norm: DIN EN ISO 868
Sliding wear	Test value: 80 Test parameter: Sand-slurry

### Thermal properties

Min. operating temperature	Test value: -250 °C
Max. operating temperature long term	Test value: 80 °C
Max. operating temperature short term	Test value: 130 °C
Crystalline melting point	Test value: 135 °C Test norm: ISO 11357-3
Coefficient of linear thermal expansion	Test value: 150-230 10 <sup>-6</sup> K <sup>-1</sup> Test norm: DIN 53752
Heat deflection temperature	Test value: 79 °C Test norm: DIN EN ISO 306 Vicat B
Specific heat capacity	Test value: 1.9 kJ/kg·K Test norm: DIN 52612
Thermal conductivity	Test value: 0.40 W/m·K Test norm: DIN 52612-1

### Electrical properties

Dielectric loss factor	Test value: 0.0001 Test norm: DIN IEC 60250 Test parameter: 10 <sup>6</sup> Hz
Dielectric constant	Test value: 2.3 Test norm: IEC 60250
Dielectric strength	Test value: 45 kV/mm Test norm: IEC 60243
Volume resistivity	Test value: > 10 <sup>14</sup> Ohm·cm Test norm: IEC 60093
Surface resistivity	Test value: > 10 <sup>14</sup> Ohm Test norm: IEC 60093
Comparative tracking index	Test value: 600 Test norm: IEC 60112

### Other properties

Flammability	Test value: HB Test norm: UL 94 Test parameter: Thickness 3 mm / 6 mm
Water absorption at saturation	Test value: <0.01 % Test norm: DIN EN ISO 62

### Approvals

- FDA 21 CFR 177.1520
- 10/2011/EU
- 1935/2004/EC
- GMP 2023/2006/EC



EC No.1935:2004

