

## APSOplast® PET-C nature (white)

## Engineering Plastic Technology Technical Data Sheet

### Application purpose and characteristics

The specific properties of PET-C make this material particularly suited for mechanical precision and wearing parts. High mechanical strength, rigidity, and hardness. Very good creep resistance. Low, constant coefficient of friction. Very high wear resistance (comparable to or even higher than polyamides).

Very high dimensional stability (better than that of polyacetal). Better resistance to acids than polyamide and polyacetal. Good electrical insulation properties. Physiologically safe (suitable for contact with foods). High resistance to high-energy radiation (gamma and X-rays).

### Product description

Material name, long description	Polyethylene terephthalate
Material name, short description	PET-C
Material Code	PET-C 00.009-00
Density	1.39 g/cm <sup>3</sup>
Color	nature (white)

### Mechanical properties

Modulus of elasticity and tension	Test value: 3600 MPa Test norm: ISO 527-2
Yield stress	Test value: 90 MPa Test norm: ISO 527-2
Elongation at break	Test value: 15 % Test norm: ISO 527-2
Notch impact strength	Test value: 3 kJ/m <sup>2</sup> Test norm: ISO 179-1/1eU Test parameter: Charpy
Impact strength	Test value: > 50 kJ/m <sup>2</sup> Test norm: ISO 179-1eA Test parameter: Charpy
Ball indentation hardness	Test value: 170 MPa Test norm: EN ISO 2039-1
Hardness	Test value: M95 Test norm: ISO 2039-2 Test parameter: Rockwell

### Thermal properties

Min. operating temperature	Test value: -20 °C
Max. operating temperature long term	Test value: +115 °C
Max. operating temperature short term	Test value: +160 °C
Crystalline melting point	Test value: 255 °C Test norm: ISO 3146 Test parameter: DSC, 10 K/min
Coefficient of linear thermal expansion	Test value: $0.6 \cdot 10^{-6}/K$ Test norm: ISO 11359 Test parameter: at length, 23 - 60 °C
Heat deflection temperature	Test value: 75 °C Test norm: ISO 75-2 Test parameter: HDT A Process
Thermal conductivity	Test value: 0.27 W/m·K Test norm: DIN 52612 Test parameter: + 23 °C

### Electrical properties

Dielectric loss factor	Test value: 0.014 / 0.001 Test norm: IEC 60250 Test parameter: 1 MHz / 100 Hz
Dielectric constant	Test value: 3.2 / 3.4 Test norm: IEC 60250 Test parameter: 1 MHz / 100 Hz
Dielectric strength	Test value: 22 kV/mm Test norm: IEC 60243-1 Test parameter: in transformer oil
Volume resistivity	Test value: $\geq 10^{13}$ Ohm·m Test norm: IEC 60093
Surface resistivity	Test value: $\geq 10^{14}$ Ohm Test norm: IEC 60093
Comparative tracking index	Test value: 600 Test norm: IEC 60112

### Other properties

Flammability	Test value: HB / HB Test norm: UL 94 Test parameter: thickness 3 / 6 mm
Moisture absorption	Test value: 0.3 % Test norm: ISO 62 Test parameter: normal climate 23 °C / 50 % r.h.
Water absorption at saturation	Test value: 0.5 % Test norm: ISO 62 Test parameter: in water at 23 °C

### Approvals

- FDA 21 CFR 177.1630



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.

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