

APSOplast® PEEK CF30 black opaque

Engineering Plastic Technology Technical Data Sheet

Application purpose and characteristics

Drive and material handling technology, mechanical engineering, chemical industry, automotive, aerospace engineering and vacuum technology
Good heat resistance and shape retention, chemical resistant, inherent flame-resistant, resistant against hydrolyse and superheated steam, very high stiffness, strength and creep strength, high-energy radiation resistant

Product description

Material name, long description	Polyether ether ketone
Material name, short description	PEEK
Material Code	PEEK CF30.002-00
Color	black opaque
Density	1.38 g/cm³

Mechanical characteristics

Flexural modulus of elasticity	Test value: 6800 MPa Test norm: DIN EN ISO 178 Test parameter: 2 mm/min, 10 N
Bending strength	Test value: 193 MPa Test norm: DIN EN ISO 178 Test parameter: 2 mm/min, 10 N
Elongation at break	Test value: 7 % Test norm: DIN EN ISO 527-2 Test parameter: 50 mm/min
Modulus of pressure	Test value: 5000 MPa Test norm: EN ISO 604 Test parameter: 5 mm/min, 10 N
Compressive strength at 1% deformation	Test value: 25 MPa Test norm: EN ISO 604 Test parameter: 5 mm/min, 10 N
Compressive strength at 2% deformation	Test value: 47 MPa Test norm: EN ISO 604 Test parameter: 5 mm/min, 10 N
Ball indentation hardness	Test value: 355 MPa Test norm: ISO 2039-1
Impact strength	Test value: 62 kJ/m² Test norm: DIN EN ISO 179-1eU Test parameter: Charpy, max. 7.5J
Elongation at yield	Test value: 7 % Test norm: DIN EN ISO 527-2 Test parameter: 50 mm/min
Yield stress	Test value: 122 MPa Test norm: DIN EN ISO 527-2 Test parameter: 50 mm/min
Modulus of elasticity and tension	Test value: 6800 MPa Test norm: DIN EN ISO 527-2 Test parameter: 1 mm/min
Tensile strength	Test value: 122 MPa Test norm: DIN EN ISO 527-2 Test parameter: 50 mm/min

Thermal characteristics

Max. operating temperature long term	Test value: 260 °C
Max. operating temperature short term	Test value: 300 °C Test parameter: short term
Glass transition temperature	Test value: 147 °C Test norm: DIN 53765
Crystalline melting point	Test value: 341 °C Test norm: DIN 53765
Specific heat capacity	Test value: 1.2 J/g·K Test norm: ISO 22007-4 2008
Thermal expansion	Test value: 4 · 10 ⁻⁵ K ⁻¹ Test norm: DIN EN ISO 11359-1,-2 Test parameter: 23-60°C, lengthwise Test value: 4 · 10 ⁻⁵ K ⁻¹ Test norm: DIN EN ISO 11359-1,-2 Test parameter: 23-100°C, lengthwise Test value: 6 · 10 ⁻⁵ K ⁻¹ Test norm: DIN EN ISO 11359-1,-2 Test parameter: 100-150°C, lengthwise
Thermal conductivity	Test value: 0.66 W/m·K Test norm: ISO 22007-4 2008

Electrical characteristics

Volume resistivity	Test value: 10 ³ - 10 ¹¹ Ohm·cm Test norm: DIN EN 61340-2,-3
Surface resistivity	Test value: 10 ² - 10 ¹⁰ Ohm Test norm: DIN EN 61340-2,-3

Other characteristics

Flammability	Test value: V0 Test norm: DIN IEC 60695-11,-10 Test parameter: UL94
Water absorption at saturation	Test value: 0.02 / 0.03 % Test norm: DIN EN ISO 62 Test parameter: 24h / 96h (23°C)