

PEEK

Product Description

High performance thermoplastic material, unreinforced PolyEtherEtherKetone (PEEK), semi crystalline, standard flow, FDA food contact compliant.

Typical Application Areas

Applications for higher strength and stiffness as well as high ductility. Chemically resistant to aggressive environments, suitable for sterilisation for medical and food contact applications.

Physical Data	Value	Test Metodu	Conditions
Density	1.30 g cm-3	ISO 11443	Crystalline
Shore D hardness	84.5 g cm-3	ISO 868	23 °C

Mechanical Data	Value	Test Method	Conditions
Tensile strength	98 MPa	ISO 527	23 °C, Yield
Tensile elongation	%45	ISO 527	23 °C, Break

Mechanical Data	Value	Test Method	Conditions
Tensile modulus	4.0 GPa	ISO 527	23 °C
Flexural strenght	125 MPa	ISO 178	23 °C, At %3.5 strain
Flexural modulus	3.8 GPa	ISO 178	23 °C
Compressive strength	125 MPa	ISO 604	23 °C
Charpy Impact Strength	7.0 kJ/m-2	ISO 179/1eA	23 °C, Notched
Izod Impact Strength	8.0 kJ/m-2	ISO 180/A	23 °C, Notched

Thermal Data	Value	Test Method	Conditions
Melting point	343 °C	ISO 11357	
Glass transition (Tg)	143 °C	ISO 11357	Onset
	150 °C		Midpoint

Thermal data	Value	Test method	Conditions
Coefficient of thermal expansion	45 ppm K-1	ISO 11359	Along flow below T _g
	55 ppm K-1		Average below T _g
	120 ppm K-1		Along flow above T _g
	140 ppm K-1		Average above T _g
Heat deflection temperature	152 °C	ISO 75-f	1.8 MPa, As moulded
	160 °C		200°C/4h Annealed, 1.8MPa
Thermal conductivity	0.32 W m-1 K-1	ISO 22007-4	23 °C, Along flow
	0.29 W m-1 K-1		23 °C, Average

Thermal data	Value	Test method	Conditions
Relative thermal index	260 °C	UL 746B	Electrical
	240 °C		Mechanical, w/o impact
	180 °C		Mechanical, w impact

Electrical Data	Value	Test Method	Conditions
Dielectric strength	23 kV mm-1	IEC 60243-1	2 mm thickness
	200 kV mm-1		50µm thickness
Dielectric constant	3.1 n/a	IEC 60250	23 °C, 1 kHz
	3.0 n/a		23 °C, 50 Hz
	4.5 n/a		200 °C, 50 Hz



BETHAFOX PEEK FILAMENT TDS

3D Print Conditions	
Drying temperature/time	150°C / 3h or 120°C / 5h
Nozzle temperature	430 - 450 °C
Build plate temperature	120 - 150 °C
Chamber temperature	≥ 90 °C

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