



Material: PEEK + Carbon Fibre, PTFE & Graphite

The addition of carbon fibres, graphite and PTFE to virgin PEEK results in a "bearing grade" PEEK.

Excellent chemical resistance, hydrolysis resistance, inherent low flammability, outstanding dimensional stability, operating temperature range (-30°C+250°C), resistance against high energy radiation, mechanical strength/stiffness and wear resistance make this grade especially suited for bearings and wear application.

Technical Specification

Property	Test Method	Units	Value
Colour	-	-	Black
Density	ISO 1183	g/cm ³	1.45
Water Absorption - saturation in air (23°C/50%RH)	-	%	0.14
Water Absorption - saturation in water (23°C)	-	%	0.30
Tensile strength* ¹	ISO 527	N/mm ²	75
Tensile modulus of elasticity* ¹	ISO 527	N/mm ²	5900
Elongation at break* ¹	ISO 527	%	5
Impact - Charpy* ¹	179/1eU	kJ/m ²	25
Impact – Charpy notched* ¹	180/2A	kJ/m ²	2.5
Hardness	Rockwell Shore D	-	M85
Melt point	-	°C	340
Max service temp in air short periods	-	°C	310
Max service temp continuously for 20000hrs	-	°C	250
Linear thermal expansion coefficient	-	K ⁻¹ x10 ⁻⁵	3.0
Thermal Conductivity	-	W/(K.m)	0.24
Flammability (3mm thickness)	-	-	V-0
Volume resistivity* ¹	IEC93	Ohm.cm	-
Dielectric strength* ¹	IEC243	Kv/mm	-
Outside applications – UV resistance	-	-	A
Acids – strong (Ph<3)	-	-	A
Alkalis – strong (pH>11)	-	-	A
Chlorinated Hydrocarbons	-	-	A
Hot Water	-	-	A
‘A’ – Acceptable service, ‘B’ – Limited, ‘C’ – Unacceptable			
* ¹ Measured on dry test specimens (where applicable)			

Availability:

Rod, 500mm, 1m & 3m long – 6-100mm diameter

Plate, 500mm, 1m & 3m long x 525mm wide – 5-8mm thickness

Plate, 500mm & 1m long x 305 & 625mm wide – 10-60mm thickness

Plate, 3m long x 305 & 625mm wide – 10-25mm thickness

Tube, 1m & 3m long, 50–200mm od x 30–160mm id.

Applications:

Bearings, Valve Seats, Pump Components, Rollers, Gears, High Temp Insulation, Components in boiling water or steam

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The data shown are typical values and are not intended to represent specifications. Their aim is to guide the user toward a material choice.

Not all material sizes shown within the availability programme of this data sheet are available as standard.

Please contact ABG Rubber and Plastics Ltd for further details.