PEEK (PolyEtherEtherKetone)

SMITHS

Exceptional Engineering Plastic for Severe Applications

Service. Quality. Value.

	-450G natural or Black, un-modified	-GL30 (30% Glass)	-FC30 (bearing grade)	-CA30 (30% carbon fibre)	-MG (medical grade)	
Mechanical Properties						
Density at 20°C	1.31	1.51	1.46	1.40	1.31	g/cm^3
Tensile strength @ yield	110	80	75	120	110	MPa
Elongation @ break	20	5	4	7	20	%
Tensile modulus of elasticity	4000	6550	4900	6500	4000	MPa
Flexural Strength	170	250	210	-	-	MPa
Impact Strength	No brk	40	27.5	-	-	kj/m^2
Notched Impact Strength	-	3	5	3	3	kj/m^2
Ball indentation hardness / Rockwell	230	250	220	310	230	N/mm^2
Hardness (Shore D)	88	91	85	91	88	-
Electrical Properties						
Volume resistivity	$\geq 10^{16}$	$\geq 10^{13}$	10^6	10^5	-	Ohm cm
Surface resistivity	$\geq 10^{15}$	$\geq 10^{13}$	-	-	-	Ohm
Dielectric constant @ 1 MHz	3.2	3.2	-	-	-	-
Dielectric loss factor @ 1 MHz	0.001	0.001	-	-	-	-
Comparative tracking index (CTI) Solution 'A'	–	175	-	-	-	-
Dielectric strength	20	20	-	-	-	Kv/mm
Thermal Properties						
Melting temperature	343	343	343	343	343	°C
Specific thermal capacity at 100°C	1.34	-	-	-	1.34	$kJ/(kg \cdot K)$
Coefficient of thermal expansion (Ave. between 20 - 60 °C)	50	30	30	25	50	$10^{-6} .K^{-1}$
Thermal conductivity at 20°C	0.25	0.43	0.24	-	0.25	$W/(m \cdot K)$
Heat deflection temperature - method A, 1.8 MPa	152	315	293	315	152	°C
Service temperature – long term	-60 to +250	-20 to +250	-30 to +250	-20 to +250	-60 to +250	°C
- shorter (max)	+310	+310	+310	+310	+310	
Other Physical Properties						
Moisture absorption Saturation in air @ 23°C and 50% RH	0.20	0.14	0.15	0.14	0.20	%
Flammability according to UL94 (3mm/6mm thick)	V0/V0	V0/V0	V0/V0	V0/V0	V0/V0	-
Suitability to bonding	+	+	-	+	-	-
Physiological indifference according to FDA or EEC 90/128 - natural colour	=		-	-	+	
Friction Co-efficient	0.34	0.42	0.11	-	-	DIN 53375
UV Stability	0	0	+	+	0	-