

Property Table

PEEK 450G

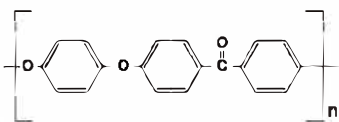
(Natural Grade)

PEEK 450GL30

(Glass Fiber Reinforced Grade)

PEEK 450CA30

(Carbon Fiber Reinforced Grade)



Properties	Test method ASTM	Unit	PEEK 450G	PEEK 450GL30	PEEK 450CA30
● Physical properties					
Specific Gravity	ASTM D792	-	1.3	1.52	1.44
Water Absorption 23°C 24hr	ASTM D570	%	0.14	0.06	-
● Mechanical properties					
Tensile Strength (23°C)	ASTM D638	MPa	97	172	236
Tensile Modulus (23°C)	ASTM D638	GPa	2.8	5.7	11.3
Flexural Strength (23°C)	ASTM D790	MPa	170	230	328
Flexural Modulus (23°C)	ASTM D790	GPa	3.7	9.9	21.1
Flexural Modulus (150°C)	ASTM D790	GPa	2.2	6.7	10.7
Compressive Strength (23°C)	ASTM D695	MPa	127	200	238
Izod Impact Strength (notched 3.2t)	ASTM D256	J/m	88	98	-
Rockwell Hardness (R scale)	ASTM D785	-	126	124	124
Rockwell Hardness (M scale)	ASTM D785	-	98	104	108
● Thermal properties					
Melting Point, Tm	-	°C	343	-	-
Glass Transition Temp, Tg	-	°C	143	-	-
Deflection Temperature at 0.45 MPa	ASTM D648	°C	-	-	-
Deflection Temperature at 1.82 MPa	ASTM D648	°C	152	-	300
Continuous service temperature	-	°C	(240)	(240)	(240)
Linear expansion coefficient (<Tg)			MD 4.8 TD 4.4	MD 1.1 TD 2.7	- -
Linear expansion coefficient (>Tg)	ASTM D696	10 ⁻⁵ /°C	MD 16 TD 16	MD 5.2 TD 9.9	- -
Thermal conductivity	ASTM C177	W/m · °C	0.25	0.37	-
Flame retardance(3.2mm)	UL94	-	V-0	V-0	-
● Electrical property					
Volume Resistivity	ASTM D257	Ω · m	10 ¹⁴ - 10 ¹⁵	-	1.4×10 ³
Dielectric breakdown voltage	ASTM D149	KV/m	19	-	-
Dielectric constant (10 ⁶ HZ)	ASTM D150		3.2 - 3.3	-	-
Dissipation Factor (10 ⁶ HZ)	ASTM D150		0.003	-	-

The above values are for reference only and are not guaranteed.