

FD-PEEK Product Properties

	Test Method	Conditions	Units	Typical Value					
				770G	550G	330G	770CA30	770CA20	770GL30
Mechanical Data									
Tensile Strength	ISO527	Yield, 23°C	MPa	98	98	110	260	210	180
Tensile Elongation	ISO527	Break, 23°C	%	45	28	24	6.4	6.5	7.6
Tensile Modulus	ISO527	23°C	Gpa	3.7	3.7	3.9	25	18	11.8
Flexural Strength	ISO178	23°C	MPa	165	165	175	380	310	270
Flexural Modulus	ISO178	23°C	Gpa	4.1	4.2	4.2	23	16	11.3
Compressive Strength	ISO604	23°C	MPa	120	120	120	300		250
Charpy Impact Strength	ISO179/leA	Notched, 23°C	kJ m^{-2}	7.0	6.0	4.0	7.0	7.0	7.5
Izod Impact Strength	ISO180/A	Notched, 23°C	kJ m^{-2}	7.5	6.5	5.5	14.9	12.4	14.1
	ISO180/U	Unnotched, 23°C	kJ m^{-2}	n/b	n/b	n/b	45	45	58
Thermal Data									
Melting Point	ISO11357		°C	343	343	343	343	343	343
Glass Transition(Tg)	ISO11357	Onset	°C	143	143	143	143	143	143
		Along flow below Tg		45	45	50	5	8	18
Coefficient of Thermal Expansion	ISO11359	Average below Tg	$\text{ppm}^{\circ}\text{C}^{-1}$	55	55	55	40	45	45
		Along flow above Tg		120	120	120	6	8	18
		Average above Tg		140	140	140	100	110	110
Heat Deflection Temperature	ISO75-f	18MPa	°C	152	152	156	336	325	328
Thermal Conductivity	ISO/CD22007-4	23°C	$\text{Wm}^{-1}\text{c}^{-1}$	0.28	0.28	0.29	0.95	0.95	0.3
Flow									
Melt Viscosity	ISO11443	400°C	Pa.s	350	300	130	675	550	560
Miscellaneous									
Density	ISO1183	Crystalline	gcm^{-3}	1.3	1.3	1.3	1.4	1.37	1.51
		Amorphous		1.26	1.26	1.26			
Shore Hardness	ISO868	23°C		87	84	87	90	87	89
Water Absorption	ISO62-1	24h, 23°C	%	0.03	0.03	0.03	0.02	0.02	0.02
		Equilibrium, 23°C		0.4	0.4	0.4	0.3	0.4	0.3
Fire Smoke Toxicity									
Flammability Rating	UL94			n/a	V-0@16mm	V-0@16mm	V-0@16mm	V-0@16mm	V-0@16mm
Electrical Data									
Dielectric Strength	IEC60243-1	2.5mm thickness	kVmm^{-1}	15	17	16			20
Volume Resistivity	IEC60093	23°C	Ωcm	10^{16}	10^{16}	10^{16}			10^{16}
Loss Tangent	IEC60250	23°C, 1MHz	n/a	0.003	0.003	0.003			0.005
Mould Shrinkage									
Mould Shrinkage	ISO294-4	Along flow	%	1.0	1.0	1.0	0.1	0.2	0.3
		Across flow		1.3	1.3	1.3	0.5	0.7	0.9

