SINOPAEK

PEEK Product Catalog

Material Properties	Test Method	Conditions	Units	Peek Polymer-unfilled Granule Grades				Friction And Wear Polymer Grades		Carbon Fiber Reinforced Grades					Glass Fiber Reinforced Grades					
				7000 G	5100 G	5000 G	3000 G	3000 FC30	7000 FC30	7000 CA30	5000 CA30	3000 CA30	7000 CA20	5000 CA20	7000 GL30	5000 GL30	3000 GL30	7000 GL20	5000 GL20	3000 GL20
Mechanical Data																				
Tesile Stength	ISO527	Break 23℃	MPa	-	-	-	-	150	140	260	250	250	210	205	175	175	185	155	155	145
		Yield 23℃	MPa	100	100	100	110	-	-	-	-	-	-	-	-	-	-	-	-	-
Tensile Elogation	ISO527	Break 23℃	%	45	40	40	25	2	2.2	1.7	1.6	1.5	2.1	2	2.7	2.7	2.5	3.3	3.3	2.4
Flexural Strength	ISO 178	Break 23℃	MPa	-	-	-	-	220	230	380	370	360	310	310	265	265	275	245	245	235
	ISO 178	Yield 23℃	MPa	165	170	170	175	-	-	-	-	-	-	-	-	-	-	-	-	-
Flexural Modulus	ISO 178	23℃	Gpa	4.1	4.2	4.2	4.3	11.5	11.5	23	22	21	16	16	11.3	11.3	11.5	8.8	8.8	8.5
Compressive Strength	ISO 604	23℃	MPa	125	125	125	130	170	170	300	300	300	-	-	250	250	250	-	-	-
CharpyImpact Strength	ISO 179/leA	Notched	kJm^{-2}	7	6	6	4	4	5	7	7	6	7	7	8	8	7.5	7	7	6
	ISO 179/IU	Un notched	kJm^{-2}	-	-	-	-	30	35	45	45	40	45	45	55	55	50	45	45	35
Izod Impact Strength	ISO 180/A	Notched	kJm^{-2}	7.5	6.5	6.5	5	5	6	9	9	8	8	8	10	10	9	7.5	7.5	7
	ISO 180/U	Un notched	kJm^{-2}	-	-	-	-	30	35	45	45	40	40	40	60	60	50	60	60	35
Mould Shrinkage	ISO 294-4	Along flow	%	1	1	1	1	0.3	0.3	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3
		Across flow	%	1.3	1.3	1.3	1.3	0.7	0.7	0.5	0.5	0.5	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8
Thermal Data																				
Melting Point	ISO 11357		℃	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343
Glass Transition (Tg)	ISO 11357	Onset	℃	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143
Special Heat Capacity	DSC	23℃	$KJKg^{-1}℃^{-1}$	2.2	2.2	2.2	2.2	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7
Coefficient of Thermal Expansion	ISO 11359	Along flow below Tg	$ppmK^{-1}$	45	45	45	50	12	15	5	5	5	8	8	18	18	20	20	20	25
		Along flow above Tg	$ppmK^{-1}$	120	120	120	120	15	20	6	6	6	8	8	18	18	20	22	22	25
Heat Deflection Temperature	ISO 75A-f	1.8Mpa	℃	152	152	152	156	315	315	336	336	339	325	325	328	328	335	315	315	323
Thermal Conductivity	ASTM C177	23℃	$Wm^{-1}K^{-1}$	0.29	0.29	0.29	0.29	0.87	0.87	0.95	0.95	0.95	0.95	0.95	0.3	0.3	0.3	0.3	0.3	0.3
Flow																				
Melt Index	ISO 1133	380℃，5kg	$g10min^{-1}$	10	14	20	80	-	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous																				
Density	ISO 1183	Crystallized	gcm^3	1.3	1.3	1.3	1.3	1.45	1.45	1.4	1.4	1.4	1.37	1.37	1.51	1.51	1.52	1.43	1.43	1.43
		Amorphous	gcm^3	1.26	1.26	1.26	1.26	-	-	-	-	-	-	-	-	-	-	-	-	-
Shore D Hardness	ISO 868	23℃	-	85	85	85	85	83	83	88	88	88	86	86	88	88	87	86	86	86
Water Absorption (3.2mm thick Tensile Bar)	ISO 62-1	24h,23℃	%	0.07	0.07	0.07	0.07	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.04	0.04	0.04	0.05	0.05	0.05
（by immersion)	Equilibrium23℃		%	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.4
Electrical Data																				
Dielectric Strength	IEC 60243-1	2mm	$kV\ mm^{-1}$	23	23	23	23	-	-	-	-	-	-	-	25	25	23	24	24	23
Comparative Tracking Index	IEC 60112		V	-	-	-	-	-	-	-	-	-	-	-	150	150	150	150	150	150
Dielectric Constant	IEC 60250	23℃,1kHz	-	3.1	3.2	3.2	3.2	-	-	-	-	-	-	-	3.2	3.2	3.3	3.1	3.1	3.2
		23℃,50kHz	-	3	4.5	4.5		-	-	-	-	-	-	-	-	-	-	-	-	-
Loss Tangent	IEC 60250	23℃,1MHz	-	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
Volume Resistivity	IEC 60093	23℃,1V	Ωcm	10^{16}	10^{16}	10^{16}	10^{16}	10^{8}	10^{10}	10^{5}	10^{5}	10^{5}	10^{7}	10^{7}	10^{16}	10^{16}	10^{16}	10^{16}	10^{16}	10^{16}
		275℃	Ωcm	10^{9}	10^{9}	10^{9}	10^{9}	-	-	-	-	-	-	-	-	-	-	-	-	-