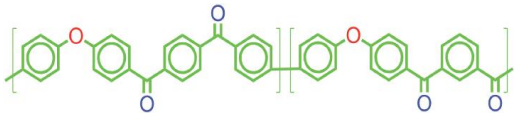
PolyEtherKetoneKetone (PEKK)



It is a high-performance thermoplastic material, based on PolyEtherKetoneKetone (PEKK) highly stable chemical backbone. PEKK is a unique member of the PAEK family, with distinctive structural features allowing for unrivalled possibilities in the control of crystallinity. These features include a high Ketone content and a co-polymer structure, incorporating Terephtalic and Isophtalic moieties.

PEKK is available in pellet form as well as in flake and powder form with different particle sizes.

Benefit

- ✓ Outstanding Continuous Use Temperature
- ✓ Excellent Mechanical Strength: Tensile, Compressive, Impact
- ✓ Excellent inherent Flame Smoke and Toxicity (FST) properties
- ✓ Exceptional Chemical Resistance
- ✓ High Dielectric Strength at ambient and elevated temperatures.

Application

Depending on the final product production method and intended use, Quilliant PEKK is adapted to a large choice of processing methods including:

- ✓ Extrusion
- ✓ 3D printing: selective laser sintering (SLS) and fused filament fabrication (FFF)
- ✓ Powder coating
- ✓ Injection molding
- ✓ Rotomolding
- ✓ Polymer impregnation.

Quilliant

			PEKK 60		PEKK 70				PEKK 80			
Item	Unit	Standard	Powder	Granule	Powder	Granule	30%GF	30%CF	Powder	Granule	30%GF	30%CF
一般性能 General												
密度 Density		ISO 1183	1.27	1.28	1.3	1.31	1.52	1.42	1.3	1.3	1.52	1.42
吸水率@23°C water absorption	g/cm^3	ISO 62	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
熔融指数(380℃/5Kg)Melt volume flow rate	g/10min	ISO 1133	20 ~ 80	20 ~ 40	40 ~ 80	20 ~ 40	7 ~ 10	4 ~ 10	40 ~ 80	20 ~ 40	7 ~ 10	4 ~ 10
阻燃性能 @1.5mm Flammability	%	UL 94	V-0	V-0	V-0	V-0	V-0	V-0	V-0	V-0	V-0	V-0
机械性能 mechanical property												
拉伸强度 Tensile strength	MPa	ISO 527	85-95	85-90	100 ~ 110	100 ~ 110	160 ~ 175	240 ~ 260	115	115	175	260
拉伸模量 Tensile modulus	Gpa	ISO 527	3	3	4	4	12	24	4	4	12	24
断裂伸长率 Elongation at break	%	ISO 527	> 100	> 100	70 ~ 100	70 ~ 100	1.5 ~ 2	1.5 ~ 2	10 ~ 20	15 ~ 25	1.5 ~ 2	1.5-2
弯曲强度 Flexual strength	Mpa	ISO 178	125 ~ 135	125 ~ 135	160 ~ 170	160 ~ 170	255 ~ 265	355 ~ 365	170 ~ 185	170 ~ 185	260 ~ 270	360 ~ 370
弯曲模量 Flexual modulus	Gpa	ISO 178	3.0 ~ 3.5	3.0 ~ 3.5	4.2	4.2	10	21	4.2	4.2	10	21
热性能 Thermo property												
玻璃化转变温度(T_g) Glass Transition (Tg)	°C	ISO 11357	158	158	162	162	162	162	165	165	165	165
熔融温度(T_m) Melting Temperature	°C	ISO 11357	305	305	335	335	335	335	355	355	355	355