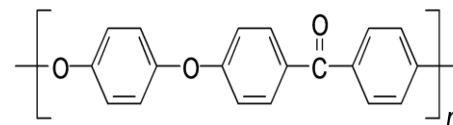


Polyetheretherketone (PEEK/ Carbon Fiber)

SPECIFICATIONS

Property	Spec	Value
Density	ASTM D792-00	1.40 g/cc
Tensile Strength	ASTM D1708	17,000 psi
Elongation	ASTM D1708	5.50 %
Initial Hardness	ASTM D2240	90 Shore D
Flexural Strength @ 73°F	ASTM D790	25,277
Flexural Modulus of Elasticity @ 73°F	ASTM D790	1,065,583
Compressive Strength	ASTM D695	31,436 psi
Compressive Modulus	ASTM D695	582.995 Kpsi
Coefficient of Thermal Expansion (stress relieved)	ASTM E831-03	
78-100 °C Below Tg $\alpha 10^{-6} \mu\text{m}/(\text{m}^{\circ}\text{C})$	MD	29.03
78-150 °C Above Tg $\alpha 10^{-6} \mu\text{m}/(\text{m}^{\circ}\text{C})$	MD	45.80
78-250 °C Above Tg $\alpha 10^{-6} \mu\text{m}/(\text{m}^{\circ}\text{C})$	MD	82.90



DESCRIPTION

MK30 is a PEEK material with hardness 90 Shore D, specially compounded with PEEK and Carbon fiber. Polyetheretherketone (PEEK) belongs to ketone polymer family. It has a highly conjugated molecular structure with aromatic, ketone and ether linkages. The double ether linkages in PEEK make it more flexible and capable of crystallizing than other members in the ketone polymer family. This chemical structure provides PEEK with exceptional physical and chemical stability at very high temperatures and in aggressive chemical environments. PEEK has much greater mechanical properties and dimensional integrity at high temperatures than other polymers thus it is regarded as the most advanced high performance polymer in demanding applications. Due to the nature of crystallinity of PEEK, its properties can be affected by process temperature controls. Fillers improve PEEK's performance. Glass or carbon fiber can increase the mechanical properties and dimensional stability of PEEK. PTFE, graphite or carbon powder can reduce friction or increase wear life. PEEK articles can be molded by injection or compression process. PEEK is relatively new and it was commercialized only in the late 1970s.