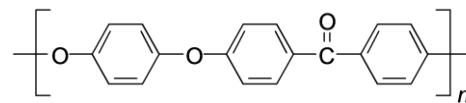


## Polyetheretherketone (Filled PEEK)

### SPECIFICATIONS

Property	Spec	Value	
Density	ASTM D792-00	1.51 g/cc	
Tensile Strength	ASTM D1708	7,000 psi	
Elongation	ASTM D1708	7 %	
Initial Hardness	ASTM D2240	80/75 Shore D	
Flexural Strength @ 73°F	ASTM D790	NDA	
Flexural Modulus of Elasticity @ 73°F	ASTM D790	NDA	
Compressive Strength	ASTM D695	13,728 psi	
Compressive Modulus	ASTM D695	213.41 Kpsi	
Coefficient of Thermal Expansion (stress relieved)	ASTM E831-03		
		78-100 °C Below Tg	MD $\alpha 10^{-6} \mu\text{m}/(\text{m}^{\circ}\text{C})$
		78-150 °C Above Tg	MD $\alpha 10^{-6} \mu\text{m}/(\text{m}^{\circ}\text{C})$
		78-250 °C Above Tg	MD $\alpha 10^{-6} \mu\text{m}/(\text{m}^{\circ}\text{C})$



### DESCRIPTION

MK38 is a PEEK material with hardness 80/75 Shore D, specially compounded as a standard grade. 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.