



## Polyetheretherketone (PEEK carbon fiber reinforced)

### SPECIFICATIONS

Property	Spec	Value
Specific Gravity	D-792	1.41
Hardness	Shore D	92
Tensile Strength (ultimate)	D-638	19,200 psi
Elongation (ultimate)	D-638	4.70%
Flexural Strength	D-790	26,500 psi
Flexural Modulus	D-790	1,400,000 psi
Compressive Strength	D-695	27,000 psi
Compressive Modulus	D-695	520,000 psi
Water Absorption		
24hrs. @ 73F	D-570	0.14%
Coefficient of Linear Expansion	D-696	15 in/in/F x 10 <sup>-6</sup>
78F to 400F		
Wear Rate @ 200psi, 100fpm	D-3702	5.2 in/min x 10 <sup>-6</sup>
Coefficient of Friction	D-3702	0.3
dynamic @ 200psi, 100fpm		

### DESCRIPTION

MK08 is a PEEK material with hardness 92 Shore D, specially compounded with reinforced 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.