



Polyetheretherketone (Unfilled PEEK)

SPECIFICATIONS

Property	Spec	Value
Tensile Modulus	ISO 527-1/-2	3700 MPa
Tensile Strength	ISO 527-1/-2	100 MPa
Stress at break	ISO 527-1/-2	100 MPa
Strain at break	ISO 527-1/-2	45%
Charpy notched impact strength (+23°C)	ISO 179/1eA	7 kJ/m ²
Flexural modulus (23°C)	ISO 178	4100 MPa
Izod Impact notched (23°C)	ISO 180/1A	7.5 kJ/m ²
Izod Impact unnotched (23°C)	ISO 180/1U	N kJ/m ²
Shore D hardness (15s)	ISO 868	87
Melting temperature	ISO 11357-1/-3	343°C
Glass transition temperature(10°C/min)	ISO 11357-1/-2	143°C
Temp. of deflection under load (1.80 MPa)	ISO 75-1/-2	152°C
Coefficient of linear therm. Expansion (parallel)	ISO 11359-1/-2	45 E-6/K
Burning behavior @ 1.5mm nom. thickness	IEC 60695-11-10	V-0 class
Thickness tested	IEC 60695-11-10	1.5 mm
Oxygen Index	ISO 4589-1/-2	35%

DESCRIPTION

MK11 is a PEEK material with hardness 87 Shore D, specially compounded for food and beverage applications. 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.