

# DATASHEET

## KETRON PEEK 1000

Ketron PEEK 1000 stock shapes are produced from virgin polyetheretherketone resin and offer the highest toughness and impact strength of all Ketron PEEK grades. Both Ketron PEEK 1000 natural and black can be sterilised by all conventional sterilisation methods (steam, dry heat, ethylene oxide, and gamma radiation).

### Applications

- Structural Parts
- Bushings
- Bearings
- Seals
- Back Up Rings

### Availability

- Colour – Natural & Black
- Type – Sheets, Rods & Tubes
- Regularly produced in a wide variety of thicknesses

### Typical Properties

General Properties	Method	Unit	Test Result
<b>Physical Properties</b>			
Colour	-	-	Tan, Black
Density	ISO 1183-1	g/cm <sup>2</sup>	1.31
Water Absorption:			
- After 24h immersion in water of 23°C	ISO 62	mg	0.06
- At saturation in water of 23°C	-	%	0.45
<b>Thermal Properties</b>			
Melting Temperature (DSC, 10°C/min)	ISO 11357 – 1/-3	°C	340
Glass Transition Temperature (DSC, 10°C/min)	ISO 11357 – 1/-2	°C	-
Thermal Conductivity at 23°C	-	W/(K.m)	0.25
Coefficient of Linear Thermal Expansion:			
- Average value between 23 and 100°C	-	W/(K.m)	50x10 <sup>-6</sup>
- Average value between 23 and 150°C	-	W/(K.m)	55x10 <sup>-6</sup>
- Average value above 150°C	-	W/(K.m)	130x10 <sup>-6</sup>
Temperature of Deflection Under Load:			
- Method A: 1.8 MPa	ISO 75-1/-2	°C	160
Max Allowable Service Temperature in Air:			
- Continuously: for 5,000 to 20,000h	-	°C	250
Minimum Service Temperature	-	°C	-50

Flammability:			
- According to UL94 (3/6mm thickness)	-	-	V-0
<b>Mechanical Properties</b>			
Tension Test:			
- Tensile Strength	ISO 527-1/-2	MPa	115
- Tensile Strain at Yield	ISO 527-1/-2	%	5
- Tensile Strain at Break	ISO 527-1/-2	%	17
- Tensile Modulus of Elasticity	ISO 527-1/-2	MPa	4300
Flexural Test:			
- Flexural Strength	ISO 178	MPa	170
- Flexural Modulus of Elasticity	ISO 178	MPa	
Compression Test:			
- Compressive Stress @ 1/2/5% Nominal Strain	ISO 604	MPa	38/75/140
Charpy Impact Strength - Unnotched	ISO 179-1-1eU	kJ/m <sup>2</sup>	No break
Charpy Impact Strength - Notched	ISO 179-1-1eU	kJ/m <sup>2</sup>	3.5
Rockwell Hardness	ISO 2039-2	-	105
Dynamic Coefficient of Friction	ISO 7148-2(15)	-	0.3-0.5
Wear Rate	ISO 7148-2(15)	Um/km	28
<b>Electrical Properties</b>			
Electric Strength	EC 60243-1	kV/mm	24
Volume Resistivity	IEC 60093	Ohm.cm	>10E 14
Surface Resistivity	IEC 60093	Ohm	>10E 13
Relative Permittivity – at 1MHz	IEC 60250	-	3.2
Dielectric Dissipation Factor – at 1 MHz	IEC 60250	-	0.002