

# DATASHEET

## KETRON PEEK HPV

The addition of carbon fibres, PTFE and graphite to virgin PEEK results in a Ketron PEEK “bearing grade”. Its excellent tribological properties (low friction, long wear and high pressure-velocity capabilities) make this grade especially suited for wear and friction applications.

### Applications

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

### Availability

- Colour – 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	-	-	Black
Density	ISO 1183-1	g/cm <sup>3</sup>	1.45
Water Absorption:			
- After 24h immersion in water of 23°C	ISO 62	mg	0.05
- At saturation in water of 23°C	-	%	0.35
<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)	0.78
Coefficient of Linear Thermal Expansion:			
- Average value between 23 and 100°C	-	W/(K.m)	35x10 <sup>-6</sup>
- Average value between 23 and 150°C	-	W/(K.m)	40x10 <sup>-6</sup>
- Average value above 150°C	-	W/(K.m)	85x10 <sup>-6</sup>
Temperature of Deflection Under Load:			
- Method A: 1.8 MPa	ISO 75-1/-2	°C	195
Max Allowable Service Temperature in Air:			
- Continuously: for 5,000 to 20,000h	-	°C	250
Minimum Service Temperature	-	°C	-20
Flammability:			

- According to UL94 (3/6mm thickness)	-	-	V-0
<b>Mechanical Properties</b>			
Tension Test:			
- Tensile Strength	ISO 527-1/-2	MPa	78
- Tensile Strain at Yield	ISO 527-1/-2	%	
- Tensile Strain at Break	ISO 527-1/-2	%	3
- Tensile Modulus of Elasticity	ISO 527-1/-2	MPa	5900
Flexural Test:			
- Flexural Strength	ISO 178	MPa	125
- Flexural Modulus of Elasticity	ISO 178	MPa	
Compression Test:			
- Compressive Stress @ 1/2/5% Nominal Strain	ISO 604	MPa	46/80/120
Charpy Impact Strength - Unnotched	ISO 179-1-1eU	kJ/m <sup>2</sup>	25
Charpy Impact Strength - Notched	ISO 179-1-1eU	kJ/m <sup>2</sup>	3
Rockwell Hardness	ISO 2039-2	-	85
Dynamic Coefficient of Friction	ISO 7148-2(15)	-	0.15-0.25
Wear Rate	ISO 7148-2(15)	Um/km	2
<b>Electrical Properties</b>			
Electric Strength	EC 60243-1	kV/mm	
Volume Resistivity	IEC 60093	Ohm.cm	
Surface Resistivity	IEC 60093	Ohm	
Relative Permittivity – at 1MHz	IEC 60250	-	
Dielectric Dissipation Factor – at 1 MHz	IEC 60250	-	