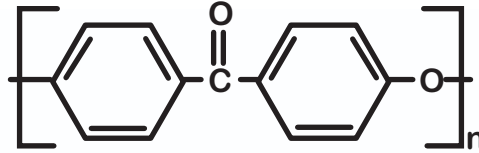


## PEK Polyether Ketone (G-PAEK™)

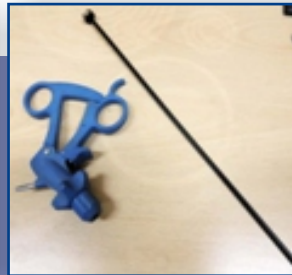
With glass transition temperature of 152°C and melting temperature of 373°C, G-PAEK™ polymer delivers extended High Temperature performance over various engineering polymer while offering advantages such as Toughness, Strength and Chemical Resistance.



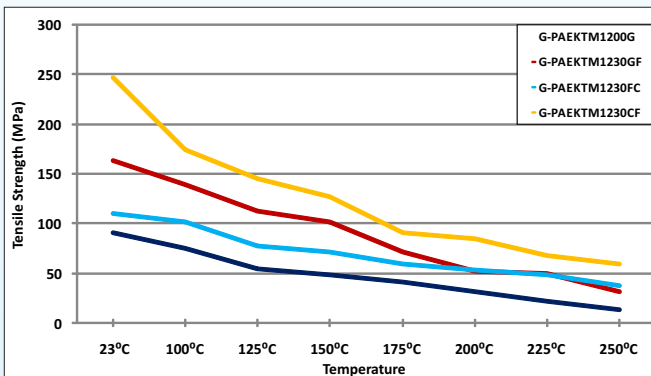
Polyether Ketone (PEK)

### Key points for G-PAEK™ High Performance Polymer:

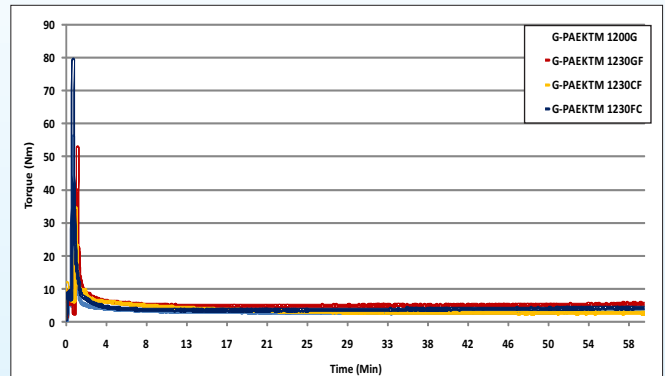
- Retention of Mechanical and Physical properties upto 280°C, higher than PEEK polymer.
- Excellent Creep and Compressive Strength
- Excellent Gamma Radiation Resistance, Chemical Resistance and Hydrolysis Resistance.
- Excellent Electrical performance at ambient as well as at Higher Temperature.



Subsea connector, Bush for oil and gas industries, Laparoscopic Tools, Textile parts



Tensile Strength at Elevated Temperature



Thermal Stability HAAKE curve of G-PAEK™ Compounds

### G-PAEK™ Grades:

Gharda Chemicals Limited has developed various grades as per the market and customer requirement according to applications. G-PAEK™ is available in unfilled as well filled polymers in powder as well as granules form.

Grade	Viscosity	Powder Application	Granule Application
1100P/G	High Viscosity	Compression Molding	Stock Shape
1200P/G	Medium Viscosity	Compounding or Coating	Injection Molding or Compounding
1300P/G	Low Viscosity	Compounding or Coating	Injection Molding or Compounding
1400P/G	Very Low Viscosity	compounding	Injection Molding or Compounding



## PEK Polyether Ketone (G-PAEK™)

Typical Properties	Test Method /Conditions	Unit	G-PAEK™ 1100G	G-PAEK™ 1200G	G-PAEK™ 1230GF	G-PAEK™ 1230CF	G-PAEK™ 1230FC
<b>General properties</b>							
Density	23°C	g/cc	1.31	1.31	1.5	1.4	1.45
Water Absorption	ASTM D 570-98	%	0.08	0.08	0.05	0.05	0.05
Rockwell Hardness	ASTM D 785/M scale	-	82	82	85	85	83
<b>Thermal properties</b>							
Glass Transition Temperature	ASTM D 3418	°C	152	152	152	152	152
Melting Point	ASTM D 3418	°C	372	372	372	372	372
Heat Deflection Temperature	ASTM D 648/1.8 Mpa	°C	185	180	354	356	126
Thermal Conductivity	ASTM E 1530	w/mK	0.181	0.181	0.245	0.385	0.275
Continuous use temperature*	UL 746B	°C	280	280	280	280	280
<b>Mechanical properties</b>							
Tensile strength	ASTM D 638	MPa	110	105	185	265	140
Tensile modulus	ASTM D 638	GPa	4.3	4.2	11.5	28.4	11.5
Elongation at break	ASTM D 638	%	25	15	3	3	2
Flexural strength	ASTM D 790	MPa	190	185	280	410	210
Flexural Modulus	ASTM D 790	GPa	4.1	4.1	10.5	28	10.5
Compressive strength	ASTM D 695	MPa	130	125	150	170	112
Izod Impact strength (Notched)	ASTM D 256	J/m	65	60	60	60	45
Izod Impact Strength (Un Notched)	ASTM D 256	J/m	NB	NB	NB	NB	NB
<b>Electrical properties</b>							
Surface resistivity	ASTM D 257	Ω	1.0 X 10 <sup>16</sup>	1.0 X 10 <sup>16</sup>	1.0 X 10 <sup>16</sup>	1.0 X 10 <sup>11</sup>	1.0 X 10 <sup>16</sup>
Volume Resistivity	ASTM D 257	Ωcm	1.0 X 10 <sup>16</sup>	1.0 X 10 <sup>16</sup>	1.0 X 10 <sup>16</sup>	1.0 X 10 <sup>11</sup>	1.0 X 10 <sup>16</sup>
<b>Flammability</b>	UL 94/0.8 mm	-	V-0	v-0	V-0	V-0	V-0

\*All the properties are tested under standard Laboratory conditions \*Material Tested upto 280°C continuously in Gharda Laboratory

The addition of Glass Fibre reinforcement drastically increases the mechanical properties at various temperatures. Addition of Carbon Fibre filled grades helps in reduction of thermal expansion rates and improves thermal conductivity. We also have specialized wear grade for Tribological applications mainly for Textile, Automotive Industry.

### India (Head Office)

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