



G-PAEK™ 1230FC

Product Details: Ultra high performance lubricated polymer, carbon fiber, PTFE, graphite and MoS₂ filled in Polyether Ketone, semi-crystalline granules suitable for injection molding, easy flow, Black in color.

Application Areas: Suitable for high temperature application, where higher strength & stiffness in load-bearing application. Excellent wear resistance. Chemically resistant to aggressive environments, suitable for sterilization for medical and food contact applications.

Typical Properties:

PROPERTY	TEST METHOD/CONDITIONS	UNIT	G-PAEK™ 1230FC
General Properties			
Density	23°C	g/cc	1.45
Water Absorption	ASTM D 570-98	%	0.05
Rockwell Hardness	ASTM D 785/M Scale		106
Shore D Hardness	ASTM D 2240-05		91
Mold Shrinkage (410°C nozzle, 220°C Mold)	Along Flow	%	0.11
	Across Flow	%	0.50

Thermal Properties			
Glass Transition Temperature(Tg)	ASTM D 3418	°C	152
Melting Point (Tm)	ASTM D 3418	°C	372
Heat Deflection Temperature (HDT)	ASTM D 648 /1.8 MPa	°C	349
Max. Service Temperature (Expected)	UL 746B	°C	280

Mechanical Properties at 23°C			
Tensile Strength	ASTM D 638	MPa	140
Tensile Modulus	ASTM D 638	GPa	11.50
Elongation at Break	ASTM D 638	%	1.5-2
Flexural Strength	ASTM D 790	MPa	210
Flexural Modulus	ASTM D 790	GPa	10.5
Izod Impact Strength(Notched)	ASTM D 256	J/m	45
Izod Impact Strength(Un-notched)	ASTM D 256	J/m	610



PROPERTY	TEST METHOD/CONDITIONS	UNIT	G-PAEK™ 1230FC
Electrical Properties			
Surface Resistivity	ASTM D 257	Ω	10 ⁹

Fire Properties			
Flammability	UL 94/0.8 mm	-	V-0

Tribology Properties			
Sp. Wear Rate (Ko)	PV _{Limits} =32.62 MPa.m/s,V=1.5 m/s	(m ³ /Nm) X10 ⁽⁻¹⁶⁾	6.09
Coefficient of Friction (μ)	PV _{Limits} =32.62 MPa.m/s,V=1.5 m/s	(μ)	0.17

Recommended Processing Conditions	
Drying Temperature/Time	4-6 hrs at 150°C
Temperature Settings	390-420°C
Nozzle Temperature	420°C
Hopper/ Throat Temperature	60-80°C
Mold Temperature	200-220°C

Nominal Granule Size	
<ul style="list-style-type: none"> • Dimensions, length 2.0 – 4.0 mm, diameter 2.0 – 3.5 mm • No longs greater than 8.0 mm • Granules of uniform cut and color 	

THE INFORMATION PROVIDED IN THIS DATA SHEET CORRESPONDS TO OUR KNOWLEDGE ON THE SUBJECT AT THE DATE OF ITS PUBLICATION. THIS INFORMATION MAY BE SUBJECT TO REVISION AS NEW KNOWLEDGE AND EXPERIENCE BECOMES AVAILABLE. THE DATA PROVIDED FALL WITHIN THE NORMAL RANGE OF PRODUCT PROPERTIES AND RELATE ONLY TO THE SPECIFIC MATERIAL DESIGNATED; THESE DATA MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS, ADDITIVES OR PIGMENTS OR IN ANY PROCESS, UNLESS EXPRESSLY INDICATED OTHERWISE. THE DATA PROVIDED SHOULD NOT BE USED TO ESTABLISH SPECIFICATION LIMITS OR USED ALONE AS THE BASIS OF DESIGN; THEY ARE NOT INTENDED TO SUBSTITUTE FOR ANY TESTING YOU MAY NEED TO CONDUCT TO DETERMINE FOR YOURSELF THE SUITABILITY OF A SPECIFIC MATERIAL FOR YOUR PARTICULAR PURPOSES. SINCE GHARDA PLASTICS CANNOT ANTICIPATE ALL VARIATIONS IN ACTUAL END-USE CONDITIONS GHARDA PLASTICS MAKES NO WARRANTIES AND ASSUMES NO LIABILITY IN CONNECTION WITH ANY USE OF THIS INFORMATION. NOTHING IN THIS PUBLICATION IS TO BE CONSIDERED AS A LICENSE TO OPERATE UNDER OR A RECOMMENDATION TO INFRINGE ANY PATENT RIGHTS. GHARDA PLASTICS ADVISES YOU TO SEEK INDEPENDENT COUNSEL FOR A FREEDOM TO PRACTICE OPINION ON THE INTENDED APPLICATION OR END-USE OF OUR PRODUCTS. FOR FURTHER INFORMATION, PLEASE CONTACT YOUR GHARDA PLASTICS REPRESENTATIVE