



# G-PAEK™ 1100ESG

**Product Details:** Ultra high Performance thermoplastic polymer, virgin, semicrystalline granules suitable for stock shapes extrusion, easy flow, Beige in color.

**Application Areas:** Suitable for high temperature applications, high wear & abrasion resistance, and high chemical resistance is required & for metal replacement with plastics etc.

**Typical Properties:**

PROPERTY	TEST METHOD/CONDITIONS	UNIT	G-PAEK™ 1100ESG
<b>General Properties</b>			
Density	23°C	g/cc	1.30
Water Absorption	ASTM D 570-98	%	0.04
Rockwell Hardness	ASTM D 785/M Scale	-	100
Shore D Hardness	ASTM D 2240-05	-	86
Mold Shrinkage (400°C nozzle, 210°C Mold)	Along Flow	%	1.0
	Across Flow	%	1.3

<b>Thermal Properties</b>			
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	175
Continuous Use Temperature ( Expected)	UL 746B	°C	280

<b>Mechanical Properties at 23°C</b>			
Tensile Strength	ASTM D 638	MPa	110
Tensile Modulus	ASTM D 638	GPa	4.2
Elongation at Break	ASTM D 638	%	20-25
Flexural Strength	ASTM D 790	MPa	185
Flexural Modulus	ASTM D 790	GPa	4.1
Compressive Strength	ASTM D 695	MPa	135
Izod Impact Strength(Notched)	ASTM D 256	J/m	60

<b>Rheological Properties</b>			
Melt Viscosity at 400°C	ASTM D 3835/@1000 s <sup>-1</sup>	Pa.s	300-350



PROPERTY	TEST METHOD/CONDITIONS	UNIT	G-PAEK™ 1100ESG
<b>Fire Properties</b>			
Flammability	UL 94/0.8 mm	-	V-0

<b>Recommended Processing Conditions</b>	
Drying Temperature/Time	4-6 hrs at 150°C
Temperature Settings	390-400°C
Nozzle Temperature	400°C
Hopper/ Throat Temperature	60-80°C
Mold Temperature	200-220°C

<b>Nominal Granule Size</b>
• 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

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