

VICTREX[™] WG102

> Product Description:

High performance thermoplastic material, **P**oly**A**ryl**E**ther**K**etone (PAEK), semi crystalline, granules for injection moulding, standard flow, reinforced with wear additives, colour black.

WG102 does not contain polytetrafluoroethylene (PTFE), other halogenated additives or talc.

> Typical Application Areas:

Higher temperature tribological applications for high strength and stiffness. Excellent wear resistance, low coefficient of friction, low coefficient of thermal expansion. Chemically resistant to aggressive environments.

Material Properties

Mechanical Data Break, 23°C ISO 527 MPa 195 Tensile Strength Break, 125°C 130 85 Break, 125°C 150 527 MPa 85 Dereak, 27°C ISO 527 % 2.0 Tensile Elongation Break, 23°C ISO 527 % 2.0 Tensile Modulus 23°C ISO 527 GPa 19.5 Flexural Strength 23°C ISO 178 MPa 290 128°C ISO 178 MPa 200 220 175°C ISO 178 MPa 290 220 175°C ISO 178 GPa 17 Compressive Strength 23°C ISO 178 GPa 17 Compressive Strength 23°C ISO 178 GPa 175 20°C 20°C 80 250°C 80 210°C ISO 179/16A K J m² 5.0 Charpy Impact Strength Notched, 23°C ISO 179/14A K J m² 6.0 Unnotched, 23°C		CONDITIONS	TEST METHOD	UNITS	TYPICAL VALUE
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		Along flow, 23°C	ISO 22007-4	W m ⁻¹ K ⁻¹	1
			1		1.3
Flow	Flow				
Melt Viscosity400°CISO 11443Pa.s575	Melt Viscosity	400°C	ISO 11443	Pa.s	575

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Miscellaneous				
Density	Crystalline	ISO 1183	g cm⁻³	1.44
Shore D hardness	23°C	ISO 868		86
Electrical Properties				
Volume Resistivity	23°C, 1V	IEC 60093	Ω cm	10 ⁷

Typical Processing Conditions				
Drying Temperature / Time	150°C / 3h or 120°C / 5h (residual moisture <0.02%)			
Temperature settings	390 / 395 / 400 / 405 / 410°C (Nozzle)			
Hopper Temperature	Not greater than 100°C			
Mould Temperature	190°C - 215°C			
Runner	Die / nozzle >3mm, manifold >3.5mm			
Gate	>2mm or 0.5 x part thickness			
Runner	Die / nozzle >3mm, manifold >3.5mm			

Mould Shrinkage and Spiral Flow					
Spiral Flow	410°C nozzle, 190°C tool	1mm thick section	Victrex	mm	85
		3mm thick section			360
Mould Shrinkage	410°C nozzle, 190°C tool	Along flow	ISO 294-4	%	0.1
		Across flow			0.6

Important notes:

1) Processing conditions quoted in our datasheets are typical of those used in our processing laboratories

Data for mould shrinkage should be used for material comparison. Actual mould shrinkage values are highly dependent on part geometry, mould configuration, and processing conditions.

Mould shrinkage differs for along flow and across flow directions. "Along flow" direction is taken as the direction the molten material is travelling when it exits the gate and enters the mould.

- Mould shrinkage is expressed as a percent change in dimension of a specimen in relation to mould dimensions.
- 2) Data are generated in accordance with prevailing national, international and internal standards, and should be used for material comparison. Actual property values are highly dependent on part geometry, mould configuration and processing conditions. Properties may also differ for along flow and across flow directions

Detailed data available on our website www.victrex.com or upon request

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