

VICTREX® WG101™

➤ **Product Description:**

High performance thermoplastic material, PolyArylEtherKetone (PAEK), semi crystalline, granules for injection moulding, easy flow, reinforced with wear additives, colour black.

WG101 does not contain polytetrafluoroethylene (PTFE) or other halogenated additives.

➤ **Typical Application Areas:**

Tribological applications with thin cross sections or long flow lengths, with higher strength and stiffness. Excellent wear resistance, very low coefficient of friction and low coefficient of thermal expansion. Chemically resistant to aggressive environments.

➤ **Material Properties**

	CONDITIONS	TEST METHOD	UNITS	TYPICAL VALUE
Mechanical Data				
Tensile Strength	Break, 23 °C	ISO 527	MPa	180
	Break, 125 °C			125
	Break, 175 °C			85
	Break, 225 °C			65
	Break, 275 °C			55
Tensile Elongation	Break, 23 °C	ISO 527	%	1.9
Tensile Modulus	23 °C	ISO 527	GPa	19
Flexural Strength	23 °C	ISO 178	MPa	280
Flexural Modulus	23 °C	ISO 178	GPa	17
Compressive Strength	23 °C	ISO 604	MPa	220
	120 °C			160
	200 °C			65
	250 °C			40
Charpy Impact Strength	Notched, 23 °C	ISO 179/1eA	kJ m ⁻²	5.0
	Unnotched, 23 °C	ISO 179/1U		35
Izod Impact Strength	Notched, 23 °C	ISO 180/A	kJ m ⁻²	5.5
	Unnotched, 23 °C	ISO 180/U		35
Thermal Data				
Melting Point		ISO 11357	°C	343
Glass Transition (Tg)	Onset	ISO 11357	°C	143
Coefficient of Thermal Expansion	Along flow below Tg	ISO 11359	ppm °C ⁻¹	9
	Average below Tg			35
	Along flow above Tg			10
	Average above Tg			90
Heat Deflection Temperature	1.8 MPa	ISO 75-f	°C	343
Thermal Conductivity	23 °C	ISO/CD 22007-4	W m ⁻¹ °C ⁻¹	1.30
Flow				
Melt Viscosity	400 °C	ISO 11443	Pa.s	350

Miscellaneous				
Density	Crystalline	ISO 1183	g cm ⁻³	1.44
Shore D hardness	23 °C	ISO 868		90
Water Absorption (3.2mm thick Tensile bar)	24h, 23 °C	ISO 62-1	%	0.04
(by immersion)	Equilibrium, 23 °C			0.3

Electrical Properties				
Volume Resistivity	23 °C, 1V	IEC 60093	Ωcm	10 ⁶

Recommended Processing Conditions	
Drying Temperature / Time	150 °C / 3h or 120 °C / 5h
Temperature settings	370 / 375 / 380 / 385 / 390 °C (Nozzle)
Hopper Temperature	Not greater than 100 °C
Mould Temperature	180 °C - 210 °C (max 250 °C)
Runner	Die / nozzle >3mm, manifold >3.5mm
Gate	>2mm or 0.5 x part thickness

Mould Shrinkage and Spiral Flow					
Spiral Flow	390 °C nozzle, 200 °C tool	1mm thick section	Victrex	mm	135
Mould Shrinkage	390 °C nozzle, 200 °C tool	Along flow	ISO 294-4	%	0.0
		Across flow			0.5

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

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