

VICTREX® PAEK WG™ 101

Polyaryletherketone

Victrex plc

Message:

High performance thermoplastic material, PolyArylEtherKetone (PAEK), reinforced with wear additives, semi crystalline, granules for injection moulding, easy flow, FDA food contact compliant, colour black. WG101 does not contain polytetrafluoroethylene (PTFE) or other halogenated additives. 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.

General Information			
Features	Semicrystallization		
	Low friction coefficient		
	Rigidity, high		
	High strength		
	Good liquidity		
	Good chemical resistance		
	Good wear resistance		
	Compliance of Food Exposure		
	Halogen-free		
Agency Ratings	FDA Food Exposure, Not Rated		
Appearance	Black		
Forms	Particles		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density ¹	1.44	g/cm³	ISO 1183
Spiral Flow	13.5	cm	
Molding Shrinkage ²			ISO 294-4
Vertical flow direction	0.50	%	ISO 294-4
Flow direction	0.0	%	ISO 294-4
Water Absorption			ISO 62
23°C, 24 hr, 3.20 mm	0.040	%	ISO 62
Balance, 23°C, 3.20mm, 50% RH	0.30	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D, 23°C)	85		ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	19000	MPa	ISO 527-2
Tensile Stress			ISO 527-2
Fracture, 23°C	180	MPa	ISO 527-2
Fracture, 125°C	125	MPa	ISO 527-2
Fracture, 175°C	85.0	MPa	ISO 527-2

Fracture, 225°C	65.0	MPa	ISO 527-2
Fracture, 275°C	55.0	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	1.9	%	ISO 527-2
Flexural Modulus (23°C)	17000	MPa	ISO 178
Flexural Stress			ISO 178
23°C	280	MPa	ISO 178
125°C	220	MPa	ISO 178
175°C	140	MPa	ISO 178
275°C	70.0	MPa	ISO 178
Compressive Stress			ISO 604
23°C	230	MPa	ISO 604
120°C	160	MPa	ISO 604
200°C	65.0	MPa	ISO 604
250°C	45.0	MPa	ISO 604
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	5.0	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	35	kJ/m ²	ISO 179/1U
Notched Izod Impact (23°C)	5.5	kJ/m ²	ISO 180/A
Unnotched Izod Impact Strength (23°C)	35	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	343	°C	ISO 75-2/Af
Glass Transition Temperature	143	°C	ISO 11357-2
Melting Temperature	343	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow: < 143°C	9.0E-6	cm/cm/°C	ISO 11359-2
Flow: > 143°C	1.0E-5	cm/cm/°C	ISO 11359-2
Lateral: < 143°C	3.5E-5	cm/cm/°C	ISO 11359-2
Lateral: > 143°C	8.5E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	1.3	W/m/K	ISO 22007-4
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity ³ (23°C)	1.0E+6	ohms · cm	IEC 60093
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (400°C)	350	Pa · s	ISO 11443
Injection	Nominal Value	Unit	
Drying Temperature	120 - 150	°C	
Drying Time	3.0 - 5.0	hr	
Hopper Temperature	< 100	°C	
Rear Temperature	370	°C	
Middle Temperature	375 - 380	°C	
Front Temperature	385	°C	
Nozzle Temperature	390	°C	

Mold Temperature	180 - 210	°C
Injection instructions		
Runner: Die / nozzle >3mm, manifold >3.5mmGate: >2mm or 0.5 x part thickness		
NOTE		
1.	Crystalline	
2.	390°C nozzle, 200°C tool	
3.	1V	

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