

VICTREX FG™ 240



Product Description

High performance Food Grade thermoplastic material, carbon fiber reinforced PolyEtherEtherKetone (PEEK), semi crystalline, granules for injection moulding and extrusion, colour black.

Typical Application Areas

The VICTREX FG™ 200 family of materials is intended for applications needing toughness and ductility from sub-ambient to elevated temperatures along with long-term fatigue resistance and low coefficient of thermal expansion for metal replacement. Chemically resistant to aggressive environments, suitable for sterilisation.

MATERIAL PROPERTIES				
	CONDITIONS	TEST METHOD	UNITS	TYPICAL VALUE
Mechanical Data				
Tensile Fatigue	23°C, 10 ⁶ cycles		MPa	175 @ 5Hz
	120°C, 10 ⁶ cycles		MPa	120 @ 5Hz
Izod Impact Strength	Notched, 23°C	ISO 180/A	kJ m ⁻²	10.5
	Unnotched, 23°C	ISO 180/U		50
Tensile Strength	Break, 23°C	ISO 527	MPa	265
	Break, 125°C			160
	Break, 175°C			85
	Break, 275°C			50
Tensile Elongation	Break, 23°C	ISO 527	%	1.7
Flexural Strength	23°C	ISO 178	MPa	380
	125°C			275
	175°C			130
	275°C			65
Flexural Modulus	23°C	ISO 178	GPa	24
Compressive Strength	23°C	ISO 604	MPa	320
	120°C			200
	200°C			70
Thermal Data				
Melting Point		ISO 11357	°C	343
Glass Transition (Tg)	Onset	ISO 11357	°C	143
	Midpoint			150
Coefficient of Thermal Expansion	Along flow below Tg	ISO 11359	ppm K ⁻¹	5
	Average below Tg			40
	Along flow above Tg			6
	Average above Tg			100
Heat Deflection Temperature	1.8 MPa	ISO 75-f	°C	336
Thermal Conductivity	Average, 23°C	ISO 22007-4	W m ⁻¹ K ⁻¹	0.95
Miscellaneous				
Density	Crystalline	ISO 1183	g cm ⁻³	1.40
Shore D hardness	23°C	ISO 868		87.5
Water Absorption by immersion	Saturation, 23°C	ISO 62-1	%	0.3
	Saturation, 100°C			0.45
Electrical Properties				
Volume Resistivity	23°C	IEC 60093	Ω cm	10 ⁵

Typical Processing Conditions	
Drying Temperature / Time	150°C / 3h or 120°C / 5h (residual moisture <0.02%)
Temperature settings	375 / 380 / 385 / 390 / 395°C (Nozzle)
Hopper Temperature	Not greater than 100°C
Mould Temperature	180°C - 210°C
Runner	Die / nozzle >3mm, manifold >3.5mm
Gate	>2mm or 0.5 x part thickness

Mould Shrinkage + spiral flow					
Spiral Flow	395°C nozzle, 200°C tool	1mm thick section	Victrex	mm	75
		3mm thick section			330
Mould Shrinkage	395°C nozzle, 200°C tool	Along flow	ISO 294-4	%	0.1
		Across flow			0.5

Important notes:

- 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.
- 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.

World Headquarters

Victrex plc
 Hillhouse International
 Thornton Cleveleys, Lancashire
 FY5 4QD, United Kingdom
 TEL +44 (0)1253 897700
 FAX +44 (0)1253 897701
 MAIL victrexplc@victrex.com

Victrex plc and/or its group companies ("Victrex plc") believes that the information contained in this document is an accurate description of the typical characteristics and/or uses of the product or products, but it is the customer's responsibility to thoroughly test the product in each specific application to determine its performance, efficacy, and safety for each end-use product, device or other application. Suggestions of uses should not be taken as inducements to infringe any particular patent. The information and data contained herein are based on information we believe reliable. Mention of a product in this document is not a guarantee of availability. Victrex plc reserves the right to modify products, specifications and/or packaging as part of a continuous program of product development. Victrex plc makes no warranties, express or implied, including, without limitation, a warranty of fitness for a particular purpose or of intellectual property non-infringement, including, but not limited to patent non-infringement, which are expressly disclaimed, whether express or implied, in fact or by law. Further, Victrex plc makes no warranty to your customers or agents, and has not authorized anyone to make any representation or warranty other than as provided above. Victrex plc shall in no event be liable for any general, indirect, special, consequential, punitive, incidental or similar damages, including without limitation, damages for harm to business, lost profits or lost savings, even if Victrex has been advised of the possibility of such damages regardless of the form of action. VICTREX™, APTIV™, VICOTE™, VICTREX PIPES™, VICTREX HT™, VICTREX ST™, VICTREX WG™, PEEK-ESD™ and the Triangle (Device), are trademarks of Victrex plc or its group companies