

Technical Data

Product Description

VICTREX™ PEEK POLYMERS 450FC30 High performance thermoplastic material, 30% reinforced with carbon fibre / graphite / PTFE PolyEtherEtherKetone (PEEK), semi crystalline, granules for injection moulding and extrusion, standard flow, FDA food contact compliant, colour black.

Tribological applications for high strength. Excellent wear resistance, very low coefficient of friction, low coefficient of thermal expansion. Chemically resistant to aggressive environments.

General	VICTREX™ PEEK POLYMERS 450FC30	UL Yellow Card Victrex PEEK 150FC30, 450FC30
Manufacturer / Supplier	• Victrex plc	• Underwriters Laboratories Inc.
Generic Symbol	• PEEK	• Unspecified
Material Status	• Commercial: Active	• Commercial: Active
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America	• North America
Filler / Reinforcement	• Carbon\Graphite\PTFE, 30% Filler by Weight	--
Agency Ratings	• FDA Food Contact	--
Appearance	• Black	--
Forms	• Granules	--
Processing Method	• Extrusion • Injection Molding	--

Physical	VICTREX™ PEEK POLYMERS 450FC30	UL Yellow Card Victrex PEEK 150FC30, 450FC30	Unit	Test Method
Density (Crystalline)	1.45	--	g/cm ³	ISO 1183
Spiral Flow				Internal Method
-- ²	8.00	--	cm	
-- ³	38.0	--	cm	
Molding Shrinkage ⁴				ISO 294-4
Across Flow	0.70	--	%	
Flow	0.30	--	%	
Dimensional Change	--	0.0	%	ASTM D1042 ISO 2796
Water Absorption (Saturation, 23°C)	0.35	--	%	ISO 62
Water Absorption - Saturation (100°C)	0.45	--	%	ISO 62

Mechanical	VICTREX™ PEEK POLYMERS 450FC30	UL Yellow Card Victrex PEEK 150FC30, 450FC30	Unit	Test Method
Tensile Modulus (23°C)	13000	--	MPa	ISO 527-1
Tensile Stress				ISO 527-2
Break, 23°C	150	--	MPa	
Break, 125°C	95.0	--	MPa	
Break, 175°C	55.0	--	MPa	
Break, 225°C	45.0	--	MPa	
Break, 275°C	35.0	--	MPa	
Tensile Strain (Break, 23°C)	2.3	--	%	ISO 527-2
Flexural Modulus (23°C)	11500	--	MPa	ISO 178



Mechanical	VICTREX™ PEEK POLYMERS 450FC30	UL Yellow Card Victrex PEEK 150FC30, 450FC30	Unit	Test Method
Flexural Stress				ISO 178
23°C	230	--	MPa	
125°C	160	--	MPa	
175°C	80.0	--	MPa	
275°C	45.0	--	MPa	
Compressive Stress				ISO 604
23°C	170	--	MPa	
120°C	110	--	MPa	
200°C	45.0	--	MPa	
Impact	VICTREX™ PEEK POLYMERS 450FC30	UL Yellow Card Victrex PEEK 150FC30, 450FC30	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 Strength (23°C)	7.0	--	kJ/m ²	ISO 180/A
Unnotched Izod Impact Strength (23°C)	35	--	kJ/m ²	ISO 180
Hardness	VICTREX™ PEEK POLYMERS 450FC30	UL Yellow Card Victrex PEEK 150FC30, 450FC30	Unit	Test Method
Shore Hardness (Shore D, 23°C)	83	--		ISO 868
Thermal	VICTREX™ PEEK POLYMERS 450FC30	UL Yellow Card Victrex PEEK 150FC30, 450FC30	Unit	Test Method
Deflection Temperature Under Load 1.8 MPa, Unannealed	315	--	°C	ISO 75-2/Af
Glass Transition Temperature				ISO 11357-2
Onset	143	--	°C	
Midpoint	150	--	°C	
Melting Temperature	343	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : < 143°C	1.5E-5	--	cm/cm/°C	
Flow : > 143°C	2.0E-5	--	cm/cm/°C	
Transverse : < 143°C	4.5E-5	--	cm/cm/°C	
Transverse : > 143°C	1.2E-4	--	cm/cm/°C	
Thermal Conductivity				ISO 22007-4
23°C ⁵	0.85	--	W/m/K	
23°C ⁶	1.7	--	W/m/K	
RTI Imp				UL 746B
--	180	--	°C	
0.75 mm	--	180	°C	
1.5 mm	--	180	°C	
3.0 mm	--	180	°C	
RTI Str				UL 746B
--	240	--	°C	
0.75 mm	--	220	°C	
1.5 mm	--	240	°C	
3.0 mm	--	240	°C	



Electrical	VICTREX™ PEEK POLYMERS 450FC30	UL Yellow Card Victrex PEEK 150FC30, 450FC30	Unit	Test Method
Volume Resistivity ⁷ (23°C)	1.0E+10	--	ohms-cm	IEC 60093
High Amp Arc Ignition (HAI)				UL 746A
0.75 mm	--	PLC 3		
1.5 mm	--	PLC 4		
3.0 mm	--	PLC 4		
Hot-wire Ignition (HWI)				UL 746A
0.75 mm	--	PLC 0		
1.5 mm	--	PLC 0		
3.0 mm	--	PLC 0		
Flammability	VICTREX™ PEEK POLYMERS 450FC30	UL Yellow Card Victrex PEEK 150FC30, 450FC30	Unit	Test Method
Flame Rating				UL 94 IEC 60695-11-10, -20
0.75 mm, BK	--	V-0		
1.5 mm, BK	--	V-0		
3.0 mm, BK	--	V-0		
Glow Wire Flammability Index (2.0 mm)	960	--	°C	IEC 60695-2-12
Fill Analysis	VICTREX™ PEEK POLYMERS 450FC30	UL Yellow Card Victrex PEEK 150FC30, 450FC30	Unit	Test Method
Melt Viscosity (400°C)	550	--	Pa·s	ISO 11443
Injection	VICTREX™ PEEK POLYMERS 450FC30	UL Yellow Card Victrex PEEK 150FC30, 450FC30	Unit	
Drying Temperature	120 to 150	--	°C	
Drying Time	3.0 to 5.0	--	hr	
Hopper Temperature	< 100	--	°C	
Rear Temperature	365	--	°C	
Middle Temperature	370 to 375	--	°C	
Front Temperature	380	--	°C	
Nozzle Temperature	385	--	°C	
Mold Temperature	170 to 200	--	°C	

Injection Notes

VICTREX™ PEEK POLYMERS 450FC30 Runner: Die / nozzle >3mm, manifold >3.5mm
 Gate: >2mm or 0.5 x part thickness

Notes

- ¹ Typical properties: these are not to be construed as specifications.
- ² Mold Temperature: 200°C, Melt Temperature: 385°C, 1.00 mm
- ³ Mold Temperature: 200°C, Melt Temperature: 385°C, 3.00 mm
- ⁴ 385°C nozzle, 200°C tool
- ⁵ Average
- ⁶ Along flow
- ⁷ 1V

