

# VICTREX® PEEK 150CA30

Polyetheretherketone

Victrax plc

# PROSPECTOR®

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## Technical Data

### Product Description

High performance thermoplastic material, 30% carbon fibre reinforced PolyEtherEtherKetone (PEEK), semi crystalline, granules for injection moulding, easy flow, FDA food contact compliant, colour black.

Complex geometries with thin cross sections or long flow length where higher strength in a static or dynamic system is required. Excellent wear resistance, low coefficient of friction, low coefficient of thermal expansion. Chemically resistant to aggressive environments.

### General

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Filler / Reinforcement	• Carbon Fiber, 30% Filler by Weight
Features	• Chemical Resistant • Food Contact Acceptable • Good Flow • High Strength • Low Friction • Semi Crystalline • Wear Resistant
Agency Ratings	• FDA Food Contact, Unspecified Rating • Rolls Royce #DMSRR 1018
Appearance	• Black
Forms	• Granules
Processing Method	• Injection Molding

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density <sup>2</sup>	1.40 g/cm <sup>3</sup>	1.40 g/cm <sup>3</sup>	ISO 1183
Spiral Flow <sup>3, 4</sup>	5.51 in	14.0 cm	Internal Method
Molding Shrinkage <sup>5</sup>			ISO 294-4
Across Flow	0.50 %	0.50 %	
Flow	0.10 %	0.10 %	
Water Absorption (Saturation, 73°F (23°C))	0.30 %	0.30 %	ISO 62
Water Absorption - Saturation (212°F (100°C))	0.45 %	0.45 %	ISO 62

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus (73°F (23°C))	4.06E+6 psi	28000 MPa	ISO 527-2
Tensile Stress			ISO 527-2
Break, 73°F (23°C)	39200 psi	270 MPa	
Break, 257°F (125°C)	24700 psi	170 MPa	
Break, 347°F (175°C)	15200 psi	105 MPa	
Break, 527°F (275°C)	8700 psi	60.0 MPa	
Tensile Strain (Break, 73°F (23°C))	1.5 %	1.5 %	ISO 527-2
Flexural Modulus (73°F (23°C))	3.48E+6 psi	24000 MPa	ISO 178
Flexural Stress			ISO 178
73°F (23°C)	55100 psi	380 MPa	
257°F (125°C)	39900 psi	275 MPa	
347°F (175°C)	18900 psi	130 MPa	
527°F (275°C)	9430 psi	65.0 MPa	
Compressive Stress			ISO 604
73°F (23°C)	43500 psi	300 MPa	
248°F (120°C)	29000 psi	200 MPa	
392°F (200°C)	10200 psi	70.0 MPa	

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength (73°F (23°C))	2.9 ft·lb/in <sup>2</sup>	6.0 kJ/m <sup>2</sup>	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1U
73°F (23°C)	21 ft·lb/in <sup>2</sup>	45 kJ/m <sup>2</sup>	
Notched Izod Impact Strength (73°F (23°C))	3.6 ft·lb/in <sup>2</sup>	7.5 kJ/m <sup>2</sup>	ISO 180/A
Unnotched Izod Impact Strength (73°F (23°C))	19 ft·lb/in <sup>2</sup>	40 kJ/m <sup>2</sup>	ISO 180



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Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Shore Hardness (Shore D, 73°F (23°C))	88	88	ISO 868
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature 264 psi (1.8 MPa), Unannealed	642 °F	339 °C	ISO 75-2/Af
Glass Transition Temperature			ISO 11357-2
--6	289 °F	143 °C	
--7	297 °F	147 °C	
Melting Temperature	649 °F	343 °C	ISO 11357-3
CLTE			ISO 11359-2
Flow : < 289°F (< 143°C)	2.8E-6 in/in/°F	5.0E-6 cm/cm/°C	
Flow : > 289°F (> 143°C)	3.3E-6 in/in/°F	6.0E-6 cm/cm/°C	
Transverse : < 289°F (< 143°C)	2.2E-5 in/in/°F	4.0E-5 cm/cm/°C	
Transverse : > 289°F (> 143°C)	5.6E-5 in/in/°F	1.0E-4 cm/cm/°C	
Thermal Conductivity			ISO 22007-4
73°F (23°C) <sup>8</sup>	6.6 Btu·in/hr/ft <sup>2</sup> /°F	0.95 W/m/K	
73°F (23°C) <sup>9</sup>	14 Btu·in/hr/ft <sup>2</sup> /°F	2.0 W/m/K	
RTI Imp	392 °F	200 °C	UL 746
RTI Str	464 °F	240 °C	UL 746
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Volume Resistivity <sup>10</sup> (73°F (23°C))	1.0E+5 ohms·cm	1.0E+5 ohms·cm	ASTM D4496
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Glow Wire Flammability Index 0.08 in (2.0 mm)	1760 °F	960 °C	IEC 60695-2-12
Toxicity			NES 713
CO Content	0.0500	0.0500	
CO2 Content	0.120	0.120	
Total Gases	0.170	0.170	
Fill Analysis	Nominal Value (English)	Nominal Value (SI)	Test Method
Melt Viscosity (752°F (400°C))	300 Pa·s	300 Pa·s	ISO 11443
Injection	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	248 to 302 °F	120 to 150 °C	
Drying Time	3.0 to 5.0 hr	3.0 to 5.0 hr	
Hopper Temperature	< 212 °F	< 100 °C	
Rear Temperature	689 °F	365 °C	
Middle Temperature	698 to 707 °F	370 to 375 °C	
Front Temperature	716 °F	380 °C	
Nozzle Temperature	725 °F	385 °C	
Mold Temperature	356 to 410 °F	180 to 210 °C	

**Injection Notes**

Runner: Die / nozzle >3mm, manifold >3.5mm  
Gate: >2mm or 0.5 x part thickness



**Notes**

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> Crystalline

<sup>3</sup> Mold Temperature: 392°F (200°C), Melt Temperature: 725°F (385°C)

<sup>4</sup> 1 mm

<sup>5</sup> 385°C nozzle, 200°C tool

<sup>6</sup> Onset

<sup>7</sup> Midpoint

<sup>8</sup> Average

<sup>9</sup> Along flow

<sup>10</sup> 1V



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### Where to Buy

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#### Supplier

##### **Victrex plc**

Lancashire, United Kingdom

**Telephone:** +44-1253-897700

**Web:** <http://www.victrex.com/>

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#### Distributor

##### **Biesterfeld Plastic GmbH**

*Biesterfeld Plastic GmbH is a Pan European distribution company. Contact Biesterfeld Plastic GmbH for availability of individual products by country.*

**Telephone:** +49-40-32008-0

**Web:** <http://www.biesterfeld-plastic.com/>

**Availability:** Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Greece, Hungary, Romania, Serbia, Slovakia, Slovenia

##### **CISKO Plastics (HK) Limited**

**Telephone:** +86-18027555338

**Web:** <http://www.ciskoplas.en.ec21.com>

**Availability:** China

