

VICTREX® PEEK™ 450GL30

➤ **Product Description:**

High performance thermoplastic material, 30% glass fibre reinforced PolyEtherEtherKetone (PEEK), semi crystalline, granules for injection moulding and extrusion, standard viscosity, FDA food contact compliant, colour natural/beige.

➤ **Typical Application Areas:**

Applications for higher strength in a static system. Low coefficient of thermal expansion. Chemically resistant to aggressive environments, suitable for sterilization for medical and food contact applications.

➤ **Material Properties**

| | CONDITIONS | TEST METHOD | UNITS | TYPICAL VALUE |
|----------------------------------|-----------------------|----------------|--------------------------------------|---------------|
| Mechanical Data | | | | |
| Tensile Strength | Break, 23 °C | ISO 527 | MPa | 180 |
| | Break, 125 °C | | | 115 |
| | Break, 175 °C | | | 60 |
| | Break, 275 °C | | | 35 |
| Tensile Elongation | Break, 23 °C | ISO 527 | % | 2.7 |
| Tensile Modulus | 23 °C | ISO 527 | GPa | 11.8 |
| Flexural Strength | 23 °C | ISO 178 | MPa | 270 |
| | 125 °C | | | 190 |
| | 175 °C | | | 80 |
| | 275 °C | | | 50 |
| Flexural Modulus | 23 °C | ISO 178 | GPa | 11.3 |
| Compressive Strength | 23 °C | ISO 604 | MPa | 250 |
| | 120 °C | | | 160 |
| | 200 °C | | | 55 |
| Charpy Impact Strength | Notched, 23 °C | ISO 179/1eA | kJ m ⁻² | 8.0 |
| | Unnotched, 23 °C | ISO 179/1U | | 55 |
| Izod Impact Strength | Notched, 23 °C | ISO 180/A | kJ m ⁻² | 10 |
| | Unnotched, 23 °C | ISO 180/U | | 60 |
| Thermal Data | | | | |
| Melting Point | | ISO 11357 | °C | 343 |
| Glass Transition (Tg) | Onset | ISO 11357 | °C | 143 |
| Specific Heat Capacity | 23 °C | DSC | kJ kg ⁻¹ °C ⁻¹ | 1.7 |
| Coefficient of Thermal Expansion | Along flow below Tg | ISO 11359 | ppm °C ⁻¹ | 18 |
| | Average below Tg | | | 45 |
| | Along flow above Tg | | | 18 |
| | Average above Tg | | | 110 |
| Heat Deflection Temperature | 1.8 MPa | ISO 75-f | °C | 328 |
| Thermal Conductivity | 23 °C | ISO/CD 22007-4 | W m ⁻¹ °C ⁻¹ | 0.30 |
| Relative Thermal Index | Electrical | UL 746B | °C | 240 |
| | Mechanical w/o impact | | | 240 |
| | Mechanical w/impact | | | 220 |

| Flow | | | | | |
|--|---|-------------------|---------------------|------------------|-----|
| Melt Viscosity | 400 °C | ISO 11443 | Pa.s | 560 | |
| Miscellaneous | | | | | |
| Density | Crystalline | ISO 1183 | g cm ⁻³ | 1.51 | |
| Shore D hardness | 23 °C | ISO 868 | | | 89 |
| Water Absorption (3.2mm thick Tensile bar) | 24h, 23 °C | ISO 62-1 | % | 0.04 | |
| (by immersion) | Equilibrium, 23 °C | | | 0.3 | |
| Electrical Properties | | | | | |
| Dielectric Strength | 2.5mm thickness | IEC 60243-1 | kV mm ⁻¹ | 20 | |
| Loss Tangent | 23 °C, 1 MHz | IEC 60250 | n/a | 0.005 | |
| Dielectric Constant | 23 °C, 1 kHz | IEC 60250 | n/a | 3.2 | |
| Volume Resistivity | IEC 60093 | | Ωcm | 10 ¹⁶ | |
| Fire Smoke Toxicity | | | | | |
| Flammability Rating | UL94 | | n/a | V-0 @ 0.5 mm | |
| Glow Wire Test | 2mm thickness | IEC 60695-2-12 | °C | 960 | |
| Recommended Processing Conditions | | | | | |
| Drying Temperature / Time | 150 °C / 3h or 120 °C / 5h | | | | |
| Temperature settings | 360 / 370 / 375 / 380 / 385 °C (Nozzle) | | | | |
| Hopper Temperature | Not greater than 100 °C | | | | |
| Mould Temperature | 180 °C - 200 °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 | 385 °C nozzle, 190 °C tool | 1mm thick section | Victrex | mm | 85 |
| | | 3mm thick section | 410 | | |
| Mould Shrinkage | 385 °C nozzle, 190 °C tool | Along flow | ISO 294-4 | % | 0.3 |
| | | Across flow | 0.9 | | |

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

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