

# VICTREX™ PEEK POLYMER 450P

## General Information

### Product Description

High performance thermoplastic material, unreinforced PolyEtherEtherKetone (PEEK), semi crystalline, coarse powder for extrusion compounding, standard flow, colour natural.

## Material Properties

| Physical                              | Nominal Value | Unit              | Test Method |
|---------------------------------------|---------------|-------------------|-------------|
| Density                               | 1.30          | g/cm <sup>3</sup> | ISO 1183    |
| Mechanical                            | Nominal Value | Unit              | Test Method |
| Tensile Modulus (23°C)                | 4000          | MPa               | ISO 527-1   |
| Tensile Stress (Yield, 23°C)          | 98.0          | MPa               | ISO 527-2   |
| Tensile Strain (Break, 23°C)          | 30            | %                 | ISO 527-2   |
| Flexural Modulus (23°C)               | 3800          | MPa               | ISO 178     |
| Flexural Stress (23°C)                | 160           | MPa               | ISO 178     |
| Impact                                | Nominal Value | Unit              | Test Method |
| Notched Izod Impact Strength (23°C)   | 7.0           | kJ/m <sup>2</sup> | ISO 180/A   |
| Unnotched Izod Impact Strength (23°C) | No Break      |                   | ISO 180     |
| Thermal                               | Nominal Value | Unit              | Test Method |
| Glass Transition Temperature          |               |                   | ISO 11357-2 |
| Onset                                 | 143           | °C                |             |
| Midpoint                              | 150           | °C                |             |
| Melting Temperature                   | 343           | °C                | ISO 11357-3 |
| Fill Analysis                         | Nominal Value | Unit              | Test Method |
| Melt Viscosity (400°C)                | 350           | Pa·s              | ISO 11443   |

## Typical Processing Information

| Extrusion              | Nominal Value | Unit |
|------------------------|---------------|------|
| Drying Temperature     | 120 to 150    | °C   |
| Drying Time            | 3.0 to 5.0    | hr   |
| Suggested Max Moisture | 0.020         | %    |
| Melt Temperature       | 380 to 400    | °C   |

### Extrusion Notes

Drying Temperature / Time: 150°C / 3h or 120°C / 5h (residual moisture <0.02%)

Important notes:

1) 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.

2) 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](http://www.victrex.com) or upon request.

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