

Product Information

VESTAKEEP® 4500 G High Purity

HIGH VISCOSITY, UNREINFORCED POLYETHER ETHER KETONE



VESTAKEEP® 4500 G High Purity is a high-viscosity, unreinforced polyether ether ketone for injection molding and extrusion. The product is refined by Evonik's special filtration technology.

The semi-crystalline polymer features superior thermal and chemical resistance. Parts made from VESTAKEEP® 4500 G High Purity are of low flammability.

VESTAKEEP® 4500 G High Purity can be processed by common machines for thermoplastics.

We recommend a melt temperature between 360°C and 380°C during the injection molding process. The mold temperature should be within a range of 160°C to 200°C, preferably 180°C.

The use of colorants may affect property values.

The material is supplied as granules in boxes with moisture barrier polyethylene liners.

Inside the original and undamaged packaging, the product has a shelf life of at least 2 years when stored in dry rooms at temperatures not exceeding 30 °C.

Key Features

Industrial Sector

Industry and Engineering

Processing

Injection molding, Extrusion

Delivery form

Pellets, Granules

Optics

Opaque

Resistance to

Heat (thermal stability), Fire / burn

Electrical

Insulating

Additives

Unfilled

Mechanical properties ISO	dry / cond	Unit	Test Standard
Tensile modulus	526000 / -	psi	ISO 527
Tensile strength	13900 / -	psi	ISO 527
Yield stress	13900 / -	psi	ISO 527
Yield strain	5 / -	%	ISO 527
Stress at break	11500 / -	psi	ISO 527
Nominal strain at break, tB	28 / -	%	ISO 527
Charpy impact strength, +23°C	N / -	ftlb/in ²	ISO 179/1eU
Charpy impact strength, -30°C	N / -	ftlb/in ²	ISO 179/1eU
Charpy notched impact strength, +23°C	3.33 / -	ftlb/in ²	ISO 179/1eA
Type of failure	C / -	-	-
Charpy notched impact strength, -30°C	2.85 / -	ftlb/in ²	ISO 179/1eA
Type of failure	C / -	-	-

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature	642 / *	°F	ISO 11357-1/-3
Glass transition temperature, DSC	304 / *	°F	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	302 / *	°F	ISO 75-1/-2

Physical properties	dry / cond	Unit	Test Standard
Density	1.3 / -	g/cm ³	ISO 1183

Rheological properties	dry / cond	Unit	Test Standard
Melt volume-flow rate, MVR	9.5 / *	cm ³ /10min	ISO 1133
Temperature	380 / *	°C	-
Load	5 / *	kg	-

Characteristics

Applications

General purpose, Multifilament, Tube and hose

Color

Natural color

Processing

Film extrusion, Wire/Cable extrusion

Delivery form

Cylindrical pellets

Special Characteristics

PTFE-free, Semi-crystalline, High viscosity

Chemical Resistance

Solvent resistance, General chemical resistance

Processing Recommendation Injection Molding	dry	Unit	Test Standard
Pre-drying - Temperature	302 - 320	°F	-
Pre-drying - Time	4 - 6	h	-
Melt temperature	716 - 788	°F	-
Mold temperature	320 - 392	°F	-
Feed temperature	158 - 212	°F	-