

Product Information

VESTAKEEP® 4000 FE20

HIGH VISCOSITY, LOW-FRICTION PEEK



VESTAKEEP® 4000 FE20 is a highly viscous, innovative PTFE-modified (20%) polyether ether ketone for the production of molded parts with high wear resistance produced by extrusion or injection molding. The semi-crystalline polymer exhibits superior thermal and chemical resistance. Molded parts made of this polymer provide quiet and low-friction operation for non-lubricated bearings. It has a FDA food contact compliancy.

VESTAKEEP® 4000 FE20 can be processed by common extrusion or injection molding machines for thermoplastics. For injection molding, a mass temperature of 380°C to 400°C is recommended. The mold temperature should be in the range of 160°C to 200°C, preferably 180°C.

VESTAKEEP® 4000 FE20 is delivered as cylinder granules in ready-to-process condition in moisture-tight packaging in polyethylene containers.

The use of colorants may change property values.

The results presented were generated from a small number of production lots. They are therefore provisional and not yet the result of a statistical analysis.

Key Features

Industrial Sector

Automotive and Mobility, Aircraft and Aerospace, Industry and Engineering, Energy, Oil and Gas

Processing

Injection molding

Delivery form

Pellets, Granules

Resistance to

Heat (thermal stability), Fire / burn, Hydrolysis / hot water, Wear / abrasion, Oil / fuels

Electrical

Insulating

Conformity

Food contact

Additives

Lubricant, Unfilled

Mechanical properties ISO	dry	Unit	Test Standard
Tensile modulus	435000	psi	ISO 527
Tensile strength	10600	psi	ISO 527
Yield stress	10600	psi	ISO 527
Yield strain	7	%	ISO 527
Stress at break	10200	psi	ISO 527
Strain at break, B	21	%	ISO 527
Nominal strain at break, tB	20	%	ISO 527
Charpy impact strength, +23°C	76.1	ftlb/in ²	ISO 179/1eU
Type of failure	C	-	-
Charpy impact strength, -30°C	61.8	ftlb/in ²	ISO 179/1eU
Type of failure	C	-	-
Charpy notched impact strength, +23°C	4.28	ftlb/in ²	ISO 179/1eA
Type of failure	C	-	-
Charpy notched impact strength, -30°C	3.81	ftlb/in ²	ISO 179/1eA
Type of failure	C	-	-

Physical properties	dry	Unit	Test Standard
Density	1.4	g/cm ³	ISO 1183
Moisture content	0.1	wt.-%	ISO 15512

Rheological properties	dry	Unit	Test Standard
Melt volume-flow rate, MVR	7.3	cm ³ /10min	ISO 1133
Temperature	380	°C	-
Load	5	kg	-

Characteristics

Special Characteristics

High heat resistant, High viscosity

Features

Low coefficient of friction

Color

Natural color

Delivery form

Cylindrical pellets

Chemical Resistance

Grease resistance, Hydrolytically stable, Oil resistance, General chemical resistance