Product Information

VESTAKEEP® Care M20 G BK

MEDIUM VISCOSITY, UNREINFORCED POLYETHER ETHER KETONE DESIGNED FOR THE MEDICAL DEVICE INDUSTRY

VESTAKEEP® Care is the ideal materials for the fabrication of medical devices with short time contact to human blood, tissue or bone for up to 30 days. VESTAKEEP® Care Grades have a good biocompatibility, processability and the option to pigment.

VESTAKEEP® Care M20 G black is a medium viscosity, unreinforced polyether ether ketone for injection molding.

The semi-crystalline polymer features superior thermal and chemical resistance.

Biocompatibility of VESTAKEEP® Care

Biocompatiblity was tested following ISO10993-1 recommendations for a surface medical device with up to 30 days body contact.

The material fulfills the requirements of USP<88> class VI.

Tests were performed by independent, certified laboratories.

Biocompatibility tests for VESTAKEEP® Care:

Processing of VESTAKEEP® Care

VESTAKEEP® Care resins can be processed using all conventional melt processing techniques such as injection moulding, extrusion, and compression moulding.

VESTAKEEP® Care M20 G black 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.

Our technical experts would appreciate to give you support regarding the special requirements for the processing of VESTAKEEP® Care M20 G black.

Delivery of VESTAKEEP® Care

VESTAKEEP® Care M20 G black is supplied as granules in 25 kg boxes with moisture-proof polyethylene liners.

The results shown have been generated from a low number of production lots. Therefore, they are preliminary and not yet the result of a statistical evaluation. Therefore they must not be used to establish specifications.

The values presented are typical or average values, they do not constitute a specification.

Key Features

Industrial Sector
Medical Devices

Processing
Injection molding

Delivery form
Pellets, Granules

Resistance to
Heat (thermal stability), Hydrolysis / hot water, Wear / abrasion, Fatigue resistance

Conformity
Biocompatibility, Medical application

Additives
Unfilled

Mechanical properties ISO	dry	Unit	Test Standard
Tensile modulus	**3700**	MPa	ISO 527
Yield stress	**100**	MPa	ISO 527
Yield strain	**5**	%	ISO 527
Nominal strain at break, tB	**40**	%	ISO 527
Charpy impact strength, +23°C	**N**	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	**N**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C	**6**	kJ/m²	ISO 179/1eA
Type of failure	**C**	-	-
Charpy notched impact strength, -30°C	**6**	kJ/m²	ISO 179/1eA
Type of failure	**C**	-	-

Thermal properties	dry	Unit	Test Standard
Vicat softening temperature A, 10 N, 50 K/h	**335**	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	**310**	°C	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	**60**	E-6/K	ISO 11359-1/-2

Physical properties	dry	Unit	Test Standard
Density	**1300**	kg/m³	ISO 1183
Density	**1300**	kg/m³	ASTM D 792

Burning Behav.	dry	Unit	Test Standard
Burnin behav. at thickness h	**V-0**	class	IEC 60695-11-10
Thickness tested	**3.2**	mm	-

Electrical properties	dry	Unit	Test Standard
Volume resistivity, V	**>1E13**	Ohm*m	IEC 62631-3-1
Relative permittivity, 1MHz	**2.8**	-	IEC 62631-2-1
CTI, test solution A, 50 drops value	**200**	-	IEC 60112
Assessment of the insulation group	**III a**	-	DIN EN 60664-1

Rheological properties	dry	Unit	Test Standard
Melt volume-flow rate, MVR	**70**	cm^3/10min	ISO 1133
Temperature	**380**	°C	-
Load	**5**	kg	-
Molding shrinkage, parallel	**1.1**	%	ISO 294-4, 2577
Molding shrinkage, normal	**1.1**	%	ISO 294-4, 2577

Test specimen production	dry	Unit	Test Standard
Injection Molding, melt temperature	**380**	°C	ISO 294
Injection Molding, mold temperature	**180**	°C	ISO 294
Injection Molding, injection velocity	**200**	mm/s	ISO 294

Characteristics

Applications
Encapsulation

Special Characteristics
Semi-crystalline

Regulatory
US Pharmacopeia Class VI conformity

Color
Black

Chemical Resistance
Acid resistance, Alkali resistance, Solvent resistance, Grease resistance, Hydrolytically stable, Oil resistance, Oxidation resistance, General chemical resistance