

Product Texts

High 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 M40 G is a high viscosity, unreinforced polyether ether ketone for injection molding and extrusion. The semi-crystalline polymer features superior thermal and chemical resistance.

Biocompatibility of VESTAKEEP® Care

Biocompatibility 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 M40 G can be processed by common machines for thermoplastics. We recommend a melt temperature between 370°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 M40 G.

Delivery of VESTAKEEP® Care

VESTAKEEP® Care M40 G is supplied as granules in 25 kg boxes with moisture-proof polyethylene liners. Pigmentation may affect values.

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.

FOR FURTHER INFORMATION PLEASE CONTACT US AT EVONIK-HP@EVONIK.COM OR VISIT OUR PRODUCT AT WWW.EVONIK.COM/MEDICAL-TECHNOLOGY

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
^[C] Melt volume-flow rate, MVR	11	cm ³ /10min	ISO 1133
Temperature	380	°C	-
Load	5	kg	-
^[C] Molding shrinkage, parallel	0.9	%	ISO 294-4, 2577
^[C] Molding shrinkage, normal	1.1	%	ISO 294-4, 2577

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
^[C] Tensile Modulus	3500	MPa	ISO 527
^[C] Yield stress	96	MPa	ISO 527
^[C] Yield strain	5	%	ISO 527
^[C] Nominal strain at break	30	%	ISO 527
^[C] Charpy impact strength, +23°C	N	kJ/m ²	ISO 179/1eU
^[C] Charpy impact strength, -30°C	N	kJ/m ²	ISO 179/1eU
^[C] Charpy notched impact strength, +23°C	7	kJ/m ²	ISO 179/1eA
^[C] Type of failure	C	-	-
^[C] Charpy notched impact strength, -30°C	6	kJ/m ²	ISO 179/1eA
^[C] Type of failure	C	-	-

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
ISO Data			
^[C] Vicat softening temperature, B	305	°C	ISO 306
^[C] Coeff. of linear therm. expansion, parallel	60	E-6/K	ISO 11359-1/-2

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
ISO Data			
^[C] Relative permittivity, 1MHz	2.8	-	IEC 62631-2-1
^[C] Volume resistivity	>1E13	Ohm*m	IEC 62631-3-1
^[C] Comparative tracking index	200	-	IEC 60112

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
^[C] Water absorption	0.4	%	Sim. to ISO 62
^[C] Density	1300	kg/m ³	ISO 1183

[C]: CAMPUS

Test specimen production	Value	Unit	Test Standard
ISO Data			
^[C] 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

[C]: CAMPUS

Characteristics

Processing

Injection Molding, Other Extrusion

Delivery form

Pellets

Features

Thermal Stability

Chemical Resistance

General Chemical Resistance

Certifications

Medical Grade, Biocompatibility ISO 10993, US Pharmacopeia Class VI Approved

Applications

Medical

Regional Availability

North America, Europe, Asia Pacific, South and Central America, Near East/Africa