

Product Information

VESTAKEEP® Care M40 R

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 R are semi finished goods based on the high viscosity VESTAKEEP® Care M40 G polymer resin.

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:

Delivery of VESTAKEEP® Care

VESTAKEEP® Care M40 R rods can be produced in various diameters ranging from 6 mm up to 100 mm. The standard length is 1 m. Other dimensions are also available upon request.

Mechanical properties are evaluated on stock shapes test bars and further values are evaluated on injection molded samples.

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

Delivery form

Stock shape (rods and plates)

Resistance to

Heat (thermal stability), Hydrolysis / hot water, Wear / abrasion, Fatigue resistance, Oil / fuels

Optics
Opaque

Conformity
Biocompatibility, Medical application

Additives
Unfilled

Mechanical properties ISO	dry	Unit	Test Standard
Tensile modulus	4050	MPa	ISO 527
Yield stress	110	MPa	ISO 527
Yield strain	5	%	ISO 527
Nominal strain at break, tB	40	%	ISO 527
Izod Impact unnotched, 23°C	5.5	kJ/m ²	ISO 180/1U
Flexural modulus, 23°C	4050	MPa	ISO 178
Flexural strength, 23°C	175	MPa	ISO 178

Thermal properties	dry	Unit	Test Standard
Temp. of deflection under load A, 1.80 MPa	155	°C	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	205	°C	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	335	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	305	°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/m ³	ISO 1183
Water absorption	0.5	%	Sim. to ISO 62
Shore D hardness	84	-	ISO 7619-1
Density	1300	kg/m ³	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

Relative permittivity, 1MHz

dry
2.8
Unit

-

Test Standard

IEC 62631-2-1

Rheological properties

Melt volume-flow rate, MVR

dry
11
Unit

cm³/10min

Test Standard

ISO 1133

Temperature

380

°C

-

Load

5

kg

-

Characteristics
Special Characteristics

Semi-crystalline

Regulatory

US Pharmacopeia Class VI conformity

Color

Natural color

Delivery form

Rods Ø6-20mm,stan.lengths 3000mm, Rods

Ø25-60mm,stan.lengths 2000mm, Rods

Ø70-100mm,stan.lengths 1000mm, Discs

Ø98,4mm,thickness 12-30mm, Discs Ø99,5mm,thickness

12-30mm, Discs Ø84,5mm,thickness 12-30mm

Chemical Resistance

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