

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.

FOR FURTHER INFORMATION PLEASE CONTACT US AT [EVONIK-HP@EVONIK.COM](mailto:EVONIK-HP@EVONIK.COM)  
OR VISIT OUR PRODUCT AT [WWW.EVONIK.COM/MEDICAL-TECHNOLOGY](http://WWW.EVONIK.COM/MEDICAL-TECHNOLOGY)

### 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

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

<b>Thermal properties</b>	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Temp. of deflection under load A, 1.80 MPa	<b>155</b>	°C	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	<b>205</b>	°C	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	<b>335</b>	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	<b>305</b>	°C	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	<b>60</b>	E-6/K	ISO 11359-1/-2

<b>Physical properties</b>	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Density	<b>1300</b>	kg/m <sup>3</sup>	ISO 1183
Water absorption	<b>0.5</b>	%	Sim. to ISO 62
Shore D hardness	<b>84</b>	-	ISO 7619-1
Density	<b>1300</b>	kg/m <sup>3</sup>	ASTM D 792

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

cm<sup>3</sup>/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

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