

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.

### 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	dry	Unit	Test Standard
Relative permittivity, 1MHz	2.8	-	IEC 62631-2-1

Rheological properties	dry	Unit	Test Standard
Melt volume-flow rate, MVR	11	cm <sup>3</sup> /10min	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