

## Product Information

**VESTAKEEP® DC 4460 R****X-RAY OPAQUE, TOOTH-COLORED POLYETHER ETHER KETONE  
FOR DENTAL APPLICATIONS - STOCKSHAPE**

**VESTAKEEP® DC4460 R** is a tooth-colored polyether ether ketone (PEEK) grade that is especially designed for removable and fixed dentures, crowns and bridges.

VESTAKEEP® DC4460 R contains 6% Barium sulphate to render it x-ray opaque.

**Biocompatibility**

For VESTAKEEP® DC4460 R, biocompatibility has been tested following ISO 10993-1 recommendations for permanent mucous membrane contact.

The compound composition is optimized for high biocompatibility and superior mechanical, thermal and chemical resistance.

**Biocompatibility test reports available for VESTAKEEP® DC4460 R**

Standard	Description
ISO 10993-03	Genotoxicity: Salmonella Typhimurium Reverse Mutation Test (Ames Test)
ISO 10993-05	Cytotoxicity: Quantitative Growth Inhibition Test
ISO 10993-10	Irritation: Intracutaneous Reactivity
ISO 10993-10	Sensitization: Local Lymph Node Assay
ISO 10993-11	Acute Systemic Toxicity
ISO 10993-11	Subacute / Subchronic Toxicity 14 days
ISO 10993-18	Extraction Tests
USP Class VI	Acute Systemic Toxicity Intracutaneous Reactivity Muscle Implantation

**Delivery**

VESTAKEEP® DC4460 R rods are available in following diameter and length.

**Dimensions of VESTAKEEP® DC4460 R**

Diameter	Standard length
100 mm	1000 mm

Other custom dimensions are available on request.

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

**Processing**

Machining

**Delivery form**

Stock shape (rods and plates)

**Optics**

X-ray opaque

**Resistance to**

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

**Conformity**

Biocompatibility, Medical application

**Mechanical properties ISO**

	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Tensile modulus	<b>5000</b>	MPa	ISO 527
Yield stress	<b>110</b>	MPa	ISO 527
Yield strain	<b>4.2</b>	%	ISO 527
Nominal strain at break, tB	<b>10</b>	%	ISO 527
Izod Impact notched, 23°C	<b>5.1</b>	kJ/m <sup>2</sup>	ISO 180/1A
Flexural modulus, 23°C	<b>5000</b>	MPa	ISO 178
Flexural strength, 23°C	<b>175</b>	MPa	ISO 178

**Thermal properties**

	<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>210</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>45</b>	E-6/K	ISO 11359-1/-2

**Physical properties**

	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Density	<b>1580</b>	kg/m <sup>3</sup>	ISO 1183
Water absorption	<b>0.4</b>	%	Sim. to ISO 62
Density	<b>1520</b>	kg/m <sup>3</sup>	ASTM D 792

## Characteristics

### Special Characteristics

Semi-crystalline

### Regulatory

US Pharmacopeia Class VI conformity

### Color

Tooth-colored

### Chemical Resistance

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

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