

Product Information

**VESTAKEEP® D 4 R**

**NATURAL COLORED POLYETHER ETHER KETONE FOR DENTAL APPLICATIONS**



VESTAKEEP® D4 R is natural colored polyether ether ketone (PEEK) rod stock that is especially designed for removable and fixed dentures crowns and bridges.

**Biocompatibility of VESTAKEEP® Dental**

For VESTAKEEP® D4 R, biocompatibility has been tested following ISO 10993-1 recommendations for permanent mucous membrane contact.

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

**Biocompatibility test reports available for VESTAKEEP® D4 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 of VESTAKEEP® Dental**

VESTAKEEP® D4 R rods are available in standard diameter 100 mm and 1000 mm length. Other dimensions are available on request.

**Key Features**

**Industrial Sector**  
Medical Devices

**Processing**  
Machining

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

**Conformity**  
Biocompatibility, Medical application

**Delivery form**

Stock shape (rods and plates)

**Additives**

Unfilled

**Optics**

Opaque

**Mechanical properties ISO**

	dry	Unit	Test Standard
Tensile modulus	<b>580000</b>	psi	ISO 527
Yield stress	<b>16000</b>	psi	ISO 527
Yield strain	<b>4.8</b>	%	ISO 527
Nominal strain at break, tB	<b>&gt;50</b>	%	ISO 527
Izod Impact notched, 23°C	<b>2.62</b>	ftlb/in <sup>2</sup>	ISO 180/1A
Flexural modulus, 23°C	<b>587000</b>	psi	ISO 178
Flexural strength, 23°C	<b>25400</b>	psi	ISO 178

**Thermal properties**

	dry	Unit	Test Standard
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	<b>2.5E-5</b>	in/in/°F	ISO 11359-1/-2

**Physical properties**

	dry	Unit	Test Standard
Density	<b>1.3</b>	g/cm <sup>3</sup>	ISO 1183
Water absorption	<b>0.4</b>	%	Sim. to ISO 62
Density	<b>1.3</b>	g/cm <sup>3</sup>	ASTM D 792

**Burning Behav.**

	dry	Unit	Test Standard
Burning behav. at 1.5 mm nom. thickn.	<b>V-0</b>	class	IEC 60695-11-10
Thickness tested	<b>0.0630</b>	in	-

**Optical properties**

	dry	Unit	Test Standard
Color L	<b>60</b>	-	CIE
Color a	<b>2.6</b>	-	CIE
Color b	<b>8.5</b>	-	CIE

### Characteristics

#### Special Characteristics

Semi-crystalline

#### Regulatory

US Pharmacopeia Class VI conformity

#### Color

Natural color

#### Delivery form

Rods Ø70-100mm, stan. lengths 1000mm

#### Chemical Resistance

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