

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.

The values presented are typical or average values, they do not constitute a specification.

### 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**

	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Tensile modulus	<b>4000</b>	MPa	ISO 527
Yield stress	<b>110</b>	MPa	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>5.5</b>	kJ/m <sup>2</sup>	ISO 180/1A
Flexural modulus, 23°C	<b>4050</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>
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>1300</b>	kg/m <sup>3</sup>	ISO 1183
Water absorption	<b>0.4</b>	%	Sim. to ISO 62
Density	<b>1300</b>	kg/m <sup>3</sup>	ASTM D 792

**Burning Behav.**

	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Burning behav. at 1.5 mm nom. thickn.	<b>V-0</b>	class	IEC 60695-11-10
Thickness tested	<b>1.6</b>	mm	-

**Optical properties**

	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
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