

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	4000	MPa	ISO 527
Yield stress	110	MPa	ISO 527
Yield strain	4.8	%	ISO 527
Nominal strain at break, tB	>50	%	ISO 527
Izod Impact notched, 23°C	5.5	kJ/m ²	ISO 180/1A
Flexural modulus, 23°C	4050	MPa	ISO 178
Flexural strength, 23°C	175	MPa	ISO 178

Thermal properties

	dry	Unit	Test Standard
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	45	E-6/K	ISO 11359-1/-2

Physical properties

	dry	Unit	Test Standard
Density	1300	kg/m ³	ISO 1183
Water absorption	0.4	%	Sim. to ISO 62
Density	1300	kg/m ³	ASTM D 792

Burning Behav.

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

Optical properties

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