Product Information

VESTAKEEP® DC 4400 G BK

BLACK POLYETHER ETHER KETONE FOR DENTAL APPLICATIONS

VESTAKEEP® DC4400 G BK is a black, high viscosity polyether ether ketone (PEEK) resin.

Biocompatibility of VESTAKEEP® Dental

For VESTAKEEP® DC4400 G BK, biocompatibility is designed for permanent mucous membrane contact. The compound composition is optimised for high biocompatibility and superior mechanical, thermal and chemical resistance.

Processing of VESTAKEEP® Dental

VESTAKEEP® DC4400 G BK can be processed by common melt processing techniques like injection molding and extrusion.

For injection molding, we recommend a melt temperature in the 380°C to 400°C range. The mold temperature should be within 160°C to 200°C, preferably 180°C.

Delivery of VESTAKEEP® Dental

VESTAKEEP® DC4400 G BK is supplied as granules in 5 and 25 kg boxes with moisture-proof polyethylene liners.

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
OR VISIT OUR PRODUCT AT WWW.EVONIK.COM/MEDICAL-TECHNOLOGY

Key Features

Industrial Sector
Medical Devices

Processing
Injection molding

Delivery form
Pellets, Granules

Resistance to
Heat (thermal stability)

Conformity
Biocompatibility, Medical application

Mechanical properties ISO	dry	Unit	Test Standard
Tensile modulus	**3500**	MPa	ISO 527
Tensile strength	**95**	MPa	ISO 527
Yield stress	**95**	MPa	ISO 527
Yield strain	**5**	%	ISO 527

EVONIK Leading Beyond Chemistry

Nominal strain at break, tB	**20**	%	ISO 527
Charpy impact strength, +23°C	**N**	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	**N**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C	**7**	kJ/m²	ISO 179/1eA
Type of failure	**C**	-	-
Charpy notched impact strength, -30°C	**6**	kJ/m²	ISO 179/1eA
Type of failure	**C**	-	-

Thermal properties	**dry**	**Unit**	**Test Standard**
Melting temperature	**340**	°C	ISO 11357-1/-3
Vicat softening temperature A, 10 N, 50 K/h	**335**	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	**305**	°C	ISO 306
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/m³	ISO 1183

Rheological properties	**dry**	**Unit**	**Test Standard**
Melt volume-flow rate, MVR	**10**	cm³/10min	ISO 1133
Temperature	**380**	°C	-
Load	**5**	kg	-
Molding shrinkage, parallel	**0.9**	%	ISO 294-4, 2577
Molding shrinkage, normal	**1.1**	%	ISO 294-4, 2577

Test specimen production	**dry**	**Unit**	**Test Standard**
Injection Molding, melt temperature	**380**	°C	ISO 294
Injection Molding, mold temperature	**180**	°C	ISO 294

Characteristics

Applications
Dental applications

Special Characteristics
Semi-crystalline, High viscosity

Regulatory
Cytotoxicity ISO 10993-5

Color
Black

Chemical Resistance
General chemical resistance

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