

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.

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

Tensile modulus

dry

3500

Unit

MPa

Test Standard

ISO 527

Tensile strength

95

MPa

ISO 527

Yield stress

95

MPa

ISO 527

Yield strain

5

%

ISO 527

Nominal strain at break, tB	20	%	ISO 527
Charpy impact strength, +23°C	N	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	N	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, +23°C	7	kJ/m ²	ISO 179/1eA
Type of failure	C	-	-
Charpy notched impact strength, -30°C	6	kJ/m ²	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/m ³	ISO 1183

Rheological properties	dry	Unit	Test Standard
Melt volume-flow rate, MVR	10	cm ³ /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