

Product Texts

Filament based on high viscosity, unreinforced polyether ether ketone (PEEK) for 3D printed medical devices

VESTAKEEP® Care M40 3DF is extruded from naturally colored, high viscosity VESTAKEEP® Care M40 G PEEK resin. The material is designed for 3d printing of medical devices with up to 30 days body contact.

Biocompatibility

Biocompatibility was tested following ISO10993-1 recommendations for a surface medical device with up to 30 days body contact.

The material fulfills the requirements of USP<88> class VI.

Tests were performed by independent, certified laboratories.

Biocompatibility tests available for VESTAKEEP® Care M40 3DF:

Delivery and packaging

VESTAKEEP® Care M40 3DF filament has a diameter of 1.75 mm (- 0.04 mm*). It is supplied on TROGAMID®-spools with 500g. The spools are packaged in double bags to facilitate transfer into clean areas.

The properties listed are for information only and only apply to the VESTAKEEP® Care M40 G resin used in the manufacture of VESTAKEEP® Care M40 3DF. The performance and the purity of any parts manufactured from VESTAKEEP® Care M40 3DF are highly dependent on any 3D- or additive-printing processes, or any other processing, to which the filament is subjected. Only density and filament diameter apply to VESTAKEEP® Care M40 3DF directly.

*Diameters are tested by a multi-axis laser gauge. The diameter is the average of these axis.

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

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
^[C] Melt volume-flow rate, MVR	11	cm ³ /10min	ISO 1133
Temperature	380	°C	-
Load	5	kg	-

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
^[C] Tensile Modulus	3500	MPa	ISO 527
Tensile Strength	94	MPa	ISO 527
^[C] Yield stress	94	MPa	ISO 527
^[C] Yield strain	5	%	ISO 527
^[C] Charpy impact strength, +23°C	N	kJ/m ²	ISO 179/1eU
^[C] Charpy impact strength, -30°C	N	kJ/m ²	ISO 179/1eU
^[C] Charpy notched impact strength, +23°C	7	kJ/m ²	ISO 179/1eA
^[C] Type of failure	C	-	-
^[C] Charpy notched impact strength, -30°C	6	kJ/m ²	ISO 179/1eA
^[C] Type of failure	C	-	-

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
ISO Data			
^[C] Melting temperature, 10°C/min	335	°C	ISO 11357-1/-3

[C] Glass transition temperature, 10°C/min	152	°C	ISO 11357-1/-2
[C] Temp. of deflection under load, 1.80 MPa	155	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	205	°C	ISO 75-1/-2
Vicat softening temperature, A	335	°C	ISO 306
[C] Vicat softening temperature, B	305	°C	ISO 306
[C] Coeff. of linear therm. expansion, parallel	60	E-6/K	ISO 11359-1/-2
Burning behav. at thickness h	V-0	class	IEC 60695-11-10
Thickness tested	3.2	mm	-
ASTM Data			
Melting Temperature	335	°C	ASTM D 3418

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
[C] Water absorption	0.4	%	Sim. to ISO 62
[C] Density	1300	kg/m ³	ISO 1183
Density	1300	kg/m ³	ASTM D 792

[C]: CAMPUS

Characteristics

Processing

Additive Manufacturing

Delivery form

Monofilament, Natural Color

Special Characteristics

Heat stabilized or stable to heat, Opaque

Features

Thermal Stability

Chemical Resistance

Acid Resistance, Alkali Resistance, General Chemical Resistance, Solvent Resistance, Grease Resistance, Hydrolytically Stable, Oil Resistance, Oxidation Resistance

Certifications

Medical Grade, US Pharmacopeia Class VI Approved

Applications

Medical

Regional Availability

Europe

Other text information

Other extrusion

Drying recommendations

We recommend to dry the filament prior to usage to avoid stringing, bubbles, or other defects.

- a) Filament on spool: minimum 12 hours at 80°C to 100°C. 100°C must not be exceeded to avoid distortion of the spool.
- b) Filament removed from spool: minimum 4 hours at 130°C to 140°C.

The maximum drying temperature of the filament is 140°C. Please also pay attention to the instructions of your drying device.

Spool dimensions

For dimensions of the spool, please see drawing below. All dimensions are given in millimeter (mm).