

Product Information

VESTAKEEP® M2G

Medical grade; medium-viscosity, unreinforced polyether ether ketone

VESTAKEEP M2G is a medium-viscosity, unre-inforced polyether ether ketone for injection molding. The semi-crystalline polymer features superior thermal and chemical resistance. Parts made from VESTAKEEP M2G are self-extinguishing.

VESTAKEEP M2G can be processed by common machines for thermoplastics. We recommend a melt temperature between 360°C and 380°C during the injection molding process. The mold temperature should be within a range of 160°C to 200°C, preferably 180°C.

VESTAKEEP M2G is supplied as granules in 25 kg boxes with moisture-proof polyethylene liners.

For information about processing VESTAKEEP M2G please follow the general recommendations in our brochure "VESTAKEEP Polyether Ether Ketone Compounds".

VESTAKEEP M2G fulfils the following requirements to meet the demands for medical applications:

United States Pharmacopoeia Testing: <88>
"Biological Reactivity Testing In Vivo" Class
VI:

- Acute Systemic Toxicity test: 4 different extraction media (70°C/24h)
- Irritation Test Intracutaneous Injection test: 4 different extraction media (70°C/24h)
- Implantation Test: In Vivo-Implantation test: intramuscular, 7 days

Biocompatibility testing:

- United States Pharmacopoeia Testing:
 <87> "Biological Reactivity Testing In Vitro"
- Cytotoxicity Test: L929 MEM elution, according to ISO 10993-5 (37°C/24h)

For further information, please contact our experts in the department Market Development of the High Performance Polymers Business Line.

Property	Property		Test method			VESTAKEEP
Tensile test			international	national	Unit	M2G
Stress at yield ISO 527-2 DIN EN ISO 527-2 MPa 100	Density	23°C	ISO 1183	DIN EN ISO 1183	g/cm³	1.30
Strain at yield Strain at break % 30 30 Tensile modulus ISO 527-1 ISO 527-2 DIN EN ISO 527-2 DIN EN ISO 527-2 MPa 3600 CHARPY impact strength ISO 179/1eU DIN EN ISO 179/1eU kJ/m² N ¹¹ CHARPY notched impact strength ISO 179/1eA DIN EN ISO 179/1eA kJ/m² N ¹¹ CHARPY notched impact strength ISO 179/1eA DIN EN ISO 179/1eA kJ/m² 6 C ¹¹ Vicat softening temperature ISO 306 DIN EN ISO 306 kJ/m² 6 C ¹¹ Wethod A 10 N °C 335 Method B 50 N °C 310 Linear thermal expansion ISO 11359 DIN 53752 10-4K-¹ 0.6 Relative permittivity IEC 60250 DIN VDE 0303-T4 2.8 2.8 Electric strength K20/P50 IEC 60243-1 IEC 60243-1 kV/mm 25 Comparative tracking index IEC 60112 IEC 60112 200 175 Test solution A CTI 100 drops value 175 200 Volume resis	Tensile test		ISO 527-1	DIN EN ISO 527-1		
Strain at break	Stress at yield		ISO 527-2	DIN EN ISO 527-2	MPa	100
Tensile modulus	Strain at yield				%	5
SO 527-2 DIN EN ISO 527-2 DIN EN ISO 527-2 DIN EN ISO 527-2 DIN EN ISO 179/1eU DIN EN ISO 179/1eA DIN EN ISO 306 DIN EN	Strain at break				%	30
CHARPY impact strength	Tensile modulus		ISO 527-1	DIN EN ISO 527-1	MPa	3600
CHARPY notched impact strength			ISO 527-2	DIN EN ISO 527-2		
CHARPY notched impact strength	CHARPY impact strength		ISO 179/1eU	DIN EN ISO 179/1eU		
CHARPY notched impact strength		23°C			kJ/m²	N 1)
Note					kJ/m²	N 1)
New Color	CHARPY notched impact stren	_	ISO 179/1eA	DIN EN ISO 179/1eA		
Vicat softening temperature Method A 10 N No						
Method A Method B 10 N SO N °C 335 Method B 335 °C 310 Linear thermal expansion Linear thermal expansion Planting Individual ISO 11359 DIN 53752 ISO 11359 DIN 53752 ISO 10-4K-1 0.6 Relative permittivity IEC 60250 DIN VDE 0303-T4 ISO 12-4K-1 0.6 2.8 <t< td=""><td></td><td>−30°C</td><td></td><td></td><td>kJ/m²</td><td>6 C 1)</td></t<>		−30°C			kJ/m²	6 C 1)
Method B 50 N °C 310 Linear thermal expansion 1SO 11359 DIN 53752 310 Iongitudinal 10-4K-¹ 0.6 Relative permittivity IEC 60250 DIN VDE 0303-T4 2.8 Electric strength 50 Hz 1 MHz 2.8 2.8 Electric strength K20/P50 IEC 60243-1 IEC 60243-1 kV/mm 25 Comparative tracking index Test solution A CTI IEC 60112 IEC 60112 200 200 175 Volume resistivity IEC 60093 DIN IEC 60093 Ohm · cm 1015 1015 Surface resistance IEC 60093 DIN IEC 60093 Ohm 1014 104 Melting range DSC 2nd heating °C approx. 340 104 104 104 Melt volume-flow rate (MVR) ISO 1133 DIN EN ISO 1133 cm³/10 min 70 Flammability acc. UL94 IEC 60695 UL94 V-0 V-0 0.8 mm 1.6 mm V-0 V-0 V-0 V-0	- · · · · · · · · · · · · · · · · · · ·		ISO 306	DIN EN ISO 306		
Linear thermal expansion 23-55°C 23-55°C						
Surface resistance IEC 60093 DIN IEC 600		50 N			°C	310
Iongitudinal	Linear thermal expansion		ISO 11359	DIN 53752		
Relative permittivity		23-55°C			10.44	
SO Hz					10-4K-1	0.6
Electric strength K20/P50 IEC 60243-1 IEC 60243-1 kV/mm 25	Relative permittivity	50.11	IEC 60250	DIN VDE 0303-T4		2.0
Electric strength K20/P50 IEC 60243-1 IEC 60243-1 kV/mm 25 Comparative tracking index Test solution A IEC 60112 IEC 60112 IEC 60112 200 175 Volume resistivity IEC 60093 DIN IEC 60093 Ohm · cm 1015 Surface resistance IEC 60093 DIN IEC 60093 Ohm 1014 Melting range ISO 11357 *C approx. 340 Melt volume-flow rate (MVR) ISO 1133 DIN EN ISO 1133 cm³/10 min 70 Flammability acc. UL94 IEC 60695 UL94 V-0 0.8 mm V-0 V-0 1.6 mm V-0 V-0						
Comparative tracking index IEC 60112 IEC 60112 Test solution A CTI 200 100 drops value 175 Volume resistivity IEC 60093 DIN IEC 60093 Ohm · cm 1015 Surface resistance IEC 60093 DIN IEC 60093 Ohm 1014 Melting range ISO 11357 °C approx. 340 Melt volume-flow rate (MVR) ISO 1133 DIN EN ISO 1133 cm³/10 min 70 Flammability acc. UL94 IEC 60695 UL94 V-0 V-0 1.6 mm V-0 V-0 V-0 V-0	Flectric strength		IFC 60243-1	IFC 60243-1	kV/mm	
Test solution A		120/130			KV/IIIII	23
100 drops value 175 Volume resistivity IEC 60093 DIN IEC 60093 Ohm ⋅ cm 1015 Surface resistance IEC 60093 DIN IEC 60093 Ohm 1014 Melting range ISO 11357 SC approx. 340 DSC 2nd heating °C approx. 340 Melt volume-flow rate (MVR) ISO 1133 DIN EN ISO 1133 cm³/10 min 70 Flammability acc. UL94 IEC 60695 UL94 V-0 V-0 0.8 mm V-0 V-0 V-0	•	CTI	IEC 60112	IEC 60112		200
Volume resistivity IEC 60093 DIN IEC 60093 Ohm · cm 1015 Surface resistance IEC 60093 DIN IEC 60093 Ohm 1014 Melting range ISO 11357 °C approx. 340 Melt volume-flow rate (MVR) ISO 1133 DIN EN ISO 1133 cm³/10 min 70 Flammability acc. UL94 IEC 60695 UL94 V-0 V-0 1.6 mm V-0 V-0 V-0		_				
Surface resistance IEC 60093 DIN IEC 60093 Ohm 1014 Melting range ISO 11357 "C approx. 340 DSC 2nd heating "C approx. 340 Melt volume-flow rate (MVR) ISO 1133 DIN EN ISO 1133 380°C/ 5kg cm³/10 min 70 Flammability acc. UL94 IEC 60695 UL94 0.8 mm V-0 1.6 mm V-0		ops value	IFC 60093	DIN IEC 60093	Ohm . cm	
Melting range ISO 11357 DSC 2nd heating °C approx. 340 Melt volume-flow rate (MVR) ISO 1133 DIN EN ISO 1133 cm³/10 min 70 Flammability acc. UL94 IEC 60695 UL94 V-0						
DSC 2nd heating °C approx. 340 Melt volume-flow rate (MVR) ISO 1133 DIN EN ISO 1133 380°C/ 5kg cm³/10 min 70 Flammability acc. UL94 IEC 60695 UL94 0.8 mm V-0 1.6 mm V-0				DIN IEC 60093	Ohm	1014
Melt volume-flow rate (MVR) ISO 1133 DIN EN ISO 1133 380°C/ 5kg cm³/10 min 70 Flammability acc. UL94 IEC 60695 UL94 0.8 mm V-0 1.6 mm V-0			ISO 11357		2.5	2.40
380°C/ 5kg cm³/10 min 70 Flammability acc. UL94 IEC 60695 UL94 0.8 mm V-0 1.6 mm V-0		^a neating	100 1122	DIN EN ICO 1122	٠	approx. 340
Flammability acc. UL94 IEC 60695 UL94 0.8 mm V-0 1.6 mm V-0		0°C / 51	ISO 1133	DIN EN ISO 1133	2 /10 ··!	70
0.8 mm V-0 1.6 mm V-0		0 C/ 5kg	IEC COCOE	111.04	cm³/10 min	70
1.6 mm V-0	riammability acc. UL94	0 0	IEC 00095	UL94		V 0
UIOW WITE LEST	Clow wire test	111111 0.1	IEC 6060E 2	DIN EN 6060E 2		v-U
GWIT 2 mm 12/13 12/13 °C 875		2 mm			°C	87 5
GWFI 2 mm °C 960			14/13	14/13		
	Mold shrinkage in flow direction in transverse direction		determined on 2 mm sheets			500
					%	0.7
			mold temperature 180°C			
ISO 294-4	111 (1411346136	an ection		C 100 C	70	1.2

Pigmentation may affect values.

1) C = Complete break, incl. hinge break H

® = registered trademark

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