Product Information

VESTAKEEP® M2G

Medical grade; medium-viscosity, unreinforced polyether ether ketone

VESTAKEEP M2G is a medium-viscosity, unreinforced 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		Test method international	national	Unit	VESTAKEEP M2G
Density	23°C	ISO 1183	DIN EN ISO 1183	g/cm³	1.30
Tensile test		ISO 527-1	DIN EN ISO 527-1		
Stress at yield		ISO 527-2	DIN EN ISO 527-2	MPa	100
Strain at yield				%	5
Strain at break				%	30
Tensile modulus		ISO 527-1	DIN EN ISO 527-1	MPa	3600
		ISO 527-2	DIN EN ISO 527-2		
CHARPY impact strength		ISO 179/1eU	DIN EN ISO 179/1eU		
	23°C			kJ/m²	N [1]
	-30°C			kJ/m²	N [1]
CHARPY notched impact strength		ISO 179/1eA	DIN EN ISO 179/1eA		
	23°C			kJ/m²	6 C [1]
	-30°C			kJ/m²	6 C [1]
Vicat softening temperature		ISO 306	DIN EN ISO 306		
Method A	10 N			°C	335
Method B	50 N			°C	310
Linear thermal expansion		ISO 11359	DIN 53752		
	23-55°C				
longitudinal				$10^{-4}K^{-1}$	0.6
Relative permittivity		IEC 60250	DIN VDE 0303-T4		
	50 Hz				2.8
	1 MHz				2.8
Electric strength	K20/P50	IEC 60243-1	IEC 60243-1	kV/mm	25
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	10^{15}
Surface resistance		IEC 60093	DIN IEC 60093	Ohm	10^{14}
Melting range		ISO 11357			
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
Glow wire test		IEC 60695-2-	DIN EN 60695-2-		
GWIT	2 mm	12/13	12/13	°C	875
GWFI	2 mm			°C	960
Mold shrinkage		determined on 2 mm sheets			
	in flow direction	with film gate at rim		%	0.7
	in transverse direction	mold temperature 180°C		%	1.2
		ISO 294-4			

Pigmentation may affect values.

[1] C = Complete break, incl. hinge break H
N = No break

® = registered trademark

Evonik Degussa GmbH BL High Performance Polymers 45764 Marl Germany
Phone +49 2365 49-9878 Fax +49 02365 49-5992
www.evonik.com/hp

EVONIK INDUSTRIES