

VESTAKEEP® Care M40R

Polyetheretherketone
Evonik Industries AG

Message:

The good biocompatibility, processability and the option to pigment make the VESTAKEEP® Care-Grades an ideal material for the fabrication of medical devices with short time contact to human blood, tissue or bone for up to 30 days.

Because of their combination of outstanding mechanical properties and their excellent resistance to common cleaning and sterilizing processes, VESTAKEEP® Care polymers are designed to develop your next generation medical devices. Key properties are

Excellent biocompatibility
Outstanding biostability
Good resistance to commonly used sterilization methods like autoclaving and others
Resistance to high-energy radiation such as gamma rays or X-rays
X-ray transparency, no metal-typical shadows or artefacts in radiographs.
Good combination of mechanical strength, wear resistance and impact resistance makes PEEK a good choice for high strength medical devices
Good dimensional stability allows for manufacturing of high-precision parts
Good electrical properties, especially electrical insulation, is important for medical equipment - for example HF endoscopes

General Information			
Features	Biocompatible		
	Good Dimensional Stability		
	Good Electrical Properties		
	Good Impact Resistance		
	Good Processability		
	Good Sterilizability		
	Good Strength		
	Good Wear Resistance		
	Radiation (Gamma) Resistant		
	X-Ray Transparent		
Uses	Medical/Healthcare Applications		
Agency Ratings	ASTM F 756-08		
	ISO 10993 Part 10		
	ISO 10993 Part 11		
	ISO 10993 Part 5		
	USP Class VI		
Forms	Pellets		
	Rod		
Processing Method	Compression Molding		
	Extrusion		
	Injection Molding		
Physical	Nominal Value	Unit	Test Method

Density (23°C)	1.30	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (380°C/5.0 kg)	11.0	cm ³ /10min	ISO 1133
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3500	MPa	ISO 527-2
Tensile Stress (Yield)	110	MPa	ISO 527-2
Tensile Strain			ISO 527-2
Yield	5.0	%	
Break	40	%	
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C, Complete Break	6.0	kJ/m ²	
23°C, Complete Break	7.0	kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature			
--	335	°C	ISO 306/A
--	305	°C	ISO 306/B
Melting Temperature ¹	340	°C	ISO 11357-3
CLTE - Flow (23 to 55°C)	6.0E-5	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+14	ohms	IEC 60093
Volume Resistivity	1.0E+15	ohms·cm	IEC 60093
Electric Strength	25	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	2.90		
1 MHz	2.80		
Comparative Tracking Index			IEC 60112
-- ²	175	V	
Solution A	200	V	
Flammability	Nominal Value	Unit	Test Method
Flame Rating (3.20 mm)	V-0		UL 94
NOTE			
1.	2nd Heating		
2.	100 drops value		

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