

VESTAKEEP® i4 R

Polyetheretherketone

Evonik Industries AG

Message:

Rods based on implant grade VESTAKEEP® rods based on implantable grade VESTAKEEP® i4 G resin. The rods are available in different diameters and lengths:
Diameters from 6 to 100mm
Standard length from 6 to 25mm is 3000mm >= 25mm it is 2000mm
Custom lengths are also available
Biocompatibility
VESTAKEEP® i4 R is compliant with the specifications as specified in ASTM F2026 "Standard Specification for Polyetheretherketone (PEEK) Polymers for Surgical Implant Applications". The extra high purity and extended quality measures make the i-grades an ideal material for longterm body contact.

General Information			
Features	Biocompatible		
	High Purity		
Uses	Medical/Healthcare Applications		
Agency Ratings	ISO 10993 Part 10		
	ISO 10993 Part 11		
	ISO 10993 Part 5		
	USP Class VI		
Physical	Nominal Value	Unit	Test Method
Density (23°C)	1.30	g/cm ³	ISO 1183
Water Absorption			ISO 62
Saturation, 23°C	0.50	%	
Equilibrium, 23°C, 50% RH	0.12	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	4000	MPa	ISO 527-2
Tensile Stress			ISO 527-2
Yield	109	MPa	
Break	> 100	MPa	
Tensile Strain			ISO 527-2
Yield	4.8	%	
Break	> 20	%	
Flexural Modulus	4050	MPa	ISO 178
Flexural Stress	165	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact Strength	5.5	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method

Heat Deflection Temperature (1.8 MPa, Unannealed)	160	°C	ISO 75-2/A
Glass Transition Temperature			ISO 11357
-- 1	145	°C	
-- 2	155	°C	
Melting Temperature ³	340	°C	DSC
Crystallization Point - 1st heating	285	°C	ISO 11357
Electrical	Nominal Value	Unit	Test Method
Electric Strength ⁴	21	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	2.80		
10 kHz	2.80		
NOTE			
1.	2nd heating, onset		
2.	2nd heating, midpoint		
3.	2nd heatingISO 11357		
4.	K20/K20		

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