

PEEK-OPTIMA® LT1

Polyetheretherketone

Invibio Inc.

Message:

PEEK-OPTIMA® polymer from Invibio® is a high performance biomaterial providing advanced solutions for implant manufacturers. Formulated to meet the most exacting in-vivo criteria, PEEK-OPTIMA is biocompatible, safe and stable. Manufacturers of cardiovascular, dental, neurological and orthopaedic implants choose PEEK-OPTIMA for its:

- Excellent mechanical performance
- High wear resistance
- Ability to be repeatedly sterilized without impairing performance
- Biocompatibility
- Drug and Device Master Files lodged with the FDA

Invibio offers a 'no-change' agreement for the assured long-term supply of PEEK-OPTIMA. This guarantees its specification and production methods over an agreed period of time.

General Information	
Features	Biocompatible
	Ethylene Oxide Sterilizable
	Good Stability
	Good Sterilizability
	Good Wear Resistance
	High Purity
	High Strength
	Hydrolysis Resistant
	Low Extractables
	Low Residuals
	Radiation Sterilizable
	Steam Sterilizable
Uses	Body Implants
	Dental Applications
	Medical/Healthcare Applications
Agency Ratings	DMF Unspecified Rating
	FDA Unspecified Rating
	ISO 10093 -3, -11, -6, -18
	ISO 10993 Part 2
	ISO 10993 Part 4
	MAF Unspecified Rating
	USP Class VI
Appearance	Natural Color
Forms	Granules

Processing Method	Compression Molding		
	Extrusion		
	Injection Molding		

Physical	Nominal Value	Unit	Test Method
Density	1.30	g/cm ³	ISO 1183
Molding Shrinkage - Flow (210°C)	1.2	%	
Water Absorption (23°C, 24 hr)	0.50	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	99		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Stress			ISO 527-2
Yield ¹	115	MPa	
Yield	100	MPa	
Tensile Strain			ISO 527-2
Break ²	20	%	
Break	40	%	
Flexural Modulus			ISO 178
-- ³	4000	MPa	
--	4100	MPa	
Flexural Stress			ISO 178
-- ⁴	170	MPa	
--	165	MPa	
Compressive Stress	135	MPa	ISO 604
Shear Modulus	1150	MPa	ISO 15310
Shear Strength	90.0	MPa	ASTM D732
Poisson's Ratio	0.36		ASTM D638
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact Strength			ISO 180
-- ⁵	4.7	kJ/m ²	
--	7.5	kJ/m ²	
Unnotched Izod Impact Strength ⁶	No Break		ISO 180
Thermal	Nominal Value	Unit	Test Method
Melting Temperature	340	°C	
CLTE - Flow			ASTM D696
-- ⁷	4.7E-5	cm/cm/°C	
-- ⁸	1.1E-4	cm/cm/°C	
RTI Elec	260	°C	UL 746
RTI Imp	260	°C	UL 746
RTI Str	260	°C	UL 746
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity ⁹	4.40E-4	MPa	Internal Method

NOTE	
1.	Rod
2.	Rod
3.	Rod
4.	Rod
5.	Rod
6.	Rod
7.	Below Tg
8.	Above Tg
9.	Capillary Rheometer

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