

Ketron™ LSG PEEK-CLASSIX™



Poly-ether-ether-ketone

Ketron™ LSG PEEK-CLASSIX™ are Life Science Grade stock shapes made from Invibio™ PEEK-CLASSIX™ resin. Both resin and stock shape are pre-assessed for biocompatibility for up to 30 days contact with body and tissue according to USP VI and ISO 10993. With a unique combination of mechanical properties, chemical resistance and sterilization resistance, Ketron™ LSG PEEK-CLASSIX™ components can be used in a variety of applications in the medical and dental industries involving body contact for a duration up to 30 days. Used primarily as temporary dental abutments, these shapes are also great candidates for applications such as air and drug delivery systems and blood management components.

		ISO*			ASTM*		
		Test methods	Units	Indicative values	Test methods	Units	Indicative values
Thermal properties (1)	Melting temperature (DSC, 10°C (50°F) / min)	ISO 11357-1/-3	°C	340	ASTM D3418	°F	644
	Glass transition temperature (DMA- Tan δ) (2)		°C			°F	
	Thermal conductivity at 23°C (73°F)		W/(K.m)	0.25		BTU in./hr.in².°F	1.74
	Coefficient of linear thermal expansion (-40 to 150 °C) (-40 to 300°F)				ASTM E-831 (TMA)	µin./in./°F	27.8
	Coefficient of linear thermal expansion (23 to 100°C) (73°F to 210°F)		µm/(m.K)	-			
	Coefficient of linear thermal expansion (23 to 150°C) (73°F to 300°F)		µm/(m.K)	-			
	Coefficient of linear thermal expansion (>150°C) (> 300°F)		µm/(m.K)	-			
	Heat Deflection Temperature: method A: 1.8 MPa (264 PSI)	ISO 75-1/-2	°C	165	ASTM D648	°F	329
	Continuous allowable service temperature in air (20,000 hrs) (3)		°C	250		°F	482
	Min. service temperature (4)		°C	-50		°F	-58
Mechanical Properties (6)	Flammability: UL 94 (3 mm (1/8 in.)) (5)						
	Flammability: Oxygen Index	ISO 4589-1/-2	%				
	Tensile strength	ISO 527-1/-2 (7)	MPa	115	ASTM D638 (8)	PSI	16,675
	Tensile strain (elongation) at yield	ISO 527-1/-2 (7)	%	4.5	ASTM D638 (8)	%	5
	Tensile strain (elongation) at break	ISO 527-1/-2 (7)	%	14	ASTM D638 (8)	%	14
	Tensile modulus of elasticity	ISO 527-1/-2 (9)	MPa	4,600	ASTM D638 (8)	KSI	630
	Shear Strength	ASTM D732	MPa	55	ASTM D732	PSI	8,000
	Compressive stress at 1 / 2 / 5 % nominal strain	ISO 604 (10)	MPa	40 / 79 / 143			
	Compressive strength				ASTM D695 (11)	PSI	5,800
	Charpy impact strength - unnotched	ISO 179-1/1eU	kJ/m²	400			
	Charpy impact strength - notched	ISO 179-1/1eA	kJ/m²	3.5			
	Izod Impact notched				ASTM D256	ft.lb./in	0.6
	Flexural strength	ISO 178 (12)	MPa		ASTM D790 (13)	PSI	25,000
	Flexural modulus of elasticity	ISO 178 (12)	MPa		ASTM D790	KSI	600
Electrical Properties	Rockwell M hardness (14)	ISO 2039-2		105	ASTM D785		105
	Rockwell R hardness (14)	ISO 2039-2			ASTM D785		126
	Electric strength	IEC 60243-1 (15)	kV/mm		ASTM D149	Volts/mil	
	Volume resistivity	IEC 62631-3-1	Ohm.cm	10¹⁴	ASTM D257	Ohm.cm	
	Surface resistivity	ANSI/ESD STM 11.11	Ohm	10¹³	ANSI/ESD STM 11.11	Ohm	10¹³
Miscellaneous	Dielectric constant at 1 MHz	IEC 62631-2-1			ASTM D150		
	Dissipation factor at 1MHz	IEC 62631-2-1			ASTM D150		
	Color			Cream white			Cream white
	Density	ISO 1183-1	g/cm³	1.39			
	Specific Gravity				ASTM D792		1.31
	Water absorption after 24h immersion in water of 23 °C (73°F)	ISO 62 (16)	%		ASTM D570 (17)	%	0.05
	Water absorption at saturation in water of 23 °C (73°F)		%	0.45	ASTM D570 (17)	%	0.45
	Wear rate	ISO 7148-2 (18)	µm/km	28	QTM 55010 (19)	in³.min/ft.lbs.hrX10-¹⁰	375
	Dynamic Coefficient of Friction (-)	ISO 7148-2 (18)		0.3-0.5	QTM 55007 (20)		0.32
	Limiting PV at 100 FPM (safety factor 4)				QTM 55007 (21)	ft.lbs/in².min	8,500
	Limiting PV at 0.1 / 1 m/s cylindrical sleeve bearings		MPa.m/s	0.33 / 0.21			
	Limiting PV at 0.5 m/s cylindrical sleeve bearings	QTM 55007 (21)	MPa.m/s				
	Chemical Resistance						

Note: 1 g/cm³ = 1,000 kg/m³ ; 1 MPa = 1 N/mm² ; 1 kV/mm = 1 MV/m

NYP: there is no yield point