

Ketron™ CM 1030HT PEK



Poly-ether-ketone

Ketron™ CM 1030HT is a 30% carbon-filled PEK that offers an heat deflection temperature of 230°C (450°F). This material provides added stiffness at high temperatures, is carbon-filled for added strength and stiffness, offers good dimensional stability and excellent chemical and corrosion resistance. Typically applications for this material include labyrinth seals, backup rings, valve seats and line shaft bearings.

	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		ASTM D3418	°F	650
	Glass transition temperature (DMA- Tan δ) (2)		°C			°F	
	Thermal conductivity at 23°C (73°F)		W/(K.m)			BTU in./hr.ft².°F)	6.3
	Coefficient of linear thermal expansion (-40 to 150 °C) (-40 to 300°F)				ASTM E-831 (TMA)	µin./in./°F	21
	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		ASTM D648	°F	480
	Continuous allowable service temperature in air (20.000 hrs) (3)		°C			°F	480
	Min. service temperature (4)		°C			°F	
Mechanical Properties (6)	Flammability: UL 94 (3 mm (1/8 in.)) (5)			V-0			V-0
	Flammability: Oxygen Index	ISO 4589-1/-2	%				
	Tensile strength	ISO 527-1/-2 (7)	MPa		ASTM D638 (8)	PSI	16,000
	Tensile strain (elongation) at yield	ISO 527-1/-2 (7)	%		ASTM D638 (8)	%	
	Tensile strain (elongation) at break	ISO 527-1/-2 (7)	%		ASTM D638 (8)	%	3
	Tensile modulus of elasticity	ISO 527-1/-2 (9)	MPa		ASTM D638 (8)	KSI	1,350
	Shear Strength	ASTM D732	MPa		ASTM D732	PSI	
	Compressive stress at 1 / 2 / 5 % nominal strain	ISO 604 (10)	MPa				
	Compressive strength				ASTM D695 (11)	PSI	29,000
	Charpy impact strength - unnotched	ISO 179-1/1eU	kJ/m²				
	Charpy impact strength - notched	ISO 179-1/1eA	kJ/m²				
	Izod Impact notched				ASTM D256	ft.lb./in	1
	Flexural strength	ISO 178 (12)	MPa		ASTM D790 (13)	PSI	22,000
	Flexural modulus of elasticity	ISO 178 (12)	MPa		ASTM D790	KSI	1,150
Electrical Properties	Rockwell M hardness (14)	ISO 2039-2			ASTM D785		108
	Rockwell R hardness (14)	ISO 2039-2			ASTM D785		125
	Electric strength	IEC 60243-1 (15)	kV/mm		ASTM D149	Volts/mil	
	Volume resistivity	IEC 62631-3-1	Ohm.cm		ASTM D257	Ohm.cm	
	Surface resistivity	ANSI/ESD STM 11.11	Ohm		ANSI/ESD STM 11.11	Ohm	
Miscellaneous	Dielectric constant at 1 MHz	IEC 62631-2-1			ASTM D150		
	Dissipation factor at 1MHz	IEC 62631-2-1			ASTM D150		
	Color			Black			Black
	Density	ISO 1183-1	g/cm³				
	Specific Gravity				ASTM D792		1.43
	Water absorption after 24h immersion in water of 23 °C (73°F)	ISO 62 (16)	%		ASTM D570 (17)	%	0.15
	Water absorption at saturation in water of 23 °C (73°F)		%		ASTM D570 (17)	%	0.5
	Wear rate	ISO 7148-2 (18)	µm/km		QTM 55010 (19)	in³.min/ft.lbs.hrX10 ⁻¹⁰	85
	Dynamic Coefficient of Friction (-)	ISO 7148-2 (18)		-	QTM 55007 (20)		0.24
	Limiting PV at 100 FPM (safety factor 4)				QTM 55007 (21)	ft.lbs/in².min	15,000
	Limiting PV at 0.1 / 1 m/s cylindrical sleeve bearings		MPa.m/s				
	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