

Technical Data Sheet



PI 7000

(Duratron[®] D7000) Polyimide

General properties	Test method	Unit	Guideline value
Density	DIN EN ISO 1183-1	g / cm ³	1,37
Water absorption at saturation in water of 23 °C (73°F)		%	3,90
Water absorption after 24h immersion in water of 23 °C (73°F)	DIN EN ISO 62	%	0,75
Wear rate	DIN EN ISO 7148-2 (18)	µm/km	14
Dynamic Coefficient of Friction (-)	DIN EN ISO 7148-2 (18)		0,4 - 0,60
Limiting PV at 0,5 m/s cylindrical sleeve bearings	QTM 55007 (21)	MPa. m/s	1,5
Flammability (3 mm (1/8 in.)) (5)	UL 94	---	V-0
Mechanical properties			
Tensile strength	DIN EN ISO 527-1/-2 (7)	MPa	125
Tensile strain (elongation) at yield	DIN EN ISO 527-1/-2 (7)	%	
Tensile strain (elongation) at break	DIN EN ISO 527-1/-2 (7)	%	6
Tensile modulus of elasticity	DIN EN ISO 527-1/-2 (9)	MPa	3600
Shear strength			
Compressive stress at 1/2/5% normal strain ISO 604 (10)		MPa	35 / 70 / 145
Compressive strength			
Charpy impact strength - unnotched	ISO 179 -1/1eU	kJ/m ²	100
Charpy impact strength - notched	ISO 179 -1/1eA	kJ/m ²	10
Izod Impact notched			
Flexural strength	ISO 178 (12)	MPa	180
Flexural modulus of elasticity	ISO 178 (12)	MPa	3600
Rockwell M hardness (14)	ISO 2039-2		120
Rockwell R hardness (14)	ISO 2039-2		
Thermal properties			
Melting temperature (DSC, 10°C (50°F)/min ISO 11357-1/-3		°C	
Glass transition temperature (DMA-Tan) (2)		°C	375
Thermal conductivity at 23 °C (73 °F)		W/(K.m)	0.22
Coefficient of linear thermal expansion (-40 to 150°C) (-40 to 300 °F)			
Coefficient of linear thermal expansion (23 to 100°C) (73 to 210 °F)		µm/(m.K)	40
Coefficient of linear thermal expansion (23 to 150°C) (73 to 300 °F)		µm/(m.K)	42
Coefficient of linear thermal expansion (>150°C) (>300°F)		µm/(m.K)	52

Heat deflection Temperature: method A: 1.8 Mpa (264 PSI)	ISO 75-1/-2	°C	355
Min. service temperature		°C	-196
Continuous allowable service temperature in air (20.000 hrs) (3)		°C	300
Flammability: Oxygen Index	ISO 4589-1/-2	%	51
Electrical properties			
Electric Strength	IEC 60243-1 (15)	kV/mm	37
Volume resistivity	IEC 62631-3-1	Ohm.cm	10E13
Surface resistivity	ANSI/ESD STM 11 11	Ohm.sq	10E12
Dielectric constant at 1 MHz	IEC 62631-2-1		3,2
Dissipation factor at 1MHz	IEC 62631-2-1		0,005

This table, mainly to be used for comparison purposes, is a valuable help in the choice of a material. The data listed here fall within the normal range of product properties of dry material. However, they are not guaranteed and they should not be used to establish material specification limits nor used alone as the basis of design. See the remaining notes on the next page.
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