

PI-1002-2 Properties

Parameter table

Property	Test Items		Units	Test Methods	TEMPERATURE	Measured value
Mechanical properties	Tensile strength		MPa	D-1708	In liquid nitrogen 30 min	45.1
					-100°C	62.6
					23°C	92
					100°C	84
					150°C	70.5
					200°C	57.8
					260°C	42.1
	Elongation at break		%	D-1708	In liquid nitrogen 30 min	7.2
					-100°C	9.5
					23°C	12.5
					100°C	23.5
					150°C	32.6
					200°C	30.2
					260°C	25.6
	Bending strength		MPa	D-790	In liquid nitrogen 30 min	62.7
					-100°C	77.3
					23°C	112
					100°C	106
					150°C	100.2
					200°C	77.6
					260°C	57.6
	Flexural modulus		MPa	D-790	In liquid nitrogen 30 min	1167
					-100°C	2261
					23°C	2976
					100°C	2543
					150°C	2230
					200°C	2080
					260°C	1763.8
	Compressive strength	1%	MPa	D-695	23°C	8.96
		10%				111
	Compression modulus		MPa	D-795	23°C	1930
	Notch impact strength		J/m	D-256	23°C	72
Friction and wear	Coefficient of friction, PV=0.875 MPa·m/s		-	-	-	0.3
Thermal performance	Thermal weight loss 5%		°C	TGA, N2, 20°C/min	-	572
	Melting point and tg point		°C	DSC, N2, 20°C/min	50-450°C	-
	Linear thermal expansion		μm/m/°C	D-696	23°C-260°C	52
	Thermal conductivity		W/(M·k)	E-1461	25°C	0.358
	Deflection temperature, 264 psi		°C	D-648	-	330
Electrical property	Dielectric constant	10 ³ hz		D-150	23°C	3.56
		10 ⁶ hz				3.45
	Dissipation factor		-	D-150	23°C	0.0035
	Volume resistivity		Ω·m	D-257	23°C	> 10 ¹²
Other performance	Surface resistivity		Ω	D-257	23°C	> 10 ¹²
	Water absorption rate	24h	%	D-570	23°C	0.21
	Proportion		-	D-792	-	1.43
	Oxygen index		%	D-2863	-	52

★ Note : This data is not a guaranteed value, but a typical value.

PI-1003 Properties

Parameter table

Project	Numerical value	Test Method
Density g/cm^3	1.40-1.45	GB/T1033.1
Glass transition temperature ($^{\circ}C$) $\geq$	330.0	DMA
Thermal expansion coefficient $^{\circ}C^{-1}$ ($25^{\circ}C$ - $200^{\circ}C$)	1.0×10^{-5} - 7.0×10^{-5}	TMA
Notched impact strength (KJ/m^2) $\geq$	50.0	GB/T1043.1
Compressive strength (Compression ratio 25%) $\geq$	140.0	GB/T1041
Bending strength (Mpa) $\geq$	110.0	GB/T9341
Tensile strength (Mpa) $\geq$	70.0	GB-T1040.1
		GB/T1040.2
Shore hardness (HD) $\geq$	85	GB/T2411
Frictional coefficient	0.25-0.35	GB/T3960
Relative dielectric constant (1MHZ)	3.0-3.4	GB/T1409
Dielectric loss factor (1MHZ)	5.0×10^{-3} - 2.0×10^{-2}	GB/T1409
Electric strength KJ/mm $\geq$	22	GB/T1048.1
Volume resistivity $\Omega \cdot m$ $\geq$	1.0×10^{15}	GB/T1410
Water absorption rate % $\leq$	0.5	GB/T1034

★ The numerical values are representative values, not standard values.



PI-1006 Properties

Parameter table

Testing items	Testing standards	Unit	Product brand
			PI-1006
Appearance	-	-	Yellow powder
Resin characteristics	-	-	AMORPHOUS
Real density	GB1033	Kg/m ³	1400
Water absorption rate % ≤	GB1034	%	0.6
Tensile strength	GB1040.1-2006	Mpa	80
Elongation	GB1040.1-2006	%	8
Bending strength	GB9341-2000	Mpa	100
Flexural modulus	GB/T9341-2000	Mpa	2500
Compressive strength	GB/T1041-2008	Mpa	150
Charpy impact strength	GB/T16420-1996	KJ/m ²	80
Hardness	Shore D	-	85
Tg (N ₂ , 10°C/min)	DSC(DSC204/1/F)	°C	250
T _g ⁵ (Air, 10°C/min)	TGS(DTS449C/6/F)	°C	510
Tm (N ₂ , 10°C/min)	DSC(DSC204/1/F)	°C	-
Linear expansion coefficient	GB/T2572-2005	°C	4.5*10 ⁻⁵
Maximum service temperature	-	°C	230
Low temperature resistance	-	°C	-248
Dielectric strength	GB1408	KV/mm	180
Surface resistivity	GB1410	Ω	10 ⁻¹⁵
Volume wear rate	GB3960	m ³ /(N · m)	10 ⁻¹⁶
Frictional coefficient	GB3960	-	0.2

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PI-1010 Properties

Parameter table

No.	Testing items		Unit	Result	Experimental methods
1	Density (23℃)		g/cm ³	1.365	GB/T1003.1-2008
2	Tensile strength	23℃	Mpa	115	GB/T1040.2-2006
	Tensile modulus			3.15*103	
	Tensile fracture strainKl#Ufl			13	
	Tensile strength Kl#®	220℃	Mpa	54	
3	Bending strengthW@S®	23℃	Mpa	194	GB/T9431-2008
	Flexural modulusWfttSw			3.44*103	
	Bending strengthW®®®	220℃	Mpa	80.3	
	Flexural modulusW®^w			1.67*103	
4	Compressive strength at 25% strain		Mpa	188	GB/T1041-2008
	Compression modulus			2.52*103	
5	Impact strength/4,S5\$®(5cKn)		KJ/m ²	2.8*102	GB/T1043.1-2008
6	Ball indentation hardness		N/mm ²	234	GB/T3398.1-2008
7	Heat distortion temperature(1.8MPA)		℃	257	GB/T1634.2-2004
8	Frictional coefficient		/	0.92	GB/T3960-2016
	Wear and tear		mg	2.95	
9	Linear expansion coefficient	23-230℃	K-1	52.2*10 ⁶	IOS11359-2:1999
10	Relative permittivity	1MHz	/	3.3	GB/T1109-2006
	Dielectric loss		/	2.6*10 ³	
11	Volume resistivity		Ω·cm	1.31*1016	GB/T1410-2016
12	Breakdown voltage		KV	33.59	GB/T1408.1-2016

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