

diX Thermal Properties

	Test Items	Unit	Type of film								Testing method ASTM	Epoxies	Urethanes
			diX SF	diX CF	diX C	diX N	diX D	diX HR	diX SR	diX NR			
Thermal Properties	Melting Point	°C	450°C<*2	433.7	291	420	354	305.5	303.2	434.6	D3417	-	<170
	Specific heat	J/g·°C	0.97	1.05	0.98	1.21	0.85	0.99	0.97	1.21	DSC method	-	-
	Thermal diffusion	1E-7m2/S	0.44	0.58	1.06	0.91	0.85	0.92	1.03	1.70	Cycle heat	-	-
	Thermal conductivity	J/(m·S·°C)	0.07	0.10	0.14	0.12	0.10	0.12	0.13	0.23	-	-	-
	Coefficient of liner Expansion (-50~36°C) (*1)	1E-6/°C	43.7	44.6	30.1	69.0	29.0	37.0	46.0	46.6	-	45 - 65	100 - 200

(*1) Glass transition temperature is around 50°,there fore, diX expands abruptly around this temperature.

*diX-C,N,D,HR,SR,NR,CF, films are examined of about 25µm layer. diX-SF film is examined of 10~18µm layer.

diX General Index of Thermal stabilities

	Stability in O ₂	Stability in O ₂ free	Sustained heat ¹	Spike temp ²	Physical properties ³				Electrical properties ⁴				
					120°C	130°C	140°C	150°C	130°C	140°C	150°C	170°C	200°C* ²
diX SF	350°C	450°C	350°C	500°C	-	-	-	-	-	-	-	-	-
diX CF	200°C	400°C	350°C	350°C	-	-	-	-	-	-	-	-	1000 hours or more
diX SR	150°C	260°C	120°C	290°C	2000 hours or more	2000 hours	1000 hours	400 hours	2000 hours or more	1000 hours	750 hours	150 hours or more	10 hours or more
diX HR	150°C	260°C	110°C	270°C	2000 hour or more	1500 hours	500 hours	250 hours	2000 hour or more	750 hours	250 hours	50 hours	5 hours
diX D	140 - 150°C	260°C	110°C	-	-	-	-	-	-	-	-	-	-
diX C	120 -130 °C	260°C	100°C	220°C	750 hours	200 hours	75 hours	15 hours	500 hours	200 hour	15 hours	10 hours	30min or less
diX NR	120°C	260°C	100°C	-	-	200 hours	-	-	-	-	-	-	-
diX N	100-110°C	240°C	90°C	-	-	-	-	-	-	-	-	-	-

*1 Criteria - Deterioration of original value of electrical properties by 50% in 10,000 hours.

*2. Analytical method: TG (Thermogravimeter), DTA (Differential thermal analyzer)

*3 and 4. Criteria - maintain 50% or more of original value