

PHP-900 IR-81

PERMANENT HOLE PLUGGING INK



TECHNICAL SPECIFICATIONS

All technical data is taken from information from the manufacturer San-Ei Kagaku Co, Ltd., Japan.

Material Properties		
Item	Data	Notes
Viscosity	40±5 Pa·s	VISCOTESTER VT-04, 25 °C
Particle size	Less than 20 micron	JIS K5600-2-5
Density	1.78	JIS K5600-2-4
Shelf life	3 months	Below 10 °C
Pot life	7 days	at 25 °C
Halogen content	Total Cl: Less than 900 ppm Total Br: Less than 900 ppm Total Cl + Br: Less than 1500 ppm	JPCA-ES01-2003
RoHS standard	Passed	Cd, Pb, Hg, Cr6+, PBBs, PBDEs
Cure condition	110 °C, 60 min + 150 °C, 30 min	Box type oven

Thermal Properties		
Item	Data	Notes
Tg	150 °C	TMA, JPCA-BU01-1998
α1	37 ppm	TMA, JPCA-BU01-1998
α2	105 ppm	TMA, JPCA-BU01-1998
Young's modulus	7300 MPa	DMA, 30 °C
Tensile strength	38.6 MPa	JIS K7113, 23 °C
Elongation	0.69 %	JIS K7113, 23 °C
Tensile modulus	7.61 GPa	JIS K7113, 23 °C
Passion's ratio	0.33	JIS K7113, 23 °C
Thermal conductivity	0.57 W/m·K	Laser flash method
Density	1825	JIS K7112A
Specific heat	921 J/kg·K	JIS K7123 DSC

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Heat Resistance		
Item	Data	Notes
Solderability	No blister, no crack	260 °C, 60 sec
Heat cycle	No blister, no crack	260°C, 10sec, 5cycles
1 % weight loss temperature	340 °C	TG/DTA
Peel strength	5.4 N/cm	Cu plating thickness: 20 micron

Chemical Properties		
Item	Data	Notes
Water absorption	0.15 %	JIS C6481
Resistance to chemicals		
10 wt% Sulfuric acid	No blister, no crack	RT, 60 min
10 wt% Caustic soda	No blister, no crack	RT, 60 min
IPA	No blister, no crack	RT, 60 min
Dichloromethane	No blister, no crack	RT, 60 min
Acetone	No blister, no crack	RT, 60 min
Boiling water	No blister, no crack	100 °C, 60 min

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Electrical Properties		
Item	Data	Notes
Dielectric constant	5.15	IPC-TM-650 TM.2.5.5.1/ASTM-D150, 1 MHz JIS C2565 1 GHz JIS C2565 5 GHz
	4.31	
	4.22	
Dissipation factor	0.0243	IPC-TM-650 TM.2.5.5.1/ASTM-D150, 1 MHz JIS C2565 1 GHz JIS C2565 5 GHz
	0.012	
	0.012	
Surface resistivity	>1.9 E+16 Ω	ASTM D257
Volume resistivity	1.9E+14 $\Omega \cdot \text{cm}$	ASDM D257
Breakdown voltage	80 kV/mm	ASDM D149

ANSPRECHPARTNER

Sie haben tiefergehende Fragen oder wünschen eine unverbindliche Angebotskalkulation?
Unsere Fachleute helfen Ihnen, natürlich auch bei technischen Fragen, gerne weiter.



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