Printed Electronic Materials
Product Line Overview

JNC Corporation has an over 20-year history in the development and commercialization of Printed Electronic Materials. JNC's Printed Electronic Materials are inkjet printable polymeric materials used as electrical insulators, structural and masking materials. These materials contribute to improved performance and process optimization for a variety of electronic components and semiconductor devices.

JNC's Printed Electronic Materials product line includes a series of thermal-cure polyimide (PI) and UV-cure polyacrylate (PA) materials suitable for a wide variety of inkjet printheads.

More specific applications and processes include:

- Power, logic and analog ICs
- CMOS imaging sensors
- Dry etch and CVD masks

JNC's PI- and PA- inkjet printable materials are unique in the industry in that they offer:

- High-speed UV-cure PA ink
- Higher heat resistant thermal-cure PI ink
- Stable jetting
- Fine feature printing
- High adhesion to substrate
- High mechanical stability PI ink
- High dimensional stability over a wide temperature range
- High electrical insulation reliability

Contact Information

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Appendix ~ Product Table

	PI-6643-004	PI-6302-004	PI-6322-001	PI-6714-011	PI-6673-002	PI-6718-106-BK-P	PA-1210-035
Classification	Polyimide precursor solution						Acrylate
Appearance	Pale yellow liquid	Pale yellow liquid	Pale yellow liquid	Clear pale yellow liquid	Pale yellow liquid	Black liquid	Pale yellow liquid
Solids content [wt.%]	25	25	24	27	25	20	100
Viscosity [mPa*s] @ 25℃	12	6	11	6	9	6	36
Surface tension [mN/m] @ 23℃	30	27	28	28	31	27	31
Printing methods	Inkjet	Inkjet	Inkjet	Inkjet	Inkjet	Inkjet	Inkjet
Drying	80℃ 5min	80℃ 5min	80℃ 5min	80℃ 5min	100℃10min	80℃ 5min	-
Curing	350℃ 30min	230℃ 30min	180℃ 120 min	130℃ 60min	200℃ 30min	120℃ 30min	2,000mJ/cm^2 @ 365nm
Post-curing (1)	-	-	-	-	-	-	175℃ 60 min
Volume resistivity [Ω*cm]	1E+16	1E+16	1E+16	2E+16	2E+16	1E+16(2)	6E+16
Breakdown voltage [V/um]	150	100	100	70	200	4	100
Dielectric constant (1kHz) @ 1V	3.2	3.5	3.8	4.2	2.8	ND	3.1
Tensile modulus [MPa]	1530	780	1500	1700	960	ND	1400
Elongation [%]	3	3	6	11	15	ND	3
Residual stress [MPa]	57	32	14	87	9	ND	19
5% weight loss Temp. [℃]	435	390	370	317	351	297	292
CTE (<Tg) [ppm/K]	60	65	75	83	146	ND	76
Tg [℃]	395	255	250	148	130	ND	126
Water absorbance [%] @ 23℃	2.0	1.0	1.0	2.5 ~ 3	0.5	ND	< 0.1

(1) Post-curing recommended for higher reliability applications.
(2) Surface resistance