ABQ Chemicals(HK)International Limited

Liquid photosensitive resistance welding prevent welding ink

RS-2000 BKM/RS-2000A6E

Technical data

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1. Features:

○ 1. RS - 2000 bkm/RS - 2000 a6 e belong to basic imaging type liquid photosensitive resistance welding ink, adapted to the screen printing

2. Specification:：

project	Specification value	indicate
The main agent	RS-2000 BKM	black
hardener	RS-2000A6 E	oyster white
color	Project:green&The main agent： oyster white	Mixed black
Mixing ratio	project：The main agent =75：25	Weight ratio
Mixed viscosity	180±30dpa.s （25℃条件下）	VT-04F Viscosity meter
Non-volatile components	75~78wt%	The main agent and curing agent after mixed
proportion	1.3±0.2	
Preliminary baking conditions	72℃ x 60min（Hot air circulation oven ）	Maximum limit
Exposure conditions	300~500mj/cm2	Exposure rule shall prevail (10-12 case)
Hardening conditions	150℃ x 60min	
Mixed long	24 hours (25 ℃ below enclosed the dark save)	The main agent and curing agent after mixed
Storage life	6 months (25 ℃ below enclosed the dark save)	After manufacturing

3. Operating procedures

Process experimental conditions

Preparation: acid treatment, grinding and washing brush and drying

Printing brush: 90 ~ 100 mesh

Static check: 10~20 min

Dry dry: single printing are baking

The first side hot air circulation oven: 70 ~ 75 ℃， 15 ~ 20min

The second surface hot air circulation oven: 70 ~ 75 ℃， 20 ~ 30 min

Nail bed double-sided printing and baking

Hot air circulation oven: 70 ~ 75 ℃， ,35~50 min

Light exposure: 300 ~ 500 mj/cm^2

Static check: ten to twenty min

Show like: developer: 1.0 wt % $N_{a2}CO_3$

Liquid temperature: 29 ~ 32 ℃

Spray pressure: 1.5 ~ 2.5 kg/cm^2

Developing time: 50~60 sec

Clear wash: water temperature 25 ℃ ~ 28℃

Water pressure: 1.0 ~ 1.5 kg/cm^2

The cleaning time: 50~60sec

After baking: no plug hole: 150 ~ 160 ℃ x 60 min (hot air circulation oven)

Jack: 80 ℃ x 30 min / 110 ℃ x 30 min / 160 ℃ x 60min (hot air circulation oven three time baking)

4. Ink characteristics

4.1 preliminary roast range

Preliminary baking temperature ℃	72~75	72~75	72~75	72~75

Preliminary baking time min	40	50	60	70
Imaging effect	OK	OK	OK	NG

4.2 sensitive properties:

project	Ink thickness	Exposure energy	Developing time	Exposure case number
21 level exposure lattice experiment	25μm	300mj/cm^2	60sec	8~10
		400mj/ cm^2		9~11
		500mj/ cm^2		10~13

5. Coating properties:

project	The experimental method	outcome
Close to nature	The knife case experiment	100/100
Pencil hardness	6 h pencil experiment	6H above
Heat resistance	Solder experiments to rosin is given priority to solder; 260 ℃ / 10 sec/three times	Ink without stripping
Acid resistance	10 vol H_2SO_4 25 ℃ / twenty min for tape test test	qualified
Alkali resistance	10 vol NaoH 25 ℃ / twenty min for tape test test	qualified
Solvent resistance	25 ℃ PGM - Ac soak and min	qualified
Insulation impedance	IPC - B - 25 experimental base plate B round Minimum 5 x 10^8 Ω at500VDC	Solder front: 2.3 x 10^{13} Ω After soldering: 2.5 x 10^{12} Ω

Humidifying after Insulation impedance	IPC - B - 25 experimental base plate B round to 25-65 ℃ 85% R in the bias fifty VDC and experiment voltage 100 VDC condition within 3 days to cycle and wet process: Minimum 5 x 10^8 Ω at500VDC	Humidifying front: 2.5 x 10^{13} Ω Humidifying later: 2.0 x 10^{12} Ω
flammability	Observation base material UL - 94 flammability V numerical	UL 94V-0
Resistance welding property	According to the specified requirements: with soft solder, placed at room temperature 5 min 260 + 5 ℃ preheat and floating mode and ± 1 SEC	Ink coating without soldering
Medium strength	In accordance with the IPC - TM - 650 TM2.6.1.1 regulation: every 0.025 mm thickness, and at least 500 VDC voltage	No abnormalities
Thermal shock	In accordance with the IPC - TM - 650 TM2.6.7.1 regulation, - 65 ℃ / 15 min ~ 125 ℃ / 15 min cycle 100 times	No cavity, crack and surface off

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Production process should note:

1. Suggest production process operation conditions: printing room and exposure room should be controlled in twenty ~ 25 ℃, humidity 55 to 68% of the clean indoor, and at the same time can't use white light or sunlight use, can only use no UV light irradiation operation.

2. Ink open tank use must be in printing room and exposure room control room temperature conditions, and the specified amount of curing agent mixed fully mixing and static ten to twenty min before use.

3. Ink film thickness to 22 ~ 25 μ m for easy, film thickness is thin easy to reduce solder heat resistance, corrosion resistance and resistance to electroplating sex; If the film thickness too thick, easy to make drying time growth and easy to produce exposure indentation.

4. When printing ink should choose appropriate mesh screen, avoid ink into the element hole; If there is a printing ink into the hole, can be appropriately extended developing time, can appear otherwise hole development not net phenomenon; When the ink viscosity increased to difficult to printing, can be properly join dilution solvent, and its proportion in twenty ~ 30 ml advisable, can appear otherwise ink with flow or ink resistance to thermal resistance and the gold-plated sex decline.

5. Preliminary baking conditions and preliminary roast permissible range varies with the species and the oven is put inside the oven plate number of different and different, therefore, should first test, the test can confirm production range.

6. For each factory exposure equipment, imaging potion ingredients, production conditions and requirements for quality each are not identical, the first production test, the test can production range.

7. Ink curing, if after baking temperature or pressed for time, can make the ink thermal capacity decreased; If the ink curing time or temperature too long is too high, can make ink resistance gold-plated sex down; In addition, writing ink thermal curing time against the influence of welding ink.

8. Base plate if there is a chemical plating, it is suggested that the first chemical gold plating to print words, or hardening over easy to reduce the resistance of gold.