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THERMAL CURABLE MARKING INK

S-200W / HD-3

(UL Suffix : S-200W/HD-3)

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1. FEATURES

S-200E is thermally curable marking ink which has excellent properties ; superior adhesion and pencil hardness

2. SPECIFICATION

Main agent	S-200W
Hardener	HD-3
Color	White
Mixing ratio	Main agent 100g : Hardener 8g (by weight)
Viscosity	210 ± 30dPa·s (EHD Model Viscotester , 5 min^{-1} / 25℃)
Specific gravity	1.8
Curing condition	140℃ / 20min. (Hot air convection oven)
Pot life	5 hours after mixing (stored below 25℃)
Shelf life	6 months after manufacturing (stored below 20℃)

3. PROCESS

Precleaning : Acid treatment → Water rinse (If ink is printed on copper foil.)
Printing : 225 mesh screen
Curing : 140deg.C / 20min . (Hot air convection oven)

4. ATTENTION ON PROCESS

- As to the operation environment , it is desirable to deal with ink in a clean-room and 25deg.C is recommendable temperature for printing.
- The adequate thickness is 15～20㎛ (on copper after curing). Thin coating possibly reduces its solder heat resistance and chemical resistance.
- Please set curing conditions after confirmation test because they are influenced according to the type of machine, the quantity of boards and so on.. Poor curing or over curing may cause the degradation of properties.
- As to cleaning screen, ether or eater solvent can be used.
- It is desirable to use ink without dilution.. Even if you feel difficulty in printing due to high viscosity, dilute ink as little as possible (2wt% at maximum) because over dilution may degrade properties.
- Please stir up ink enoughly after mixing with hardener.

5. PROPERTIES

Item	Test method	Result
Adhesion	Taiyo Internal Method Cross hatch, tape stripping	100 / 100
Pencil hardness	Taiyo Internal Method On copper foil, no copper exposure	6H
Solder heat resistance	Solder float test, Rosin flux 260℃ / 10 sec., 2 cycles	Pass
Solvent resistance	PMA, 20℃ / 60 min. Tape stripping	Pass
Acid resistance	10 vol% HCl, 20℃ / 60 min.. Tape stripping	Pass
Alkaline resistance	10 wt% NaOH, 20℃ / 60 min. Tape stripping	Pass
Insulation Resistance	IPC B-25 pattern 25℃ / 65%RH, 500V, 1 min. Humidified ; 25 - 65℃ / 90%RH, DC100V, 7Days	Initial : $5.0 \times 10^{12}\Omega$ Final: $5.0 \times 10^{10}\Omega$
Dielectric Constant	Taiyo Internal Method 1MHz Humidified ; 25 - 65℃ / 90%RH, 7Days	Initial : 7.0 Final : 7.5
Dissipation Factor	Taiyo Internal Method 1MHz Humidified ; 25 - 65℃ / 90%RH, 7Days	Initial : 0.02 Final : 0.04

Note : The above mentioned test data is based on our process conditions, not to guarantee the result.

7. Attention

A. All chemicals in general may have unknown harmful effects. Your highest caution and care is required for handling. For the detail, refer to SDS.

B. No intentional usage of restricted substances in EU RoHS to this product and its production process; Namely Cadmium, Lead, Mercury, Hexavalent Chromium, PBB and PBDE, Phthalic esters(DEHP, DBP, BBP, DIBP).