



# UNION INKS

## Product Information

### *99-PC37 Carbon Paste*

#### APPLICATION AND END-USE DESIGN

99-PC37 is a low sheet resistance conductive paste specially formulated to comply with RoHS and REACH compliance. It is to be used on rigid printed circuit boards for contact pads, jumpers or carbon through hole.

Peelable Mask 99-84 is suitable for use over 99-PC37 Carbon Conductor Pastes.

#### PROPERTIES

Carbon Paste before curing:

- Colour: Black
- Solid Contents: 70 – 80% as supplied before reduction
- Viscosity:  $350 \pm 50$  Pa.s at 25 °C using VT-04 Viscostester
- Specific Gravity: 1.19 kilo / L
- Particle Size:  $\leq 9 \mu\text{m}$
- Flash Point: 138 °C

Properties after curing:

- Sheet Resistance:  $\leq 12 \Omega / \square$  at 25.4  $\mu\text{m}$  thickness
- Adhesion: 100/100
- Hardness:  $\geq 4\text{H}$
- Heat Resistance (85 °C for 1000 hours): conductivity difference  $\pm 10\%$
- Solder Resistance: 270 °C  $\pm 5$  °C for 10 seconds
- Humidity Resistance (40 °C 95% RH 1000 hours): conductivity difference  $\pm 10\%$
- Solvent Resistance (trichloroethylene soaked for 20 minutes at 25 °C): 3M tape test: no peeling, sheet resistance difference  $\pm 10\%$
- Abrasion Resistance: Vertical Press > 1.5 million times

#### CURING CONDITIONS

- Convection Oven: 150 °C for 30 minutes
- Infrared Dryer: 180 °C for 4 – 6 minutes, suggest 2 entrance sections with low temperatures

#### PRINTING PARAMETERS

- Printing: Use screen printing either manual, semi-automatic or fully automatic screen printing machine.
- Mix and Stir the carbon paste well before used. All board surfaces must be cleaned and free from contaminants to prevent loss of adhesion and conductivity resistance.
- Mesh: Use 51– 77 T  $\text{cm}^{-1}$  polyester mesh, with 35 – 50  $\mu\text{m}$  film or solvent resistance emulsion.
- Squeegee: Used hardness 70 – 75 shore
- Viscosity Control: Normally used straight from the can after mixing and stirring. If viscosity is too high, used Reducer T42 Retarder to adjust, stir well before used.
- Cleaning: Used 99-SW113 for mesh cleaning.

**STORAGE**

Store at 25 °C in a dry store. Avoid subjecting containers to high temperature as this shortened the shelf life.

**SHELF LIFE**

Six months from date of manufactured when store in cool dry conditions.

**WARNING**

This information is given in good faith, but without any guarantee as the printing conditions of our inks are beyond our control. In the event of complaints, the ink supplier may replace free of charge the unused ink, declining any other responsibility.