

DuPont CB500

removable conductive silver plating link for printed circuit boards

Technical Data Sheet

Product Description

DuPont CB500 was developed for electroplating applications for the Printed Circuit Board (PCB) market. This product eliminates the need for bus bars or other copper connections and removes the need for “after plating,” ultimately reducing process cost. This composition was designed to be applied using standard screen printing equipment and designed to be removed easily after plating.

Product Benefits

- Reduces cost and process steps for electroplating applications
- No residual ink on board after strip (avoid stud bump antenna effect)
- Low temperature processing
- Low resistance
- Can be used in a wide variety of applications on various substrates (epoxy glass, Kapton® polyimide films, ceramic and other flexible and rigid substrates)

Table 1
Typical Properties & Technical Information

Line Resolution (Lines/Spaces)*	<175 µm/>75 µm
Sheet Resistivity (mΩ/sq/25 µm)	50–75
Viscosity (PaS) (Brookfield RVT, 10 rpm #14 spindle & UC, 25°C)	35–80
Coverage (cm ² /gr/25 µm)	30–40
Thinner	8250
Solids (%)	82–84
Shelf Life	6 months
Ink Residence Time on Screen	>1 hour

*125 µm/125 µm artwork

Processing Recommendations

This document reflects standard processes, including those commonly used for typical screen printing of electronic inks. Processes may vary by application. Please contact us for specific processing recommendations.

Clean Copper: The copper surface must be cleaned/prepared (e.g. pumice scrub) before printing the CB500.

Printing: CB500 can be applied using a 325 mesh stainless steel screen with 12.5 µm (0.5mil) emulsion to achieve a cured thickness of 25 µm (± 2 µm). Excessive print thickness may result in difficulty stripping CB500. Other screen meshes and/or polyester screens can be used but may yield a different conductor thickness. Recommended minimum line width is 175–250 µm depending on screen selection.

Dry/Cure: Allow the wet print to level for 5–10 minutes at room temperature prior to drying. Dry for 10 minutes at 120–140°C in a well ventilated box oven or conveyor dryer where the exhaust meets environmental regulations. Note: Higher cure temperatures may result in difficulty stripping the CB500. See Safety & Handling section for additional information.

Plating Resist: Apply a dry film or a screen printable plating resist directly over CB500 using the vendors recommended process. Ensure that CB500 is completely covered with the plating resist. Recommended overlap is ≥250 µm. For selective image, use 2.5–3 mil dry film and vacuum laminate for optimal confirmation.

Plating: Electroplate the desired circuitry.

Strip Plating Resist: Use standard resist strip (MEA-based). Strip plating resist using vendor’s recommended process. Typically CB500 will be removed along with the plating mask. Resist stripping in dip tanks may require a double pass and nylon brushing followed by high pressure water spray.

Storage and Shelf Life

Containers should be stored, tightly sealed, in a clean, stable environment at room temperature (<25°C). Shelf life of material in unopened containers is six months from date of shipment. Some settling of solids may occur and compositions should be thoroughly mixed prior to use.

Safety and Handling

For safety and handling information pertaining to this product, read the Material Safety Data Sheet (MSDS).

For more information on DuPont CB500 removable conductive silver plating link or other DuPont Microcircuit Materials products, please contact your local representative:

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