

CB100 Conductive ViaPlug

Polymer Thick Film Composition for Printed Circuits

All values reported here are results of experiments in our laboratories intended to illustrate product performance potential with a given experimental design. They are not intended to represent the product's specifications.

Product Description

CB100 Conductive ViaPlug is used to provide high conductivity, plateable vias for PBGAs, buildup substrates, and standard PWBs. It provides a simple, low cost method to create planar, thermal, and buried vias with minimum capital investment.

Product Benefits

- High thermal conductivity allows use of drilled, filled vias as heat sinks, improving thermal management
- High electrical conductivity of filled, buried vias allows reduced layer count and processing steps
- No shrinkage, one part silver epoxy system provides reliability, planarization, and ease of use
- Strong adhesion to copper and most laminate materials provides increased reliability
- Solderability after plating provides increased use of board real estate by allowing via in pad technology
- Simple application using stencil printing techniques reduces processing steps with minimal capital investment

Table 2 Composition Properties	
Viscosity (cp) (HAT UC&SP, 10 rpm 25°C)	115,00 - 145,000
Specific Gravity (g/cc)	≈ 5.5
Thinner	5928

Table 1 Typical Physical Properties	
Sheet Resistivity (mΩ/sq) (at 25µm thickness)	
• Unplated	50 - 100
• Plated	3 - 5
Thermal Conductivity (W/m/°K)	3.5
Abrasion Resistance, Pencil Hardness (H) (ASTM D3363-74)	Better than 4
Plateability	Compatible with conventional electroless or electrolytic processes
Solderability	Solderable after plating
Change in Physical Properties after Environmental Tests*	Passes
Change in Electrical Properties after Environmental Test (plated vias)*	No increase in resistivity
Tg (°C)	115
TCE (ppm)	35

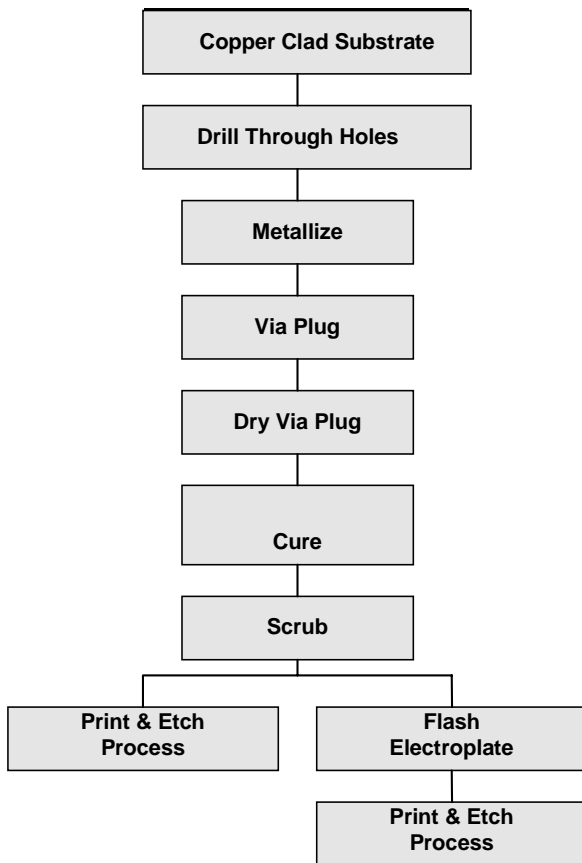
*Environmental Test

- A. Thermal Shock (+ 85°C to - 40°C, 30 min each, 5cycles)
- B. Dry Heat (+ 85°C, 10 days)
- C. Humidity (+ 40°C, 95% RH, 10 days) [MIL Std 202E, method 103, cond. A]
- D. Thermal Cycling (-50 <-> 125°C, 1000 cycles)
- E. Thermal Stress (5 X at 286°C)

Storage and Shelf Life

Containers should be stored, tightly sealed, in a clean, stable environment at <5°C. Shelf life of material in unopened containers is three months from date of shipment. Some settling of solids may occur and compositions should be thoroughly mixed prior to use.

PROCESSING INFORMATION



- **Screen/Stencil Printing Equipment**
Semi-automatic or manual with vacuum assist
- **Substrates**
Epoxy glass, BT resin
- **Ink Residence Time on Screen/Stencil**
>1hr
- **Stencil Types**
3-4 stainless steel stencil recommended
- **Aspect Ration** (via depth/diameter)
Up to 6:1 with vacuum assist
- **Typical Cure Conditions**
Drying Step: 110 - 115°C for 30 minutes
(Do not exceed 120°C)
Curing Step: 160°C for 60 minutes
- **Clean-up Solvents**
Axarel®, Isopropanol, Water
- **Processing Conditions**
Refer to process guidelines. Available upon request.

Safety and Handling

This product contains organic solvent and materials. The following precautions should be exercised when handling CB0100:

- Use with adequate ventilation
- Avoid prolonged contact with skin
- Avoid prolonged breathing of vapor
- If contact with skin occurs, wash affected area immediately with soap and water
- Dangerous if swallowed — DO NOT CONSUME
- Refer to MSDS for more details

United States

DuPont Microcircuit Materials
14 T.W. Alexander Drive
Research Triangle Park, NC 27709
Tel.: 800-284-3382

Europe

DuPont (UK) Limited
DuPont Microcircuit Matierials
Coldharbour Lane
Bristol BS16 1QD
England
Tel.: 44-117-931-1444

Japan

DuPont Kabushiki Kaisha
ARCO Tower
8-1, Shimomeguro 1-Chome
Meguro-ku, Tokyo 153-0064
Japan
Tel.: 81-35-434-6100

Visit our website at: <http://www.dupont.com/mcm>

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Caution: Do Not use in medical applications involving permanent implantation in the human body. For other medical applications, see "DuPont Medical Caution Statement," H-50102

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