

DuPont TC701

MIXED METAL COFIREABLE VIA FILL

Technical Data Sheet

Product Description

DuPont TC701 is a mixed metal via fill compatible with DuPont™ Green Tape™ 951 low temperature co-fired ceramic system. DuPont TC701 is ideally suited as a transition via for top layers of applications using internal silver conductors and external gold. These applications typically require high conductivity, reliable interconnection between internal silver conductors and external gold conductors. DuPont TC701 eliminates Kirkendall voids typically seen in mixed metal systems.

Product Benefits

When used with Green Tape™ 951 and compatible conductor pastes, DuPont TC701 offers the following benefits:

- High reliability, high conductivity metallization
- High circuit density
- Stacked/thermal or routing vias
- Cofire processing

Processing Design

For detailed recommendations on use of Green Tape™ 951 and conductors such as DuPont TC701, see the Green Tape™ 951 Product Data Sheet or contact your local Technical Representative for detailed information to maximize material and circuit performance.

Thinning

Thinning thick film compositions is not recommended as material is supplied formulated for optimal performance. Improper thinning may affect printing characteristics. Thinner may be added to replenish solvent lost during normal usage but care should be taken to not over-thin.

Composition Properties

Test	Properties
Clean-Up Solvent	1-Propoxy-2-Propanol
Viscosity (Pa.s) [Brookfield HBT, UC&SP @1 rpm after 3 min settling time)	800-1000
Thinner	DuPont 8250
Via Diameter Resolution	125 mm

This table shows anticipated typical physical properties for DuPont TC701 based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

Printing

The composition should be thoroughly mixed before use. This is best achieved by slow, gentle, hand stirring with a clean burr-free spatula (flexible plastic or stainless steel) for 1-2 minutes. Care must be taken to avoid air entrapment. Printing should be performed in a clean and well-ventilated area. Optimum printing characteristics are generally achieved in the room temperature range of 20-23°C. Viscosity, and therefore printability, of thick film compositions can be affected by ambient temperatures.

Drying

Dry in air in a well-ventilated oven or conveyor dryer for 5 minutes at 120°C. Do not over-dry. See Safety & Handling section for additional information.

Lamination and Firing

Laminate multiple sheets of the DuPont™ GreenTape™ 951 low temperature co-fired ceramic system into which TC701 has been printed according to processing parameters detailed in the Green Tape™ 951 Design Guide and on the Green Tape™ 951 Product Data Sheet. Consult these documents as well for details of the recommended Green Tape™ 951 firing profile for belt or box air furnaces.

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).

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