

# DuPont 5747

GOLD VIA FILL CONDUCTOR

## Technical Data Sheet

### Product Description

Gold conductor DuPont 5747 is a cadmium free via fill composition. It is used to fill vias in high density multi-layer gold hybrids.

### Product Benefits

- Cadmium free gold conductor
- Capable of via filling two to three dielectric layers with a single print
- Good top surface co planarity when used with DuPont multi-layer dielectrics

### Processing Substrates

Properties are based on tests on 96% alumina substrates. Substrates of other compositions and from various manufacturers may result in variations in performance properties, as may different lots of substrates, and any subsequent processing of substrates (e.g. laser scribing or drilling) prior to printing.

It is the responsibility of users to determine the effects of any of the above variable in their particular situations

### Printing

DuPont 5747 conductor composition should be thoroughly mixed before use. This is best achieved by slow, gentle hand stirring with a clean, burr-free spatula (flexible plastic) for 30 seconds - 1 minute. Printing should be carried out in a clean, well-ventilated area.

Note: Optimum printing characteristics of DuPont 5747 are generally achieved in the temperature range 20°C-23°C. It is therefore important that the material, in its container, is at this temperature prior to commencement of printing. For best via fill a 325 mesh stainless steel screen is recommended.

### Composition Properties

Test	Properties
Solids (750°C) [%]	84.5 - 86.5
Viscosity (Pa.S) [Brookfield HAT, SC-4-14/6r(US&SP), 10 rpm, 25°C]	180 - 230
Coverage (cm <sup>2</sup> /g) [based on an average dried thickness of 15µm]	64
Thinner	DuPont 4577

Table 1 shows anticipated typical physical properties for DuPont 5747 based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

### Drying

Allow prints to level for 5-10 minutes at room temperature in a clean, environment, followed by drying for 10-15 minutes at 150°C in a well ventilated oven or conveyor dryer.

### Firing

DuPont 5747 may be fired on either a 30 or 60 minute firing cycle to a peak temperature of 850°C held for 10 minutes. Care must be taken to endure that any gases/vapors from other chemicals/materials (e.g. halogenated solvents) do not enter the furnace muffle. It is also essential that the air supply to the furnace is clean, dry and free of contaminants.

Air flows and extraction rates should be optimized to ensure that oxidizing conditions exist within the muffle, and that no furnace exhaust gases enter the room.

## 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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