

# DuPont 6142D

## SILVER COFIREABLE CONDUCTOR

### Technical Data Sheet

#### Product Description

DuPont 6142D co-fired silver conductor, part of the DuPont™ GreenTape™ 951 low temperature co-fired ceramic system, is ideally suited for signal lines, ground planes, and capacitor electrodes.

#### Product Benefits

When used with GreenTape™ 951 and compatible via fill pastes, DuPont 6142D offers the following benefits:

- Low cost, high conductivity metallization
- High circuit density
- Cofire processing

#### Processing Design

For detailed recommendations on the use of GreenTape™ 951 and conductors such as DuPont 6142D, see the GreenTape™ 951 Design Guide and Green Tape™ 951 Product Data Sheet. For compatible thick film compositions and their recommended use, see the GreenTape™ 951 Product Selector Guide.

#### 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 at a room temperature of 20-23°C. Viscosity, and therefore printability, of thick film compositions can be affected by ambient temperatures.

#### Composition Properties

Test	Properties
Viscosity at 25°C, Pa.S (Brookfield HBT, utility cup & spindle, 10 rpm)	180 - 270
Clean-Up Solvent	1-Propoxy-2-Propanol
Thinner	DuPont 8250
Typical Properties	
Dried Line Resolution (µm lines/spaces)	125/125
Fired thickness (µm)	7 - 9
Fired Resistivity (mΩ/sq <sup>2</sup> )	3.3
Calculated at a wet thickness of 25 µm <sup>2</sup> At 9µm fired thickness	

This table shows anticipated typical physical properties for DuPont 6142D based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

Print DuPont 6142D directly onto GreenTape™ 951 green sheets using thick film printing methods and a vacuum stone or other support structure that uniformly distributes vacuum to the sheets. Printing is typically performed using a 325 mesh stainless steel screen with 12 µm emulsion thickness.

#### 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.

## Drying

Dry in air in a well-ventilated oven or conveyor dryer for 5 minutes at 120°C. Do not over-dry.

## Lamination and Firing

Laminate multiple sheets of the printed circuit patterns according to the processing parameters detailed in the GreenTape™ 951 Design Guide and Product Data Sheet. Also reference these documents for details on the recommended firing profiles.

## 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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