

DuPont 9141

PLATINUM CONDUCTOR COMPOSITION

Technical Data Sheet

Product Description

DuPont 9141 platinum conductor has been designed to form conductor tracks when fired on alumina substrates. It is applied to the ceramic substrate by screen printing and fired in a conveyor furnace in an air (oxidizing) atmosphere. It may be used to form conductive tracks, for example for use as electrodes for sensor applications, for applications designed to operate at elevated temperatures, or for localized heating of the substrate.

Product Benefits

- Dense fired platinum film
- High TCR
- Lead-free* and cadmium-free*

*Cadmium and lead "free" as used herein means that cadmium and lead are not intentional ingredients in and are not intentionally added to the referenced product. Trace amounts however may be present.

Processing

Substrates

Substrates of different compositions and from various manufacturers may result in variations in performance properties.

Printing

DuPont 9141 prints easily using 200 - 325 mesh stainless steel screens with a 10-15 μ m emulsion, at printing speeds up to 25 cm/s (10 in/s).

Drying

Allow prints to level at room temperature, then dry in a well ventilated oven or conveyor dryer at 150°C.

Typical Physical Properties

Test	Properties
Fired Thickness (μ m)	7 - 10
Resistivity (m Ω /sq) (Based pm 10 μ m fired thickness)	60 - 100
TCR (ppm/°C)	≈3500
Adhesion (N) (Burnished pads, soldered with 62/36/2 Sn/Pb/Ag)	>18
Composition Properties	
Viscosity (Pa.S) (Brookfield HAT, UC&SP, 50 rpm, 25°C)	65 - 100
Solids (150°C) (%)	75.5 - 78.5
Thinner	DuPont 9180

Table 1 & 2 show anticipated typical physical properties for DuPont 9141 based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

Firing

Fire in a well ventilated belt, conveyor furnace, or static furnace.

Processing Conditions

- Printing - 325 stainless steel screen with a 12 μ m emulsion build up.
- Drying - allow prints to level for 10-15 minutes at room temperature, then dry for 10-15 minutes at 150°C.
- Firing Temperature - 850°C - 1000°C

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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