

DuPont 00L2C

RESISTOR COMPOSITION

Technical Data Sheet

Product Description

Designed to give high productivity and high quality, 00L2C has been specifically developed for Chip Resistor applications. It also meets the market need of low cost of manufacturing.

Product Benefits

- Excellent blendability
- Cofiring with termination (5426 possible)
- Excellent blendability with 0001K. Direct blend between 00L2C and 0001K is recommended.
- Laser trimmable to achieve tight resistor tolerance
- Cadmium free*

*Cadmium 'free' as used herein means that cadmium is not an intentional ingredient in and is not intentionally added to the referenced product. Trace amounts however may be present.

Processing Conditions

- Termination - 5426
- Dried Thickness - 18.0 – 22.0 μm
- Drying - 10 minutes at 150°C
- Firing - 850°C peak held for 10 minutes on 30 minutes firing cycle

Recommended Processing Conditions

Substrates

Reported properties are based on tests with 96% alumina substrates. Substrates of other composition may yield variation in performance properties.

Termination

00L2C were designed for use with high silver-containing terminations. Reported properties were obtained using DuPont 5426 Ag/Pd termination. Similar performance properties have been observed with other DuPont gold and silver-bearing conductors.

Composition Properties

Test	Properties
Viscosity (Pa.s) (Brookfield 2XHAT, SC4-14/6R, @ 10rpm)	100 - 200
Sheet Resistivity ($\text{m}\Omega/\text{sq}$) (25°C)@20 μm	50 - 90
Hot TCR ($\text{ppm}/^\circ\text{C}$) (25 to 125°C)	-20 to 50
Cold TCR ($\text{ppm}/^\circ\text{C}$) (-55 to 25°C)	-100 to 100
Thinner	8250

This table shows anticipated typical physical properties for DuPont 00L2C 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, gently, 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. Note: optimum printing characteristics are generally achieved in the room temperature range of 20°C – 23°C. It is therefore important that the material, in its container, is at this temperature prior to commencement of printing.

Thinner

The composition is optimized for screen printing. Thinner is normally not required. Use the DuPont recommended thinner for slight adjustments to viscosity or to replace evaporation losses. The use of too much thinner or the use of a non recommended thinner may affect the rheological behavior of the material and its printing characteristics.

Drying

Allow prints to level at room temperature. Then dry in a well ventilated oven or conveyor dryer.

Firing

Fire in a well ventilated belt, conveyor furnace, or static furnace. Air flows and extraction rates should be optimized to ensure that oxidizing conditions exist within the muffle, and that no exhaust gases enter the room.

General

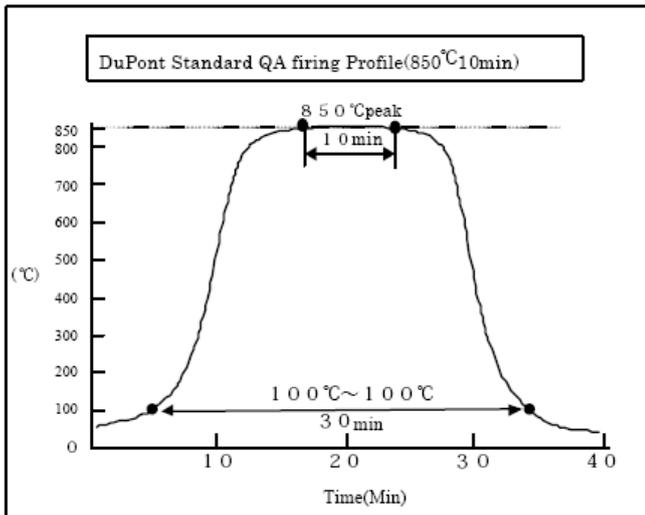
Performance will depend to a large degree on care exercised in screen printing. Scrupulous care should be taken to keep the composition, printing screens and other tools free of metal contamination. Dust, lint and other particulate matter may also contribute to poor yields.

Storage and Shelf Life

Containers should be stored, tightly sealed, in a clean, stable environment at temperature 0-5°C. Shelf life of material in unopened containers is six months from date of shipment. Some setting 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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