

# DuPont QR150

GOLD CONDUCTOR

## Technical Data Sheet

### Product Description

DuPont QR150 is a very high density gold conductor composition developed for fine feature screen printing and ultra fine line etching. For applications requiring high frequency or very fine conductor features, DuPont QR150 offers thin film performance at much lower cost.

### Product Benefits

- Extremely high conductivity
- Very dense fired film
- Fine line printing capability
- Excellent edge acuity when etched
- Phthalate free\*

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

### Processing

#### Substrates

DuPont QR150 has been successfully used on a variety of substrates including 96%, 99%, 99.6% polished alumina and thick film dielectrics including DuPont QM44. The properties described in this data sheet are based on test using 96% alumina substrates. Substrates of other compositions and from various manufacturers may result in variations in performance properties.

#### Printing

A 400-mesh stainless steel screen. Printing speeds up to 15 cm/s (6 in/s) can be used.

#### Drying

Allow wet prints to level for 10-15 minutes at room temperature. Dry 15 minutes at 150°C.

### Typical Physical Properties

Test	Properties
Line Resolution Screen Print (µm lines/spaces) Etched (µm lines/spaces)	75/75
Gold Wire Bonding <sup>1</sup> (g)	> 7
Fired Thickness (µm)	5
Resistivity (mΩ/sq)	< 5 @10µm fired
Composition Properties	
Viscosity (Pa·s) [Brookfield HBT, 10 rpm, UC&SP, 25°C)	300 - 400
Coverage <sup>2</sup> (cm <sup>2</sup> /g)	70 - 90
Thinner	DuPont 9450
<small><sup>1</sup> with 1 mil wire on 96% alumina and 99.6% alumina polished <sup>2</sup> based on fired thickness 3.5-5 µm</small>	

This table shows anticipated typical physical properties for DuPont QR150 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

Dried DuPont QR150 should be fired in a belt furnace. Use a 30 minute cycle with 850°C peak for 10 minutes.

### Etching

DuPont QR150 may be etched in typical thin film process. DuPont QR150 may also be etched to achieve 3.5 - 5 µm fired thickness with 2 prints, 15 - 20% by weight of DuPont 9450 is required.

## 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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