

# DuPont QS482

SERIES Q-Q SIL™ CROSSOVER DIELECTRIC

## Technical Data Sheet

### Product Description

DuPont QS482 crossover dielectric is a screen printed, air fired dielectric material used as an insulating layer to prevent shorting between two crossing conductor lines.

### 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.

### Printing

Print two dielectric layers with a 200 or 325 mesh stainless steel screen. The combined thickness of the fired dielectric should be at least 30µm (1.2 mil). Printing speeds up to 25 cm/s (10 in/s) can be used for crossover areas as large as 25 cm<sup>2</sup>.

### Drying

Allow prints to level for 5-10 minutes at room temperature. Dry 10-15 minutes at 150°C in air.

### Firing

Each dielectric print should be fired in a belt furnace. Use a 30 minute cycle with a peak temperature of 850°C for 10 minutes.

### Other System Components

- DuPont QS170 silver/palladium conductor
- DuPont QS175 silver conductor
- DuPont QS87 series resistors

## Typical Physical Properties

Test	Properties
Color	Blue
Dielectric Constant (K)	8-12
Leakage Current(µA/cm <sup>2</sup> )	<10
Fired Thickness (µm) (2 fired layers, 200 or 325 mesh screen)	40 (1.6 mil) between metal layers
Dissipation Factor (%)	< 0.5
Insulation Resistance <sup>2</sup> Initial HHBT <sup>3</sup> HBT <sup>4</sup>	>10 <sup>12</sup> Ω >10 <sup>11</sup> Ω >10 <sup>11</sup> Ω
Breakdown Voltage (VDC/25µm) (1 mil)	≥800
<sup>2</sup> Measured at 100 VDC. <sup>3</sup> HHBT 85°C/85%RH/5VDC/1000 hr <sup>4</sup> HBT 150°C/200 VDC/1000 hr.	
Composition Properties	
Viscosity (Pa.s) (Brookfield HBT, UC&S #14, 10 rpm, 25°C)	200-300
Thinner	DuPont 9450
Coverage (cm <sup>2</sup> /g) (Based on 30 µm [1.2 mil fired thickness using 2 points with a 325 mesh stainless steel screen) (Based on 40 µm [1.6 mil fired thickness using 2 points with a 200 mesh stainless steel screen)	70-75 (11-12 in <sup>2</sup> /g)  55-60 (8-9 in <sup>2</sup> /g)

This table shows anticipated typical physical properties for DuPont QS482 based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

## Safety and Handling

For Safety and Handling information pertaining to this product, read the Material Safety Data Sheet (MSDS).

## 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.

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