

# DuPont 5715R

## GOLD CONDUCTOR COMPOSITION

### Technical Data Sheet

#### Product Description

DuPont 5715R is a cadmium free\*, screen printable, composition. It is used as a gold wire bondable conductor in high density hybrids. DuPont 5715R is capable of good automatic gold wire bonding yields with 1-mil and 2-mil wire. Excellent wire bond acceptance over a broad thickness range. Excellent bond results have been shown with 1 mil Al wire.

\*Cadmium "free" as used herein means that this is not intentionally added to the referenced product. Trace amounts however may be present.

#### Processing

##### Screen Printing Equipment

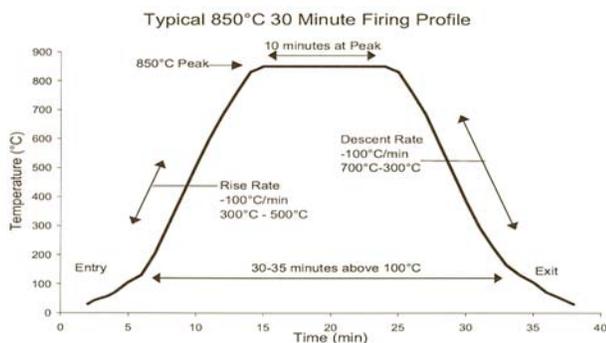
A 325 mesh stainless steel screen with an 12  $\mu\text{m}$  (0.5 mil) emulsion thickness is recommended.

##### Drying

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

##### Firing

Dried prints should be fired in a belt furnace. Use a 30 minute cycle with a peak temperature of 850°C for 10 minutes. No significant changes in performance characteristics were seen after multiple refirings at 850°C.



#### Typical Physical Properties

Test	Properties
Line Resolution ( $\mu\text{m}$ ) [lines/spaces] <sup>1</sup>	175/75
Fired Thickness ( $\mu\text{m}$ )	10
Resistivity ( $\text{m}\Omega/\text{sq}$ @ 8 $\mu\text{m}$ fired thickness)	< 6.5

<sup>1</sup>Using special screens designed for fine line printing

#### Composition Properties

Viscosity (Pa.s) (Brookfield HBT, UC&SP SC-4-14/6r, 10 rpm, 25°C)	450 - 600
Coverage ( $\text{cm}^2/\text{g}$ )	50 - 80
Thinner	DuPont 8672

#### Wirebond Properties Automatic Thermosonic

	Fired Thickness	
<i>Gold Wire Bonding</i> <sup>2</sup>	6 $\mu\text{m}$	10 $\mu\text{m}$
1.0 mil Wire Diameter		
Pull Strengths Initial (Aug)	13.7g	13.0g
2.0 mil Wire Diameter		
Pull Strengths Initial (Aug)	40.5g	39.6g

<sup>2</sup>See Bonding conditions. All wire breaks. No bonds lifts

This table shows anticipated typical physical properties for DuPont 5715R based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

## Bonding Conditions

Hughes 2460-III Automatic Gold Wire Bonder, stage 150°C, ceramic tool, 1.0 mil Au wire, tensile strength 8g min, elongation 3 to 5%.

## 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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