

Conductors

C5729



Pb and Cd Free Gold Conductor

Description:

C5729 is a cadmium and lead free, gold conductor paste that has been formulated for use with Al or Au wire bond applications.

● **Key Benefits**

- Excellent Al and Au bondability
- High conductivity
- Fine line printing
- Cadmium and lead free

● **Typical Properties:**

Resistivity:

< 5.5 milliohms per square
at 12 microns fired film thickness using 25 mil wide serpentine conductor pattern

Line Definition:

150 micron lines and spaces (6 mils)

Coverage:

118 cm²/g
(400 mesh, 0.9 mil wire, 0.5 mil emulsion)

Viscosity:

380-480 kcps, Brookfield HBT, Sc 4-14 spindle and 6R utility cup @ 10 pm, 25 °C

Al Wire Bondability:

1.25 mil Wire
99% Al, 1% Si, Elongation 0.5-1.5%
Initial: > 8 grams
* Note: All failures were wire breaks

10 mil Wire
99.88% Al, Elongation 15-21.5%
Initial: > 500 grams

Au Wire Bondability:

2 mil Wire
99.99% Au, Elongation 3-5%
Initial: > 20 grams

% Solids:

86.5 ± 1.0%

● **Recommended Processing Guidelines**

Printing:

280 mesh
1.2 mil wire
45° angle
0.6 mil emulsion

Print Speed:

> 4 in/sec (> 10 cm/sec)

Settling:

A settling time of 10-15 minutes is recommended. parts should be dried as soon as possible after the setting period, (within 20 minutes), so the paste does not skin over. Parts should not be left out for long periods of time before drying. This allows the paste to skin over and can compromise adhesion. Wet parts should be covered if not dried right away.

Drying:

Dry at 150°C for 10 minutes
Make sure ventilation is sufficient to prevent the wet film from skinning.

Firing:

850°C peak temperature,
10 minutes at peak
Total cycle time of 45 - 60 minutes

Thicknesses:

Dried: 20 -22 microns
Fired: 8 - 11 microns

Compatibility:

IP9217, IP9227 and IP9117D Multilayer Dielectrics

Thinner:

RV-372 (Terpineol)

Storage:

Store in a dry location at 5°C-25°C.
DO NOT REFRIGERATE.
Allow paste to come to room temperature prior to opening.
Spatulate well before using.

Warranty:

Material guaranteed to meet specifications for 6 months from date of shipment

YY0310.6

Conductors

C5729



Pb and Cd Free Gold Conductor

The descriptions and engineering data shown here have been compiled by Heraeus using commonly-accepted procedures, in conjunction with modern testing equipment, and have been compiled as according to the latest factual knowledge in our possession. The information was up-to date on the date this document was printed (latest versions can always be supplied upon request). Although the data is considered accurate, we cannot guarantee accuracy, the results obtained from its use, or any patent infringement resulting from its use (unless this is contractually and explicitly agreed in writing, in advance). The data is supplied on the condition that the user shall conduct tests to determine materials suitability for a particular application.

Americas

Heraeus Materials Technology LLC
Thick Film Materials Division
24 Union Hill Road
West Conshohocken, PA 19428
USA
Phone: +1 (610) 825-6050
E-Mail: techservice.hcd@heraeus.com
Internet: www.thickfilm.net

Europe

W.C. Heraeus GmbH
Thick Film Materials Division
Heraeusstr. 12-14
63450 Hanau
Germany
Phone: +49 (6181) 35-5466
E-mail: th-info@heraeus.com
Internet: www.heraeus-thickfilm.com

Asia

Heraeus Materials Technology
Shanghai Ltd.
No. 1 Guang Zhong Road
Zhuanqiao Town, Minhang District
Shanghai 201108
People's Republic of China
Phone: + 86 (21) 6442-6838
E-Mail: th.hmts@heraeus.com
Internet: www.heraeus-thickfilm.com