

## Conductors

### C2180



### Pb and Cd Free Silver/Palladium Conductor

#### Description:

C2180 is a lead, cadmium and nickel free Pd/Ag composition designed for automotive applications, with similar electrical and mechanical performance to 6:1 Ag/Pd conductors. The C2180 conductor is suitable for a wide variety of applications where low cost and excellent performance are required. It exhibits excellent solderability, aged adhesion properties and is aluminum wire bondable.

#### ● Key Benefits:

- Pb, Cd and Ni Free
- Excellent solderability and leach resistance
- Excellent long term adhesion
- Low cost
- Good Al wire bond adhesion (initial and aged)

#### Typical Properties

##### Resistivity:

15 - 20 milliohms per square at 12 microns fired film thickness

##### Viscosity:

200 – 280 Kcps, Brookfield HBT, SC4-14 spindle and 6R utility cup at 10 rpm, 25°C

##### Solderability:

62SN/36Pb/2Ag  
@ 230°C, RMA flux  
100% for 5 second dip

##### Solder Leaching:

62SN/36Pb/2Ag  
@ 225°C, RMA flux  
≥ 4 dips ( 10 seconds for each dip)

##### Solids:

80 ±1.5%

##### Adhesion:

80 x 80 mil pad  
62Sn/36Pb/2Ag  
@ 225°C - 230°C  
Forced air box oven

Initial	≥ 6.0
1,000 hours @ 150°C	≥ 5.0

##### Wire Bond Adhesion:

10 mil Al wire  
99.999% Al, Elongation > 5%  
5 x 850°C firing

Initial	> 400 gms
1,000 hours @ 150°C	> 400 gms

#### ● Recommended Processing Guidelines:

##### Printing:

280 - 325 mesh, 0.5 mil emulsion  
Allow to level at room temperature for 5-10 minutes before drying.

##### Printing Speed:

Up to 7 in/sec

##### Coverage:

80 cm<sup>2</sup>/gram at 12 microns fired film thickness

##### Drying:

Dry at 150°C for 10 to 15 minutes

##### Firing:

850°C peak temperature  
10 minutes at peak  
Total cycle time 30-60 minutes.

##### Film Thickness:

Wet:	35 – 37 microns
Dried:	22 – 24 microns
Fired:	10 - 15 microns

##### Line Definition:

≥ 6 mils (150 microns)

##### Thinner:

RV-372 (Terpineol)

##### Warranty:

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

##### Storage:

Store in a cool, dry, dark place at 5°C -25°C

**DO NOT REFRIGERATE**

Allow paste to come to room temperature prior to opening  
Spatulate well before using.

YY0606.3

## Conductors

### C2180



Pb and Cd Free Silver/Palladium 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 Incorporated  
Thick Film Materials Division  
24 Union Hill Road  
West Conshohocken, PA 19428  
USA  
Phone: +1 (610) 825-6050  
E-Mail: [techservice.hcd@heraeus.com](mailto:techservice.hcd@heraeus.com)  
Internet: [www.thickfilm.net](http://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](mailto:th-info@heraeus.com)  
Internet: [www.heraeus-th.com](http://www.heraeus-th.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](mailto:th.hmts@heraeus.com)  
Internet: [www.heraeus-th.com](http://www.heraeus-th.com)