

## Conductors

### C 5203

#### Gold / Palladium Conductor Paste

##### Description:

C 5203 is a high-reliability, general-purpose Au / Pd fritted conductor paste, suitable for a variety of applications, and compatible with most resistor systems. It exhibits good leaching properties with tin – lead solders, as well as a good aged adhesion. C 5203 is cadmium free.

Typical applications are those where silver – bearing cannot be used, due to the risk of Ag migration. This Au / Pd conductor can represent a suitable replacement for Au / Pt pure Au, where high conductivity is not the prime requirement.

##### Processing:

1. Spatulate well prior to processing. When stored in a fridge: The paste should have acquired room temperature before being opened, to avoid condensation.
2. Print through a 200 – 325 mesh stainless steel screen.
3. Level at room temperature for 5 – 10 minutes.
4. Dry at 150°C for 10 – 15 minutes.
5. Fire at 850°C (peak) for 10 minutes, and with a total firing cycle time of c. 30 – 60 minutes.

##### Thinner:

HVS 100

##### Properties (Paste):

Viscosity:	55 – 65 Pas (25°C, D = 75 s <sup>-1</sup> )
Solids:	80.5 ± 1.0 %
Printing Speed:	Up to at least 20 cm / s
Coverage:	c. 50 cm <sup>2</sup> / g (FFT: 12 µm)
Shelf Life:	12 months with correct storage (2 to 23°C, in a cool, dry, dark place and with the container tightly shut).

##### Properties (Fired)\*:

Fired Film Thickness **::	8.0 – 12.0 µm
Line Definition:	≥ 125 µm
Resistivity **::	≤ 150.0 mOhms / □ (FFT: 12 µm)
Aged Adhesion: (62Sn / 36Pb / 2Ag) (1 x 850°C, 48 hrs / 150°C)	> 12 N
Leach Resistance (62Sn / 36Pb / 2Ag)	≥ 8 dips (235°C, 10s each)

\* Typical property based on laboratory test methods. For optimum results all materials should be fired in a profiled furnace supplied with dried, hydrocarbon-free and other contaminant-free air (PP-1).

\*\* Measured after printing with a 325 mesh steel screen; screen thickness and emulsion thickness combined was c. 75 µm, and the resultant printed track was 500 µm wide.

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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.

Europe [TH]  
W. C. Heraeus GmbH  
Thick Film Materials Division  
Heraeusstr. 12 – 14  
63450 Hanau  
Germany  
Tel: +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)

North America  
Heraeus Incorporated  
Thick Film Materials Division  
24 Union Hill Road  
W. Conshohocken, PA 19428  
USA  
Tel: +1 (610) 825 – 6050  
E-Mail: [techservice.hcd@heraeus.com](mailto:techservice.hcd@heraeus.com)  
Internet: [www.thickfilm.net](http://www.thickfilm.net)

Asia [TH]  
Heraeus Materials Technology Shanghai Ltd.  
No. 1 Guang Zhong Road  
Zhuanquiao Town, Minhang District  
201108 Shanghai  
People's Republic of China  
Tel: +86 (21) -33575473  
E-Mail: [th.hmts@heraeus.com](mailto:th.hmts@heraeus.com)  
Internet: [www.heraeus-th.com](http://www.heraeus-th.com)