

## Resinates

### RP 10001/145B-12.5%



### Platinum Resinate Paste / DPIS\*

\* Development Product Information Sheet

#### Description

RP 10001/145B-12.5% is a thin film conductor paste for use on alumina and glazed alumina. RP 10001/145B-12.5% contains platinum in form of soluble organo metallic compounds. After firing a conducting platinum film is obtained. To reach higher film thicknesses it is necessary to print several layers on top of each other. Each applied layer has to be fired separately.

#### Key benefits

- Free of Pb, Ni and Cd
- REACH<sup>3</sup> and RoHS<sup>4</sup> compliant

#### Processing

1. Spatulate well prior to processing. When stored in a refrigerator allow paste to come to room temperature prior to opening, to avoid condensation.
2. Print through a 300 - 350 mesh stainless steel screen with an emulsion thickness of 15 - 20  $\mu\text{m}$ .
3. Let the print settle at room temperature for 10 minutes.
4. Dry at 90 °C for 15 minutes.  
Do not exceed peak of 130 °C.
5. Fire at 850 °C (peak) for 7 - 10 minutes and with a total firing cycle time of 40 - 60 minutes.

**Thinner:** HVS 100

#### Typical Properties (Paste):

Form:	Thixotropic paste
Viscosity:	20 - 30 Pas (20 °C, D = 205 sec <sup>-1</sup> )
Solid Content:	12.5 ± 0.5 %
Printing Speed:	Up to at least 10 cm/s
Coverage: (325 mesh screen)	Approx. 500 cm <sup>2</sup> / g (FFT at 0.4 $\mu\text{m}$ )
Shelf life:	6 months from date of shipment with correct storage (in a dry, cool (5 - 25 °C) and dark place with container tightly shut)

#### Typical Properties (Fired)<sup>1</sup>

Fired Film Thickness <sup>2</sup> : (FFT)	0.1 - 0.3 $\mu\text{m}$
Line Definition <sup>2</sup> :	≥ 130 $\mu\text{m}$ (width and space)
Resistivity (25 °C) <sup>2</sup> :	≤ 2 $\Omega/\square$ at 10 $\mu\text{m}$ DFT <sup>5</sup>
HTCR <sup>6</sup> (25 - 125 °C)	3300 – 3450 ppm/K

- 1 Typical properties based on laboratory test methods. For optimum results all materials should be fired in a profiled furnace supplied with dried, hydrocarbon and other contaminant-free air (PP-1).
- 2 Measured on alumina 96% after printing with a 325 mesh steel screen; thickness of screen and emulsion combined was c. 15  $\mu\text{m}$ , and the resultant printed track was 500  $\mu\text{m}$  wide.
- 3 REACH: EC Regulation No. 1907/2006  
Registration, Evaluation, Authorization and Restriction of Chemicals by European Chemicals Agency
- 4 RoHS Directives 2002/95/EC and its subsequent amendments:  
Restriction of Hazardous Substances Directives by European Union
- 5 DFT: Dried Film Thickness; FFT: Fired Film Thickness
- 6 HTCR: Hot Temperature Coefficient of Resistance

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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.

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