

## Dielectrics

### IP 9059

#### Acid Resistant 600 °C Resistor Overglaze - Clear

#### Description

IP 9059 is a clear dielectric, particularly developed for use as an acid – resistant overglaze on chip and standard resistors.

#### Key Benefits

- It can withstand plating solutions, e.g. Ni baths with pH – values of 4 – 5 and Pb/Sn baths with pH – values of < 1.
- Also resistant to mildly alkaline solutions.
- Free of cadmium and nickel
- Free of phthalate
- REACH<sup>3</sup> and RoHS<sup>4</sup> compliant

#### 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 screen. Total thickness: 50 – 100 µm
3. Let the print settle at room temperature for 5 – 10 minutes.
4. Dry at 150°C for 10 – 20 minutes.
5. Fire at 580 – 620°C (peak) for 2 minutes, and with a total firing cycle time of 25 – 30 minutes.

**Thinner**

HVS 100

#### Typical Properties (Paste)

Form:	Thixotropic paste
Viscosity :	25 – 45 Pas (25 °C, D = 100 s <sup>-1</sup> )
Printing Speed:	Up to 20 cm/s
Shelf Life:	6 months from date of shipment with correct storage (in a dry, cool (2 to 23 °C) and dark place with container tightly shut)

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

Fired Film Thickness <sup>2</sup> : (FFT)	15 – 19 µm
Color:	Clear (colorless transparent)

#### Compatibility

Overglazes:	IP 9029 H (green transparent) IP 9039 H (black) IP 9049 H (white)
Conductors:	C 1075 S C 1075 S (LPA 409-021) C 1076 SD C 1076 SD (LPA 609-022) Others on request
Resistors:	R 8900 Series R 8900 (WP 09-XY) Series R 8900 D Series

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- 1 Typical property 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 after printing with a 200 mesh steel screen; screen thickness and emulsion thickness combined was c. 100 µm, and the resultant printed track was 500 µm wide.
- 3 REACH compliant according to the Annex XIV (Feb. 17, 2011) of Commission Regulation (EU) No 143/2011 to Regulation (EC) No 1907/2006 of the European Parliament and of the council on the Registration, Evaluation, Authorisation and Restriction of Chemicals ("REACH") by European Chemicals Agency; we define a material as REACH compliant, as long as substances used are not recorded in the Annex XIV.
- 4 RoHS compliant according to Directives (European Union) No 2011/65/EC of Restriction of Hazardous Substances ("RoHS") and its subsequent amendments (including the exceptions No. 7. c. I. of the EU Directive e.g. related to Pb)

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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