

## Dielectrics

### IP9117B

#### Crossover Dielectric Paste

**Description:**

IP9117B is an 850°C firing, crossover composition with unique properties which result in the following advantages:

● **Key Benefits:**

- Extremely dense, hermetic fired film resulting in excellent electrical performance at fired thicknesses  $\geq 40$  microns.
- Excellent solderability and adhesion of Pd/Ag and Pt/Au conductors when processed on top of IP9117B dielectric.
- Absence of "Battery Effect". Separation of dissimilar conductor metallizations is possible without top layer blistering.

● **Typical Properties:**

**Dielectric Constant:**

9-11

**Insulation Resistance:**

$10^{11}$  ohms @ 100 Volts D.C.

**Breakdown Voltage;**

>500 VDC per mil @ 40 microns

**Coverage:**

80-90  $\text{cm}^2/\text{g}$  calibrated on a  
50 micron wet film thickness

**Viscosity:**

180-250 Kcps, Brookfield HBT,  
SC4-14 spindle in 6R cup @ 10 rpm, 25°C

**% Solids:**

75.0%  $\pm$  1.0%

● **Recommended Processing Guidelines:**

**Printing:**

250-325 mesh screen

0.5 mil emulsion

1.1 mil wire

A double wet pass of the squeegee is recommended to minimize pinholes.

The combined thickness of individually printed and fired layers should be  $\geq 40 \mu\text{m}$ . Three layers may be necessary to achieve this thickness when 325 mesh screens are used.

**Drying:**

150°C in a box oven or belt dryer

10-15 minutes

**Allow wet prints to level at room temperature for 5 minutes.**

**Firing:**

850°C peak temperature

Dwell time of 9-11 minutes, total profile of 30 minutes

**Each layer of dielectric should be fired separately.**

**Thickness:**

Fired:  $\geq 40$  microns

**3 separately fired layers, 325 mesh screen**

**Thinner:**

RV-372 (Terpineol)

**Warranty:**

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

**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.

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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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