

Dielectrics

IP9118

Multilayer

Description:

IP9118 is a dielectric designed specifically for use on large area multilayer circuits. It is TCE matched to alumina in order to prevent bowing. Its smooth surface, combined with its dense microstructure, allows it to be used in complex multilayer circuit applications where a high degree of reliability is required.

● **Key Benefits:**

- Minimal substrate bowing
- Smooth, defect-free surface
- Excellent electrical properties
- IP9118W available (no blue pigment) for fired layer identification
- Cadmium free

● **Typical Properties:**

Via Resolution:

>200 microns (8 mils)

Dielectric Constant:

6-9 @ 1KHz

Dissipation Factor:

< 0.5% @ 1KHz

Insulation Resistance:

>10¹¹ ohms at 100 VDC

Leakage Current:

25 microamps/cm²

Breakdown Voltage:

>500 VDC per mil

Bowing:

1" x 4" x .025"
10 layers, 10 firings
< 2 mils/inch

Coverage:

180 cm²/g.

Viscosity:

280-420 Kcps, Brookfield HBT,
SC4-14 spindle and the 6R utility cup @ 10 rpm, 25°C

Solids: 72.0%±1.5%

● **Recommended Processing Guidelines:**

Printing:

325 mesh stainless steel screen
0.5 mil emulsion.
1.1 mil wire
3 individually fired layers with a total thickness of at least 40 µm will be necessary to achieve the optimum performance level. Allow wet prints to level at room temperature for 5 minutes.

Drying:

Dry at 150°C for 10 minutes

Firing:

850°C peak temperature
Dwell time of 9-11 minutes.

Thickness:

Dried: 21 microns
Fired: 15 microns
Total recommended thickness should be:
> 42 microns with 3 separately fired layers

Thinner:

RV-507 (Texanol[®])

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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