

Dielectrics

IP6075



Lead Free Dielectric for Aluminum Substrates

Description:

IP6075 is a lead and cadmium free single part dielectric paste which produces a dense, grey, hermetic fired film. IP6075 is compatible with 3000, 4000, 5000 and 6000 grade aluminum substrates. Its unique glass system reduces bowing on aluminum while providing high breakdown strength. It is compatible with C8829B Ag conductor.

● Key Benefits:

- RoHS compliant*
- REACH compliant**
- Excellent electrical properties
- High breakdown voltage
- Reduces bowing on Aluminum substrates

● Typical Properties:

Dielectric Constant:

<20 @ 1KHz

Dissipation Factor:

<0.5% @ 1KHz

Insulation Resistance:

>10⁹ ohms @ 100 DC

Breakdown Voltage:

>1000 VDC per mil
(3 individually fired layers)

Thermal Conductivity:

Tested to ASTM E1461, E1269
On aluminum 3000, 4000, 5000 and 6000 grades
1.0 ~ 2.0 w/m-K

Bowing Deflection:

3 P-D-F layers
< 3.5 µm/mm on 2mm 3003 aluminum alloy
< 1.5 µm/mm on 2mm 6061 aluminum alloy

Viscosity:

60 - 100 Kcps, Brookfield RVT, SC4-14 spindle with 6R utility cup @ 10 RPM, 25°C

Solids:

72.0 ± 2%

● Recommended Processing Guidelines:

Printing:

280 mesh stainless steel screen.
0.5 mil emulsion thickness.
Allow wet prints to level at room temperature for 10 minutes before drying.
Three individually fired layers with a total thickness of at least 50 µm will be necessary to achieve the optimum performance level.

Coverage:

155 cm²/g @ 40 microns
Wet film thickness

Drying:

Dry at 150°C for 15 minutes

Firing:

550°C - 600°C peak temperature
Dwell time of 2 - 20 minutes
Optimum peak temperature dependent on application/substrate mass

Thickness:

Dried: 22 - 27 microns (1 layer)
Fired: 17 - 20 microns (1 layer)
50 - 60 microns (3 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 ~25°C
DO NOT REFRIGERATE.
Spatulate well before using as settling may have occurred during storage.

YY0711.5

*RoHS Statement

Compliant according to Directives (European Union) No 2002/95/EC of Restriction of Hazardous Substances ("RoHS") and its subsequent amendments (including the exceptions No. 5 and 7 of the EU Directive e.g. related to Pb bounded in a glass matrix as oxide PbO)

**REACH Statement

Compliant according to the Commission Regulation (EU) No 143/2011 of Feb. 17, 2011 amending Annex XIV 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.

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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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