

Technical Data Sheet



THICK FILM MATERIALS

Product Type: Conductors

Product Name: C2103M



Pb and Cd Free Silver/Palladium Conductor

Description

C2103M is a Pb and Cd free Pd/Ag Conductor paste which exhibits high density, high reliability and good fine line definition, (6 mil lines and spaces). It fires to a smooth surface and is mechanically durable and chemically resistant. Conductivity, leach resistance, and resistance to silver migration are exceptional. Due to these characteristics pastes such as C2103M are frequently preferred material for fuel level sensor applications.

Key Benefits

- Excellent solderability and leach resistance
- Exceptional silver migration resistance
- Pb and Cd free
- Smooth fired surface
- REACH¹ and ROHS² compliant

Typical Properties

Resistivity

≤ 50 mΩ/□ at 12 μm fired film thickness

Viscosity

180 – 240 Kcps Brookfield HBT
SC4 – 14 spindle, 6R utility cup at 10 rpm, 25 °C

Solids

83.0 ± 1.0 %

Solder Acceptance

SAC305 at 255 °C, RMA flux
100 % for 5 second dip

Leach Resistance

SAC305 at 255 °C, RMA flux
> 90 %, 2 x 10 seconds for each dip)

Adhesion

80 x 80 mil pad
SAC305 at 255 °C, RMA flux
Forced air box oven
Initial: ≥ 5.5 lbs
48 hours @ 150 °C: ≥ 4.0 lbs
(Aged at 150 °C for 48 hrs)

Recommended Processing Guidelines

Printing

280 – 325 mesh stainless steel screen
0.5 mil emulsion, 1.1 mil wire
Let the print level at room temperature for 10 minutes before drying
Printing speeds capable up to 6 in/sec

Drying

150 °C for 10 minutes

Firing

850 °C peak for 10 minutes,
Total cycle time 30 – 60 minutes

Film Thickness:

| | |
|--------|------------|
| Wet: | 34 – 38 μm |
| Dried: | 18 – 22 μm |
| Fired: | 10 – 13 μm |

Line Definition:

≥ 5 mils (125 μm)

Thinner:

RV-372

Coverage

84 cm²/g at 12 μm fired film thickness

Warranty:

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

Storage:

Store in a dry location at 5 – 25 °C.

DO NOT REFRIGERATE.

Allow paste to come to room temperature prior to opening.
Spatulate well before using, as settling may occur during storage.

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Legend:

1) REACH compliant according to the latest * Annex XIV to Regulation (EC) of the European Parliament and of the council on the Registration, Evaluation, Authorisation and Restriction of Chemicals ("REACH") by European Chemicals Agency and its subsequent amendments; the material does not contain any substance listed in Annex XIV.

2) RoHS compliant according to the latest * Directives (European Union) of Restriction of Hazardous Substances ("RoHS") and its subsequent amendments (including the exceptions related to Pb)

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