

Technical Data Sheet

THICK FILM MATERIALS

Product Type: Conductors

Product Name: C4303M



Silver / Palladium Conductor

Description

C4303M Pd/Ag Conductor paste exhibits high density, high reliability and good fine line definition, (5 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, C4303M is a frequently preferred material for fuel sensor applications, particularly in automobiles.

Key Benefits

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

Typical Properties

Resistivity

≤ 50 mΩ/□ at 12 μm fired film thickness

Viscosity

150 – 200 Kcps, Brookfield HBT
SC4-14 spindle and 6R utility cup at 10 rpm, 25 °C

Solder Acceptance

Sn62/Pb36/Ag2 at 225 °C
5 sec. dip, RMA flux
100 %

Leach Resistance

Sn62/Pb36/Ag2 at 225 °C
RMA flux
≥ 90 %, 2 x 10 sec. dips

Adhesion

80 x 80 mil pad
Sn62/Pb36/Ag2 at 225 °C
RMA flux
≥ 4.5 lbs

Solids

83.1 ± 1.0 %

Recommended Processing Guidelines

Printing

280 – 325 mesh 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

Dry at 150 °C for 10 minutes

Firing

850 °C peak temperature for 10 minutes
with a total cycle time of 30 – 60 minutes

Thickness

Dried: 15 – 18 μm
Fired: 10 – 12 μm

Line Definition

≥ 5 mils (125 μm)

Thinner

Heraeus 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)

* See the data sheet issue date (DD/MM/YY) as reference of validity of latest edition which is available on request

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