

## Technical Data Sheet

### THICK FILM MATERIALS

Product Type: Conductors

Product Name: C 5909A



#### Gold Hole Plug

#### Description

C 5909A is a gold paste designed as a hole plug in alumina substrates. The high solids loading allows for excellent filling properties with bladder fill machines. C 5909A has low shrinkage, which allows for a complete fill of the through hole.

#### Key Benefits

- REACH<sup>1</sup> and ROHS<sup>2</sup> compliant
- High solids loading
- Low shrinkage
- For use with bladder fill machines

#### Typical Properties

##### Resistivity

≤ 25 mΩ/□ at 25 μm fired film thickness

##### Viscosity

600 – 1000 Kcps Brookfield HBT  
SC4-14 spindle and 6R utility cup  
at 10 rpm, 25 °C

##### Solids

95.0 ± 1.0 %

##### Bladder Fill Machine Starting Parameters

Equipment	PTC Model VF-1000
Injection Pressure	10 – 20 PSI
Injection Time	5 – 10 sec
Clamp Time	5 – 10 sec

Note: Initial settings based on a 10 mil dia. Hole in a 25 mil thick substrate.

If C 5909A is to be used in a mixed metal circuit, a barrier material must be used. The recommended process materials are listed below:

Step 1) C 5909A	Gold Hole Plug
Step 2) C 4003	Barrier Conductor
Step 3) C 8710	*Ag Bottom Conductor
Step 4) C 5789	Gold Top Conductor

\* Print over barrier interface

#### Recommended Processing Guidelines

##### Application

Bladder Fill Machine

##### Drying

150 °C for 15 minutes

##### Firing

850 °C peak temperature  
Dwell time 8 – 12 minutes

##### Thinner (Thinning is generally not recommended)

RV-507

##### 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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