

## Conductors

### C5909A

#### Gold Hole Plug

**Description:**

C5909A 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. C5909A has low shrinkage, which allows for a complete fill of the through hole.

● **Key Benefits:**

- High solids loading
- Low shrinkage
- For use with bladder fill machines

● **Typical Properties:**

**Metal Type:**

Gold

**Resistivity:**

≤ 25 milliohms per square  
25 microns fired film thickness

**Viscosity:**

600-1000 Kcps, Brookfield HBT, SC4-14 Spindle and  
6R cup @ 10 rpm, 25°C  
450 – 550 Pa-sec, Haake C-20, 1° Cone @ 10 sec<sup>-1</sup>

**Solids:**

95.0 ± 1.0%

**Bladder Fill Machine Starting Parameters:**

Equipment: PTC Model VF-1000  
Injection Pressure: 10 to 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 C5909A is to be used in a mixed metal circuit, a barrier material must be used. The recommended process materials are listed below:

Step 1) C5909A	Gold Hole Plug
Step 2) C4003	Barrier Conductor
Step 3) C8710	*Ag Bottom Conductor
Step 4) C5789	Gold Top Conductor

\*Print over barrier interface.

● **Recommended Processing Guidelines:**

**Application Method:**

Bladder Fill Machine

**Drying:**

Dry at 150°C for 15 minutes

**Firing:**

850°C peak temperature  
Dwell time of 8-12 minutes

**Thinner: (Thinning is generally not recommended)**

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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