

## Technical Data Sheet

### THICK FILM MATERIALS

Product Type: Dielectrics

Product Name: SG-705



### Sealing Glass

#### Description

SG-705 is a low fire sealing glass designed to seal alumina substrates to alumina substrates. It fires out to a white translucent material. It has been specially engineered to provide dimensional stability during sealing.

#### Key Benefits

- REACH<sup>1</sup> and ROHS<sup>2</sup> compliant
- Thermal expansion matched to Al<sub>2</sub>O<sub>3</sub>
- Low shrinkage upon firing
- Dyed paste for easy visual inspection
- Provides strong dense seal
- Cadmium free

#### Typical Properties

##### Viscosity

125 – 165 Kcps, Brookfield HBT, SC4-14 spindle at 10 rpm in 6R utility cup, at 25 °C

##### F.O.G

Less than 16 µm  
(4<sup>th</sup> scratch)

##### Solids

76.0 ± 1.0 %

##### Coefficient of Thermal Expansion

72 – 80 x 10<sup>-7</sup> ppm/°C

#### Recommended Processing Guidelines

##### Recommended Process for Optimum Joining

For hermetic joining of two ceramic pieces, the following sequence of processing steps is recommended:

1. Print/Dry/Fire material on side A.
2. Print/Dry/Fire material on side B.
3. Make contact between side A and side B.
4. Fire at recommended sealing profile.

##### Printing

165 – 200 mesh  
0.5 mil emulsion

##### Drying

150 °C for 10 minutes

##### Thickness

Dried: 36 – 40 µm

##### Firing

620 °C peak temperature  
4 – 5 minutes at peak, 6 – 7 minutes > 600 °C

##### Thinner

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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