

Dielectrics

SG-705

Sealing Glass

Description:

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

● **Key Benefits:**

- TCE matched to Al₂O₃
- 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 @ 10rpm in 6R utility cup, @ 25°C

F.O.G:

Less than 16 microns (4th scratch)

Solids:

76.0 ± 1.0%

Coefficient of Thermal Expansion:

72 - 80 × 10⁻⁷ ppm/°C

● **Recommended Processing Guidelines:**

Recommended Process for Optimum Joining:

For hermetic joining of two ceramic pieces, we recommend the following sequence of processing steps:

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:

Dry at 150°C for 10 minutes

Thickness:

Dried: 36-40 microns

Firing:

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

Thinner:

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

YY1010.8

Dielectrics

SG-705

Sealing Glass

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.

Americas
Heraeus Materials Technology LLC
Thick Film Materials Division
24 Union Hill Road
West Conshohocken, PA 19428
USA
Phone: +1 (610) 825-6050
E-Mail: techservice.hcd@heraeus.com
Internet: www.thickfilm.net

Europe
W.C. Heraeus GmbH
Thick Film Materials Division
Heraeusstr. 12-14
63450 Hanau
Germany
Phone: +49 (6181) 35-5466
E-mail: th-info@heraeus.com
Internet: www.heraeus-thickfilm.com

Asia
Heraeus Materials Technology
Shanghai Ltd.
No. 1 Guang Zhong Road
Zhuangqiao Town, Minhang District
Shanghai 201108
People's Republic of China
Phone: + 86 (21) 3357-5688
E-Mail: th.hmts@heraeus.com
Internet: www.heraeus-thickfilm.com