

Technical Information

5635 Low Temperature Glass Paste

The 5635 glass paste was designed for applications requiring very low processing temperature. It can be used as an overglaze or sealing glass paste. Its key features include:

- RoHS Compliant
- Cadmium Free
- Nearly Hermetic
- Compatibility with Most Substrates

TYPICAL FIRED FILM CHARACTERISTICS

Paste Color	White
Firing Temperature	350°C , 30 minutes
Surface Finish	Shinny
Fired Film Color	Translucent Gray

COMPOSITION PROPERTIES

Viscosity:	130 ± 30 Kcps, when measured with Brookfield HBT viscometer, Spindle #14, utility cup, 10 rpm, 25°C
Specific Gravity:	2.0 - 2.6 g/cm ³
Recommended Thinner:	KOARTAN A-1039

RECOMMENDED PROCESSING PROCEDURE

Printing: Printing with 250 mesh stainless steel screen using 10-15 micron emulsion and 45 degree angle is recommended. Other mesh counts, 200-325, and emulsion thicknesses, 5-25 microns, may be used for special applications.

Coverage is approximately $120 \text{ cm}^2/\text{g}$ per layer, when utilizing 250 mesh screen and a wet print thickness of about 35 microns.

Drying: Wet prints should be allowed to level for 5-10 minutes prior to drying. Dry for 10-15 minutes in a convection oven or belt dryer at 125°C - 150°C .

Firing: Firing in air using a belt furnace and a 60 minute profile, with 30 minutes at a peak temperature of 350°C is recommended. Air flow rates must be optimized to ensure that the products of binder burn-off discharge properly and create a fully oxidizing atmosphere in the muffle. Ventilated box furnaces may also be used.

Application Notes: For screen printed films a firing cycle as indicated above provides a shiny and nearly hermetic glass layer. For thicker deposits a slower ramp up and higher firing temperature may be required.

The coefficient of thermal expansion of this glass is high. However, due to low firing temperature, sufficient thermal stress may

not be generated during cooling to cause micro-cracking on low expansion substrates. It is important to conduct thermal cycling experiments on the finished circuit to insure long term reliability.

Storage and Shelf Life: Store in tightly capped containers at room temperature. Shelf life is 6 months for unopened jars. Thorough mixing of the paste before each use is recommended. Under ordinary conditions of storage and use the product should not require thinning. However, solvent loss during extended printing runs may be replaced by incorporating up to 0.5% of Koartan A-1039 thinner.