

## Technical Information

# 5600 & 5601 Acid Resistant Glaze Pastes

The 5600 and 5601 acid resistant overglaze pastes were formulated for the protection of electronic circuits and components from plating solutions and water washable fluxes. They produce fully hermetic fired films and are compatible with resistors and capacitors. The standard product rheologies are suitable for screen printing. Dispensing, dipping, and spraying versions are available upon request. Available is also 5600H, which can

be used as buffer layer between thick film capacitors and 5600. These products do not contain cadmium or highly toxic organic solvents. Key features include:

- RoHS Compliant
- Resistance to Concentrated Acids.
- Excellent Hermeticity.
- Compatibility with Most Resistor Systems.

### TYPICAL FIRED FILM CHARACTERISTICS<sup>(1)</sup>

	<b>5600</b>	<b>5601</b>
<b>Color</b>	GREEN	BLACK
<b>Firing Temperature</b>	600°C	600°C
<b>Delta R<sup>(2)</sup></b>	≤ ± 5%	≤ ± 5%

(1) Typical properties are based on testing of several batches under various processing conditions. They are not intended as specification limits.

(2) The shift in resistance of Koartan 7600 and most other commercial resistor systems.

### COMPOSITION PROPERTIES

**Viscosity:** 120 ± 30 Kcps, when measured with Brookfield HBT viscometer, Spindle #14, utility cup, 10 rpm, 25°C

**Specific Gravity:** 1.8-2.2 g/cm<sup>3</sup>

**Recommended Thinner:** KOARTAN A-1039

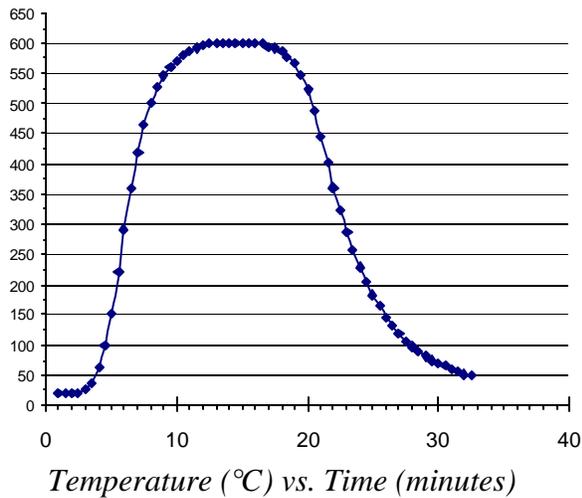
## RECOMMENDED PROCESSING PROCEDURE

**Printing:** Printing with 250 mesh stainless steel screen using 10-15  $\mu\text{m}$  emulsion and 45 degree angle is recommended. Other mesh counts, 200-325, and emulsion thicknesses, 5-25  $\mu\text{m}$ , may be used for special applications.

Coverage is approximately 130  $\text{cm}^2/\text{g}$  per layer, when utilizing 250 mesh screen and a wet print thickness of about 35  $\mu\text{m}$ .

**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 22-40 minute profile, with 10 minutes at a peak temperature of 600°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.



**Application Notes:** A thin layer of 5600 overglaze is recommended for most applications requiring circuit protection from water soluble fluxes.

For protection from electroplating baths, the best results are obtained with a layer of 5601, followed by a layer of 5600.

For encapsulation of small thick film capacitors two layers of 5600 are recommended. For larger capacitors, or dielectrics with large TCE mismatch to alumina substrate a special buffer material 5600H should be applied prior to the application of the 5600. Please consult Koartan's technical staff for your particular application.

**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.

The information presented herein is based on data believed to be dependable and is accurate and reliable to the best of our knowledge and belief, but not guaranteed to be so. Koartan Company assumes no liability arising from the use of this product or the information provided herein. It is the responsibility of the user to verify the information and to establish the suitability of the product(s) for any particular application. Nothing herein is to be construed as recommending any practice or any product in violation of any patent or in violation of any law or regulation.