

Technical Information

5600 & 5601 Acid Resistant Glazes

The 5600 and 5601 acid resistant overglazes 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. These products do not contain cadmium or highly toxic organic solvents. Key features include:

- Resistance to highly concentrated acids.
- Excellent hermeticity.
- Compatibility with most resistor systems.

TYPICAL FIRED FILM CHARACTERISTICS⁽¹⁾

	5600	5601
Color	GREEN	BLACK
Firing Temperature	600°C	600°C
Delta R⁽²⁾	≤ ± 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, Spindle #14, utility cup, 10 RPM, 25°C.

Specific Gravity: 1.8-2.2 g/cm³

Recommended Thinner: KOARTAN A-1039

RECOMMENDED PROCESSING PROCEDURE

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

Coverage is approximately 130 cm^2 per layer, when utilizing 250 mesh screen and a wet print thickness of about 35 μm .

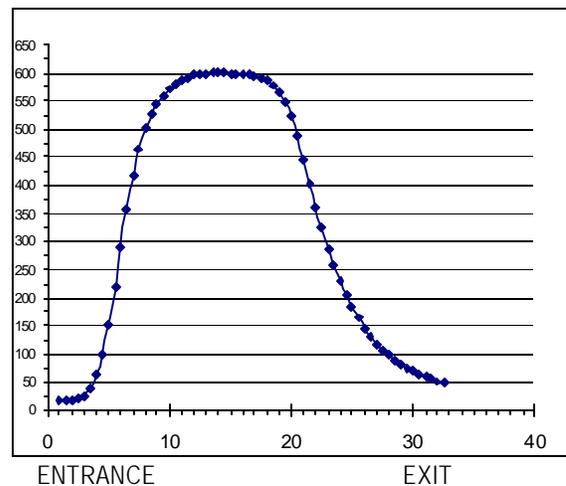
Drying: Wet prints should be allowed to level for 5-10 minutes prior to drying. Dry for 10-15 minutes in a convection oven or belt dryer at 125°C-150°C.

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.

Applications: 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



Typical firing profile for 5600, 5601

dielectrics with large TCE mismatch to alumina substrate, a special buffer material 5600H may be required 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.

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