

Technical Information

5660 Acid Resistant Overglaze Paste For Aluminum Nitride Substrate

The 5660 acid resistant overglaze paste was developed for the protection of electronic circuits and components from plating solutions and water washable fluxes, specifically for aluminum nitride substrates. It produces fully hermetic fired films and is compatible with resistors and capacitors. It does not contain cadmium or highly toxic organic solvents. Key features include:

- RoHS Compliant
- Compatibility with Most AlN Substrates
- Resistance to Concentrated Acids.
- Excellent Hermeticity.
- Compatibility with most resistor systems.

TYPICAL FIRED FILM CHARACTERISTICS⁽¹⁾

Color	GREEN
Firing Temperature	600°C
Delta R⁽²⁾	≤ ± 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 7981 resistor, fired on aluminum nitride substrate.

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/cm³

Recommended Thinner: KOARTAN A-1039

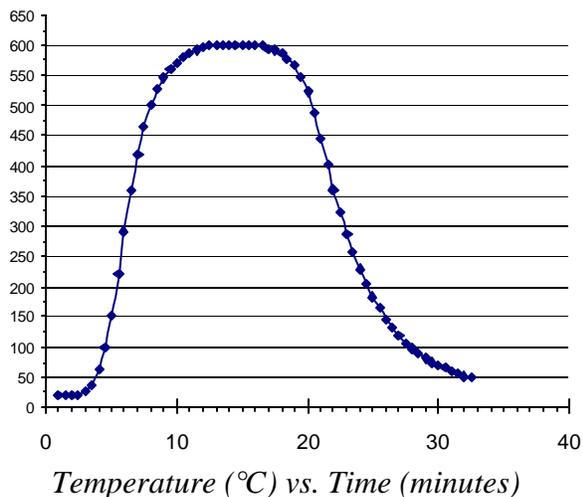
RECOMMENDED PROCESSING PROCEDURE

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/g , 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.



Application Notes: A thin layer of 5660 overglaze is recommended for most applications requiring circuit protection from water soluble fluxes.

For protection from electroplating baths, the best results are obtained with two layers of 5660. 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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