

Technical Information

4530 GOLD PASTE

For Thru-Hole & Edge Paint Applications

The thick film composition 4530 is a lightly alloyed gold paste, designed for pull through and edge paint applications. Its high solids and binder contents result in good adhesion to laser drilled hole walls, while providing low electrical resistance. Its rheology is optimized for pulling through small holes.

The 4530 is compatible with most conductors, dielectrics, and resistors. Key features of this product include:

- High Electrical Conductivity
- Good Adhesion to Laser Drilled Holes
- Low Firing Shrinkage

TYPICAL FIRED FILM CHARACTERISTICS⁽¹⁾

Metallurgy	Gold(Ag/Pd)
Resistivity	< 10 milliohm/square at 12 micron fired thickness

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

COMPOSITION PROPERTIES

Viscosity:	100 ± 20 Kcps, when measured with Brookfield HBT viscometer, Spindle #14, utility cup, 10 rpm, 25°C
Solids Content:	89.0 ± 1.5 %
Specific Gravity:	5.5 – 6.5 g/cm ³
Recommended Thinner:	KOARTAN B-1194

RECOMMENDED PROCESSING PROCEDURE

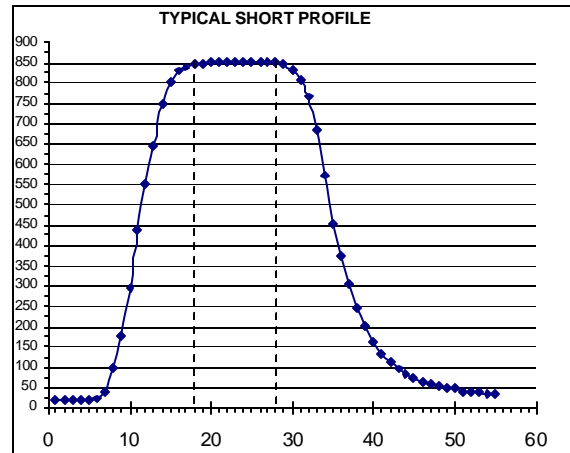
Printing: Printing with a 325 mesh stainless steel screen with 10-15 μm emulsion and 45 degree angle is recommended. Other mesh counts, 230-280, and emulsion thicknesses, 5-25 μm , may be used for special applications.

Drying: Wet prints should be allowed to stabilize for 5-10 minutes prior to drying. Dry for at least 15 minutes in a convection oven or belt dryer at 100°C-150°C.

Firing: Firing in air using a belt furnace and a 36-60 minute profile, with 10 minutes at a peak temperature of 850°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: It is generally a good practice to fire laser drilled substrates once prior the application of the thru-hole paste. The print area is recommended to be at least .001" larger than the hole diameter all around. A sufficiently strong vacuum should be applied to pull the ink through at

least 70% of the depth. The substrate is then turned over and the process is repeated.



Temperature (°C) vs. Time (minutes)

Storage and Shelf Life: Store in tightly capped containers at room temperature. Shelf life is 6 months for unopened jars. 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 B-1194 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.