

Preliminary Technical Information

6296 SILPALL FLASH

Cd-FREE, Pb-FREE SOLDER PROMOTING PASTE

The 6296 SILPALL FLASH is a low solids content paste, consisting of nano particles of silver and palladium, in addition to adhesion promoters. When printed on silver-bearing conductors and fired to 600°C, it provides a thin layer with a dense metallic surface which significantly improves the solder

wetting of hard to solder thick film conductors. Its key features include:

- RoHS Compliant; Cd-Free, Pb-Free
- Adheres to Most Metallic Surfaces
- High Coverage per Unit Weight
- Standard Screen Printing Application Method

TYPICAL FIRED FILM CHARACTERISTICS⁽¹⁾

Paste Color	Gray
Fired Film Color	Light Gray
Fired Thickness	1-2 μm
Line Resolution	175/125 μm line/space using 150/150 μm pattern and 325 mesh screen

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

COMPOSITION PROPERTIES

Viscosity:	170 \pm 30 Kcps, when measured with Brookfield HBT viscometer, Spindle #14, utility cup, 10 RPM, 25°C
Specific Gravity:	1.4-1.8 g/cm ³
Recommended Thinner:	KOARTAN A-1039

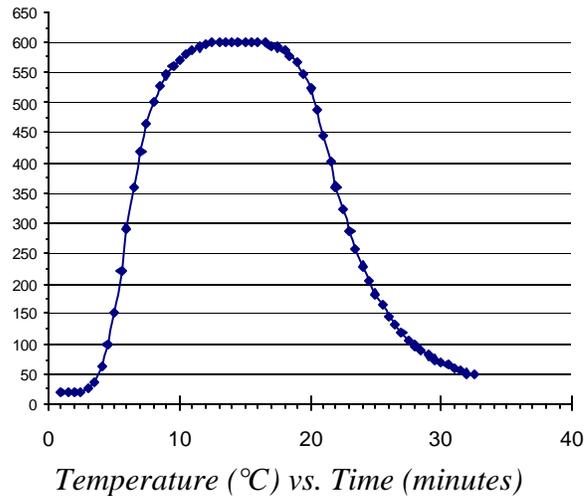
RECOMMENDED PROCESSING PROCEDURE

Printing: Printing with 280 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. Squeegee speeds of up to 10 inches/sec may be utilized.

Coverage is approximately 150 cm^2/g , when utilizing 280 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 580°C-620°C, is recommended. Firing lower than 580°C may result in insufficient sintering of the SILPALL film. Firing above 620°C may result in diffusion of SILPALL into the underlying conductor film, rendering it ineffective. 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: The 6296 is particularly useful when conductors printed on AlN, BeO, and other substrates exhibit low solder acceptance characteristics. It should be noted, however, that high thermal conductivity substrates must be heated during soldering operation, even when 6296 is utilized. This is because substrates like AlN and BeO quickly transfer heat away from point sources such as soldering irons. Reflow soldering or dipping in a molten solder bath is needed to completely wet the surface of conductors covered by 6296 with solder.

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 corrected 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.