

Technical Information

6716 Silver Conductor

For Plasma Displays

The silver composition 6716 is designed for a variety low temperature applications. It has excellent adhesion to such substrates as fused silica, soda-lime glass for plasma displays, sapphire, silicon wafers, aluminum oxide, thick film dielectrics, and others. Its firing temperature of 500°C-900°C and compatibility with different substrates makes it useful in many difficult applications. The 6716 is compatible with other plasma display pastes available from

KOARTAN. It does not contain cadmium, nickel, or highly toxic organic solvents. Key features include:

- RoHS Compliant
- Low Firing Temperature
- High Conductivity
- Excellent Adhesion to Glass and Various Ceramics
- Compatibility with other Plasma Display Materials

TYPICAL FIRED FILM CHARACTERISTICS⁽¹⁾

Fired Thickness	10 - 15 μm
Line Resolution	175/125 μm line/space using 150/150 μm pattern and 325 mesh screen
Resistivity⁽²⁾ On PD200 flat glass	< 3 milliohm / square at 13 μm fired thickness

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

(2) Fired at 600°C for 10 minutes. PD200 is a trademark of ASAHI GLASS CO. LTD., Tokyo, Japan.

COMPOSITION PROPERTIES

Viscosity:	120 - 180 Kcps, when measured with Brookfield HBT, Spindle #14, utility cup, 10 RPM, @ 25°C
Specific Gravity:	3.6 - 4.0 g/cm ³
Recommended Thinner:	KOARTAN A-1039

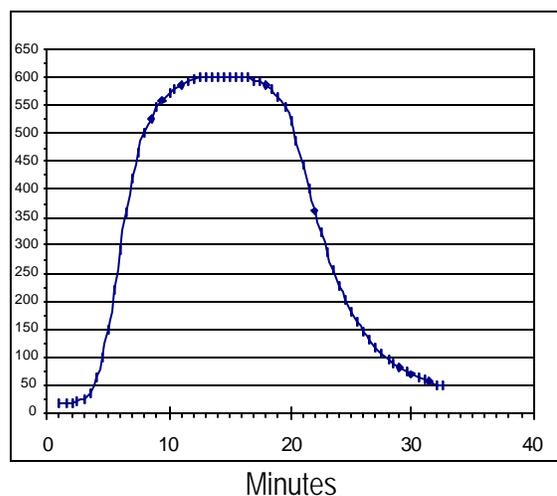
RECOMMENDED PROCESSING PROCEDURE

Printing: Printing with 325 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 80-90 cm^2 , when utilizing 325 mesh screen and a wet print thickness of about 38 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 500°C-900°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. Typical firing profile for plasma display applications is as shown below.



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.