

Thick film metals are a low-cost yet highly functional solution to your patterned metallization needs. We specialize in precision wrap-arounds, front-to-back aligned patterns, and metalized thru-holes on Aluminum Oxide, Aluminum Nitride, and Beryllium Oxide.

# Thick Film Capabilities

**STELLAR INDUSTRIES CORP.**

---

## Basic Thick Film Capabilities

### Available Ceramic Materials:

- **Al<sub>2</sub>O<sub>3</sub>**: Contact us for complete list of compositions available
- **AlN**: 170W and 200W
- **BeO**: 280W and 325W BeO

### Ceramic Information:

**A. Surface Finish:** A lapped finish will have a matte look.

- **96% Al<sub>2</sub>O<sub>3</sub>: Lapped:** 18 $\mu$ -in Nominal
- **99.5%/99.6% Al<sub>2</sub>O<sub>3</sub>: Lapped:** 10 $\mu$ -in Nominal
- **AlN: Lapped:** 18 $\mu$ -in Nominal
- **BeO: Lapped:** 25 $\mu$ -in Nominal

**B. Standard Sub Sizes and Tolerance:**

- **Al<sub>2</sub>O<sub>3</sub>: Length & Width:** 2" Sq, 2.25" Sq, 4" Dia and 6" Dia, **Thicknesses:** 0.010" – 0.050"
- **AlN: Length & Width:** 2" Sq, 2.25" Sq and 3.0" Sq, **Thicknesses:** 0.010" – 0.050"
- **BeO: Length & Width:** 2.06" Sq, 2.3" X 2.9" and 3.7" Sq, **Thicknesses:** 0.010" – 0.050"
- **Stellar offers finished parts at custom sizes and thicknesses**
- **Finished Part Length & Width Tolerance (Dicing):** Standard:  $\pm 0.002$ ", Special:  $\pm 0.001$ "
- **Thickness Tolerance:** Standard:  $\pm 0.001$ ", Special:  $\pm 0.0005$ ", As Fired:  $\pm 10\%$

**C. Other Options:**

- Final Size can be achieved by dicing, laser machine and laser scribe & snap
- Metalized Thru-Holes Available – Contact us for details

### Available Pastes:

- A. Conductors: Au, Pt/Au, Pd/Ag, Ag and Cu
- B. Dielectric
- C. Solder Masking
- D. Solder Paste: Pb/Sn
- E. Brazing

### Minimum Trace/Space Width & Diameter:

- I. **Au, Pd/Ag, Ag and Cu:** 0.005" MIN space and trace & 0.008" Dia. MIN
- II. **Pt/Au:** 0.006" MIN space and trace & 0.008" Dia. MIN
- III. **Dielectric:** 0.010" MIN space and trace & 0.010" Dia. MIN – Special: Contact us
- IV. **Solder Mask:** 0.010" space and trace & 0.020" Dia. MIN – Special: Contact us
- V. **Solder Paste:** 0.020" space and trace & 0.020" Dia. MIN – Special: Contact us

### Printed Feature Size Tolerances & Standard Printed Pullback Requirements:

- VI. **Conductors:**  $\pm 0.003$ " on spaces, traces and metal pullbacks from finished part edge
- VII. **Solder Mask/Dielectric/Solder Paste:**  $\pm 0.010$ " on space and trace – Special: Contact us
- VIII. **Printed Pullback Requirements:**
  - Single Side Print: 0.002" Minimum nominal pullback
  - Multi Sided Print: 0.003" Minimum nominal pullback
  - Away from Pre-Laser and Post Laser Work: 0.005" Minimum nominal pullback

*Custom criteria, in depth details and Stellar's inspection criteria available upon request*