

# Custom Glass Fabrication Capabilities

## Technical Reference Document

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### Screen Printing:

Screen Printing at Abrisa Technologies' Santa Paula facility is performed on either a semi-automatic printer or automated printer within a Class 1000 or 10,000 cleanroom. The platform selected is dependent upon need and spec requirements. Inks are available in multiple colors including metallics and range from low temperature epoxies to high temperature frits. Abrisa Technologies generally stocks black and silver epoxies and black frit. Other inks are available for custom requirements including multiple colors and metallics.



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- Ekra X4**

Minimum Thickness:	0.76 mm [0.030"]
Maximum Thickness:	12.7 mm [0.5"]
Tolerance:	±0.13 mm [±0.005"]
Minimum Size:	76.2 x 50.8 mm [3" x 2"]
Maximum Size:	380 mm x 380 mm [15" x 15"]
  
- Argon - Large Format**

Minimum Thickness:	~1 mm [0.040"]
Maximum Thickness:	19 mm [0.75"]
Tolerance:	±1.016 mm [±0.040"] up to ±0.4 mm [±0.015"]
Minimum Size:	460 mm x 460 mm [16" x 16"]
Maximum Size:	1828 mm x 1371 mm [72" x 54"]
  
- Cameo/Saturn**

Minimum Thickness:	0.76 mm [0.030"]
Maximum Thickness:	25.4 mm [1.0"]
Tolerance:	±1.016 mm [±0.040"] up to ±0.25mm [±0.010"]
Minimum Size:	7.6 mm x 7.6 mm [0.3" x 0.3"]
Maximum Size:	457 mm x 609 [30" x 24"]
  
- Saturn**

Minimum Thickness:	0.76 mm [0.030"]
Maximum Thickness:	25.4 mm [1.0"]
Tolerance:	±1.016 mm [±0.040"] up to ±0.25 mm [±0.010"]
Minimum Size:	7.6 mm x 7.6 mm [0.3" x 0.3"]
Maximum Size:	457 mm x 355 mm [18" x 14"]
  
- Abrisa Technologies Custom Press**

Minimum Thickness:	0.76 mm [0.030"]
Maximum Thickness:	25.4 mm [1.0"]
Tolerance:	±1.016 mm [±0.040"] up to ±0.25 mm [±0.010"]
Minimum Size:	7.6 mm x 7.6 mm [0.3" x 0.3"]
Maximum Size:	914 mm x 609 mm [36" x 24"]

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## Screen Printing *(cont.)*

- **Ink Types:**

- Epoxy/Polyester:**

- Color
  - Resolution
  - Thickness Requirements
    - Single Pass
    - Double Pass

Black & silver (standard, custom available)  
Can print as fine as 0.127 mm [0.005"] minimum

10 - 12  $\mu\text{m}$   
25 - 60  $\mu\text{m}$

- Frit:**

- Color
  - Durability
  - Resolution
  - Thickness Requirements
    - Single Pass

Black & silver (standard, custom available)  
Higher durability than epoxy/polyester—more scratch resistant  
Can print as fine as 0.305 mm [0.012"]  
< 0.051 mm [< 0.002"]

35 - 60  $\mu\text{m}$

## Etching & Bus Bars:

Abrisa provides etching and busbar applications per project specifications such as silver epoxy or conductive ink printed on an ITO or IMITO. The etching and busbar process is available on the Ekra X4, Cameo 18, Cameo 30, and Saturn. L-shaped and U-shaped bus bars are also available through edge printing. The size and tolerance limitations are the same as standard screen printing.

## Edge Printing:

Edge printing for small to medium sized parts is available for any application with ceramic frit ink. Generally there are no limitations on part size or material thickness. However, for epoxy ink the largest part with edge printing is typically 72" x 54". Tolerances are up to  $\pm 0.010$ ".

