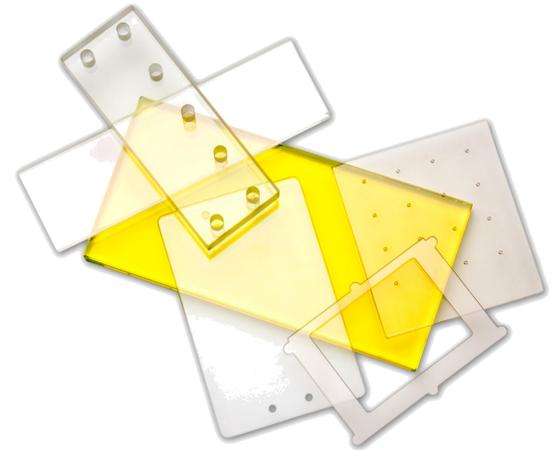


Custom Glass Fabrication Capabilities Technical Reference Document

12/11

Machining

Abrisa Technologies provides multiple technologies/processes to support your glass/optics shapes, surfaces, edging, and hole drilling requirements. Depending on glass types, thicknesses, hole diameter, and edge quality; Abrisa Technologies can choose between CNC machining, opposed edge drilling, or abrasive material removal or sandblasting to meet your specific glass fabrication requirements.



- **CNC Processing (Shapes, Notching, Slotting, Grooving, Step Surface):**

CNC machining can provide any custom shape with any type of ground or polished edging, including parts with holes, tapers, notches, slots, grooves, or stepped surfaces.

Minimum Thickness:	0.76 mm [0.030"]
Maximum Thickness:	>25.4 mm [1.0"]
Tolerance:	±0.508 mm [±0.020"] up to ±0.127 mm [±0.005"]
Minimum Size:	76.2 x 76.2 mm [3" x 3"]
Maximum Size:	3,048 mm x 1,524 mm [120" x 60"]
Minimum Hole Size (Diameter):	0.76 mm [0.030"]

- **Drilling (Holes & Tapers):**

Abrisa Technologies provides multiple avenues to drill holes:

- Through holes
- Blind holes
- Step holes,
- Countersink holes

Hole parameters are only limited by the CNC machining capabilities stated above.

- **Countersink & Inside Dimension Seaming:**

Parts with holes, slots, or grooves can be tapered on both sides or seamed on the inside dimensions to improve inside edge quality. The only limitations are from the CNC machining capabilities stated above.

- **Circle Grinding:**

High volumes of circular parts can be quickly ground to precise diameters.

Minimum Thickness:	0.508 mm [0.020"]
Maximum Thickness:	25.4 mm [1.0"]
Tolerance:	±0.254 mm [±0.010"] up to ±0.127 mm [±0.005"]
Minimum Diameter:	6.35 mm [0.250"]
Maximum Diameter:	304.8 mm [12"]

Custom Glass Fabrication Capabilities Technical Reference Document 12/11

Machining (cont.)

- Grinding & Polishing (Buffing and Lapping)**

Parts with special surface or edge polishing requirements can be ground to size, rough surface ground (lapping), or smooth polished (buffing).

Surface Grinding and Polishing:

Minimum Thickness (Finished Part):	0.254 mm [0.010"]
Maximum Thickness:	50.8 mm [2.0"]
Thickness Tolerance*:	±0.127 mm [±0.005"] up to ±0.025 mm [±0.001"]
Minimum Size:	25.4 x 25.4 mm [1" x 1"]
Maximum Size:	558.8 mm x 558.8 mm [22" x 22"] or 609.6 mm [24"] diameter.

*Thickness tolerance of ±0.025 mm [±0.001"] applies to parts 127 x 127 mm [5" x 5"] or smaller.

Edge Grinding and Polishing:

Minimum Thickness:	0.813 mm [0.032"]
Maximum Thickness:	50.8 mm [2.0"]
Thickness Tolerance*:	±0.254 mm [±0.010"] up to ±0.05 mm [±0.002"]
Minimum Size:	1.9 mm x 1.9 mm [0.75" x 0.75"]
Maximum Size:	533 mm x 533 mm [21" x 21"]

*Tolerance of ±0.05 mm [±0.002"] applies to parts 127 x 127 mm [5" x 5"] or smaller.

- Sand Blasting (Surface Patterns and Logos):**

Portions of the part or the entire part can be sandblasted for a rough or cloudy surface finish or logos and patterns can be applied to the surface of the part. The inside or outside surfaces of tubing can also be sand blasted for a rough or cloudy surface finish.

Minimum Thickness:	1.1 mm [0.043"]
Maximum Thickness:	25.4 mm [1.0"]
Minimum Size:	25.4mm x 25.4 mm [1" x 1"]
Maximum Size:	2,032 mm x 1,118 mm [80" x 44"]
Maximum Tube Length:	812.8 mm [32"]

