

Custom Glass Fabrication Capabilities Technical Reference Document

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Cutting

- **Water Jet** - Provides relatively quick set-up and cutting of large glass sheets with curves, holes, and other shapes.

Cut Tolerances*: 0.50 mm [0.020"]
Maximum Thickness: 38.1 mm [1.500"]
Minimum Thickness : 1.00 mm [0.040"]
Maximum Material Size: 2,286 mm x 1,168 mm [90" x 46"]
Minimum Material Size: 51 mm x 51 mm [2" x 2"]

*Cut tolerance established for substrates \leq 3 mm [0.118"] thick. Cut tolerances are 1.00 mm [0.040"] for thicker substrates

- **Scribe Cutting**

Excalibur (scribe cutting):

Cut Tolerances:* 0.64 mm [0.025"]
Maximum Thickness: 25.40 mm [1.000"]
Minimum Thickness: 1.00 mm [0.040"]
Maximum Material Size: 3,556 mm x 2,438 mm [140" x 96"]
Minimum Material Size: 254 mm x 254 mm [10" x 10"]

*Cut tolerance established for substrates \leq 3 mm [0.118"] thick. Cut tolerances are up to 1.14 mm [0.045"] for substrates up to 6.40 mm [0.250"] thick, up to 1.78 mm [0.070"] for substrates up to 13 mm [0.500"] thick, and up to 2.80 mm [0.110"] for substrates up to 25.4 mm [1.00"] thick.

Bystronic (scribe cutting):

Cut Tolerances:* 0.38 mm [0.015"]
Maximum Thickness: 9.65 mm [0.380"]
Minimum Thickness: 1.00 mm [0.040"]
Maximum Material Size: 3,556 mm x 2,438 mm [140" x 96"]
Minimum Material Size: 610 mm x 813 mm [24" x 32"]

*Cut tolerance established for substrates \leq 3 mm [0.118"] thick. Cut tolerances are up to 0.50 mm [0.020"] for substrates up to 6.40 mm [0.250"] thick and up to 0.64 mm [0.025"] for substrates up to 9.50 mm [0.380"] thick.

TLC (scribe cutting):

Cut Tolerances:* 0.13 mm [0.005"]
Maximum Thickness: 6.35 mm [0.250"]
Minimum Thickness: 0.15 mm [0.006"]
Maximum Material Size: 635 mm x 635 mm [25" x 25"]
Minimum Material Size: 51 mm x 51 mm [2" x 2"]

*Cut tolerance established for substrates \leq 2.5 [0.100"] mm thick. Cut tolerances are up to 0.25 mm [0.010"] for substrates up to 6.40 mm [0.250"] thick.

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- **Scribe Cutting (cont.)**
- **Hand Cutting**

Cut Tolerances:	0.76 mm [0.030"]
Maximum Thickness:	6.35 mm [0.250"]
Minimum Thickness:	0.50 mm [0.020"]
Maximum Material Size:	1,828 mm x 1,524 mm [72" x 60"]
Minimum Material Size:	51 mm x 51 mm [2" x 2"]
Maximum Part Size:	762 mm x 305 mm [30" x 12"]
Minimum Part Size:	19 mm x 19 mm [0.75" x 0.75"]

- **Precision XY Sawing (Slicer)**

Cut Tolerances:*	0.03 mm [0.001"]
Maximum Thickness:	4.00 mm [0.157"]
Minimum Thickness:	0.50 mm [0.020"]
Maximum Material Size:	165 mm x 165 mm [6.5" x 6.5"]
Minimum Material Size:	51 mm x 51 mm [2" x 2"]

*Cut tolerance established for substrates ≤ 2.5 [0.100"] mm thick. Cut tolerances are 0.05 mm [0.002"] for thicker substrates.

- **Tube & Rod Cutting** - Provides cutting of glass tubes or rods to required length. The precision saw provides ground edges while the diamond cutter provides cut edges.

Precision Saw (tube & rod cutting):

Cut Tolerances:	0.25 mm [0.010"]
Maximum Diameter:	114.3 mm [4.50"]
Minimum Diameter:	3.18 mm [0.125"]
Maximum Material Length:	1524 mm [60"]
Minimum Material Length:	102 mm [4.00"]
Maximum Part Length:	635 mm [25"]
Minimum Part Length:	38.1 mm [1.50"]

Diamond Cutter (tube & rod cutting):

Cut Tolerances:	0.76 mm [0.030"]
Maximum Diameter:	177.8 mm [7.00"]
Minimum Diameter:	3.18 mm [0.125"]
Maximum Material Length:	1270 mm [50"]
Minimum Material Length:	02 mm [4.00"]
Maximum Part Length:	406.4 mm [16"]
Minimum Part Length:	38.1 mm [1.50"]