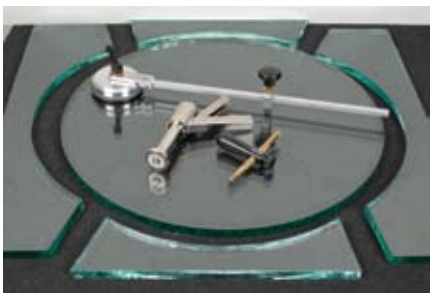
Tabletop fabrication

By Frank Ruzicka

Editor's note: This article is the last in a how-to series on glass processing and finishing. If you have suggestions for topics you would like to see addressed in future issues, please e-mail Jenni Chase at jchase@glass.org.

Typically, tabletops consist of ¾-inch glass, as the thicker the glass, the more brilliant the light refraction of the glass edge. When cutting the glass, the aim is to achieve a square-angled glass edge that requires minimal finishing work. The following article provides directions for how to cut a circular glass plate with a 35-inch diameter, while achieving a clean cutting edge, using the thick glass circle cutter from Bohle America, Charlotte, N.C.



This ¾-inch-thick circular glass lite is ready for further processing on a grinding machine.

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Safety first

The photos used in this article are for demonstration purposes only. When cutting glass, you must wear the appropriate safety equipment, including safety gloves and glasses. For more information on safety equipment and procedures, visit www.MyGlassClass.com.

1. Clean the glass area using glass cleaner. This is important because even the smallest dust particles can interrupt the cut, leading to an uncontrolled break.

2. Mark the center of the square glass lite with a cross.

2a

2b

3. Position the thick glass circle cutter over the cross.

3a

3b

4. Set the thick glass circle cutter to the desired diameter. Make sure the cutting head is separated from the glass edge by a distance that measures at least 10 percent of the circle diameter. This is important as glass always breaks along the path of least resistance. A sufficiently large glass lite is necessary to achieve a square-angled break.

5. Apply the cutting fluid for thick glass along the cut line using a dispenser, followed by the cutting head. Apply more cutting fluid than you would when cutting thinner glass.

6. Make the circular cut, going in a clockwise direction. Begin the cut at the 8 o'clock position.

7. Use the glass tapper to open the cut. Position the tapper centrally underneath the cut and squeeze the trigger to activate the tapping bolt. The force of the glass tapper is adjustable. Start with the least amount of tapping force; then increase the force until the cut opens for the first time. After that, open the cut in short distances in a counterclockwise direction. The aim is to open the cut in a controlled manner in distances of 1 inch to 3 inches. After the cut has been opened completely from underneath, set the tapper to half the tapping force and tap the glass on the opposite side at four points to open the cut completely. Note, all cuts, with the exception of straight lines, have to be opened from both sides, from above and below, to achieve a clean break.

7a

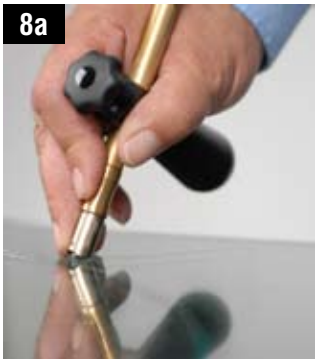
7b

7c

7d

8. Use a glass cutter to make four auxiliary cuts. Adjust the glass cutter's transverse handle so it fits comfortably in your hand. Then, make four auxiliary cuts at a minimum blunt cutting angle of 158 degrees. Open the cuts using the glass tapper. Position the tapper centrally underneath each cut and set the tapper to half the tapping force.

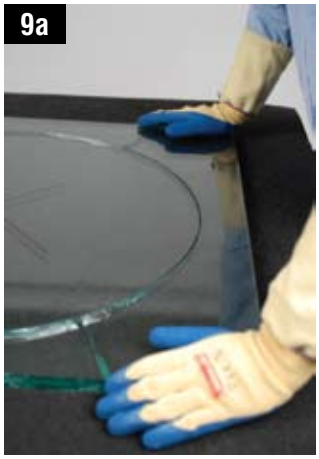
8a



8b

9. To remove the glass segments surrounding the circle, have two people evenly press the corner sections onto the cutting table. Remove the segments.

9a



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