

Custom fabrication using UV bonding

How to build an all-glass side table using 8-millimeter float glass with flat polished edges, part one

By Frank Ruzicka

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

Ultraviolet glass-bonding technology allows users to build valuable glass furniture and resilient glass constructions in a short amount of time. Finished constructions can bear weight and are suitable for use as soon as the UV adhesive has fully cured. Part one of a series, the following article serves as an introduction to the preparation and technology necessary to create UV-bonded pieces. Specifically, this article provides directions for fabricating a UV-bonded glass table with a shelf, using the Bohle UV-Bonding Professional Kit from Bohle America, Charlotte, N.C., as an example. Part two of this article will walk readers through the curing procedure using UV light exposure.



The finished product

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Safety first

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

1. Clean the glass lites using a suitable cleaner without separating agents.



2. Lay one glass lite flat on your work surface; this will be the top of the table. Attach the angle suction holder to the glass. Position the next glass lite at a 90° angle to the first and attach the angle suction holder. Adjust the screws to position the lites at an exact 90° angle. The pump-activated holders will secure them in place. Repeat this procedure to create the other side/leg of the table.



3. Use the eccentric suction holders to correctly position the shelf. These holders are height-adjustable up to 6 mm (1/4 inch). Once the shelf is in place, secure it using the clamping devices. Check that all of the glass lites are positioned properly.



4. Clean the bonding joints using a glass cleaner that does not contain separating agents. Wipe them down using lint-free cloths.



5. Heat the bonding surfaces to approximately 122 degrees Fahrenheit (50 degrees Celsius) using a hot-air fan.



6. If using tempered glass, or creating furniture that will be used in humid environments like kitchens or shower enclosures, pre-treat the glass with Pyrosil. First, use a flame burner to heat the bonding surfaces. The burner must have a precise air setting in order for the silicates to strike the glass at the maximum temperature necessary. A hydrophilic layer will form that readily absorbs the Pyrosil primer as well as the adhesive, thus significantly improving adhesion. This technique is recommended for all tempered glass applications, as well as for chrome or nickel-plated metals to be bonded. After finishing the Pyrosil flame treatment, apply the primer.

