

Recycled Glass and CGBeadrollers



Text and Demonstration by Laurie Nessel

Photography by Joshua Dopp and Laurie Nessel

Recycled glass is cheaper and greener than dedicated flameworking rods. There are various forms and sources of recycled glass. This tutorial will demonstrate converting stained glass sheet for beadmaking and then using a CGBeadroller to shape the bead.

I get my scrap from my shed, since I also do stained glass. You might want to check your local glass studios or art class venues or craigslist.com to locate sources of stained, fused, and blown glass scrap. Also consider trading beads for a bucket of glass scrap. Most glass artists would be happy to see their scrap used productively rather than as landfill ballast. You can also give new life to sadly broken collectible glass.

Sheet glass is typically not formulated for flameworking. A transparent could strike opaque, a translucent could strike transparent, and an opaque might decompose into transparent and opaque streaks. It can be very viscous or easily devitrify. Unless tested, you cannot mix it with other colors, even from the same manufacturer. Most glassblowers use 96 COE, and that usually combines well with other 96 glasses.

The biggest risk is getting cut, since scrap glass can be razor sharp. Though sometimes challenging, you will be rewarded with some wonderful surprises and elegantly simple beads. Streakies (multicolored sheets) and light transparents work best. Dark transparents tend to resemble black holes. Sandblasted float glass creates diaphanous veils when coiled. A bonus is that you can use the Universal Recycling Symbol, a great marketing tool to attract green-conscious clients.



Tools and Materials

Scrap Glass Mandrel Parallel Mashers
Bicone or Other CGBeadroller
5 mm–8 mm x 8"–10" Clear Boro Pontil
Glass Cutter Glass Pliers

Preparing Large Scrap Sheet Glass for Flameworking



1

Score the glass.



If the sheet is big enough, clean it well on all sides and cut into strips with a glass cutter. Wider strips (3/8" and larger) make for fast winding of larger beads. Your flame capacity dictates how wide you can go. I've used up to 3-1/4"-wide strips with my GTT Delta Elite. For smaller beads, cut narrower strips (1/4"–3/8"). Freehand cut on the smooth side. (A straight edge is not necessary.)

Keep the cutting head perpendicular to the glass and score the length of the sheet, but not over the edge. The cutter makes a zipping sound as it rolls along the surface. If you don't hear that, apply more pressure. If the glass splinters from the score line, use less pressure. Never go back over a score line with the cutter. Remove oil residue if using an oil cutter or don't use oil.

2

Break the glass.



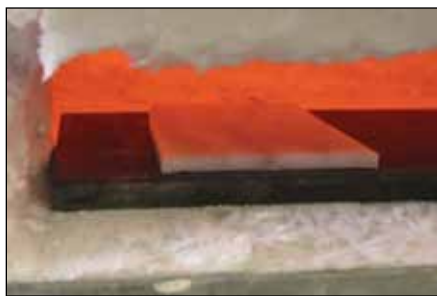
The easiest way to fracture the score is with running pliers, which are parallel, curve-jawed pliers. They put downward pressure on either side of the score line and upward pressure from below the score. Center the running pliers over the score line with the outside curve facing down. Some glass will easily run the fracture the length of the score. Other glass requires a starting crack achieved by tapping the glass at the near end from below with the score line up using a weighted rod, such as at the end of this old-school cutter seen above.

You can also separate the score with glass pliers. The jaws of these pliers are parallel when opened 1/8" to accommodate the thickness of a sheet of glass. Another method is to snap the glass apart with your hands after starting the fracture. If you are a fuser or know of one, add strips to a slump- or full-fuse fire to soften the sharp edges to make handling them easier and to reduce the chance of "boiling" the edges in the flame.

Preparing Small Sheet or Furnace Scrap Glass for Flameworking

3

Preheat the scrap.



If the scraps are too small to cut into strips, preheat them 1150°F–1200°F. Don't leave scrap at that temperature for long, or it might slump into your kiln shelf.

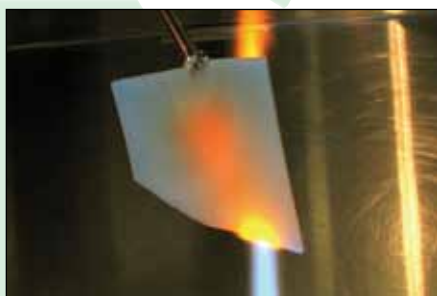
4

Retrieve the scrap from the kiln by grabbing the scrap with the molten end of a boro pontil.



5

Gently heat the scrap in a bushy flame, especially along the centerline.



6

Start condensing into a cylinder.



When soft, mash the cylinder in half. Remember to warm the maria so it doesn't pop off.

7

Fold in half again.



8

Keep folding.



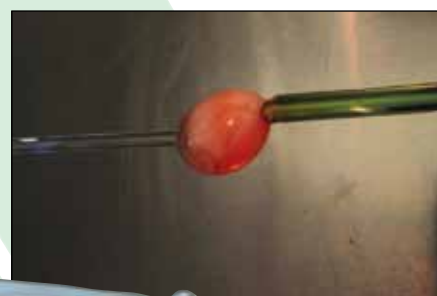
9

At this point, you can continue heating and mashing into a tidy cylinder and wrap that directly onto the mandrel or . . .



10

If the mass is large, gather it into a ball and draw down, being aware that the more processing, the less green the finished product.



For more information on using scrap for lampworking, view Kate Drew-Wilkinson's DVD, *Making Beads with Stained Glass Remnants, Part 1*, which is available from Artist Reliable Tool Company in San Jose, California.

Using the CGBeadroller

CGBeadrollers come in a multitude of cavity shapes, sizes, and mandrel slots including a whole range that accommodates Pandora mandrels. They allow you to make a series of consistently sized, symmetrical beads. The time saved making matching sets will pay for the tool quickly. They are made of dense, high-quality, precision-tooled graphite and have a comfort grip handle plus a hanging hole for neat storage. Bead artist/entrepreneur Donna Felkner is continually adding new shapes to the collection, and many are perfect to complement the solid colors of recycled beads. She doesn't have any gauge rollers yet, but maybe if she gets enough requests . . .

Each roller has several sizes of a particular shape, which allows you to make a graduated strand of beads. Or if you are decorating with compatible glass, shape the core in a smaller cavity, then incorporate the added design in a larger cavity. You can get several shapes using one mold by using just the center or side or even by spilling out into the large Pandora mandrel groove creating tubular ends.

There are video tutorials at www.cgbeads.com, Donna Felkner's site. The bicone Beadroller is not demonstrated online, so I'll use it here. It is one of my favorite Beadrollers because of its graceful proportions, and it gets the peak spot-on center every time. (My second favorite roller is the large disk, but now she's come out with a cool ribbed bicone that I must have!) There are currently sixty-five Beadroller styles, with four to six being added every month.

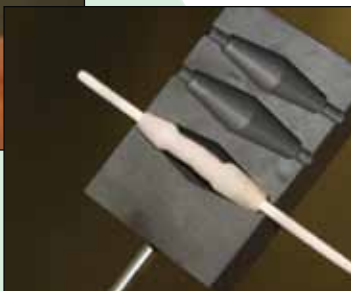
11 *Mark the bead length with a permanent marker as you roll the mandrel in the slot.*



12 *Wind the glass strip or cylinder around the mandrel the length of the bead.*



13 *Add glass on one end, heat, and marver into a taper, then repeat on the other end.*

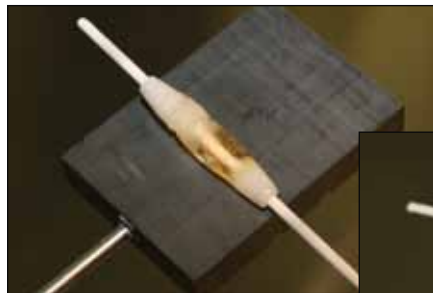


The bead should extend the length of the mold.

14 *Fill in the center.*



Start small. It is easier and faster to add glass to size than to remove excess glass.



15



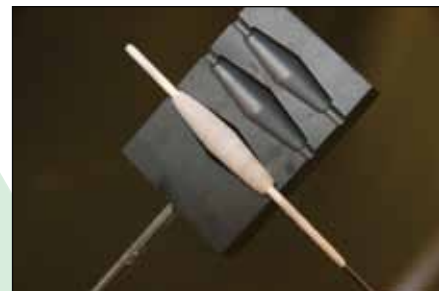
Shape the bead on both sides.



Heat one side and marver at a 20-degree angle, using the flat back side of the roller. For other Beadroller shapes, start to shape by gently pressing the bead in the cavity, then rotate, press, rotate, and press before filling the cavity.

16

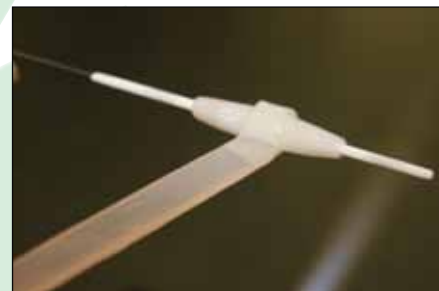
Check for fit in the Beadroller.



Remember to warm the ends. Being narrow, they chill quickly and tend to crack, especially after marvering.

17

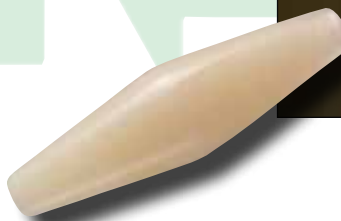
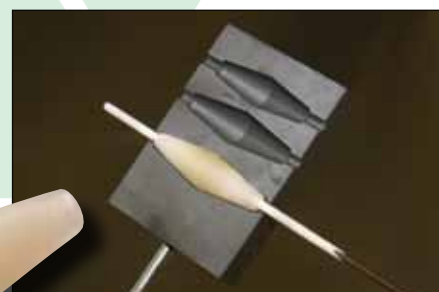
Fill with glass where needed.



Remember, don't add too much. Unlike a bead that is shaped freehand, you cannot incorporate too much glass. It will spill out of the mold and distort the shape. You must remove excess glass.

18

Shape the bead in the Beadroller.



Heat the entire bead, but not so much that the ends ball up. Gently spin the bead back and forth against the rim closest to you, not against the bottom of the mold. It's easier to regulate the pressure against the mold when you can see where the glass meets the graphite.

19

Add glass where needed.



Inspect the surface. The glass that contacted the graphite is darker and has chill marks. Look for glossy patches or observe the profile against a light wall to find the depressions, then fill them in and repeat step 18. Fire-polish before annealing to remove any chill marks. A variation for the bead would be to press with parallel mashers to make a tab bicone.



www.laurienessel.com



Laurie Nessel got hooked on making glass art while glassblowing at Haystack Mountain School of Crafts in 1972. She has done casting, stained glass, mosaics, fusing and flameworking. Nessel teaches flameworking and is the Lead Instructor of the Glass Studio at the Mesa Arts Center. She is inspired by the Sonoran desert where she lives and expresses this fascination in photography and painting, as well as in stained and flameworked glass. Her work can be seen at www.laurienessel.com.



Tools from left: glass pliers, grozing pliers, curve-jawed pliers, Fletcher-Terry glass cutter, oil cutter

Cutters have come a long way since the old-school Fletcher-Terry steel wheel designed in 1868. Before that, glass was cut using diamonds or more crudely using the heat of a soldering iron drawn along the cut line. The glass was then shocked with water, hence the need for grozing pliers to nibble away unwanted glass.

There are many designs of glass cutters available with carbide cutting wheels, oil reservoirs, and comfort grips. The steel Fletcher-Terry is the most economical, is sold at hardware stores, and will work well for our purposes. The slots in the Fletcher-Terry are for gripping different gauges of glass and snapping it apart. If you do a lot of cutting, you'll need a carbide wheel. Both cutters pictured have weighted ball ends for swinging below the score to start the fracture.

