

# How To Build A Star Shaped Murrine Cane Using An Optic Mold.

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Photos by Michael Rubin

## What you will need:

- Optic mold designed for lampworking use (available from Steinert Industries at [www.steinertindustries.com](http://www.steinertindustries.com)).
- Two foot piece of 5mm clear rod.
- Three color rods (one three inch piece of color puttied onto a 6mm clear rod and two regular length color rods) For this project I am using Northstar Teal, Northstar Butterscotch and Tecnoboro Dark Cobalt Blue.
- Two 19mm punty rods. A useful method to save strain on your back and arms is

to take two to three inch sections of the 19mm and weld them onto 9mm "handles" so that there is less weight for you to hold.

- Carbon marvering surface, either attached to torch or on your worktable next to optic mold.

## Setup:

Leave an area to the right or left of your torch to work in. The optic mold will need to remain stationary for steps 1-3. Also remember to preheat your 19mm punties so they will be available for quick use. This can be done in a kiln or simply lie



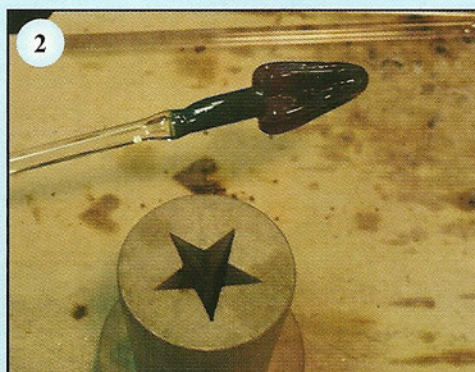
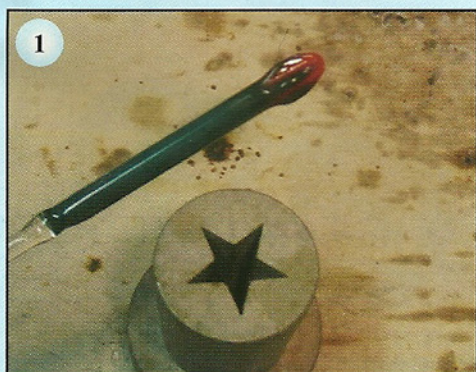
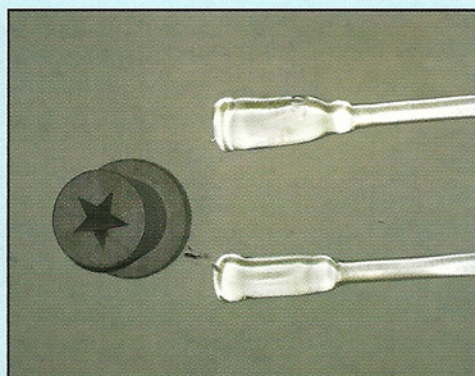
the punties on the table below your flame area where reflective heat will warm them while you work.

## Making the Cane:

**Step 1:** Take the 3 inch piece of color and begin to slowly heat the first half an inch or so. It is important not to heat too much glass – the bottom of the mold has a smaller diameter than the top, and a large heated blob of glass will not fit all the way down. Press into the mold with your rod, letting the heat cool and its shape set before you pull it out (10-15 seconds). Bring your color back to the flame and heat polish all the pits and imperfections in its shape; this sometimes requires another plunge into the mold.

**Step 2:** Continue onto the next section, heating a slightly smaller portion of the glass until your star shaped end becomes floppy. Quickly dip into the mold again and let your shape set up. This time when you pull out you will notice a "fissure line" between the smoothed section at the front and your new section. You will need to melt this fissure to join the two sections smoothly, going back into the mold to set up the larger shape.

**Step 3:** Keep melting and polishing more of your base color rod into the star shape as described in step 2 until you have



achieved the top of the mold. Polish your finished shape clean in the flame.

Step 4: Take the color rod that will be your middle layer and fill in the five "valleys" in your star shape with one thick swipe of color each; take care to push a hot blob of color in front of your rod as you go downwards to insure that you trap no air in your cane. Wait a few seconds and as your piece cools a bit you will be able to see the difference between the color of your star and the five new "swipes" easier. Use this visual cue to go around the shape and cover the 5 points of the star with your middle color.

Finally, add more stripes of your middle color where needed to turn your star into a round shape.

Step 5: Begin to melt the end of your shape into a barrel, rolling on a marvering plate. As you heat and marver your shape remember to rotate in both directions to ensure that the star inside does not become twisted. When you are about halfway down the piece, take one of the 19mm punties and weld it to the smoothed end of your project. Now remove the 6mm punty from the color rod at the other end and finish melting and marvering your piece until you have a smooth but slightly conical barrel.

Step 6: Take the rod that will be your surrounding or "frame" color, heat a blob of glass at the end and attach it to the top of your barrel. Keep the rod in the flame directly above the point where it makes contact with the barrel. As your color rod melts, smoothly begin to coil it around your barrel. Once again, go slow and take care to push a small blob of hot glass in front of your rod so you leave no air inclusions in the color encasement of your murine.

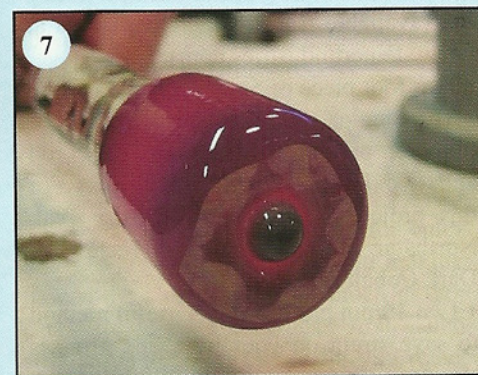
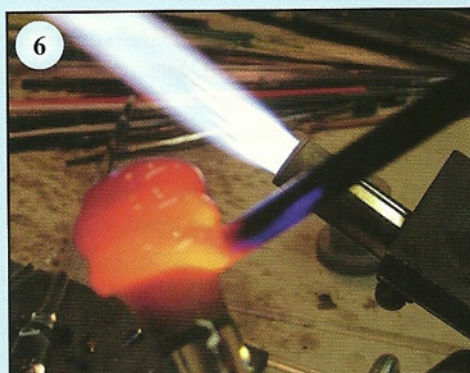
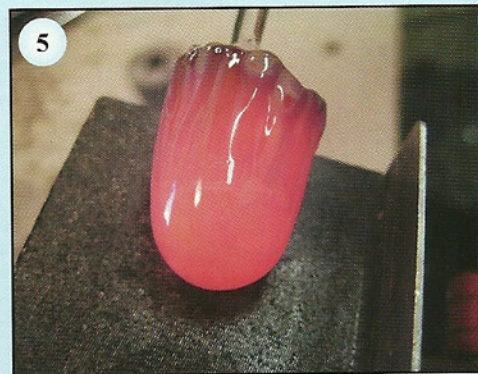
Step 7: Once you have finished coiling your color, crank up the flame and begin to melt the coil in slowly from the top. This helps any air that might have been trapped in your coil to be pushed downwards (and out) as you melt the color in.

Step 8: Repeating the process from step 6, take the 5mm clear rod and coil it around your frame color. When you reach the bottom of the barrel, make an extra

coil of clear over the last one to help delineate your work from the punty rod.

Step 9: Melt in your clear coil, repeating the process from step 7. After reaching the end of the barrel and your clear encasement is smooth, begin to heat the entire piece more vigorously.

Step 10: As your piece accumulates a heat base and begins to loosen up, attach the second 19mm punty to the other end of the barrel. While rotating to achieve a solid heat base throughout your piece keep two things in mind; (1) change the direction of your rotation often so as not to twist the murine and (2) keep your barrel bulky, letting the shape become almost slightly rounder until you are sure



the whole piece is evenly heated through. When this point is reached begin to slowly and gently stretch your barrel in a north-south direction, changing which hand is up every 3-5 seconds and doing about 75% of the stretching with the hand that is up. If the glass starts to stretch out too fast, SLOW DOWN! If the glass begins to stretch unevenly, take whichever "side" of the pull is thickest or forming an oval shape and hold that hand upwards, doing 100% of the pulling with this hand. Because heat will rise, this helps you to distribute it upwards as the glass is pulled in that direction. Try to visualize what a 7 or 8mm rod looks like as you pull and aim to achieve this thickness with your murine.

Step 11: When you have reached your full pull, let the cane cool for 20-30 seconds and then use your tile nippers to cut it from the two punties, setting the cane to rest with one end in the air. While it cools, fire polish your two punties back into shape so they will be ready for the next time. After it has cooled use your rod loppers to cut away small chips from both ends until you have reached the usable

star murine. Save the chips for later to use in mosaic artwork. You now have a hand-made, three colored star murine to use in either chip or cane form!

Here are some things you can do with your cane:

Pictured are a few pieces of glass by Eric including 2 tube style beads made from 15mm standard wall, one bordered with a ribbon cane of Northstar Avocado and Northstar Midnight and one bordered with a filigrana of Northstar Canary and Northstar Teal. Also shown is a miniature corked jar from 15.9mm medium wall tubing featuring the murine and a one inch marble which shows a large version of the star from the back and a magnification from the front. The marble was made with a murine chip and the beads and jar have the murine embedded in the wall of the tubing using the cane in stick form at the torch (see photo 12).—*Eric Nelson lives and works in Colchester, VT. More examples of his art may be viewed at [www.glassline.net/Gallery/](http://www.glassline.net/Gallery/).*

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