

# Blowing out multi-layered solid color tubing

By Ivan      Photos By Scott Melnick

What you need: colored rods, thick wall handle stock(12.7 mm), marver pad and 1/2" graphite rod.

Difficulty rating: intermediate-advanced

There are many ways to make solid color tubing on the torch. Some of these are encasing a tube with color, coilpotting rods, stacking color rods on a collar as well as the many different techniques to overlay or blowout solid masses of color. This article demonstrates my favorite way of creating solid color tubing by layering colors in rod form and blowing them out into large stocks of tubing. Starting with a solid mass allows you to build up a large amount of glass quicker than coiling it off of a collar.

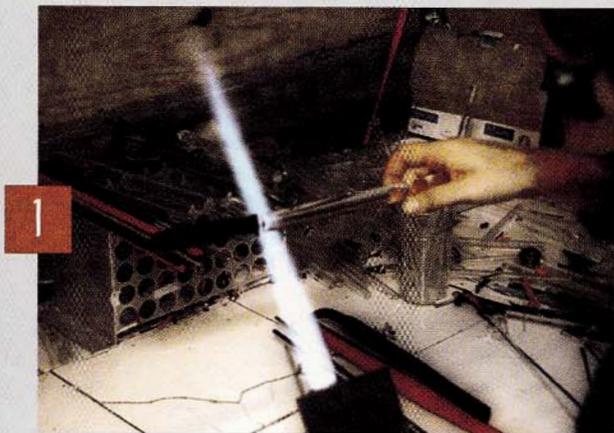
Coilpotting is a good technique and definitely the most popular technique right now for creating color tubing. The fact is though, when you need a lot of solid color tubing for your project it can be very tiresome and time consuming to coil up a half-pound of 7mm rods and it can be difficult to keep the flame atmosphere correct for many of the reduction prone colors while using the delicate, yet hot flame that is best for coilpotting.

Layering colors on a solid rod, starting with the most opaque at the center and moving outwards to the most translucent is a great way to create colors that are not available. When doing this you must keep in mind the volume of the colors that are being layered and I like to ensure that my outer layer is a color that can withstand a bushy, reduction flame when it is blown into a vessel. For example, in the pictures shown I start with a 1" rod of cobalt 5 from Glass Alchemy, the second layer is a

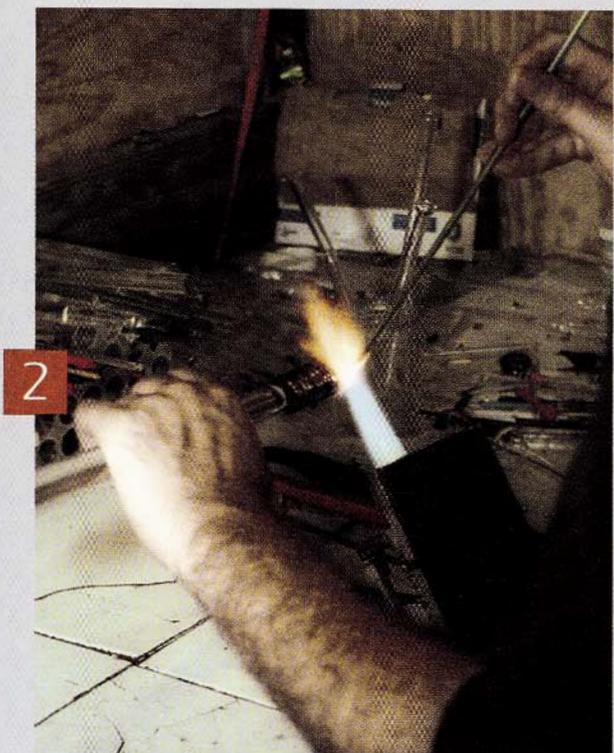


very thin layer of Moss from Northstar Glassworks that gives off an aventurine-like shimmer, and the final layer is a coating of about 5 mm of brilliant blue, again a Glass Alchemy color which is a nice transparent blue that can withstand the type of bushy, reduction flames that I like to use when making large vessels. The desired color here is a blue so dark that it is almost black, with a subtle blue-green aventurine-like shimmer overlaying it. As I said before, the moss is responsible for that shimmer, but if it is laid onto the cobalt 5 too heavily it will cover up the dark cobalt underneath and give me a tube that will be more green than I want it to be. The Brilliant Blue also tints the moss a bit and contains the whole mass within a reflective glass that has a nice finish to it. Having said that, here is a set of instructions explaining step by step how I do this: to reestablish a heat base as even and thorough as this one.

# Step by Step Color Tubing



1. I begin by either working off of a large diameter color rod or puntying up to a piece of my base color with a large rod. In this picture I start with a preheated section of cobalt 5, about four inches long and 1" in diameter.



2. I then begin to apply my second layer of color. Because I want to keep the opaque moss to a very thin layer I use a very hot, direct flame and coil around the rod very quickly. The layer is thin enough that the darkness of the cobalt is still barely evident through the moss.



3. As to avoid air bubbles on my final encasement with the brilliant blue, I melt in and marver smooth the 2 layer mass before applying the brilliant blue.



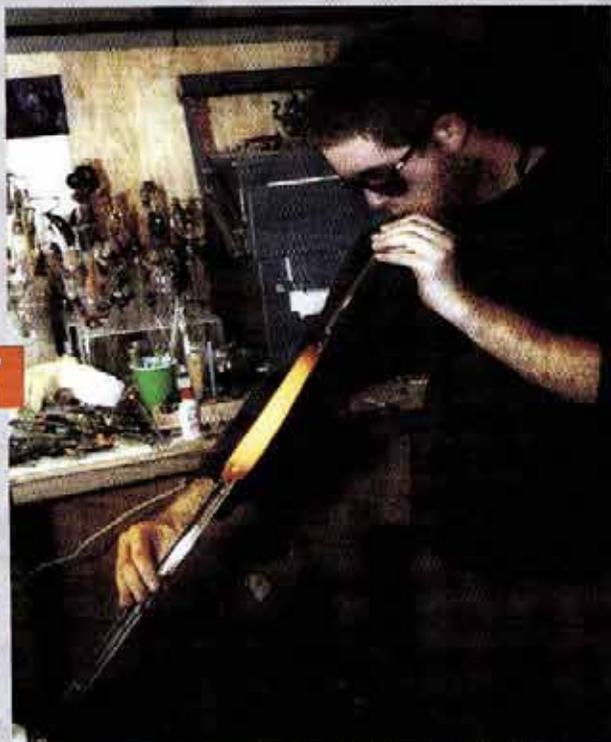
4. Because I want a strong overtone of blue over the moss, I encase it heavily with the brilliant blue. Unlike the moss layer, where I encased it as thin as possible, the Brilliant Blue is draped over the rod quite thick. Often times I put two coats of the final transparent color or clear over the rod.



5. The rod is now about 32 mm thick and ready to be heated and blown out. This is the fun part. I gather the mass into a round ball at the end of my punty rod. Because the color is encased in a nice transparent, I do not need to consider atmosphere in my flame. All I need to do is get it HOT, really hot.



6. When it is hot enough, I marver the center with a graphite rod that is shaped into a cone on the end. Although a standard large reamer works fine also, I prefer the cylindrical graphite rod. The glass should now be shaped like a thick cup. This one is about 2 inches deep. It is important to keep your heat base in the glass, especially at this time. If you lose your heat base here, it can be difficult to reestablish a heat base as even and thorough as this one.



7. Now it is prepared to blow out. Apply a strong even heat through the mass while keeping the neck (the point where the cup comes off of the solid handle) cool enough that it doesn't flop around uncontrollably. When the mass is thoroughly, raging hot, I bring a piece of thick walled tubing and attach it cold to the top of the very hot cup. I allow the mass to settle onto the tube for just a second, making sure that it seals completely and then I

## [ Step 7 continued ]

begin to blow and stretch the mass in a slow and steady manner creating a large tubing of color.

If your heat base was even and thorough you should be left with a fairly even walled tube that is a combination of the colors that you used. The same two, three, or more colors can yield different shades and/or effects dependent on the volume and order that they were applied. This technique is also very time efficient. With an assistant and a pair of rollers, I am convinced that you could pull extremely long tubes in one heat and pull. Another advantage opposed to coilpotting layers of color or other types of overlays, is the consistency of the coloring through out the tube. Because it is so easy to evenly layer a solid rod, and because the color gets expanded so much by the blowing, the coloring is very evenly distributed through out the tube. The best thing about this technique is that it is a lot of fun. Enjoy!

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