



Glass Courtesy of Uroboros

### Dichroic Box

*If you are looking for a project that can be completed in a few hours with glass you – more than likely – have in your studio, this is the project for you. Besides that, the result is pretty wonderful and makes a great gift.*

*delphi*

The box lid is four layers of glass: two black disks, a layer of dichroic glass shards, and a clear glass cap. While the base looks solid black, it is a mixture of black and clear frit. Mixing the black with clear gives the resulting casting more “life.”

### Getting Started

Always start the same way: Clean the 3½” Round Box mold with a stiff, nylon brush to remove any old kiln wash. A dry, non-scratch, nylon, kitchen scouring pad, e.g. Scotch-Brite™, can be used to

remove stubborn kiln wash. (This step can be skipped if the mold is brand new.) Mix one part dry primer powder with four parts water. Next, give the molds *five* coats of Hotline Primo Primer™. While there are plenty of good shelf primers and kiln washes on the market, Colour de Verre *only* recommends Hotline Primo Primer™ for the Colour de Verre molds. It always releases and is easy to remove after firing.

One important hint: This primer settles very quickly. Each time the brush is dipped, be sure to give the primer a good stir so all the ingredients stay in solution. If the primer has sat more than 10 minutes, the active ingredients will cake on the container’s bottom. Make sure to stir these sediments back into solution.



Apply the Primo Primer™ with a soft artist’s brush and use a hair dryer to completely dry each coat

before applying the next. The mold should be totally dry before filling.

### Making the Lid

Use nippers or a glass cutter to break the dichroic glass into mosaic-size pieces. The pieces can either be uniform – like small tiles – or free form.



It is easiest to cut the 3” disks using a lens or circle cutter. Luckily, the disks don’t have to be perfect as the edges will round during the firing.

Put one black glass disk on the work surface and arrange the pieces to cover the black disk. It is not necessary to ensure that the tiles or the pieces perfectly meet. As a matter of fact, small, black “grout lines” add interest to the final piece.

To make the disk easier to transport to the kiln, we suggest gluing the border pieces in place.



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Technical sheet courtesy of Colour de Verre™

### Tools

- ✓ 3½” Round Box mold
- ✓ Large primer brush
- ✓ Digital scale
- ✓ Lidded, plastic container
- ✓ Stiff, nylon brush

### Supplies

- ✓ Hotline Primo Primer™
- ✓ Two black and one clear glass 3” (77mm) disks cut from sheet glass
- ✓ Medium black and clear frit
- ✓ Dichroic glass
- ✓ White glue



Working with a few pieces at a time, slide the border tiles off the glass disk. Apply a small amount of white glue to the disk and replace the dichroic tiles. Work around the perimeter until all border pieces are attached to the disk. This border will keep the rest of the pieces in place.



Place the second black disk on the workbench and apply a small amount of glue to the top surface. Place the first black disk – the disk with the tiles – on top of the second disk. Press it down to adhere the two disks to one another.



After the glue has dried, transfer the black disks into the primed lid mold. Cap the dichroic glass with the clear, glass disk.

### Making the Base

In lidded container, place 150 grams of medium black frit and 145 grams of medium clear frit. Cap the container and shake until the frit mixture is uniform. Before opening the container, wait for any dust to settle or, better yet, wear a dust mask.



Open the container and pour the mixture into the base mold. Leave the mold mixture slightly mounded. This will reduce and, in most cases, eliminate any casting spurs. For more information, read the Box Basics Project Idea on the Colour de Verre website.



### Firing the Molds

Place the two filled molds into the kiln. Use the Casting Schedule below as a guide. Don't rush the schedule's slow cooling ramp as this allows for proper annealing. Also note that the schedule needs to be modified for kiln load, COE, and glass color. Heating element position can also effect firings. Use lower temperatures when using a lid element kiln.

### Variations

Any colored glass can be used for this project. Further, if your studio is not equipped with a circle cutter, medium black and clear frit may be substituted for the sheet glass. It is important to make the glass weight totals the lid fill weight, 115 grams.

### Casting Schedule\*

Segment	Ramp	Temperature	Hold
1	300°F/165°C	1250°F/675°C	30 minutes
2	300°F/165°C	1410-1430°F/765-775°C	30-60 minutes
3	AFAP	960°F/515°C	90 minutes
4	50°F/30°C	800°F/425°C	None
5	100°F/60°C	600°F/315°C	Off. No venting

\*Schedule for COE 96. For COE 90, increase casting temperature by 25°F/15°C. AFAP means "As Fast As Possible", no venting.