



Millefiori Boxes

Millefiori give these sweet, little, glass boxes an old-world charm. The white bases have an interesting color "texture" that doesn't compete with the millefiori's subtle colors.



Getting Started

The molds must be primed so the glass doesn't adhere to the molds.

Always start the same way: Clean your Colour de Verre box lid and base with a stiff, nylon brush or a green 3M Scotch-Brite™ pad to remove any old kiln wash. (This step can be skipped if the mold is brand new.)

There are two choices for primers: Hotline Primo™ Primer and ZYP BN Lubricat (formerly MR-97). The ZYP is the easiest to apply

and remove. It is an aerosol and, after firing, brushes off easily from the molds and can be washed off the glass pieces. Castings created using ZYP have exceptionally smooth surfaces and almost never require grinding or "cold work."

Primo is a traditional kiln wash that is applied with an artist's brush. It's a trusted and proven product, but requires a bit more "elbow grease" to remove after firing. Primo's big advantages are it's low cost and availability.



Brief instructions for each option follow:

To apply ZYP, hold the well-shaken can 10 to 12 inches from the mold. Hold both the mold and the spray can upright. Apply the first coat using a three to four-second burst of spray in a sweeping pattern across all the mold's cavities. Do not saturate the surface. If it is

the first time ZYP has been applied to this mold, it is necessary to apply a second coat of the product.

Before applying the second coat, let the mold dry for five minutes. Apply the second coat using another three to four-second burst of spray. Let the mold dry for ten to fifteen minutes before filling. Again, the double coat of ZYP only need be applied the first time the mold is used. Thereafter, only one coat is necessary. For more information about ZYP, visit Colour de Verre website's Learn section. There, download and read "Advanced Priming with Boron Nitride Aerosol."



Pro Tip: To minimize any possible interaction with dark and/or opal glasses, two additional steps may be added after the steps above have been followed. Use a soft, cotton cloth (like an old t-shirt) to

Availability

Colour de Verre molds are available at fine glass retailers and many online merchants including our online store, www.colourdeverre.com.

Tools

- ✓ Colour de Verre Round Box Lid and Base mold set
- ✓ Glass lens or circle cutter (optional)
- ✓ Digital scale
- ✓ Lidded container
- ✓ Diamond pad or power grinder

Supplies

- ✓ Hotline Primo Primer™ or ZYP BN Lubricat (formerly MR-97)
- ✓ Medium Water Clear and White frit
- ✓ Coarse Water Clear frit or Clear standard-thickness sheet glass
- ✓ Millefiori

gently burnish the primed mold surface. Apply an additional light coat of ZYP.

If you choose to use Primo Primer, 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 5 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 - not a hake brush - and use a hair dryer to completely dry each coat before applying the next. The mold should be totally dry before filling. The primer need not be pre-fired.

Casting the Box Base

The box base is filled with a mixture of medium-mesh, White frit and medium-mesh, Water Clear fit. Mixing the two frits results in a casting with an interesting color "texture" and more depth.

Weight out 150 grams of White and 145 grams Water Clear frit and combine the two frits in a large, lidded container. Close the container and shake to combine the two frits. Since shaking or stirring the frit causes glass dust to be created, don a dust mask before opening the container. Open the container and pour the frit mixture into the base mold. Use your fingers or a dry brush to slightly mound the frit.

Casting the Box Lid

The box lid can be made using one of two techniques. The first

technique makes use of standard-thickness, Clear sheet glass. This, however, requires a disk or circle cutter. If you don't have this tool, use the second technique where coarse, Water Clear frit is fused in a preliminary firing into a thick, clear disk.



If you choose to use sheet glass, use a lens cutter to score three disks each measuring 3 1/4" (8.25cm). Stack the three disks in the lid mold. Choose about a dozen complementary millefiori and stand them, on end, on top of the stack of glass disks.

If you don't have a disk or circle cutter, weigh out 115 grams of coarse, Water Clear frit. Mound this frit into the lid mold. Fire the lid mold according the Casting Schedule below.

When the mold and glass have cooled, remove the glass, and use a diamond pad or power grinder to remove any spurs. Clean and re-prime the lid mold, place the ground disk into the mold, and top with about a dozen millefiori, each standing on end.

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.

Firing

Place both the lid and base molds in the kiln and fire according to the Casting Schedule.

When the kiln has cooled, remove the castings and inspect. If small spurs have developed during the firing, use a diamond pad or power grinder to remove the spurs. If the ground areas detract from the piece, clean the molds, reapply kiln wash, and fire a second time, again, according to the Casting Schedule.

Base Feet

Give cast boxes a professional finish with the addition of feet. Use peel-and-stick, silicon cabinet bumpers, e.g. 3M Bumpon™, available from most hardware stores. This will also protect tabletops.