COLOUR de VERRE

REUSABLE MOLDS FOR GLASS CASTING

Elliptical Acorn Box

This oval box is cast in the palest amber and trimmed with smaller castings in the same shade. It is reminiscent of rustic Orna Wood boxes sold at national park gift stores in the 50's.

This project can be broken into four smaller projects that can easily take place on four consecutive days or evenings. The steps are:

1. Cast the base and its lid.
2. Cast the acorns and oak leaves.
3. Shape the oak leaves.
4. Tack the acorn and oak leaf elements onto the lid.

Getting Started

Always start the same way: Clean your Colour de Verre molds with a stiff, nylon brush to remove any old kiln wash. (This step can be skipped if the mold is brand new.) Mix one part dry primer powder with four parts water. 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 a few 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 ¾" soft artist's brush and use a hair dryer to completely dry each coat before applying the next. Apply five, thin primer coats to the box lid and molds. Apply four thin coats to the casting surfaces of the Oak Leaves and Acorns mold. The molds should be totally dry before filling.

Casting Box

The fill weight is the amount of glass frit necessary to create the perfect casting in a particular mold. The fill weight of the box base is 375 grams. For the lid; 180 grams. We will mix enough of a 50/50 mixture of Pale Amber and Clear frit to fill both the lid and base molds.

Into a large, lidded container put 280 grams of medium Clear frit. Add to the container 280 grams of medium Pale Amber frit. Put the lid on the container and shake it to completely mix the two frit colors. Wearing a dust mask, open the container and measure 180 grams of the mixture and pour it into the box lid mold. Measure out 375 grams of the mixture and transfer it to the box base mold. In both cases, slightly mound the frit. This will reduce glass spurs and cold work.

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 Elliptical Box Lid and Base mold set
- ✓ Oak Leaves and Acorns mold
- ✓ Digital scale
- ✓ Lidded container
- ✓ Diamond pad or grinder

Supplies

- ✓ Hotline Primo Primer™
- ✓ Fine Clear and Pale Amber frit
- ✓ Fine Clear and Pale Amber frit
- ✓ Kiln paper scraps

Place the two molds into the kiln and fire the kiln according to the Casting Schedule shown below. Using medium frit results in few or no glass spurs. If your casting has a spur or two, remove the spurs with a diamond pad or grinder. If the piece needs to be fire polished, see "Box Basics" on our website.

Making the Components

The oak leaves and acorns are also made with a 50/50 mixture of Clear and Pale Amber frit. This time, however, fine frit will be used. The reason for choosing fine frit is two fold: First, the fine particle size means the resulting color will be almost completely uniform. The second reason is more complicated. Producing small, ultra-thin castings is a balancing act. One wants to apply enough heat to fuse the frit particles but not so much heat that glass becomes fluid and surface tension causes the glass to "ball up." This is most easily accomplished using lower temperatures and fine frit.

Since we wish to create very thin and delicate castings we will use less than the recommended fill weights. (See *Fill Weights at a Glance* at www.colourdeverre.com for more information about thin firings.) For the oak leaves, we will use 12 and 19 grams. For the acorns, 8 grams each.

In a lidded container, place 25 grams of fine Clear frit and 25 grams of *fine* Pale Amber. Shake the container to mix the two frits. Using the fill weights mentioned above, fill the two leaves and the two acorns. Use a soft brush to level the frit in all four cavities and transfer the mold to the kiln. Fire the molds according the Component Casting Schedule.

Shaping the Components

While the cast oak leaves have a great deal of detail, very few natural objects are perfectly flat. This can be solved by slumping the oak leaves to give them a bit more dimension.

On the oak leaves mold's reverse side is a built in shaping (slumping) surface. Clean and prime the slumping surface with three coats of primer.

Arrange the leaves on the shaping surface, returned to the kiln, and fire according to the Component Shaping Schedule.

Embellishing the Lid

Arrange the now-shaped components on the box lid and temporarily attach them with simple, white glue. (This will burn off during firing.) So the oak leaves don't flatten during the tack fuse, insert small pieces of thick shelf paper

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.

Component Casting Schedule*

Segment	Ramp	Temperature	Hold
1	300°F/165°C	1375°F/745°C	10 minutes
2	AFAP	960°F/515°C	30 minutes. 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.

(not ThinFire™) under the leaves' folds to support them.

Clean and re-prime the lid mold. Place the embellished lid casting back into the mold as this will prevent the lid itself from collapsing during the tack fire.

Re-fire the lid according to the Tack Fuse Schedule shown below.

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.

Component Shaping Schedule*

Segment	Ramp	Temperature	Hold
1	300°F/165°C	1225°F/660°C	10 minutes
2	AFAP	960°F/515°C	30 minutes. 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.

Tack Fuse Schedule*

Segment	Ramp	Temperature	Hold
1	200°F/110°C	1250°F/675°C	10 minutes
2	AFAP	960°F/515°C	90 minutes
3	50°F/30°C	800°F/425°C	None
4	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.