



### Offset Pendants

*The Offset Square Pendants and Offset Round Pendants can be filled in a multitude of ways creating everything from simple, everyday jewelry to dramatic, one-of-a-kind pieces.*



### Preparing the Molds

The molds must be primed so the glass doesn't adhere to the ceramic material from which the molds are made. 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 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 its 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 can and the mold completely upright. Apply the first, light coat using a two to three-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 two to three-second burst of spray. In either case, let the mold dry for ten to fifteen minutes before filling. Again, the double coat of ZYP need be only applied the first time. 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*.

If you choose to use Primo Primer, give your mold three to four thin, even coats of Hotline Primo Primer kiln wash. Use a soft artist brush to apply the Primo Primer and a hair dryer to completely dry each coat before applying the next. Again, more detailed instructions can be found in the Learn section



of Colour de Verre's website. See *Tricks of the Trade*. When using Primo Primer, best results are obtained when using fine frit. Larger frit can produce excessive casting spurs that require cold work.

### Filling the molds

Frit can either be used straight from the manufacturer's container or blended. However, we find the

### Availability

*Colour de Verre molds are available at fine glass retailers and many online merchants including our online store, [www.colourdeverre.com](http://www.colourdeverre.com).*

### Tools

- ✓ Small artist's brushes
- ✓ Digital scale
- ✓ Colour de Verre Offset Square and Offset Round molds

- ✓ Small measuring spoons

### Supplies

- ✓ Fine or Medium Frit
- ✓ Dichroic sheet glass
- ✓ ZYP BN Lubricat (formerly MR-97) or Hotline Primo™

Design	Grams of Frit per Cavity
Large square	20
Medium square	15
Small square	7
Large round	14
Medium round	9
Small round	6

best results are usually obtained by “diluting” colored frit with clear frit. Even dark, opaque colors like blacks and browns become much more rich when mixed with clear frit. (See our document *Creating Frit “Paint Chips”*) It is important to remember that, when using frit, to wear a dusk mask.

Fill each cavity according to the chart. Use a small artist’s brush to generally level the frit. Make sure there is a little less frit in the area above the post that creates the hole in the final piece. This will result in a better proportioned casting.

While the Offset Round and Offset Square molds are primed and filled exactly the same way, the firing schedules differ. Notice how the Offset Square has a slightly



lower target temperature and longer hold. The slightly lower temperature prevents the corners of the square pieces from rounding too much due to surface tension.

Of course, the perfect firing schedule for your kiln will depend on ambient temperature, glass color, kiln load, kiln age and whether the kiln has top or side elements.

If you notice that the corners of your Offset Square Pendant castings are significantly rounder than those of the mold, reduce the target temperature in subsequent firings.

### Reusing the Molds

Clean mold thoroughly after each firing with a stiff, nylon bristle brush. Avoid breathing any dust



by wearing a proper dust mask. Reapply primer before subsequent firings.

If correctly primed and fired, a Colour de Verre mold will yield many castings.

### Variations

A favorite variation is to make the



pendants with CBS’s Borderline Patterns dichroic glass on either black or clear glass. The technique preserves the beautiful patterns

### Offset Round Firing Schedule for Bullseye Glass

Segment	Ramp	Temperature	Hold
1	300°F/165°C	1440°F (780°C)	10 minutes for fine frit 20-25 minutes for medium frit 25-35 minutes for coarse frit
2	AFAP	900°F/482°C	30 minutes. Off

### Offset Square Firing Schedule

Segment	Ramp	Temperature	Hold
1	300°F/165°C	1420°F (770°C)	10-15 minutes for fine frit 20-30 minutes for medium frit
2	AFAP	900°F/482°C	30 minutes. Off

AFAP means “As Fast As Possible”, no venting.

without requiring the drilling of any holes. The technique does require a power glass grinder.

Cut out the templates that are on the final page of this document. If you are using CBS' Crinklized Dichroic patterns, choose sheets that *are not* pre-fired. On the non-dichroic side of the glass, place the template pieces. Mark the glass and roughly cut the glass to fit the templates. Turn the rough shapes over - dichroic side up - again



trace the templates. (Craig's favorite tool for this is a Sharpie brand white paint marker or yellow grease pencil. The lines these tools leave stay in place during the

grinding process and can easily be removed with rubbing alcohol.)

Use a power glass grinder to shape



the glass pieces to the exact shape of the template. Grinding with the dichroic side up prevents the dichroic surface from being scratched by the grinder platform. Finally, use the grinder to bevel the pieces' back edges. This prevents the sharp edge from scratching away the primer.

### First Firing

Place the dichroic shapes in the prepared mold, dichroic side up. The glass cutout will not lie flat because of the cavities' cones. If you have difficulties balancing the

shape in the mold, use a small, pointed bit in the power grinder to create a "divot" in the glass. The divot's location is marked on the templates.

Fire the pieces according to the First Firing Slump Schedule.

### Shaping and Second Firing

Remove the cooled mold from the



kiln. Each of the dichroic pieces will have slumped over the center cone. Remove the pieces from the mold.

If the pieces don't fall out easily, turn mold face-down and tap it against a hard surface cushioned with several layers of newsprint.

The pieces should be flat except for the small "mountain" that has been created by the cone. Using a power grinder remove the "mountain," making sure not to damage the dichroic on the flat portion of the piece. (We found it easiest to remove the grinder's platform.

It's still important to make sure that the grinder head remains wet while grinding. Use a sponge to keep the bit constantly wet.) It is all right if a little bit of the mountain base remains.

### First Firing Slump Schedule for Bullseye Glass

Segment	Ramp	Temperature	Hold
1	350°F/195°C	1295 - 1320°F (700 -715°C)	25-30 minutes
2	AFAP	900°F/482°C	30 minutes. Off

### Second Firing Schedule

Segment	Ramp	Temperature	Hold
1	300°F/165°C	1250°F/675°C	30 minutes
2	300°F/165°C	1370°F/740°C	45-60 minutes
3	AFAP	900°F/482°C	30 minutes. Off. No venting

AFAP means "As Fast As Possible", no venting



*Fine, colored frit placed under dichroic patterns on clear glass.*

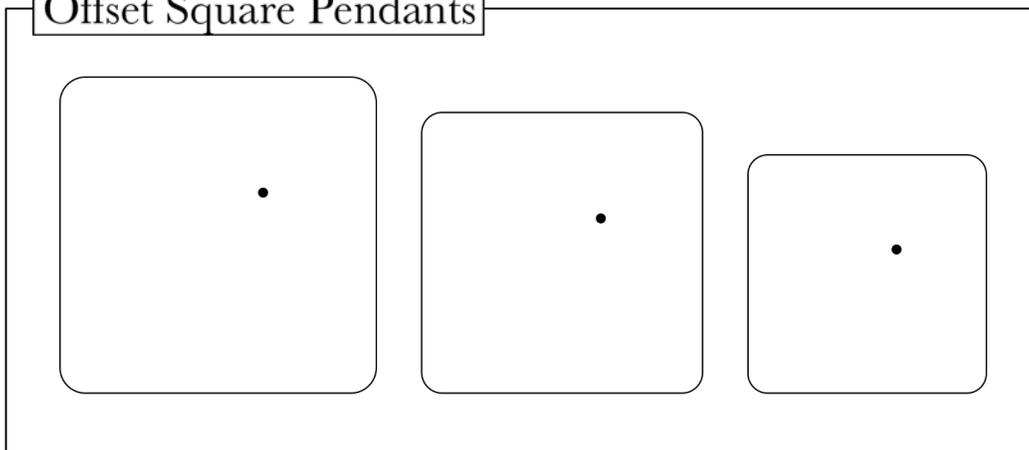


*Medium, colored transparent frit over dichroic patterns on clear glass.*

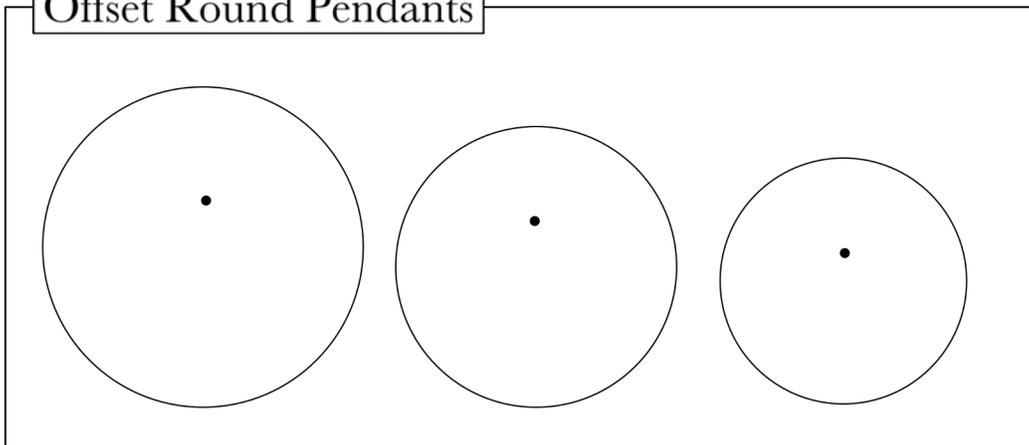


*Medium clear frit over dichroic patterns on black glass.*

### Offset Square Pendants



### Offset Round Pendants



After grinding and cleaning each piece, weigh it, and note the weight.

Clean and re-prime the mold with ZYP. Let the mold dry for 15 minutes. Place the ground dichroic shapes back into the mold. Add enough medium Clear or any medium transparent frit to each cavity to reach the weight shown in the Fill Weight table.

Level frit with a small artists brush. Place the filled molds on a *leveled* kiln shelf and fire according to the Second Firing shown below.