



Making Nano Drops

Colour de Verre's Nano Drop Beads are an exciting companion to our Nano Bead design. The Nano Drop design lends itself to many possibilities depending on how they are filled and if they are used directly or shaped in a second firing.



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 Lubriccoat (formerly MR-97). The ZYP is the easiest to apply and remove. It is an aerosol and, after firing, brushes off easily from the mold 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 can and the mold vertically about 10 to 12 inches apart. 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 Project Ideas 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 Project Ideas section of Colour de Verre's website.

See Tricks of the Trade. When using Primo Primer, best results

Tools

- ✓ Small artist's brushes
- ✓ Digital scale
- ✓ Nano Drops and, optionally, Nano Bead molds
- ✓ Small Serpentes(optional)

Supplies

- ✓ Fine or Medium frit
- ✓ ZYP BN Lubriccoat (formerly MR-97) or Hotline Primo primer
- ✓ Dichroic noodles, optional

are obtained when using fine frit. Larger frit can produce excessive casting spurs that require cold work and refiring.

Filling the molds

Frit can either be used straight from the manufacturer’s container or blended. However, we find the 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 Fill Weights Table. Use a small artist’s brush to evenly level the frit.

Place the filled molds on a leveled kiln shelf and fire according to the

Fill Weights Table

Element	Frit per Cavity
Nano Drop	1.5 to 3 grams

Firing Schedule shown below.



Firing Considerations

Designs with points or corners require lower target temperatures to prevent the glass’ surface tension from rounding the points. Coarse frit is a poor choice for the Nano Drops.

Since the beads are quite small and lightweight, they sometimes don’t fall out immediately when the mold is inverted. If this is the case, lay down several pieces of newspaper, invert the mold, and tap it gently against the newspaper. If the mold was properly primed, the pieces should fall out.



Stringing the Beads

Our favorite materials include 3mm rubber cords, silk ribbons, and leather cords. However, consider using stainless steel ball chain or cable.



Reusing the Molds

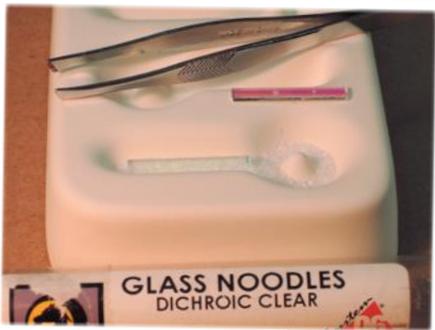
Clean the mold thoroughly after each firing with a stiff, nylon bristle brush. Avoid breathing any dust by wearing a proper dust mask. Reapply primer before subsequent firings.

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

Firing Schedule*

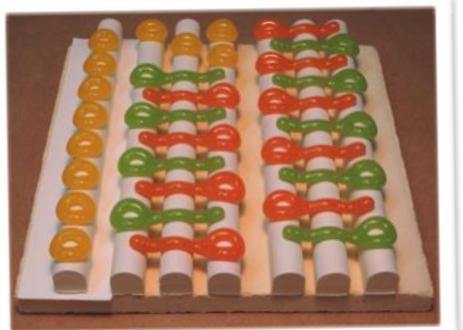
Segment	Ramp	Temperature	Hold
1	300°F/165°C	1400°F/675°C	5-10 minutes for fine frit 15-20 minutes for medium frit
2	AFAP	960°F/515°C	30 minutes. Off

* Schedule for COE 96. For COE 90, increase casting temperature by 20°F/10°C. AFAP means “As Fast As Possible”, no venting.



Variation 2

Create spiky Nano Drops of varying lengths by lessening the amount of frit in the tail portion of the cavity. The kiln heat has to be carefully controlled so that the tails remain softly pointed. If the tails “ball up” on the ends, reduce the target temperature in 10°F (5°C) increments.



Variation 1

To create an elegant and quite dazzling effect, snip 1” (2.5 cm) pieces of dichroic on clear noodles. Sprinkle a small amount of frit into the cavity to create a “bed” upon which to place the noodle segment. Using tweezers, hold the noodle upright, in the tail portion of the cavity. Sprinkle enough clear frit on each side of the noodle to stabilize it before removing the tweezers. Fill the cavity with fine clear frit being sure to cover the noodle. Fire according to the Firing Schedule.



Variation 3

Squiggly and curved Nano Drops can be created by slumping the beads over any primed form. For example, use Colour de Verre’s 5” Round Panel Former to create a gentle, but interesting curve. (See black and red necklace on previous page.) Fun, lively squiggle “tails” can be formed by slumping Nano Drops and matching round Nano Beads spacers over our Small Serpentine formers. Use a tiny amount of white, tacky glue to keep the beads “balanced” before firing.

Bead Slumping Schedule*

Segment	Ramp	Temperature	Hold
1	300°F/165°C	1200°F/650°C	5-10 minutes
2	AFAP	960°F/515°C	30 minutes. Off

* Schedule for COE 96. For COE 90, increase casting temperature by 20°F/10°C. AFAP means “As Fast As Possible”, no venting.