



Northstar Glassworks, Inc.

Boro News Newsletter

Written by Jesse Kohl Layout by Barbara Fullaway

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Issue 7

Frits and Powders

Introduction

Welcome to the Boro News Newsletter. In this issue we will explore uses and benefits of frits and powders. For many borosilicate glass users frit and powder are uncharted territory, but they can offer new and exciting possibilities that enhance your artwork. Frit and powder offer a completely unique palette to work with and complement color rod exceptionally well.

Safety Comes First

With frit and powder there are several steps that must be taken to ensure your safety. Work in a well ventilated area with the aid of a respirator when using frit and powder. Because of the particulate nature of this material it can easily become airborne and develop into a health hazard if inhaled. If you would like further safety guidelines about working with frit and powder, refer to the User's Manual available on-line or in booklet form which you can request from Northstar free of charge.

Why Frit and Powder?

There are many advantages when working with these forms of color. First, they are an economically sound way to go as a little amount of frit can color a large surface area. Second, with frit and powder there are many new effects, such as textures and patterns, which can be achieved. Third, it is also a fast and easy method to apply color. It is a unique palette to work with because some colors that are transparent in rod form are opaque in powder form.

How to Work Frits and Powder

With frit and powder there are some general techniques that are helpful in yielding certain effects. For one, frit and powder react to the

oxidation/reduction state of the flame more than rod does. Frit and powder are more susceptible to reduction and must be worked in an oxidizing flame! For colors such as the Exotics and other flame sensitive colors, when in frit and powder form, even greater care must be taken to prevent reduction than when in rod form. The general procedure when working with frit and powder is to first heat the piece you are going to coat until glowing red-hot, apply the frit or powder, and then reheat the piece. When putting the piece back in the flame after coating it, make sure you heat it up carefully so as not to cause boiling. In order to prevent boiling, start by reheating the piece at the upper part of the flame where it is cooler, then as the frit or powder starts to melt in, slowly bring the piece closer to the torch head where the flame is hotter. Because of the small particles size of frit, until they are mostly fused in, they have little bumps on the surface of the glass, easily caught by the flame and super heated to a boil. Therefore, because the glass can be heated rapidly, it can be overheated or boiled in a shorter span of time than in rod form. Once the frit or powder is melted in smoothly, boiling issues will diminish.

Application

There are many ways to apply frit and powder and each method is useful to create different textures and unique results. The most common methods to apply frit or powder are:

- **The Sprinkle Method** in which:
 - a) a strainer or screen is held above the pre-heated piece
 - b) frit or powder is shaken onto the piece coating it, and
 - c) the excess is collected in a tray below
- **The Dip Method** in which the pre-heated piece is coated by rolling it in to a bowl of frit or powder

- **The Roll Method** in which the pre-heated piece is rolled in a pickup plate full of frit or powder and
- **The Tube Method** in which frit or powder is poured into a tube, rotated while heated, melting the frit or powder onto the walls of the tube.

When applying frit and powders, pie tins, stainless steel bowls, gravy boats, strainers, and other screening devices are ideal tools to use. Stainless steel is the way to go as other metals and ceramic dishes can contaminate your piece. In addition, to prevent color contamination, be sure to clean frit and powder utensils and tools and store the frit and powder in sealed containers.

Color Effects

Here are just a few suggestions for using frit and powder to make your own mix. Put several different colors of frit together in a jar, put the lid on, and shake the jar to evenly distribute. Another variation is to mix large and small frit together. Clear frit can also be used to create interesting color patterns and textures when used to coat colors such as the Exotics. Frit can also be used in such techniques as Pate de Verre and fusing. Powders come in handy for cameo or graal techniques, in which the first step is to create a blank. The blank, be it solid or hollow, is built of multiple layers of different colors in a sequential manner. After the blank is cooled, it is sandblasted or engraved to create patterns and/or images. The blank is then reheated and formed to its final shape.

A great source of information about frit and powder is Advanced Flameworking, Volume 1, by Milon Townsend in which he shares his techniques of frit and powder application. It is a great source of inspiration and is an invaluable resource book. Other places to look for information on frit and powder are: the Northstar booklet entitled Using Northstar Frit and Powder, and the Northstar User's Manual. If you have not received a Frit and Powder booklet or Users Manual, call Northstar and request your complementary copy.

Examples

Here are a few samples of effects created with frit and powder. Pictured in figure (1) and (2) is a beautiful vessel by Robert Mickelsen titled Chieftain, made during the Portland project. This impressive piece, measuring 42" tall by 6" wide by 6" deep, was made utilizing powder and the graal technique. For the base of the vessel, and the five other sections similar in color, NS-47 Aurora powder was used. For the

other four sections of the vessel, NS-07 Ruby and NS-41 Butterscotch powder were used in the graal technique. This is a fabulous example of powder usage and is an amazing piece of art!

Figure (3) demonstrates some of the unique effects that can be achieved with Northstar frit. The photograph is a close-up of a marble in which NS-05 and NS-13 Amber/Purple small frit was sprinkled over the surface of the marble. Before applying the frit, the marble was striped with NS-52 Teal and NS-07 Ruby rod.



Figure 1



Figure 2

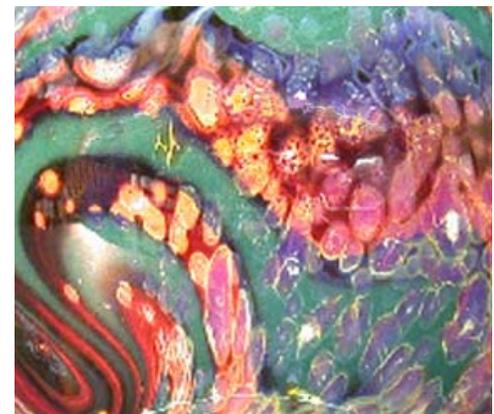


Figure 3

We hope you enjoyed this issue on frit and powder. Stay tuned for next month's issue, the fifth installment in our nine part series on color exploration. We have a lot in store; brace yourself for the new colors, Sublime and Parrot Green! Sublime is an iridescent lime green, and Parrot Green is an intense opaque green with no C.O.E issues. They will add a lot to your palette!

Missed a newsletter? Want to see that black and white photo in full, vibrant color, or get health and safety info? Visit www.northstarglass.com