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Basic Information on UGC Kiln Fired Glass Colors

Our UGC Product Line includes NT Colors, Artisan Colors, D Series, ACCENTS, Details, MUD, Medium, Layering Mix, Glass Separator and FREE

Please visit our website and click on Product Info for more detailed information or on Shop then on UGC Color Lines. There you will be able to see each color and how it looks when fused between layers of glass. The particular characteristics of each color are also included in the description.

Our colors have a firing range of 1400F to 1800F including the reds. COE 83 to 96. For firing we say to fire for the glass you are using.

The **NT Colors** are opaque enamels, come in a powder form that needs to be mixed with Medium on a 1:1 ratio or Layering Mix depending on the technique, and are food safe. Can also be used in powder form. Four metallic colors are in this line and they need to only be fired on top of glass or they will lose the metallic look. Use the NT Metallics for larger areas. 1 oz, 4 oz and Pints.

The **Artisan Colors** are enamels that create bubbles when fused between layers of glass or create a darker texture when fired on top of glass. They come in a powder form that needs to be mixed with Medium, (no Layering Mix with Artisans) and are food safe. They can be applied lightly or more heavily depending on the desired effect. Can also be used in powder form. You can “control” the bubbles by leaving a space between lines of color and the bubbles will follow one another! 1 oz, 4 oz and Pints.

ACCENTS are a line of mica based metallic colors that come pre-mixed in liquid form. Firing range 1425 – 1550F. Must be stirred thoroughly and shaken prior to use. Can be used with all our color lines. Can be fused between layers of glass or on top. When fired on top the excess burn-off will need to be removed with water and a soft brush. ACCENTS differ from our NT Metallics as they are more concentrated so are brighter but are designed for use as accents and not for large areas.

The **D Series** are Red, Orange and Brite Yellow. They do not contain lead but do contain cadmium so are not food safe. Come in powder form and can be mixed with either Medium or Layering Mix.

On what surfaces can UGC Products be used?

All the color lines were developed to be used on glass from COE 83 to COE 96. They can also be used on commercial tiles, terra cotta, porcelain and “found” glass (bottles, table tops, old windows), etc. *Before starting any project a test application on your chosen glass is recommended.*

How to Apply Products

Keep all color stirred as you are using them as the pigments tend to settle to the bottom of the jar.

View video snippets on our website or on [vimeo.com/MargotClark](https://www.vimeo.com/MargotClark) to see applications of products.

NT Colors

Basic: Mix the powdered color with Medium on a 1:1 ratio then add a drop or two of water if necessary so they are the consistency of “heavy cream” or “melted ice cream”. Colors can be mixed and stored in an airtight jar. Some of the colors settle faster than others, *so all must be stirred well* before using again.

Some advanced techniques include thinning with either Medium or Layering Mix for a watercolor look or mixed with Layering Mix for use in Poured Enamels techniques.

Artisan Colors

When using to create “lines” of color with a brush make the consistency a bit thicker so the lines of color stay in place easier and don’t spread out.

Fluid consistency for NT’s is very important. If the applied color does not level itself, the consistency is too thick – dilute using the Medium or a drop or two of water. If it is applied too thickly, it may curl back and pop off as it dries or pull back from the glass during firing. For Artisans you will notice that each color mixes up a bit differently. Thinner application will give a more translucent color and smaller bubble and a heavier application will have stronger color and larger bubbles – but- each color has its own size bubbles!

To apply colors for the most solid coverage - you need to “**Puddle, push & pull**”. Use a brush (10/0 liner for small areas, a small round for other areas. Pick up color and drop a small “**puddle**” of color to your surface then “**push**” and “**pull**” the puddle to apply. Add another puddle, push and pull until you have filled your area with color. **DO NOT BRUSH THE COLOR OUT OR “PAINT” IT ON UNLESS YOU WANT STREAKS IN YOUR COLOR! IT IS NOT PAINT!** A thin application will result in streaky color after firing. You **should not** be able to see through the wet color. Look at you work from underneath the glass as what you see there is how it will fire. If you make a mistake, let the color dry and scrape off with an Xacto knife or toothpick and brush off the chips and dust created with a soft brush and re-do the area.

When applying color and it is "beading up" on your glass - rub over the area with a toothpick and reapply the color. “Beading/Crawling” (color pulls in on itself or forms separate beads of color) as you apply the color. This may be caused by the surface not being properly cleaned, or oil left behind in a fingerprint.

Outlining a design - Use Outline Black or Outline White in the Decorator Bottle with the metal tip or with a small brush. Or – use MUD in the decorating bag. When filling the Decorator Bottle, be sure to first wipe off the rim of the jar to prevent little bits of dried color from around the lid getting into the applicator bottle and clogging the metal tip. Place a damp piece of paper towel over the tip and just set the plastic cap over that or place the cleaning wire down into the metal tip when you want to keep the Outline color ready to use (in case you forget something!) When you are done with the tip, unscrew it and place it in a container of water until you are ready to clean the tip. Keep an extra Decorator Bottle on hand, fill it with hot water, place the dirty tip on and squeeze clean water through the tip until clean. MUD can be kept in its storage box for months as long as the sponge remains damp

Let color dry completely before firing.

Do not use rubbing alcohol or glass cleaners as they may contains oils &/or silicone and will cause the color to crawl and bead up.

Firing Our UGC Products

Use **Unique Glass Separator** on your kiln shelves and sagger/drape forms so the glass does not stick. Use **Unique FREE** to allow the glass to move “freely” on the firing surface. Place FREE in an old cotton sock and dust over the area where the glass will be, then apply every 2 or 3 firings after the first firing or each time to be sure.

ALWAYS FIRE WITH GLASS COLOR FACING UP! If you fire with the color down, whatever it touches will become permanently attached! Of course, there is an exception to every rule so you can fire with the color down as long as it is on fiber paper or fiber blanket or when it is in between layers of glass.

Our very best advice on firing is to contact your kiln manufacturer about firing your kiln and to always test fire before beginning a project to be sure you get the results you expected.

The following info on firing is based on what Margot does in her ceramic kiln and what Dr. J does in his glass kiln. You **MUST** do a test firing in your own kiln to see how your particular kiln fires and what gives you the best results. Remember, firing is based on time and temperature. **Test, test, test!!!! Note: We tend to use a lot of float glass so be aware you will have to find out the proper temperatures of whatever glass you are using!**

Firing in a ceramic kiln with cones - Peep holes are left in for the full firing. Fire 45 minutes on low, 30 minutes on medium keeping the lid vented about 1” during the first hour. Cool to room temperature, cold is even better! Generally, most ceramic kilns will be cooler at the bottom and hotter at the top, usually 017 at bottom, 016 in middle and 015 at the top for a 016 cone firing. By using witness cones you will find if you have hot and cold spots in the kiln and can then fire accordingly. Raise the bottom shelf 4". Do not place anything at the very top as this is usually too hot.

Firing in automatic/progression ceramic kiln - Set the heat rise to 450 degrees and fire to 1517 degrees (016). For cone 017 it is

1445 degrees and for cone 015 it is 1550 degrees. Again, vent for the first ½ to full hour.

Firing in a programmable glass kiln – (For small pieces less than 10” again, using float glass) Vent for the first ½ to full hour. Heat rise of 450F/hour to approximately 1000F. Full speed to 1450-1525 and Hold or “Soak” for 10-20 min. A full speed decrease in temp to approx 1000F, hold for 10 min. A slow controlled decrease of 100F/hour to 850F and again hold for 10-30 min. A rapid decrease in temp, with the lid still down to room temp. You can NEVER go too slowly in your annealing phase!!!!!!

All kilns - Keep glass to center of kiln away from firing elements and be sure all elements are firing properly.

FIRING PROBLEMS

If the middle of the glass edge forms sharp, needle like points, it is over-fired. If the edges just feel rough or are still straight it is under-fired. Colors should be fine on both.

Firing UGC Reds – Vent your kiln, be sure you are not using a kiln that fires other things that may leave a residue behind to affect the reds, apply sufficient color and apply it evenly, be sure it is dry before firing. Lite Red causes fewer problems than Deep Red although both are considered “rouge” colors.

If the color is dull and tends to rub off after firing it is very under-fired.

If colors turn gray after firing, possible cause could be cleaning the glass with glass cleaner which can leave a residue or not enough ventilation in the kiln during firing.

Crawling during firing is caused by too heavy of an application of color or if color was not properly thinned. Remember, it must be the consistency of heavy cream or melted ice cream.

UGC Specialty Products

Unique Bubble Powder - Mix a small amount (no bigger than a small pea) with NT color and place dots of the mix where you would like raised bubbles. The size of the dots controls the size of the bubble. Must be used between two pieces of glass. Mix into NT's at 1/8-1/4teasp per ½ oz of dry color for nice random bubbling.

Unique MUD – Comes in White and Black and can be used as is (White only) or tinted with any of the NT colors (resulting color will only be a pastel). Fire between 1445 and 1550 along with UGC colors or can be fired cooler if desired. The hotter it is fired the shiner it becomes.

MISCELLANEOUS

*Colors may be brushed, sponged, air-brushed, stippled, stenciled, spattered and poured.

*To airbrush – On glass, spray an even coat and allow drying before applying another coat to prevent runs and sags. Two to four coats should be sufficient.

*If firing glass that has a predrilled hole in it, fill in the hole with Unique's Glass Separator before firing to keep the hole from filling in during firing as the glass moves. The fired Glass Separator just pops out after the firing.

***Remember – Test, test, test!!!!!!!!!!!!!!!!!!!!!! And....HAVE FUN!!!!!!!!!!!!!!!!!!!!!!!!!!!!**

Join us on Facebook at www.facebook.com/uniqueglasscolors and www.facebook.com/GlassArtwithUGC and show off your UGC art work.

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