Technical Information

Dichroic is defined as “The property of a surface of reflecting light of one color and transmitting light of other colors.” Transmitted colors are what you see when you would look through a piece of DichroMagic® glass. Reflected colors are the colors you see when you hold the glass at an angle, and will be the opposite color of the transmission.

Dichroic coatings are produced by vacuum depositing multiple thin layers of exotic materials onto a glass substrate. This creates an optical filter that can selectively reflect and transmit specific wavelengths of light. A vacuum chamber is needed in order to produce a pure environment for depositing the thin film materials. The vacuum produced is similar to that of outer space. The proprietary materials are vaporized in a crucible located in the bottom of the vacuum chamber by a high voltage electron beam. The glass is also rotated in the chamber through this vaporization process in order to deposit uniform coatings on the glass.

DichroMagic® has many uses from stained glass, fused jewelry, tiles, slumped bowls, lamp worked beads, blown paperweights and vessels to cast sculpture. DichroMagic® dichroic glass is a state of the art thin film combining the science of vacuum deposition and optical filters with the art of glass. DichroMagic® dichroic is designed to remain highly stable at fusing and glass blowing temperatures while retaining the beautiful optical properties and colors. This endurance is due to the state of the art equipment installed in our optical coating laboratory. The DichroMagic® coating is enhanced with a tough overcoat giving it high temperature and scratch resistance. Due to its unique properties, DichroMagic® is the choice for dichroic glass art. The only limitation is your own imagination.

After fusing or lampworking dichroic glass, the color will shift towards the left on the visible color spectrum, depending on the thickness of the dichroic coating, the amount of time and temperature fired for a specific kiln, the number of firings, the type of base glass, and the exact application of the DichroMagic® in the project. Always choose colors that will have room to shift towards your desired resulting color. Also, individual kilns fire differently and it is important to test color shifts before entering into large projects. The color codes for DichroMagic® are arranged in order from the thinnest (LY) to the thickest (SR). After selecting the correct color needed for your final product, go to the next thickest color. For example, if you desire a blue transmit/yellow reflect (BL), choose a light blue transmit/gold reflect (LB). Upon cooling, the color will shift from light blue to blue. Thinner colors such as LY, YE, and AM may shift beyond the desired results if your process is very hot. We recommend fusing a test palette using the color sample set to see how much firing temperature will affect the color shift. The best way to see what the color shift should be is to view the dichroic at a 45-degree angle. That color whether it is from the reflection or the transmission will be the shifted color.

Upon firing, DichroMagic® produces a unique crazing pattern depending on the color, glass texture, glass thickness, coating color, and fusing technique. The dichroic coating will fuse readily to un-coated glass. In general, two dichroic layers will not fuse directly to each other. Please follow the fusing guidelines set forth by each glass manufacturer.

For hot glass processes such as blown, lamp work, and cast glass, DichroMagic® should be used with care. At extended temperatures above 2000 degrees F dichroic coatings can oxidize rapidly causing drastic shifts in color. We suggest at temperatures at or above 2000 degrees F the glass be applied with the dichroic layer away from the flame. By gathering or fusing a layer of clear over the coating, the dichroic can be encased and protected from destruction. When glass is blown and stretched, the dichroic coating will be fractured into smaller pieces. Bead making using the dichroic coated side out of clear glass DichroMagic® works well provided you do it with care.

DichroMagic® with stained glass is a fantastic way to illuminate an area with pure brilliant color. The thin film can be scratched or destroyed by corrosive flux, patina, and glazing materials, so the dichroic layer should be protected. To temporarily protect the glass, a resist such as contact paper will work. It can be permanently protected by fusing or gluing (laminating) clear glass on top. A clear spray or brush overcoat of acrylic coating can be applied to seal it in, but be aware that overcoats could cause color shifts. It is important to never soak dichroic coated glass in water for an EXTENDED period of time. Some tapes or stickers could cause damage to the coating. Feel free to contact us with any questions you may have.

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These are actual photographs of the colors coated on Uroboros or Bullseye thin clear and black glass. They are to be used as a general reference only. It is strongly recommended that actual samples from the color sample sets are used for determining your final result.

Transmitted Colors-(Clear Glass)

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Reflected Colors-(Black Glass)

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Ordering Information:
To order sheets, please indicate the glass size and then texture code.
It is only necessary to include C.O.E. if the glass is 96 or 104.
Solid Color Glass Sizes (inches) - 2.5x8, 8x8, 8x16, 16x16
For 96 or 104 C.O.E. add to the end of the code. All Uroboros glass is
available in both 90 or 96 C.O.E. - Uroboros also has 104 C.O.E. Thin or Standard.
Examples:
16x16-UTC-MA = 16x16" Uroboros Thin Clear Magenta
8x16-UBFP96-GR = 8x16" Uroboros Black Fipple Green 96 C.O.E.
Textured Glass - Uroboros Clear 90 or 96 C.O.E. - UN-FIRED - For post-fired colors refer to page 3.

Order Example: UCR-LY = Uroboros Clear Herringbone Ripple-Light Yellow

NOTE: For 96 C.O.E. Add To The Glass Code Example: UCGR-96-MA Is Uroboros Clear Ripple 96 C.O.E. Magenta
Spectrum glass can be ordered in any color and size. While most Spectrum glass behaves similarly to 96 C.O.E. standard, it is important to note that not all Spectrum glass types have been tested as being 96 compatible. Glass types that fit 96 C.O.E. will bear the System 96 C.O.E. Tested Compatible logo. The images below show a rainbow effect to illustrate the textures. Please refer to the color chart on page 2 for reference when ordering.

Spectrum Smooth Codes:

- SP100SFS - Clear Standard
- SP100SFS - Black Standard
- SP100SFL - Clear Thin
- SP100SFL - Black Thin

www.spectrumglass.com

To order as 96 C.O.E. Add 96 to the Order Code ex: W01CU96

Moretti Glass - MC-Moretti Clear (Crystal), MB-Moretti Black  www.effetre.com
Sheets can be ordered in all colors and sizes. Moretti sheets are 104 C.O.E. and due to being a hand-rolled glass, can vary in thickness.

Float Glass (not tested compatible) Regular soda lime window glass.
Sheets can be ordered in all colors and offered sizes. Available in 2mm(single strength), or 3mm(double strength) 1mm and 1.5mm are available by special order. To order use the codes: FLT2 or FLT3
Color Sample Sets

Our boxes of assorted DichroMagic® Color Samples are the perfect inspiration to create something amazing! Each set contains an exact example of every color we produce, and are available in several assortments.

**UROBOROS**
Color Sample Set on BLACK
19 colors - 1.5”x 3”
Thin 90 and 104 C.O.E available
ORDER CODES: CSS90B and CSS104B

**UROBOROS**
Color Sample Set on CLEAR
19 colors - 1.5”x 3”
Thin 90 and 104 C.O.E available
ORDER CODES: CSS90C and CSS104C

**Color Sample Set - Float**
19 colors - 2.5”x 4”
Float Glass
ORDER CODE: CSSF

**SPECTRUM**
Color Sample Set 96 BLACK
19 colors - 1.5”x 3”
Thin 96 C.O.E
ORDER CODE: CSS96B

**SPECTRUM**
Color Sample Set 96 CLEAR
19 colors - 1.5”x 3”
Thin 96 C.O.E
ORDER CODE: CSS96C

Magic Box - Textured Glass Samplers

Wissmach 90 or 96 C.O.E. Magic Box

8 CLEAR and 8 BLACK 2.5x4” 90 C.O.E.
(Textures included are Figure-C, Florentine, Cube, Dew Drop, Ripple, Granite, Moss and Stream-X)
ORDER CODE: WMBOX or WMBOX96
Scrap

Bulk Scrap approximately 4x8” pieces (not guaranteed) Sold By The Pound - All C.O.E.'s Standard or Thin

Pre-Packaged Scrap Bags
Scrap bags are available as 1/4, 1/2 or 1 pound. All C.O.E.'s Standard Thickness, Thin, Chamber Patterns and Tie-Dye
See our price list for detailed ordering codes and information.

DichroMosaic™
3/4”x3/4”x1/8” Pieces
4 ounce bags
Approx. 40 pcs. per bag
Black or Clear 96 C.O.E.
Pre-fired for scratch resistance.

Order Codes:
Clear - DIMOSC964OZ
Black - DIMOSB964OZ

DichroMosaic Pieces
Order Codes:
Black - DIMOSPB964OZ
Clear - DIMOSPC964OZ

Frit
3 oz. jars available as clear or black
Uroboros coarse 90 or 96 C.O.E.
Each piece is coated by a special process that gives it a very brilliant effect.

Uroboros Noodles
Uroboros Noodles - 15” Long
Packs of 15
90 C.O.E. - Clear NDL90C
96 C.O.E. - Clear NDL96C
104 C.O.E. - Clear NDL104C

Rods
Rods are 3mm - 16” Long
Packs of 10 or 50
90 C.O.E. - Clear ROD90C10 or 50
96 C.O.E. - Clear ROD96C10 or 50
104 C.O.E. - Clear ROD104C10 or 50

Stringers
90 or 96 C.O.E. Stringers are either 1mm or 2mm pack of 50
90 C.O.E. - Clear STR90C1mm or 2mm
96 C.O.E. - Clear STR96C1mm or 2mm
Moretti 104 C.O.E. 2mm Stringers
pack of 50
Clear STR104C
Black STR104B

Hot Stix
Hot Stix are 1/4” pre-fired strips which show the final shifted colors and are pre-annealed. They curl up to a rounded shape.
Packs Of 10 - 8” Pieces
90 C.O.E. Clear - HS90C
90 C.O.E. Black - HS90B
96 C.O.E. Clear - HS96C
96 C.O.E. Black - HS96B
104 C.O.E. Clear - HS104C
104 C.O.E. Black - HS104B

Color Frit

Frit Sampler Sets

Frit Sampler 96 C.O.E.
FSS90
FSS96
There's nothing like the explosion of color and unique patterning you will find in our Tie-Dye series of products to ignite your flame of creativity! Choose between a variety of size, color, and pattern options and join the thousands of artists making Tie-Dye our most popular series.

**Full Sheets**

Far Out (FAR)  
Freaky (FRK)  
Funky (FUN)  
Groovy (GRV)  
Wavy (WAV)

Tie-Dye Patterned Sheets are available in sizes: 20"x20" (Full sheet), 10"x20" (Half sheet), and 10"x10" (Quarter sheet), and can be purchased on any glass-type, thickness, clear or black. Tie-Dye is only available in Rainbow, Premium Rainbow, Rainbow 2 & Premium Rainbow 2. Now available as 16"x16", 8"x16", and 8"x8".

**Tie-Dye Sample Sets**

DichroMagic® Tie-Dye Samples are available as box sets assorted into six 4"x4" pieces (4 Rainbow and 2 Premium Rainbow), and are available on thin, non-textured glass in 90, 96, and 104 C.O.E. Sets are sold in Black or Clear.

**Tie-Dye Combo Sets**

DichroMagic® Tie-Dye Combo sets represent the best of our Sample Sets, and contain an example of each Tie-Dye pattern in Rainbow and Premium Rainbow. Each box contains 12 - 2"x4" samples and are available in 90, 96, and 104 C.O.E. Sets are sold in Black and Clear on thin smooth, non-textured glass.

**Rainbow**

Rainbow  
Premium Rainbow  
Rainbow 2  
Premium Rainbow 2

DichroMagic® Rainbow sheets offer an outstanding variety of colors on one sheet. Sheets are available in a "target" Rainbow where color radiates from the center and out towards all edges, or in Rainbow 2, which is a gradient effect across the entire sheet (see example above). RB and PR sheets are available in sizes 8"x8", 8"x16", and 16"x16"; black or clear on any glass-type. RB2 and PR2 sheets are available in sizes 10"x10", 10"x20" and 20"x20" black or clear on any glass type.

**Tie-Dye Hot Stix**

DichroMagic® Tie-Dye Hot Stix are pre-fired 1/4" strips that are perfect for lampworking, fusing, and blowing. Each pack of 10 pcs. contains a varied assortment of colors and patterns. Tie-Dye Hot Stix are 10" long in 90, 96, and 104 C.O.E., black or clear.

Refer to the price list for complete ordering information.
Laser Etching

Be Creative!
Send In Your Own Artwork!

The dichroic coating is the white part of any proof or picture. All files submitted must be black and white only, no grayscale or colors. All files must be proofed and approved by signing the proof form and submitting it to us via email, fax, or mail prior to beginning the job. All files submitted are kept in your own folder and are not allowed to be used by others. Artwork must be at least 300 dpi and properly sized to the glass. We can also scan any artwork as well. If additional graphic design-work is required, there is a charge of $28.00 per hour with a one hour minimum. The cost for laser etching is $0.16 cents per square inch.

Laser Etched Sample Sets

Laser Etch Sample Sets contain 12 - 2" x 4" pieces; one of each Standard Etch Pattern. Assorted Colors are available in 90, 96, or 104 C.O.E. on Thin Black or Clear. Order Codes: LESET90C - LESET90B - LESET96C - LESET96B - LESET104C - LESET104B

Chamber Coated Patterns

Available in sheet sizes 8x8”, 8x16”, 16x16”
All colors including rainbow. To order just add the pattern to the end of the code. Example-16x16-UTC-RB-Honeycomb
Decal Paper
Coated With Any Color or Pattern

Cut out your desired shape.
Soak in distilled water for 30 - 60 Seconds.
Carefully slip onto the glass.
Keep wet and move around to position.
Pat dry to get rid of air bubbles.

To Order, Replace The Glass Code With DP
Example: UTC-RB would be DP-RB
11x17” - Tie Dye And Rainbow
8.5x11” - Tie Dye And Rainbow
8x16” - Solid Colors And Chamber Patterns
8x8” - Solid Colors And Chamber Patterns
2.5x8” - Solid Colors And Chamber Patterns
Many samplers are available as well as scrap.
Refer to the price list for more information.

New Wissmach Tie-Dye Scrap!

DichroMagic®
State Of The Art Dichroic Glass

Austin Thin Films Inc
16813 Radholme Ct., Bldg B
Round Rock, TX 78664
512-246-1122
512-246-1133 fax
800-268-6163 sales@dichro.com
www.dichro.com