



SPECIALTY  
ARCHITECTURAL  
PRODUCTS

*Statement Making Products*

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## Design Guide – Color Glass

	Tempered Color Glass	Color Coated Glass	Color Laminated Glass	Laminated Art Glass	Dichrolam Films
<b>Material Price</b>	\$10 to \$25	\$18 – \$45	\$25 - 55	\$35	\$40 - 80
<b>Transparent</b>	Yes	Limited	Yes	No	Yes
<b>Translucent</b>	Yes – requires treatment	Yes	Yes	Yes	Yes
<b>Opaque</b>	No	Yes	Yes	No	Yes
<b>Design Flexibility</b>	No	Excellent	Yes – via films	No	No
<b>Colors</b>	Very limited	Exhaustive	Extensive	Extensive	Limited
<b>Size Limitations</b>	Greater 5' x 10'	Greater 5' x 10'	Greater 5' x 10'	32" x 84"	52" x 140"
<b>Durability</b>	Excellent	Excellent	Excellent	Fair	Excellent
<b>Special Treatments (Etched)</b>	Frosting is available	Yes	Yes	No	Yes
<b>Exterior</b>	Yes	Yes - limits	Yes	Yes	Yes
<b>Maintenance</b>	No Special Maintenance Req'd	No Special Maintenance Req'd	No Special Maintenance Req'd	No Special Maintenance Req'd	No Special Maintenance Req'd
<b>Warranty</b>	Same as tempered glass	1-5 years	1-5 years	1-5 years	1– 10 years Dichrolam – yes for exterior warranty  Knock off's will not warranty in exterior condition.

Glass cost are based on 1/4" tempered or laminated glass. Prices (US\$) are for a Square Foot.

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	Direct Printing	Dichroic Glass	Ceramic Frit Products
<b>Material Price</b>	\$40 - 80	\$80 - \$120	\$8 - 20 sq ft
<b>Transparent</b>	No	No	No
<b>Translucent</b>	Yes	Yes	Yes
<b>Opaque</b>	Yes	Yes	Yes
<b>Design Flexibility</b>	Yes - 1500 dpi	Limited	Poor - sq ft minimums
<b>Colors</b>	Limited	Many	Many
<b>Size Limitations</b>	96" x 144"	See mfg Sizes are improving	Greater 5' x 10'
<b>Durability</b>	Excellent	Excellent	Excellent
<b>Special Treatments (Etched)</b>	Yes	No	No
<b>Exterior</b>	No	Yes	Yes
<b>Maintenance</b>	No Special Maintenance Req'd	No Special Maintenance Req'd	No Special Maintenance Req'd
<b>Warranty</b>	unknown	Unknown	1-10 years

**Ceramic Frit Products:** Ceramic frit paint is comprised of minute glass particles, pigment and a medium in order to mix the glass and pigment together. Then, the enamel is fired to create a permanent coating (Source: Viracon Web site). For the most part this product is used in exterior building applications. Although color matching is possible, it is usually cost prohibitive. Blending multiple colors is not usually cost effective either. There has been several new processes (e.g., Deco Therm™) using ceramic frit that have been developed. These materials and process have afforded this product greater flexibility but at a higher price point.

**Color Glass Tempered:** This is commercial grade glass at least ¼" in thickness. Currently, there are only a limited number of colors available – bronze, two grey's, two blue's, colorless (low iron), and green.

**Color Coated Glass:** This glass is also referred to as back painted glass; this product can be used on many different types of glass product to include cast glass, slump cast glass, patterned glass, laminated

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glass, low iron, and regular (clear float) glass. To learn more about the finished product, please go to <http://www.igorglass.com/products/color-coated-glass>. Finally, you can select colors from numerous palettes to include Pantone, Sherwin Williams, and Benjamin Moore. Please keep this in mind that color on glass will never exactly match what you see in a color book or wheel. Glass' reflective and refractive qualities will prevent a perfect match.

**Color Laminated Glass:** This is a broad range of products encompassing several different lamination systems; additionally, there are three ways in which color is achieved using these processes, treating the inner glass' surface, laminating color films, or coloring the lamination material. There are several laminating processes, for example EVA, PVB, and Pour Resin. SGP as of Feb 2016, now has a white inner layer available.

**Dichrolam:** This glass product is primarily a laminated glass product. But it is also available in tempered form and in plastic. Dichrolam is a product that changes colors based on the viewer's angle of incidence. The starting colors are red and green and then the color shifting begins. There are a total of 8 colors. Go to [www.igorglass.com/products/dichrolam.com](http://www.igorglass.com/products/dichrolam.com) to learn more.

**Dichroic Glass:** This is a tempered glass product. Dichroic Glass process was developed by the Aerospace Industry. It is the process of vaporizing metal oxides in a vacuum chamber onto glass. The metal oxides become hardened into a crystal on the surface of the glass. These coating are very thin and form many colors. Dichroic Glass is primarily used in jewelry. However, for many years small sheet sizes have been available for architectural work. In the past few years, importers have brought in foreign products that are larger in size and at a reduce cost.

**Direct Printing:** This technology has been around since 2004 in the glass business. However, a surge of use and applications continues to occur. The resolution is excellent 1500 dpi. The color are bold and ombre type patterns are also possible. The design space is vast. It would appear almost any image can be duplicated in glass.

**Laminated Art Glass:** Traditionally, art glass is used in stain glass artwork. But it is possible to use this richly colored and textured product in architectural applications. The glass tends to be brittle so it is difficult to work with, but it is possible to laminate art glass for commercial use (i.e., meet safety codes). I recommend going to [www.kog.com](http://www.kog.com) to find an art glass product of your choice. Please then contact Specialty Architectural Products, LLC and we will be happy to order your selection for you.

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