

## Cadmium and Selenium Colors

Some opaque and transparent yellows, oranges and reds and greens contain cadmium and/or selenium to achieve those colors in glass. The opaque colors are: **1237, 1319, 1335, 1420, 1425, 1910, 1820, 1830, 1840, 1850, 1860, 1870, 1880, & 1890**. These cadmium selenium colors will darken with prolonged firing. Edges commonly are black on copper and silver. If applied thin on copper they may appear black. If fired direct on silver they may appear brown. It is best to use these colors over a base coat of clear enamel such as **2030** for copper or **2020** for silver. They should not be over-fired unless the darker coloring is an effect you are seeking.

**2210, 2215, 2840, 2845, 2850 & 2880**, are transparent cadmium selenium colors. They chemically react with copper and silver and turn opaque. They will remain transparent on gilding metal, and properly prepared high karat gold and over a clear or opaque first coat for a limited number of firings. They will darken with prolonged exposures to heat. They are best used over another enamel or gold foil.

## Gold Bearing Colors

Some opaque and transparent pinks, purples, lavenders, oranges and reds contain gold to achieve those colors. The opaque colors are: **1705, 1708, 1710, 1715, 1720, 1745, 1750, 1760, and 1780**. These colors should be used on top of **2020** when working with silver.

The transparent colors are: **2720, 2740, 2745, 2747, 2755, 2810, 2820, 2825, 2830, 2835, 2836, 2837, 2838, 2839, and 2800**. When the transparents are used directly on copper they frequently appear opaque. The color red is created by colloidal gold. The copper oxides which are taken into the solution of the glass collects on the colloidal gold. Several firings are required to dissolve those oxides back into the glass. There must be sufficient glass for this to occur. This is why a second coat may be required after the first firing. If the color shows no signs of clearing after two firings, increase the firing time, not the firing temperature.

All of the gold bearing transparent colors are clear on gilding metal. When used over another enamel, they tend to be more pastel and less intense as a color except for **2747, 2755 and 2835**.

**2720, 2740 and 2745** will turn green direct on silver. They should be used over **1030** opaque white, or over **2020** clear for silver.

Silver salts that are taken into solution of the glass during firing, impart yellow to gold bearing transparent reds, which makes the red look more orange red. To eliminate the yellow, use these colors over **1030** opaque white or **2020** clear for silver

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[Link to Thompson Transparent Enamels](#)