

# Firing Tips

## SUCCESS WITH CHINA PAINTS

China paints are overglaze decorations that are applied layer by layer on fired and glazed ware, most often porcelain.

They are translucent, meaning that some of the underneath color will show through. Building up layers of color adds density as well as deepens the color. Layers of different colors can also be used. Firings are made after each application, with at least three firings usually done on a piece.

Unlike metallics which sit on top of glazes, china paints actually melt into the glaze, bonding with it. During firing, china paints do not change color or develop a glossy finish like many glazes. In fact, glossy china paints are usually a sign of overfiring.

China painting colors are made from metallic and mineral oxides in both premixed and dry forms. They are intended for use on decorative surfaces only. Some may contain lead and are considered toxic.

The art of china painting involves fine detail and practiced skill for the best results. If ware does not turn out as

expected, much effort and time is lost along with the piece.

### Firing Ranges of Colors

China paint colors differ from glazes in how they fire. For glazes, color is less of a factor in how hot the kiln is fired. This is not the case with china paints.

Different china colors require different heatwork to develop properly. Colors that require the hottest firings are applied first. The chart below is a good guideline for different colors, but test firings are always recommended.

#### reds

018 - 017 and 020 - 019

#### colors - (not golds)

017 - 016

#### golds

(pinks, rubies, purples)

015-014

### Application is Important

Some color problems with china paints which appear after firing, actually

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occur during the color preparation or painting (application process).

A mottled look is due to inadequate mixing of the oils and china colors.

Dull or lost colors result when not enough paint or enough layers of paint are applied.

## **Firing China Paints**

China paints are fired in a standard electric hobby kiln. They should be fired slowly to allow good adhesion and to prevent specs caused when organics are not properly burned out.

A certain amount of trial and error may be necessary for the best results and so colors turn out as desired. Many china paint manufacturers recommend pretesting sensitive colors, like rose, before firing your ware.

## **Venting**

Venting is also very important in firing china paints to insure proper development of colors and to remove the unpleasant fumes which occur during firing. Volatile oils used in china paints need to burn off and require sufficient venting.

Installation of a downdraft vent system will eliminate venting concerns for both the ware and the kiln room. Slowing down the firing gives more time for the fumes to be removed and air to circulate in the kiln. If true colors do not develop, lack of air in the kiln is usually the problem.

## **Proper Heatwork**

Overfiring and underfiring are two other big problem areas for heat sensitive china paints. Rough, dull colors and pinks and roses that turn brown signal underfirings. Lost and faded colors or glossy patches can be the result of overfiring.

Apply colors in the right order for firing or low-fire colors will burn off and be lost during subsequent firings.

Using Self-Supporting witness cones during the firing to check the heatwork on the kiln shelf will help eliminate problems due to too much or too little heatwork.

## **Want to learn more?**

Read more about applying and firing China Paints in the Orton Firing Line and Technical Tips publications. Each issue is packed full of articles to help you learn more about firing. Members of the Orton Firing Institute receive these publications at no charge. Single copies are available to non-members at a per issue rate. Orton's 80 minute video, *Key Principles of Successful Firing*, is also an excellent resource on firing.

For information on Orton products, see your Orton dealer or distributor. For information on the Firing Institute, video or publications, contact

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