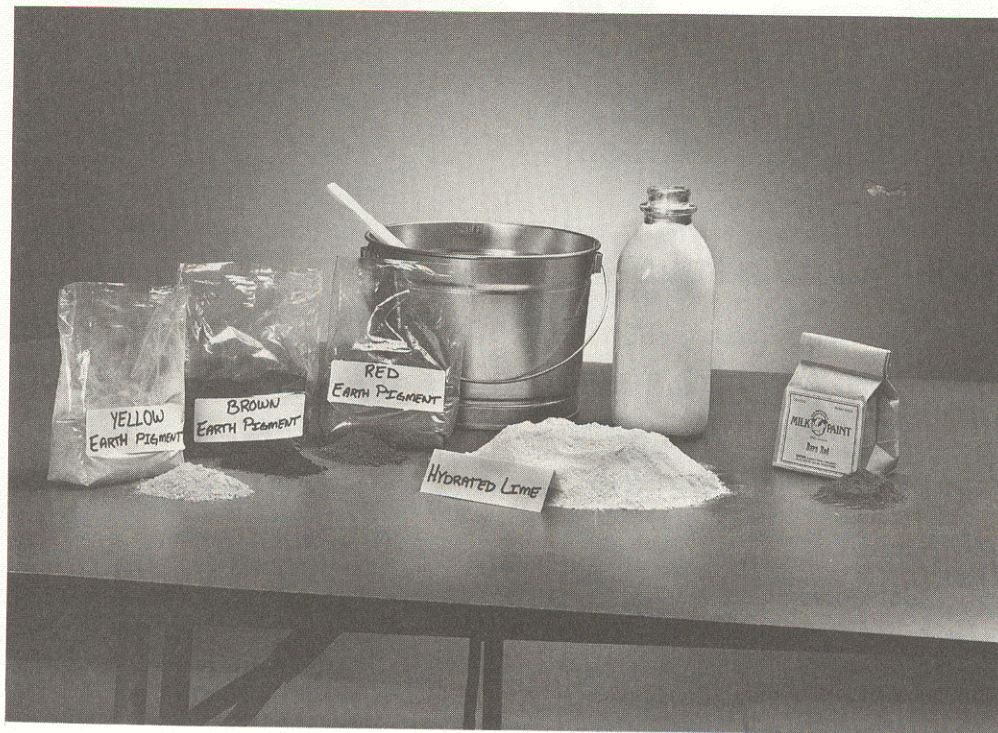


MILK PAINT



Milk paint has been around at least as long as the Egyptian pyramids. Until the mid-1800s it was the most common form of paint. If you've ever tried to strip off old milk paint, you'll understand why. It sticks with a tenacity that puts modern finishes to shame.

Milk paint is made from skim milk, lime, and whiting or earth pigments. The ready availability of these ingredients contributed to milk paint's popularity.

During the comparatively brief history of modern paints, we've found that the lead in early paints killed our children. Now we are finding that the volatile organic compounds

(VOCs) in paint are equally hazardous to the environment. Milk paint has no lead, petrochemicals, alcohol, or other organic solvents. With the exception of the lime, the ingredients are harmless. Once the paint has fully cured, the lime is also harmless.

Milk paint does have a few drawbacks for some applications. It sticks best to porous surfaces like wood and masonry, it doesn't easily produce the monotonously even color and texture of modern paints, and it watermarks if it isn't sealed.

Cured milk paint consists of a resin, calcium caseinate, that binds particles of colored

minerals to each other and to the underlying surface. The calcium caseinate forms when lime, a source of calcium, interacts with milk, a source of casein. Mix milk with lime and colored (or white) minerals and you have milk paint. Follow these specifics:

- Use skim milk, or buttermilk, since butter fat is not good in the paint.
- Use hydrated (slaked) lime, not quicklime (caustic lime) or ground agricultural limestone. Hydrated lime is available from garden stores and from masonry-supply companies.
- Use alkali-proof earth pigments for the colored minerals. These are readily available for coloring mortar and concrete. Whiting (calcium carbonate or chalk) adds opacity. Zinc oxide makes a white paint and renders a deep earth pigment more pastel.

You can measure the ingredients by either weight or volume since milk and lime have nearly the same density. Use about 12 parts milk to 1 part lime. This is the same as a quart of milk to $\frac{1}{2}$ cup of lime. The amount of color to use will vary with the depth of color and consistency that you want. As a starting point for experimentation, use about the same quantity of earth pigment as the amount of lime used. Mix up only as much as you can use in a day and discard any leftovers at the end of the day.

If you want the advantages of genuine milk paint but have no desire to traipse all over gathering ingredients, or don't want to experiment to get the color and consistency that you want, you can buy milk paint in the form of powder. Powdered milk paint is prepared by The Old-Fashioned Milk Paint Company and is available in many paint stores or direct from

the company at Box 222, Groton, MA 01450-0222; (508) 448-6336. Simply mix the powder with water and use it just like milk paint that you made yourself. It comes in sixteen historic colors.

Apply milk paint with a synthetic or foam brush or roller to bare wood or other absorbent surface, or over previous coats of milk paint. Allow it to dry between coats.

Beyond this straightforward application technique, there is room for a variety of special techniques to achieve specific effects.

- You can give your project a mere wash that adds color without hiding the wood by applying a single, thinly pigmented coat.
- You can apply a single, fully pigmented coat and then buff through to the wood in selected wear areas with a Scotch-Brite pad.
- You can apply two or more coats, with or without buffing.
- You can apply coats of different colors, then buff through the top coat in selected wear areas.
- You can overcoat milk paint with linseed or Danish oil or with a modern, clear, acrylic, or polyurethane finish.

Finally, a word of caution. Use only fresh milk and don't use a powdered product that smells spoiled. Try out your paint on disposable materials before using it on a project. If all you want is historically accurate color, you can use Stulbs Old Village Buttermilk Paints. These 100-percent-acrylic paints in Sturbridge Village and Williamsburg colors are available in paint stores. The textures and colors are as close to the original milk paints as modern industry can make them.