

Exploring milk paint

As Kurt Hertzog explains, milk paint will give you another creative colouring and texturing outlet to incorporate into your turnings

PHOTOGRAPHS BY KURT HERTZOG



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Depending on which historical source you believe, milk paint has been used for over 20,000 years. Early cave drawings and paintings were done with the same simple milk paint composition used today. Then as now, it consisted of milk, lime and earth pigments. Tutankhamen's burial chamber contents, boats, furniture and carved wooden servants were painted with milk paint. With the invention of the metal paint can and tight fitting lid in the 1870s, the era of modern oil-based paint grew to become mainstream. Milk paint never completely disappeared but had fallen far into the background. With the modern movements towards 'green', there has been a resurgence of interest and use of milk paints driven by a combination of nostalgia, an all natural absent of VOCs and the craft revolution.

In a different direction of adding colour to your turnings, we'll explore the basics of milk paint. We will look at both the traditional formulations and the more modern implementations. From making your own milk paint to creating some very artistically decorated turnings, milk paint will give you another creative colouring and texturing outlet to incorporate into your turnings.

Safety

Always be aware that handling chemicals of any kind should be done with proper PPE. Proper eye protection, handling gloves and breathing dust protection is always

key along with all other safe handling recommendations from the manufacturer. Read and follow all of the safe handling and use instructions for your well-being.

Making and buying

Making your own milk paints is beyond our scope here but be aware that it is easily done with readily available components. Milk from your grocer, lime from your garden supply seller and earth pigments from many of the speciality producers and sellers will let you create your own. It isn't tricky or too time-consuming. Feel free to give it a try if you want the freedom and nostalgic feelings it



Your local woodturning retailer or Internet supplier will usually have a selection of both the traditional milk paints along with the modern latex versions

can provide. You can choose to work with plain milk or go down the path of creating Quark by curdling the milk. Either way, you'll be able to produce milk paint as it has been done for centuries. There is plenty of information on either method readily available via the Internet.

The traditional milk paint formulations are available from a variety of suppliers through the mail order or your local retailer. They are delivered in a paper sack containing the milk paint powder enclosed in a sealed plastic wrap. Your task is to add the water and mix. The brands I'm familiar with have colour charts available at the merchants as well as a colour swatch on the top of each bag of product. Two things you will need to note about colour. Being made from earth pigments, there are potentially some

variations in colour from batch to batch and even bag to bag. While not catastrophic, do be aware that this is a natural product with some inherent variation potential. Also, there isn't the same colour palette and fine colour control you've come to expect from the modern paint store. Most of the manufacturers produce a limited number of colours. This is easily overcome as you can mix the various available colours to create your own desired hue. Should you wish to delve into it in more detail, the earth pigments themselves are available for you to mix with white milk paint. You can also use earth pigments to alter existing colours by blending them as your colour needs dictate.

Milk paint goes pretty far so you don't typically buy it in large quantities. The packaging will provide the estimated square

footage of coverage when mixed per the manufacturer's recommended formula. 170g of powder, a common available package size, mixed with water produces approximately one pint. That will usually provide coverage for 35sq.ft.

For those not interested in making their own paint or mixing powders, there are modern versions of milk paint available. Not technically a true 'milk paint', containing no milk, but a modern latex paint quite capable of very similar results. If you are in need of very repeatable colours and a fairly extensive colour palette, these modern versions simulating milk paints will let you open the can and enjoy the benefits that a modern paint factory can provide to you. These are also mixable to blend colours that aren't provided as a stand-alone choice.

I can also roll the bag back up to seal it well before storing it in a glass jar. I mix my paints in either cleaned plastic margarine containers or purchased plastic containers. You certainly can use cups, glass jars or other containers that suit you. My choice is based on the size, inert material, tight fitting lid and easy reach for mixing with no difficult corners. You'll appreciate the tight fitting lid when you are using the paint all day as well as when you store it overnight in the refrigerator. Because your mixed powdered milk paint has a very short shelf life, you should always mix just enough for your immediate needs. You can measure or weigh but milk paint is very forgiving. Put your best guess for powder into your mixing/short-term storage container and then add water. The amount of powder to water is usually in a 1:1 ratio by

volume. Some brands will recommend a 1:1.5 powder to water ratio. It is a starting point since you'll tune it for your needs. Use warm water and begin by adding the water in small amounts while mixing. Mix with your chosen implement whether a plastic spoon, ice lolly stick, clean chopsticks or other implement. Create a slurry and continue to slowly add water while mixing until you get to the consistency you want to paint with. You'll get a feel for the viscosity needed. Too thin and it will run and not cover well. Too thick and it won't flow well. Gone too far with the water? Just add some additional powder. There is no such thing as over mixing. You can mix as long as you are willing. Some other items that work very nicely to mix and blend are submersible gravy blenders, milk frothers and mixing whisks. There are

even mini stainless steel whisks available. Select and use tools you can dedicate to your painting. Even though you can clean your mixing tools, applicators and containers with soap and warm water, I recommend that you never use them for food service again after using them for paint. Just a safety precaution. Should you find you want thinner or thicker, you can easily alter your mixture on the fly as needed. If you are going to spray your paint, you'll be using the sprayer viscosity cup to determine the proper dilution. Regardless of your application method, once your paint has been mixed to your viscosity needs, set it aside for 15 to 20 minutes prior to using. After this 20 minute rest for the paint, stir again to be certain it is uniformly dispersed with colour and free from thick areas.



The traditional milk paint colours are often painted right on the packaging. By their nature, they are matt and usually traditional colours



Modern latex versions of milk paint have a more extensive colour selection and are often more of a semi-matt or gloss



Traditional powder milk paints are sealed in an air-tight package. Careful opening allows for resealing to help with long term storage



My preferred mixing containers are plastic with a tight sealing lid. No difficult corners when mixing and good sealing for overnight storage

Brand choices

My intent is to open your horizons to using colours and techniques available with milk paint. There are many brands of milk paint powders on the market as well as the modern latex 'milk paint' products. Because this article is about technique and not brand critique, my illustrations show the two brands that I personally use and am most familiar with. They are well-known and respected brands that are both readily available at my local retailer. While I enjoy working with each of these and am pleased with their results, please do not construe their presentation here as promotion of them over the other brands that are available in the marketplace. Your area merchants may have these or other brands available for your selection. Get their advice and select the brands that you wish based on that advice or your own experimentation.

Preparing the paints

If you have opted for the canned version of modern milk paint, your preparation is identical to other canned paint products.

Be certain to mix well by shaking and stirring. You'll need to thoroughly mix any components that may have settled to the bottom. I find that the only way to be certain all settled materials are incorporated is to mix and stir with sticks. Shaking helps but until you stir across the bottom and into the corners, you aren't certain you've mixed thoroughly. Once completely mixed, you are ready for application of the paint. You can thin the viscosity as needed by mixing in additional water. This is especially important if you will be spraying the paint. Airless, HVLP or traditional paint sprayers will require different viscosities so tailor your paint to your specific spray mechanism recommendations.

For the packaged milk paint powders, most have very similar instructions but be certain to read those for your specific product carefully. Follow their advice for best results. My experience with my particular brand is to open the sealed packaging carefully in order to minimise spillage and airborne dust. I tend to snip off just the corner below the heat seal to allow me to dispense the powder carefully.



Modern latex versions of milk paint have a more extensive colour selection and are often more of a semi-matt or gloss



Most powder to water ratios are 1:1 or 1:1.5. Mix your powder with warm water adding the water in small quantities until desired viscosity is reached



Depending on the quantity to be mixed, ice lolly sticks, whisks, milk frothers and gravy blenders can be brought to bear

Preparation for and applying paint

Milk paint loves to be painted on to bare wood. It will wick into the wood and give you a bond that will take a chisel to separate. Prepare your surface for painting by sanding to the desired grit and cleaning away any dust. Because milk paint will completely obscure the surface, you don't need to sand to 400. Sanding to 220 is more than adequate

with cleaning afterwards. Tack cloths aren't recommended. You can blow away the debris with compressed air or use a 50/50 mix of denatured alcohol and water on a cloth to clean the surface. Once dry, you can apply your first coat. No primer or other treatment is required beforehand. Regardless of the brand or type of milk

paint, you can use almost anything to apply it. Depending on the size of your project, you can select anything from acid brushes to industrial paint sprayers. Regular household paintbrushes do nicely as do machinist's chip brushes. You'll find that foam applicators work very well too. Because milk paint is water soluble and cleans up easily with

warm water and a bit of soap, you need not fear using good brushes provided you clean promptly after use.

Apply your first coat in even strokes with the goal of not revisiting any area. Trying to 'fix' areas will lead to trouble. Keep your



Milk paint can be applied with almost anything. The cheapest acid or chip brush to the finest artist brush will work. Properly thinned, it can be sprayed

wetted edge moving forward and apply liberally as you go. The paint will flow out and there is no need to cover in one coat. You'll be adding multiple coats so don't agonise over areas that show through. Let the painted surface dry for a couple



Milk paint loves bare wood. Once dried into the pores, it becomes nearly impossible to remove. Your lathe is a great workholding tool

of hours. This depends on the temperature and humidity but a couple of hours drying time is a good starting point. It will feel dry to the touch very quickly but don't succumb to the temptation of beginning your second coat too quickly.



Milk paint often requires more than one coat. Plan on it and just apply generous even coats without touching up



Sealing a paint can well will provide years of shelf life. Never hit it directly with a hammer. A piece of wood will prevent damage to the lid



Milk paint powder will keep indefinitely if you seal it well keeping it from heat, humidity and light. The original packaging in a glass jar works well



Storage of mixed milk powder paints is best done in a well sealed container. My mixing containers can be sealed and stored in the refrigerator overnight

Additional coats and more

Once you've given your prior coat a couple of hours to fully dry, feel free to apply your next coat. This process can be repeated as many times as you need to get the coverage you want. Apply a generous coat letting it flow out and continually progressing without retouching. Let dry and repeat if desired.

Single colours work fine but the beauty of milk paint is the rustic look, which is achieved by using two or more colours. A base colour that would appear much like a primer colour is used with a contrasting colour painted over the top. That top colour is distressed enough to show the colour

underneath. The areas for distressing, often simply sanding, are areas that would be high wear in repeated use. You can create that well-worn antique look with freshly applied milk paint using the proper technique. No need to wait for those many years for the paint to wear through.



After about two hours, depending on temperature and humidity, you can apply your second coat whether the same or another colour



The key to success with milk paint is patience. Repeat coats to build to the coverage and thickness you desire



With a two-colour painting, a light sanding in areas that would be high wear will produce a rustic, well-worn look without years of waiting

Storage of milk paints

The canned versions of latex style milk paints are stored standing upright, tightly sealed, and kept above freezing. Should they thicken over time, you can rejuvenate them by adding and mixing in water. Mixed traditional milk paint has a very short shelf life. Depending on the brand and to whom you listen, it can be overnight to a week. I've been successful at keeping milk paint usable into the next day by

covering it tightly and storing it in the fridge. Of course, it needs to be warmed the next day prior to use. The paint will require mixing again and may require additional water. Because I plan and work in small batches, I've never had the need to store longer than overnight. On long projects where I am using a certain colour over extended time, it is only the remnants of the latest batch that might be in storage overnight.

My recommendation is that if you need to store longer than that, you are mixing far too much at one time. Mix in smaller batches and don't use anything older than a day or two on a project you care about. Unmixed powder milk paints should be stored sealed from the air in a glass jar or well sealed plastic bag. Keeping them from air, light and moisture will let the powders keep almost indefinitely.

Distressing



Once you get started with milk paints, the techniques to age, antique and distress them will provide you with plenty to explore



A top coat being applied that will be flecked once completed and dried. There aren't any hard and fast rules. Experiment

One of the neatest features of milk paint is how it looks when old and well worn. If you don't want to wait for the 20 or 30 years of wear to occur, you can give it a hand by distressing it. If you've opted for a colour over a colour and want to wear through the top colour, a light sanding in certain areas that would see high usage with 180 or 220 grit sandpaper will do the trick. Go easy since it is not difficult to wear through both colours if you aren't careful. One trick to help minimise wearing through the undercoat is to apply a protective clear coat over it prior to the addition of the second colour. Your protective coat should be clear and can be relatively thick providing you

plenty of protection from sanding through the base colour and showing wood. A caution on your selection of clear coat: nearly anything will adhere to your base colour of milk paint but your second colour of milk paint may not adhere well to your clear coat. Milk paint will stick well to other milk paint and to porous surfaces. If you put some type of a slick coat over the first colour, your next milk coat colour may flake off after application. It will do this selectively and randomly. It is an effect you can take advantage of if you wish but if you don't intend for it to happen, you'll need to scuff your barrier coat to provide tooth for the next application of milk paint.

Once you've sanded the corners that will wear quickly, you can protect your milk paint finish with a top coat of protective sealer or just leave it alone. Without any additional covering, you can expect a properly applied milk paint to wear but to last for many years. Used for indoor use as intended, some examples of milk paint have maintained their colour integrity and surface soundness for more than 2,000 years. If you do decide to use a surface treatment for your milk paint, I recommend a satin finish. Traditionally, milk paint exudes a quiet, rural and functional feel. A high gloss, deep look down into type of finish certainly will move a milk paint finish from the traditional place.

Special tricks

You can create a 'peeling' look by flaking off your milk paint surface to expose stained or plain wood beneath. The easiest method to accomplish this is to apply a finish beneath your surface milk paint coat. That surface, depending on the amount of tooth, will shed the surface coat of paint in flecks. You can help the flecking with light use of a putty knife. Once you've achieved the desired look, you'll need to seal it all to lock things in place and prevent additional peeling or flecking. A satin finish top coat of your choice will work nicely for this. You can cause very specific and localised flecking by using some hard wax prior to your surface colour of milk paint. By rubbing a hard wax in the areas where you don't want adhesion, you

can cause the shedding of the surface coat to take place in very specific areas. Cover those areas with a few strokes of the wax bar prior to painting your top colour of milk paint and then coax the paint to flake off with your putty knife after drying. You can use beeswax, carnauba wax or other stick wax you can rub on the surface. A top coat of clear over the finished project will seal things for the long haul. If you want crackling or crazing, there are coatings you can apply between coats that will cause crackling of the top colour of milk paint. In addition, there are a host of glazes, waxes and other special treatments you can bring to bear on milk paints. Once you've got the basics under your belt, you'll certainly want to explore those.



My two 'go to' products. Antique crackle to help control cracking of a surface coat and high performance top coat used as a separator and a top finish

Additional tips and tricks

Here are some additional ideas to help make your milk paint and general painting and finishing a bit easier.



Recrimp cheap brushes prior to use to prevent the shedding of bristles. Milk paint is very forgiving but why deal with stray bristles?



Need a spacer and holder to do the outside of a bowl? Some double-sided sticky tape on the lid of the right sized jar will work nicely



Using aluminium foil in a small dish for your paints and chemicals allows for easy cleanup after a project



Aluminium foil also lends for easy, mess-free pouring of excess back into the container

Conclusions

Is milk paint for you? Depending on what you turn and who your audience is, perhaps, perhaps not. For the rustic look, milk paint can't be beat. Traditional tables, chairs and stools lend themselves admirably. Umbrella stands, hall tables, Windsor chairs, most types of stools and more also lend themselves to the milk paint look. Don't overlook the functional bowls and any 'antique' looking articles needing a finish. The ability to put a very durable finish on your turning with such a simple process is very attractive. Once applied and dried, it is one of the most durable finishes you'll ever find. Short of mechanically abrading away, there is only one chemical I'm aware of that will even begin to help strip milk paint and even that

doesn't remove it. It only makes it possible to begin to strip it mechanically. The unmixed milk paint powders' indefinite shelf life certainly has an advantage in my workshop. The modern latex versions are also easily kept providing you keep them well sealed and above freezing temperatures. Milk paint with water cleanup, no smell and a pretty extensive colour palette makes it a winner. Mix and match traditional and modern milk paints. I've done it with no ill effects. Experiment! Colouring can be another way for you to express your talents in addition to the turning. Milk paint is another method to add some colour to your work. I think you'll enjoy it once you've given it a try. ●



Perhaps you'll never need to create antique, terribly stress cracked, red candlesticks, but knowing how to do it will give you the option