Applying Varnish With a Brush

Successfully brushing varnish begins with a proper varnish brush...

Varnish has been successfully applied with a brush for many years and for many finishers the brush is still the application tool of choice. These finishers will tell you that the brush is the easiest way to control film thickness and, all things considered, the brush is the fastest application technique. Why then are there so many others who complain that they cannot get a good finish using a brush? Why do some finishers swear by the brush while others swear *at* the brush? For these folks the brush produces a finish more reminiscent of a freshly plowed field, or the crater scared surface of the moon. Obviously there must be some secret that the long term users of varnish have conspired to withhold from beginners. It is quite clear that those accomplished in the use of varnish and brush want to maintain an aura of aloof superiority. They are guarding their secrets, and will to the end, so they can continue to look down on those pretenders who would aspire to excel at this age old art.

Not so! The secrets are there for the taking. The only requirement is the acquisition of a few proper brushes, an understanding of the nature of varnish (including what the manufacturers won't/can't tell you), and a bit of practice. In no time you will be brushing varnish like a pro. You too will be able to dismiss bewildered beginners with a wave of your hand and curt "there's nothing to it, really..."

Let's begin with the four important rules, the failure to follow any one of which will result in problems. There are only four ways to introduce air bubbles, brush marks, and craters into your finish; assuming of course that your varnish has not gone bad because of age or exposure to oxygen in a partially filled can. Each of these rules relate to technique. They define:

1. How you treat the varnish in the can
2. How you get the varnish out of the can
3. The brush that you use, and
4. Your brushing technique

When you get these four rules right brushing varnish will become a walk in the park. Brushing will

likely become your preferred varnish application technique as well. Get them wrong and you will continue to curse the brush as a tool of the evil one.

How you treat the varnish in the can...

This is crucial. NEVER, and I do mean *NEVER* shake varnish! Varnish should always be stirred, and stir slowly enough that you don't whip in into a froth. You're not beating egg whites, you are simply making sure that flatting agents in the varnish are thoroughly incorporated into the varnish. So, shaking (or stirring too vigorously) thus incorporating air into the varnish before it even makes it out of the can is not a good plan.

Note 1: For reasons that I have never understood a few manufacturers have seen fit to package varnish in plastic jugs with tiny pour spouts rather than in wide-mouth cans. My first suggestion is that you simply avoid products packaged this way. But, if you must use them, slowly agitate the contents by turning the jug end for end until the varnish is thoroughly mixed. Again, *DO NOT SHAKE!*

Note 2: Gloss varnish has no flatting agents to settle out so it is not necessary to stir varnish with a gloss sheen other than to completely incorporate added thinner. Since thinner will be added after the varnish is out of the can it is not necessary to stir varnish with a gloss sheen.

Decant varnish into a smooth sided container...

Do not apply varnish directly from the can. If you dip the brush into the can and then "scrape" off the excess on the lip of the can you will send a cascade of frothy varnish back into the can; froth that you will pick-up with the next brush load, carrying a cargo of air bubbles to the surface being finished.

It is also important to thin varnish prior to application. Thinning a newly opened can is impossible since there is no room for the added volume of the thinner. Further, thinning in the can is subject to inaccuracies since you cannot easily determine the volume varnish remain in the can. Beyond that, the first coat should be thinned more than subsequent coats. Only by decanting the varnish into a separate container can you accurately add the appropriate volume of thinner. (See *What the Manufacturer Won't Tell* at the end of this article.)

Use a natural bristle brush made for applying varnish...

A varnish brush should have a good "reservoir" (the area within the brush between the rows of bristles intended to hold finish) so as to allow you to "flow-on" a good quantity of varnish before you need to return to the container for more. NEVER use a synthetic bristle brush, a "foam brush" or a paint pad.

Simply because the manufacturer says the brush can be used for varnish does not mean that it is a varnish brush. A good test of a proper varnish brush is to dip the very tip into mineral spirits. If the brush wicks the mineral spirits up into the bristles, it is a good brush. The higher up the bristles and the faster the wicking action the better the brush. Really good brushes (See Photo) wick the liquid up the inside of the brush (through the reservoir) so that it first appears at the ferrule of the brush and then flow back down the outside. I prefer a "badger hair" brush from Redtree, but other good alternatives are available.

Finally, apply the varnish by “flowing” it on in one direction. NEVER brush back and forth. If you are right-handed begin at the left of an imaginary area about 12" to 18" square. Make a single long stroke from top to bottom (across the grain) of your “square” applying light to moderate pressure. The bristles of your brush should flex slightly. They should not bend to the ferrule of the brush. Then, returning to the top of your initial brush stroke and using the same brush stroke, begin to drag the varnish with the grain (working from left to right) until you have filled in your imaginary square. Move the brush slow enough so as not to incorporate air bubbles into the the finish. When you have “roughed in” the entire area go back to the starting point and, working across the grain, “tip off” the varnish with very light pressure so that only the tips of the brush are in contact with the finish. Continue in a slightly overlapping pattern of brush strokes until you have covered the area. Tipping off in this fashion further levels the varnish and breaks any air bubbles that may have become trapped in the finish. Again, move the brush slowly. When you have covered the area, move to your next imaginary square and repeat the process. Continue moving from left to the right until you reach the right side of the piece.

When you have filled all of the squares, “tip-off” the entire area you have just covered beginning in the upper left and working across and down (brushing with the grain). This last step will incorporate all of the squares into a single area of finish on which the last "tip off" is with the grain. There should be no brush marks in the film and the last pass should have removed any lingering bubbles. And again, at the risk of being redundant, brush only with the tips.

What the manufacturers won't tell you (because they can't)

Those of you who actually read labels are no doubt aware of the printed admonition on every can of varnish; "DO NOT THIN!" Why? What "rule" of finishing does thinning varnish violate? Not to change the subject, but have any of you ever removed the little tag on your mattress that says "DO NOT REMOVE"? What happened when you violated this command? Nothing, right! Well, guess what, these two bold warnings fall into the same Federally mandated regulatory basket. Both warn-

ings appear because some government agency has determined that they should be there—that you and I are incapable of making intelligent decisions without big brother's help and intervention. Well, I'll remove the little label if I want to; and, I'll thin my varnish any time I choose! Regardless of what it says on the can, always thin your first coat about 20% to 25% and all subsequent coats 5% to 10%. Thin AFTER you have decanted the varnish into the application container as described above.

The "DO NOT THIN" warning printed on the label is a requirement of the various "clean air" acts passed by congress. It relates to the release of VOCs (Volatile Organic Compounds) into the air. In order for manufacturers to be in compliance with these regulations varnish has been carefully formulated using precise amounts of less volatile thinners. In some cases the actual amount of thinner (by volume) has been reduced. All of this is fine and the goal is admirable; but, like most regulations the model is based on a one-size-fits-all approach. This approach completely fails to take into account the various and varying conditions under which finishing must take place. Remember, the whole point of thinner in varnish in the first place is to make it easy to spread. Without the thinner it would be an unusable, sticky goo. Even in the days before VOC regulations when the preferred thinner was turpentine and the petroleum based thinners used by the manufacturers were far less refined than they are today the old-timers would still thin varnish to adjust flow-out to current temperature and humidity conditions.

By thinning as we have recommended you are simply adjusting the viscosity of the varnish. Added thinner makes the varnish easier to apply by reducing the viscosity so that it will flow out and level better thus allowing air bubbles to float to the surface and pop before being encapsulated in the curing film. Brush marks also level faster when the varnish is properly thinned.

I suggest that you thin with mineral spirits and not naphtha, a more volatile (faster evaporating) thinner. Thinners that evaporate too quickly defeat much of the purpose of thinning in the first place. The fast drying varnishes sold today are already formulated to dry very quickly. Thinning with naphtha can significantly reduce "open time" and make applying the finish more difficult. In fact, when I am applying varnish to a very large surface, for example a dining table, I will often thin with gum turpentine to slow the drying rate and improve flow-out even more. The objective, contrary to popular opinion, is not speed; the objective is a quality finish.