

# Small Shop - Big Results



## Preparation for a Beautiful Brushed-on Varnish Finish – part 7

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For those of you who have been faithfully reading each segment of this series, the question has probably occurred to you – “How long does all of this take, anyway?” In figuring a price (or a ballpark figure to give the customer, if you charge by the hour), it is essential to have a good idea of the investment of time that you will be looking at. In our shop, I know from experience that a refinishing project (without any other work being figured in, such as pinblock replacement, restringing, etc.) will take somewhere between 60 and 120 hours. The difference has to do with the ornateness of the case, the number of pieces that the case breaks down into and the amount of damage to be fixed before the finish can be applied. When I give a price for the job ahead of time, I look the case over very carefully and adjust my figure based on these factors. With the basic pricing schedule I use as a starting point in figuring the cost to the customer, we usually end up earning \$28 - \$33 hourly for labor. Not what tuning brings, certainly, but enough to justify working in the shop for a change of pace (Photo 1).



*Photo 1: The beauty of the work – more than just a paycheck*

Plus, most of the jobs that we often do in conjunction with refinishing come out much better per hour. A repinning job done in our shop, for example, without new strings or pinblock, works out to \$75 per hour, figuring 12 hours of work at a charge of \$975. (Using this rate, a complex refinishing job on an upright taking 120 hours would have a

labor tab of \$9000 – prohibitively pricy for rural Iowa.) Rarely, however, do we just refinish a piano. It all comes out in the end, as the saying goes.

Assuming then that you've followed all the procedures explained in previous segments of this article, and that the body of the piano and all the parts are prepped and stained, you are nearly ready to begin with the application of the final coats of finish to achieve that end results. Just a few last details remain to be attended to.

The evening before applying the first coat of varnish, clean the shop. Vacuum the floors, the shelves, light fixtures, etc. Using the vacuum hose and brush attachment, go over every inch of the body of the piano, and all the pieces that are arranged on your piano trolley or shelves. The bench where the varnishing takes place, the window sill behind it, and all the tools around it get special treatment with the vacuum. A fresh layer of newspapers is spread on the bench top (Photo 2). Generally, one of us will spend an hour or so cleaning the place up in advance of applying the finish. It pays off.

If it is winter and you live in a cooler zone, turn the heat up ahead of time warmer than usual to expedite drying. The longer it takes for the finish to dry, the more dust in the air has a chance to settle and adhere. Having done all the prep work, button up your shop for the evening to let any dust in the air settle. You are good to go for the next morning.



*Photo 2: Everything cleaned and ready to go*

If you haven't been shopping for the supplies which you will need, now is the time to do that. I've said nothing to this point concerning specific products to use for the final finish. As I mentioned in the article about strippers, opinions vary, but what we've used for the last 20 years in our shop for a finish is the Minwax® brand of polyurethane (technically not varnish – but referred to as such by many refinishers and even woodworking magazines and catalogs). We begin with two coats of the gloss finish for hardness, and end with a final coat of satin to cut the glare. The results we get with this are beautiful. (There are other options available that you might want to consider as to your choice of a finish to apply. More discussion will be given about this at the end of the article). For a brush, we use an inexpensive 1 ½" 'Wooster'® brand varnish brush sold at Wal-Mart®. Years ago, I would regularly buy the most expensive all natural bristle

brush I could find, but I find that these less expensive brushes are great. They hardly ever shed (ironically, with the expensive brushes I was forever picking bristles out of the finish), and they are inexpensive enough that I buy them by the boxful. We'll use one on a piano, and then discard it. Everything you should need is contained in the following list.

**Materials list:**

- 1 quart gloss Minwax® polyurethane (or similar product)
- 1 quart satin Minwax® polyurethane (or similar product)
- 1 or 2 quarts Minwax® PolyShades® (or similar product)
- 1 package 400-grit wet / dry sandpaper
- 1 package 500-grit wet / dry sandpaper
- 1 package 600-grit wet / dry sandpaper
- 1 package 0000 steel wool
- Tack cloth
- 1 ½" Wooster® varnish brushes
- Gallon paint thinner
- Foil
- Newspapers

Finally, before beginning in on the set of steps which you will be following in the finishing process, it is helpful to make a checklist (Photo 3) of all the parts and steps which are to be completed. That way you can keep track of where you are at for each individual piece. One firm recommendation is to complete each step for every piece before moving on to the next. When you have a project in a variety of stages it is both inefficient (sanding parts while varnish others doesn't work well, for example) and confusing.

Wellington (Cable)	1st Buff		2nd Buff		3rd Buff		Polish	
	400	500	400	500	400	500	600	600
Key Block - L	✓	✓	✓	✓	✓	✓	✓	✓
Key Block - R	✓	✓	✓	✓	✓	✓	✓	✓
Leg - L	✓	✓	✓	✓	✓	✓	✓	✓
Leg - R	✓	✓	✓	✓	✓	✓	✓	✓
Front Post - L	✓	✓	✓	✓	✓	✓	✓	✓
Front Post - R	✓	✓	✓	✓	✓	✓	✓	✓
Top Rail	✓	✓	✓	✓	✓	✓	✓	✓
Music Desk Rail	✓	✓	✓	✓	✓	✓	✓	✓
Music Desk	✓	✓	✓	✓	✓	✓	✓	✓
Lid - bottom	✓	✓	✓	✓	✓	✓	✓	✓
Lid - top	✓	✓	✓	✓	✓	✓	✓	✓
Front Panel - back	✓	✓	✓	✓	✓	✓	✓	✓
Front Panel - front	✓	✓	✓	✓	✓	✓	✓	✓
Key Slip	✓	✓	✓	✓	✓	✓	✓	✓
Fall Board - support	✓	✓	✓	✓	✓	✓	✓	✓

65 hrs.

Photo 3: A completed checklist – lots of steps

When you are applying three coats of finish to each piece, especially when some of those are being done front and back in separate applications, it is easy to get lost, and to forget exactly what step you are on for all the various parts.

With all the preparations finally completed, all that remains is to choose and apply the final finish coats. To this end, when asked by my project editor to provide a rundown of other finishes available, my first thought was, “Google it!” Upon reflection, however, I thought of a better plan. Instead of trusting what others had to say on the internet (which is notoriously unreliable), what if I were to buy a sample of the various finishes available at local outlets, and put them to the test myself? I decided on 3 criteria to follow in my search for alternatives:

1. The product should be one that is brushed on – not sprayed on or applied with a rag – this is, after all, a series of articles about applying a brushed-on finish.
2. For simplicity sake, the product must be a finish that is applied right out of the can.
3. The product must be readily available at local hardware or home improvement centers – nothing obscure that hardly anyone has heard of.

With those factors in mind, I went shopping. There are, I soon found, a number of alternatives to what I use. Judging from what different stores stock, Minwax® Polyurethane is a favorite, in that it was available in quantity everywhere I went. Some of the other products were available only at certain stores. That being said, I selected six products (Photo 4) to test which are a good representation of the choices available.



*Photo #4: The champ vs. the competition*

1. Bulls Eye **Shellac**, by Zinsser®
2. Clear Brushing **Lacquer**, by Watco®
3. Helmsman **Spar Urethane**, by Minwax®
4. Water based **Polycrylic**, also by Minwax®
5. Bulls Eye **Spar Varnish**, by Zinsser®

6. Satin Polyurethane, by Cabot®

My intent is to apply three coats of each of these finishes to actual piano surfaces (a sectioned keyblock, lid, fallboard and music desk from a parts pianos), and compare through observations and tests:

- A. the ease of application
1. **Stirability:** How difficult is it to stir the product after taking off the shelf?
  2. **Odor:** In applying the finish, is a strong odor an issue?
  3. **Brushability:** How easy is the finish to work with in brushing it out?
  4. **Buffability:** Once applied, how easy it the finish to buff out?
  5. **Appearance:** How deep does the finish appear after three coats?
- B. the resistance to typical damage which the refinisher often has to repair using:
1. **The potted plant test.** How does the lid hold up to an over watered philodendron left sitting wet for a week before being toweled off?
  2. **The burning cigarette test.** How deep does the burn in an endblock go when a cigarette is left to burn itself out?
  3. **The vodka on the rocks test.** Given a mixed drink set down on a hurry on the music desk, with the alcoholic contents sloshing over the side – how does the surface of the music desk look in the morning when the hostess of the party is cleaning up?
  4. **The fingernails on the fallboard test.** We've all seen fallboards damaged by aggressive players who apparently don't trim their fingernails. How does the fallboard, treated with the traditional five coat finish, hold up to such punishment?
  5. **The impact test.** When in the course of moving the side of the piano is banged into by the corner of another large piece of furniture being wedged in beside it in the moving truck, how does the finish hold up?

A detailed comparison of the results for the six finishes to results for an identically done test application of Minwax® Polyurethane will be done. Which finish will prevail? Stay tuned.

Next month – results of the field test of available finishes, followed by a day-by-day rundown of the application process for whichever finish you choose to apply.

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