

Why shellac is a great finish for the ages and a bit of history.

Shellac (The miracle finish of the 21st century)



What did he say? Shellac is a miracle finish? You're kidding, right!? Shellac is...is...well, nobody uses shellac, right? I mean, everyone knows that shellac is an inferior, obsolete finish that they used in the old days because they didn't have anything else. Now that we have *polyoneverythane*—which is all Norm ever uses—why would anyone want to use shellac? I mean, come on; it's made from ground up bugs, or "bug poop", or something like that, isn't it? It's real hard to apply, and if you get it wet it turns white and comes right off! A guy I know who's a real good woodworker told me that it's easy to scratch, it turns really yellow (or is it black) as it gets old, and it can't be used with any other finishes! Why would anyone use shellac...much less call it a miracle finish...?

Is there anything that sounds familiar to you (perhaps something you have said or thought)? Are there any other *myths* or *misrepresentations* you would like to add? Actually, the preceding is a summery drawn from my recollection of comments I have solicited over the years from students attending my classes on shellac. There is, however, one comment that is accurate and worthy of being expanded upon. Shellac was indeed "...used in the old days..." In fact, its documented use as a finish goes back over 3,000 years. Further, there is additional documentation that points to the probability of its use many centuries before that.

I've touched on just a few of the common misconceptions that I encounter when I present the idea of using shellac. But the truth about shellac is quite different than the myths that have become *common knowledge*. Of all of the finishes readily available to the average woodworker, shellac is perhaps the most versatile, but at the same time the most misunderstood. In this article, we will examine shellac in an attempt to dispel a few of the many myths surrounding this excellent finish. We will consider a variety of ways that you can use shellac in your shop to improve the quality and durability of your finishes. Clearly, shellac is not the "perfect finish" in every application—no finish is. But it is ideally suited in many applications where I suspect most of you reading this article have never considered it as an option.

Let's begin with our understanding of shellac—what is it and from where does it come. Shellac is, indeed, the by-product of “bugs”. But it is not “bug poop” and it is not ground up bugs. Shellac, or more properly simply “lac”, is a natural resin secreted by a tiny species of insect (*Laccifer lacca*) that is native to India and Thailand. The word “lac” is derived from “lakh”, the Sanskrit word for 100,000, which relates to the large numbers of individual insects found a *Laccifer* colony. The “lac bug”, an insect about the size of an apple seed, spends its six-month life cycle in unimaginably large colonies feeding, and breeding on small, shrub sized trees called “lac trees”. As they feed on the sap of these small trees they secrete “lac” from their bodies much as bees secrete wax. This resinous material becomes the “cocoon”, or shell which protects both the colony and the larva which comprise the next generation of “lac bugs”. After mating and laying eggs, the adults die, the larva pupate and swarm to near-by trees to begin the cycle anew. It is at that point that the lac incrustated twigs are ready for harvest. I also hasten to point out that no insect is killed. The previous generation have all died of natural causes and the new generation does not use the lac incrustated twigs of the previous generation. Now I ask you, can we get any more *environmentally responsible* than that...

Harvest is not all that sophisticated—natives simply gather the lac incrustated twigs called *sticklac*. These twigs, numbering in the millions, are then bundled and sent to primitive *factories* where the lac crust is scraped from the twigs. This *grainlac* is then soaked for several hours in large earthen jars filled with water. These large, cup shaped jars have a rough, serrated interior which is key to the next step in processing. A worker gets into the jar and begins to rub the grainlac against the edges of the jars with his feet in order to break open the granules and release the incrustated insects and tree parts, along with some of the natural dye found in shellac. The crudely processed grainlac is then spread in the sun to dry. It is now called *seedlac*, and from this basic material all shellac grades will be processed.

Hand-made vs. Machine-Made Shellac

Once lac is converted to seedlac it is ready to be processed and *graded*. Processing can be by hand in primitive, open-air factories following centuries old procedures; or, by machine in modern factories (most of which are in Germany). Hand-made shellac is less expensive; but the resulting grades lack consistency in color and purity. German machine-made shellac, on the other hand, is very consistent in quality and grade uniformity from batch to batch. Most serious shellac retailers carry both hand-made and German machine-made

shellac in several grades. Seedlac can be a bit more difficult to find. It is ideal for repairing, restoring, or replicating "antique" finishes since it is, in every sense of the word, the same finish frequently applied by cabinetmakers until late in the 18th century.

In its natural state, shellac (seedlac) contains wax. In processing, this wax can be removed or left in. The more highly refined grades are always de-waxed. Some grades, most notably orange and garnet, are available both with the natural wax left in, and de-waxed. De-waxed shellac is usually the best choice for those new to shellac, with the exception of seedlac in applications described above. If you intend to topcoat shellac with a finish that contains urethane resin be sure to use de-waxed shellac. Urethane resin, whether in an oil-based varnish (polyurethane) or a water-borne finish (Polyacrylic) will not properly adhere to shellac that contains wax.

Shellac, the "Universal Sealer"

Shellac is often referred to as the "universal sealer". Freshly mixed shellac will stick to virtually anything. This includes "contaminants" like silicone, wax, and oils that would cause other finishes to "fisheye". Further, virtually any finish will adhere to shellac. This makes it ideal as a "barrier coat" when refinishing furniture that has been stripped—strippers often leave behind a wax-like residue that can create adhesion problems. Also, furniture care products that contain silicone are all but impossible to completely remove. The silicone left behind will again create adhesion issues that may result in fisheye. A two-pound cut of super blonde shellac applied before the topcoat will seal in the contaminants and eliminate these concerns. The light color of the super blonde grade will have almost no impact on the color of the wood beneath.

Also, most so-called "sanding sealers" in the DIY supply chain are nothing more than brushing lacquer with a material called zinc stearate added. Zinc stearate is a soft, soap-like material that is easy to sand. However, the film produced is quite weak and offers little resistance to water-vapor. It literally sucks in moisture like a sponge. As a result, sanding sealers can significantly reduce the moisture blocking properties of your finish. Further, most manufacturers of polyurethane recommend against the use of sanding sealers that contain zinc stearates—urethane resin varnish does not properly adhere to these products.

By comparison, de-waxed shellac mixed in a one-pound cut makes an excellent stearate free sanding sealer. It produces a hard film that sands easily, is highly resistant to moisture (water-vapor) and is compatible with all finishes.

Shellac to “pop” the Grain & Figure

Many of the finish schedules that I propose for figured woods such as curly and birdseye maple, and for figured cherry and similar woods begin with a heavy application of boiled linseed oil, followed by a coat of shellac. Shellac enhances the work begun by the oil and improves the luster of the finish. Shellac is “optically clear”—there is nothing in it that will cloud or diminish the clarity of the grain and figure. Shellac is also color stable—contrary to myth, it does not darken or “yellow” with age. Super blonde shellac applied today will still be super blonde shellac 100-years from now. Further, the “close-to-the-wood” nature of shellac creates a distortion free finish film that “hugs” the wood and magnifies the natural luster (the “chatoyance”) of more highly figured woods. (Contrast this again with “fluffy” soft material such as commercial sanding sealers which actually diminish luster). Using a shellac grade that still contains some or all of its natural dye can significantly enhance the effect. For example, garnet shellac applied over boiled linseed oil (BLO) on curly maple or figured cherry will enhance the figure as no other finish schedule can ever hope to do.

For added durability you can then topcoat the shellac with an oil-based varnish. The “sealing” properties of the shellac allows the varnish to build on the shellac resulting in a deeper more lustrous finish. Shellac also improves the look of water-borne finishes, especially on darker woods or woods that have been stained or dyed dark.

Shellac as a Finish

Shellac is not only an excellent component to just about any finish schedule, but it is also an outstanding stand-alone finish. Again, contrary to persistent myth, it is extremely easy to apply so long as you keep its properties in mind and avoid the temptation to treat it as varnish, lacquer, or a water-borne finish. It dries by evaporation, and since the solvent is alcohol, the evaporation rate is quite rapid. If you attempt to apply shellac in the same way (or using the same techniques) that you use to apply oil-based varnish or water-borne finish you will be extremely disappointed. Shellac can be brushed, padded, or sprayed. If you spray be careful not to apply too much. Unlike other finishes, shellac does not benefit from multiple coats.

Shellac as a Grain Filler

When one wants a “glass-smooth” finish on a medium to coarse textured wood, the first step is to fill the grain. The product of choice is usually paste wood-filler. When working with medium textured species like walnut or mahogany the *sanding slurry* method can be effective. Both techniques, however, somewhat obscuring the clarity of the grain because they fill the pores with a “foreign” material, either sanding dust or a finely milled mineral compound. Wouldn't it be great to be able to fill the grain without diminishing the clarity of the wood, particularly in highly figured woods? If a way could be found to fill the grain so that the pores were filled level with the surface of the finish; but, at the same time one could still see the bottom of the pores, then the “depth” of the finish would be significantly improved.

Well, you can do that! The solution is shellac, and the process is the epitome of simplicity itself. Just mix your shellac in a one-pound cut and apply four to six coats one after the other as soon as the previous coat is dry. Next, sand (using a backer block) or, using a cabinet scraped, scrape the shellac back, either to bare wood, or until the shellac film is uniformly dull in appearance with no small shiny spots (shiny spots indicate pores that are not yet filled to level. Repeat the process until a uniformly "dull" surface is achieved and then topcoat with your preferred finish—I'm partial to an oil-based alkyd or phenolic resin varnish.

So, what are your thoughts about shellac now? Other than shellac being an ancient carryover from the “old days”, have I missed anything. Hum...perhaps the old days weren't all that bad.

Shellac Sources

[Shellac.Net](#)

[Shellac Shack](#)

