

A top-down photograph of shellac products on a light-colored wooden surface. In the upper half, several dark, circular shellac discs are scattered, some showing faint embossed text. Below them is a large pile of translucent, yellowish-brown shellac flakes. At the very top and bottom edges, there are small piles of dark, granular shellac particles. The text 'SHELLAC' is overlaid in a large, white, serif font across the middle of the image, with 'HANDBOOK FOR FRENCH POLISHING' in a smaller, white, sans-serif font directly below it.

SHELLAC

HANDBOOK FOR FRENCH POLISHING

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welcome



I created this Handbook to give you quick access to Shellac recipes, applications, tips, and more that I believe will give you a solid understanding of Shellac itself, the materials involved, and how to make it.

I know from experience that when you're starting out with French polishing and working with Shellac, there's a huge learning curve covering everything from understanding the types of Shellac, how to mix it properly, and of course learning the technique, especially if you're just going by trial and error like I was in the beginning.

I hope this Handbook is a helpful reference for you as you work toward improving your French polish Shellac finishes!

Tom Bills

Tom Bills - Luthier
tbguitars.com



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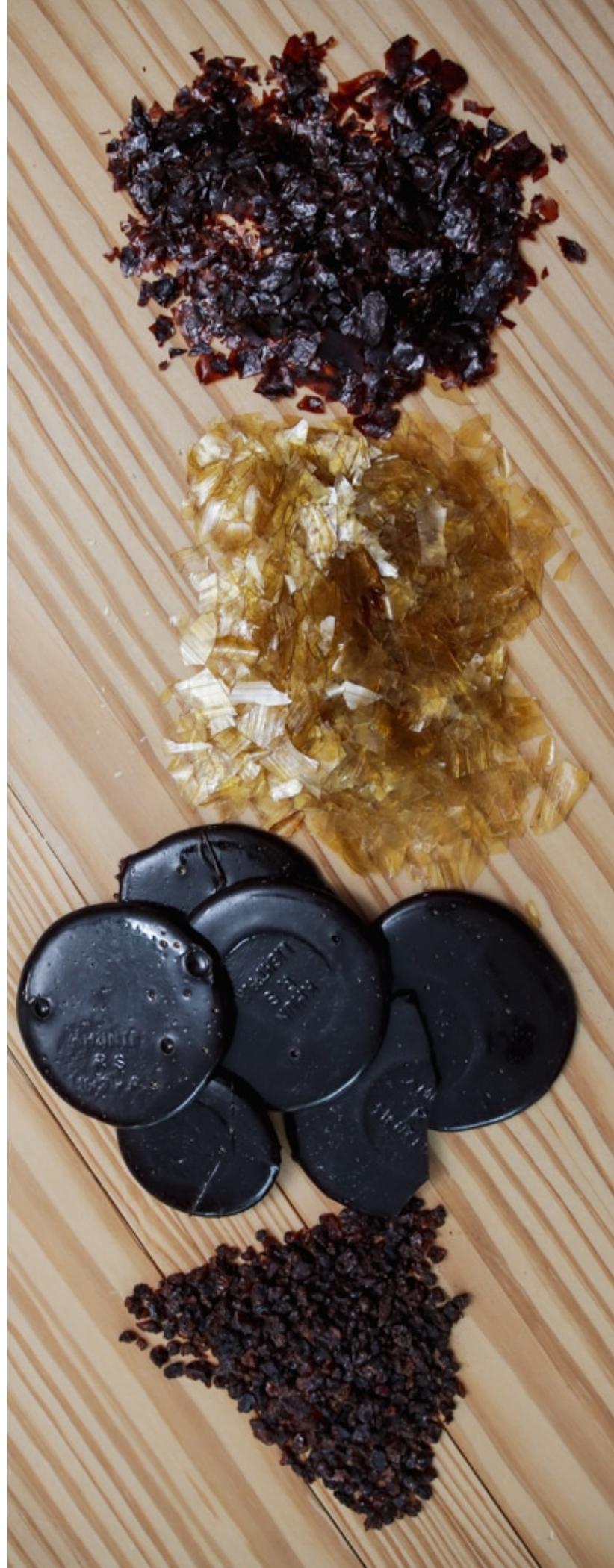
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01 SHELLAC & FRENCH POLISHING

French polish or French polishing refers to the art of using what is known as a pad, rubber or muñeca constructed usually of cotton cloth wrapped around some type of core material to apply a finish to a wood surface by rubbing.

So the term French polishing is actually referring to the physical act and technique of applying the finish, rather than to the type of finish itself.

The technique of French polishing with Shellac resin was refined in France during the 18th century. Even though a Shellac French polish finish is more labor-intensive and more delicate, it is considered a superior finish for guitars to this day.

After years of testing different guitar finishes, French polishing with Shellac is still my preferred method of finishing my handmade guitars.

*We cover my process for this in the [Luthier's EDGE online training courses](#).

FRENCH POLISHING

Three-Step Process

I approach French polishing in three main steps; without the proper technique and attention to each step the whole process will not be as good as it could be. We will be focusing on the Shellac here in this handbook, however, you can learn more about the wood preparation and French polishing technique in my course, [The Art Of French Polishing](#).



NOTES

1

Spending time properly preparing the wood surfaces is critical to the quality of your finishing work regardless of the type of finish you use, and is especially so with a hand-rubbed Shellac French polish.

2

Properly preparing the Shellac is key to making all phases of the process faster and turn out better. The correct recipe of resin to alcohol, type of alcohol, and use of oils will make the process and final results better.

3

The last key element is the technique used to apply the Shellac in each step: Sealing, Pore Filling, Bodying, and Rubout. See these free videos for more and for an even more-in-depth training, see the full course.



02 TYPES OF SHELLAC

Shellac is a natural resin made by the Lac beetle when it feeds on the sap of several different types of trees in India and Southeast Asia.

The Lac beetle forms a shell in which it will lay eggs that are made of Lac. The process of harvesting and collecting Lac begins as the trees are infested with Lac beetles that build their shells on the branches of the tree, which are then scraped off with a hot knife and collected.

The rough material collected for the initial harvest is called stick lac because it contains a lot of sticks and dirt, dead bug bodies, etc. The stick lac is then refined to produce what we know as Shellac.

There are several different types of Shellac that are commonly used, each with its own unique properties and each requiring subtly different methods of preparation before they can be used for French polishing.

Seedlac

As you might guess by the name, the seedlac resembles tiny seeds of resin. There is still a good amount of wood chips and bugs in it at this raw stage, but it is great for French polishing after being dissolved and filtered. Seedlac has a strong reddish-brown color and I find it critical to do a decolorizing treatment to reduce the strong color just a bit. This makes it less harsh and easier to work with and apply evenly. It can produce a very warm natural color and looks great on Maple and Spruce.



Button Lac

The next stage of handmade Shellac is button lac. It is made by filling long, cotton bags with seedlac. The bags are held over a fire to be heated, and the hot Shellac is squeezed through the fibers of the cloth bag, depositing onto the ground large drops of shellac that resemble buttons. Button lac is one of my personal favorite types because that extra heat forms a tougher, more impact-resistant coating due to the resulting polymerization that occurs from the heating process. Dewaxing this type is very important and can take time though.

Flake Shellac

Using other hand methods, the Shellac resin can also be dissolved in alcohol, filtered and poured out onto huge pans to dry, letting the solvent escape. It can even be stretched out into a thin sheet while still hot, which is common in handmade Shellac production. Once the thin sheet of shellac resin has hardened, it can be shattered and broken into the Shellac flakes we commonly see when purchasing flake Shellac.

Today, most commonly the Shellac flakes are commercially produced in factories using

various methods for dissolving and filtering, some of which compromise the gloss, durability and purity of the final flake Shellac. Therefore, I try not to use any commercially produced shellac flakes, if possible.

The stunning and unique colors of different Shellacs for French polish are a result of several factors. One of the contributing factors in producing the many beautiful shades of Shellac is the season in which the Shellac was harvested. For example, summer shellac, known as Bysakhi, will be a very dark and intense color, while the winter harvest, called Kusmi, will be more caramel-colored and much lighter.

For me, the main factors in choosing which Shellac to use are very much about getting the right color for each guitar to unify the design and bring out the best features of the specific woods. In the case of button lac, I like to use it in hopes of getting just a tiny bit of extra durability to the final surface, though it does take much more work to dewax than the other types of Shellac.



03 TYPES OF ALCOHOL

There are several different types of alcohol that can be used for formulating French polish with Shellac, and each type of alcohol will produce subtly different results in the French polish finish.

Many people choose the type of alcohol they use for French polishing based on which one is the cheapest, but what they don't realize is that to do so might be compromising the look of their finish (and introducing possible health concerns).

Each type of alcohol, and even different brands of the same type of alcohol, will have different effects on the Shellac resin.



The most striking difference is in color. If you start with a nice Kusmi button lac and dissolve it in denatured alcohol, you will get a very yellow and weak-looking color that lacks "fire", as compared to the same Shellac mixed with Ethanol such as Everclear.

Alcohol For Shellac

Both of the types of alcohol listed below will work fine for making shellac and French polishing however I recommend using pure ethanol for the reason listed below. I do not recommend Isopropyl alcohol, though, because I feel it does not dissolve the Shellac as well and gives an even paler color.



Ethanol

I use only pure ethanol (Everclear 190 proof) for my Shellac French polish finishes. It is more expensive and harder to get in some places, but it has the least amount of potential health risks and also results in the warmest color with more dichroism and Chatoyancy in the final finish.



Denatured Alcohol

This is usually the cheapest type, used by most French polishers, but it will result in a more pale color of Shellac and can present potential health risks. Many denatured alcohols, also known as *methylated spirits*, usually contain chemicals added to make them poisonous to drink, and methanol or wood alcohol, can cause blindness and other health problems.

Note: If denatured alcohol is the only alcohol you have available, it is OK to use it and can get great results. I recommend that you look up the material safety data sheets online to see the ingredients (Google the brand name + "MSDS") and look for the brands that have the most ethanol and the least methanol in the mix.

04 TYPES OF OIL

The final essential component in the formula for a beautiful and durable French polish finish is oil. French polishers use many different oils, but the most commonly used oil, based on my experience, is olive oil.

The second would be mineral oil, followed by walnut oil. Different oils bring different properties to the finish during the application, and to the long-term properties of the finish itself. There are two basic types of oils: drying oils and non-drying oils.



Non-Drying Oil

A non-drying oil will not polymerize and will remain somewhat fluid and continue to migrate indefinitely. Olive oil and mineral oil are in the category of non-drying oils.

The non-drying oils are great for facilitating the application of the Shellac with a pad via the French polishing technique. A small amount can be added directly to the pad to increase the lubrication between the pad and the finished surface, enabling the finisher to apply more finish with each session, producing a smoother surface texture and polish.



Drying Oil

The drying oils, such as walnut oil, will fully polymerize and become a permanent part of the Shellac finish itself.

The function of this type of oil is three-fold:

1. **Flexibility** - First is adding flexibility to the finish and acting as a plasticizer in the formula of our Shellac and alcohol mixture. This will help the finish to move with the wood as well and prevent checking.
2. **Gloss** - Second is increase the gloss of the finish and enabling the finisher to get a rich and lustrous sheen that will not dull and flatten, as would a shellac finish without a drying oil.
3. **Solvent Resistance** - An added bonus of using walnut oil as a plasticizer is that once it fully polymerizes, there will be an increase in solvent resistance, because the polymerized walnut oil component of the finish has no solvent.

Different finishers have personal preferences in using different oil types, so you'll need to experiment to determine which oils work the best for your technique and applications.

For example, I use both walnut and olive oil in different ways throughout the French polishing process for specific purposes aimed at producing the highest-quality, most beautiful and best-sounding finish possible.

05 BASIC SHELLAC RECIPES

Below are the two basic mixtures of Shellac that I make in order to keep things simple and enable me to easily make small amounts of Shellac at the proper strength for quickly building finish on the surface of my guitars without the guesswork. (Ratios are measured by weight)



Bench Cut - 25% Strength

This is my version of the 2 lb. cut that most people talk about. I learned this simplified method from my mentor Eugene Clark. Thinking of it as a 3-1 ratio (3 parts alcohol to 1 part shellac resin by weight) takes out all the confusion and results in a mixture that is just the right strength for building body coats of Shellac quickly.



Sealer Cut - 10%-15% Strength

This is my version of the 1 lb. cut and again I was taught this by Eugene Clark. Just take the 3-1 Bench cut and add an equal amount of alcohol to it. It comes out to about a 6 to 1 ratio (6 parts alcohol to 1 part Shellac resin). I say "about" because I just pour some alcohol in by eye to get this mixture since it really doesn't need to be that accurate and is mainly used for the sealer coats.



HOW TO MAKE SHELLAC

Prepare Materials

1

After choosing your Shellac, it should be weighed and ground if needed. Bottles must be cleaned with alcohol to prevent contamination.

Dissolve in Alcohol

2

The proper amounts of Shellac resin and alcohol are added according to the ratios provided in the recipe section of this Handbook (25% or 3-1 Alcohol To Shellac) is what I use.

Filter The Shellac Mixture

3

After the Shellac is allowed to dissolve thoroughly, it should be filtered to remove any wax or other debris that is in the solution.

Optional Decolorizing

4

I decolorize my Shellac to subtly adjust the color and remove the harsh yellow tones creating a warmer color. Learn this technique in [The Art Of French Polishing course](#).

Let Settle & Then Decant

5

For best results give the shellac extra time to settle and let any leftover debris or wax fall to the bottom. Then decant the remaining mixture to a new bottle and it's ready.

07 PROS & CONS OF SHELLAC

Is a French polish of Shellac finish the right fit for you and your guitars? I put together a simple pros and cons list below to help you decide. Your results will be better if you fully get settled and commit to the process, rather than second-guessing things once you start.



Beautiful color, brings out the best of the wood's grain.



Very easy to repair



Non-toxic materials that are much safer than most finishes.



Requires very few tools and minimal space to apply.



Application process is quiet and enjoyable



Less durable and easier to damage than modern finishes



Quality heavily depends on the technique of application



Technique is harder to master without the proper instruction

08 TIPS & FAQ'S

Below you can find the answers to some of the most common things I get asked about Shellac and French polishing.



For sealing the guitar - Use 10%-15% Sealer Cut



For building the body coats - Use 25% Bench Cut



For pumice pore filling - Clear the pumice with 25% (see [the course](#) for more on this technique)



Shellac types can be blended to get different colors



Discard Shellac older than about 3 months



If De-waxing, add extra resin to account for the weight of the wax content that will be removed - better to make it strong, you can always add alcohol later

09 LINKS & RESOURCES

The Shellac Shack

My preferred source for quality Shellac flakes and button lac.

[CLICK HERE](#)

Shellac.net

Great source for seedlac and other Shellacs too.

[CLICK HERE](#)

Digital Scale

A must for accurately weighing Shellac and alcohol.

[CLICK HERE](#)

4 oz Shellac Bottles

The best bottles for shellac, just the right size with great caps.

[CLICK HERE](#)

Mixing Jars

Any jar will do, but these are a good size and have a good lid.

[CLICK HERE](#)

Pumice For Pore Filling

I prefer a more coarse pumice and find it fills better.

[CLICK HERE](#)

Coffee Bean Grinder

A huge time saver for quickly making flake Shellac.

[CLICK HERE](#)

Magnetic Stirrer

You can fully dissolve most Shellac within a few hrs. using this.

[CLICK HERE](#)

Tongue Depressors

I use these for mixing and also for color testing my Shellac.

[CLICK HERE](#)

Coffee Filters

Great for de-waxing button lac and general filtering of all types.

[CLICK HERE](#)

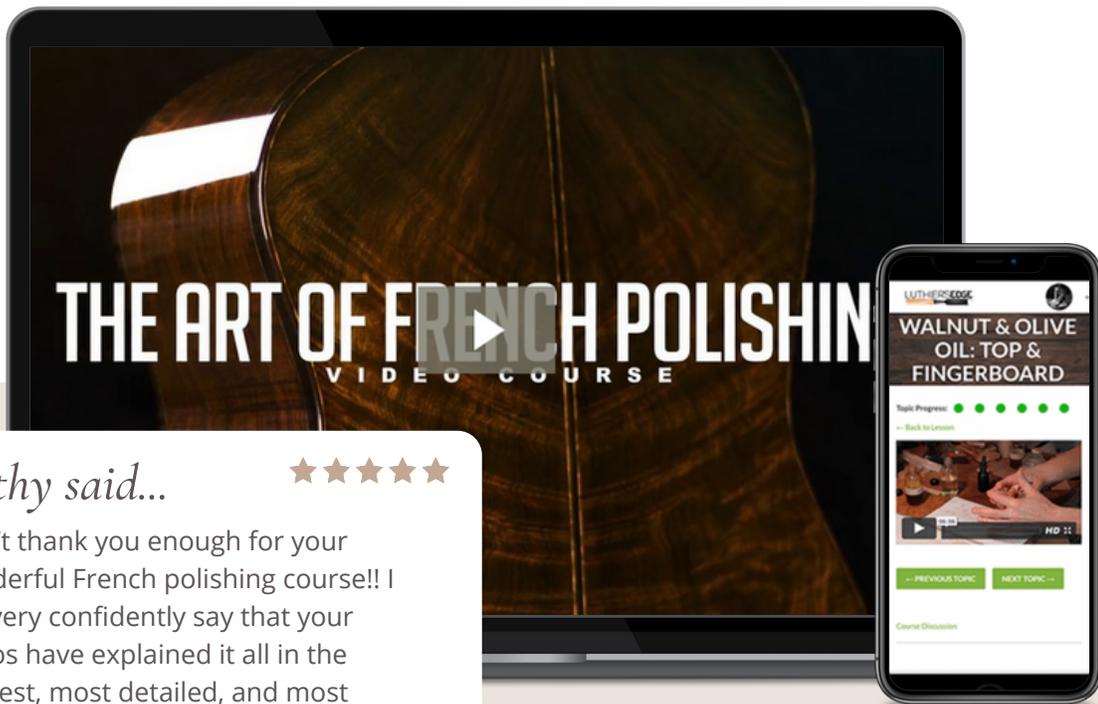
Paper Towels

The only paper towels I use for blotting and polishing.

[CLICK HERE](#)

10 LEARN FRENCH POLISHING

The Art Of French Polishing *online course*



Kathy said...



I can't thank you enough for your wonderful French polishing course!! I can very confidently say that your videos have explained it all in the clearest, most detailed, and most practical way!!!



French Polishing Doesn't Have To Be Hard!

You can learn how to produce beautiful shellac finishes on your guitars when you have the right instruction to guide you.

LEARN MORE

LUTHIER'S EDGE™



ONLINE GUITAR LUTHIER SCHOOL

*The Art Of French Polishing Course Is Included
With A Luthier's EDGE Membership!*

READY TO GET STARTED?

The Luthier's EDGE is designed to help you shorten your learning curve & avoid costly mistakes with the training and personal support to help you build your first guitar or take your current guitars to the next level. All from the safety of home without the hassle and expense of traveling.

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