

Natural Timber Finishes

Simple recipes and guide

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This document describes a couple of natural finishes for enhancing and protecting your woodwork.

Timber finishes enhance and protect your woodwork from the rigors of use and the elements. Making your own finishes gives you the satisfaction of knowing that every step of the carpentry process is owned and controlled by you. It can also be a much cheaper alternative to using store bought finishes.

Different Methods

In the world of timber finishes, there are a couple of different methods of protecting your work. These are basically separated into the spirit based and the oil based.

Spirit based finishes have the benefit of being applied to the surface of your work and build up in layers to give a high sheen result. Spirits evaporate when exposed to the air and will deposit a permanent layer that will tend to harden on the surface.

Oil based finishes have more penetrative effect, deeply entering the natural pores of the timber. The oils fill the pores and make it difficult for moisture to penetrate. On the downside, oils must be applied over a longer period in multiple applications to be effective. Also, it is important to reapply the finish regularly to maintain the finish. The reapplication schedule is very much determined by the use and exposure of the piece.

In both cases, oil and spirits, there is a further sub-group, resinous and non-resinous. Natural resins such as shellac and timber resins are applied to deposit a layer of material that will fill the pores of the timber with a hard and durable finish.

Resinous finishes

Shellac

Shellac is made from the resinous exudates of the female lac beetle (the same animal that cochineal is made from) found in India and Thailand. The lac beetle exudes a resinous material to form a cocoon and this same material is exuded almost constantly by the beetle as it consumes the sap of the trees it parasitises. This is mixed with denatured alcohol to make a liquid. Shellac is used in many industries: as a coating for pharmaceuticals and confectionary (such as Skittles); as a building material (there was once a whole palace made out of shellac!); as a timber finish (French polish); as well as in dental and jewellery construction (cassone).

The exudates are collected from the trees and dried placed into a canvas tube where it is heated until it liquefies. The liquid is then poured into buttons to dry. These buttons are then crushed and added to denatured alcohol to make liquid shellac.

In the context of timber finish, shellac flakes are mixed with denatured alcohol. Typically, this is a ratio of 1:20 (shellac to denatured alcohol, a mixture of ethanol and methanol).

Shellac is a finish that is applied by adding a small amount at a time to a rag and then rubbed into the timber. When the application is dried, the surface is rubbed down with

very fine steel wool in between applications. The number of applications used determines the final finish, colour and lustre of the finish.

Lacquer

Traditional lacquer is a product made from plant resins mixed with spirits. Modern lacquers are not...

The easiest traditional lacquer to make at home is made from pine sap and turpentine. The pine sap is gathered by making a diagonal cut into a pine or cypress tree and then gathering the resulting sap from the wound. The cut should be made through both the outer bark of the tree and the pithy sapwood found under the bark. As trees are largely dormant in the winter months, this is best done when the trees sap is high (summer). The cut should be no less than 4 inches long and can be augmented with a metal "tongue" at the base of the cut that directs the sap flow away from the trunk. This is the same method that is used by maple sugar harvesters. A bucket is placed under the metal tongue to catch the sap.

As with shellac, pine sap is allowed to dry and is passed through a filter (cheesecloth in this case) to remove insects, bark and twigs that will invariably get into the sap when you are collecting it.

Pour the sap through another cheesecloth filter into long strips or buttons to allow for easier management later on. The sap is then left to harden.

The hardened sap is then crushed in a mortar and pestle and added to turpentine (not mineral turpentine ... vegetable turpentine is a distillation of pine sap, so it mixes very easily). The mixture will become quite cloudy. Leave the mixture in a cool dark place until it clarifies (usually about a week, but that depends on the humidity).

Like shellac, natural lacquer is applied in a number of applications with steel wool rubbing in between.

As you apply more natural lacquer to the finish, it will take longer for the surface to dry (because each successive layer softens the preceding layer of lacquer). For example, the first application may take 2 hours to dry, while the 7th layer may take as long as two days. In that time, it is likely that the work piece will get insects and sawdust stuck in the finish.

Non Resinous Finishes

Oils

Oils are usually applied to carpentry that will be used and/or left outside. These are oils that are in a solid or liquid form.

In the case of solids, we are really talking about waxes (paraffin and beeswax). Both of which are applied either hot or cold. In hot form, the wax is carefully melted in a double boiler and then rubbed into the surface of the timber. In the solid form, the wax is rubbed into the surface with the friction of application liquefying a small proportion of the wax at a time (the part of the wax that is in contact with the timber).

Liquid oils are oils such as Tung, cotton, grape and linseed oil. All of these are oil extracted from seeds and nuts.

Oils provide a moisture barrier and (particularly in the case of Tung), a timber stain.

Oils penetrate different densities of timber differently. A more porous early wood will soak up more oil while a late wood will soak up less. This means that oils will accentuate the natural grain in timbers, making highly figured woods (such as oak) even more dramatic.

Spirits

There's not really much that can be said about using spirits as a finish, other than to say that they are very useful in the finishing process and as an anti-bacterial, anti-fungal, anti-pest treatment of the timber. Turpentine is very effective in this context as it leaves a pinous residue in the timber, which will slowly break down over time and exposure to sunlight.

However, using a white spirit rub in between sanding grits when preparing the timber for finishing, it is superior. White spirits such as methylated spirits rubbed onto the surface of timber raises the tiny fibres in the grain so that they can be sanded off. Water does this too; however, spirits penetrate the timber much better than water alone.

Do not use spirits when sanding or steel wool rubbing shellac or lacquer finishes, as you will start to denature the finish and make it tacky.

Oil and Spirit Mixtures

Oil and spirit mixtures are often used as a paste wax that is rubbed into the surface of timber to clean and polish the work piece. The benefit of paste waxes is that they combine the penetrative qualities of spirits with the preservative qualities of oils and waxes.

A typical (and my most used) wax paste is a mixture of 1:1:2 Linseed Oil, Beeswax, and Methylated Spirits. To make this mixture, simply melt a cup of beeswax in a double boiler and mix in a cup of linseed oil. When these are both totally incorporated (and cool), mix in the two cups of methylated spirits. The mixture can then be poured into a bottle and is ready to be used. Dip a rag into the mixture and rub it into the timber. You will end up with a nice matte finish on your piece that brings out the natural grain of the work while protecting it from fungus, parasites and moisture. You know that your application is ready when water will bead on the surface. Reapply the wax paste every winter and whenever you want to take the piece out in the rain.

What is the best finish for my use?

If your piece will be used outdoors, use an oil finish or wax paste finish.

If your piece needs to flex, use an oil finish or a wax paste.

Otherwise, use a resin finish.