

## WHAT IS SHELLAC?

Shellac is a resin secreted by the female lac bug, *Kerria lacca* (Order *Hemiptera*, family *Coccidae*) on trees in the forests of India and Thailand. The insect secretes resin forming tunnel-like tubes as it traverses the branches of trees. This insect is in the same family as the insect from which cochineal is obtained. The resin is collected, processed and sold as dry flakes that can be dissolved in ethyl alcohol to make liquid shellac.

Shellac is graded by several variables; the two most common are its wax content and color. The color of shellac ranges from pale yellow ("platina") to a dark reddish-brown ("garnet"), with all shades of brown, yellow, orange and red in between. The color is influenced by the sap of the tree that the lac bug lives on and the time of harvest.

## SHELLAC SOLVENT

Encastry Shellac Flakes must be dissolved in methylated spirits or ethyl alcohol (ethanol) to create the shellac solvent. This is a chemical process known as esterification. The alcohol chemically modifies the shellac resin and ultimately turns it into a sticky gum which doesn't dry and with a shelf life of about three years.

Dry shellac flakes can be stored indefinitely under proper conditions. Given enough time, especially under hot, wet conditions, dry shellac reacts with itself to form polymers that are insoluble in alcohol. Shellac that has been dewaxed is more prone to aging. You can extend the usable life of the dry shellac flakes by storing them in a cool, dry place.

To test shellac that you suspect has exceeded its shelf-life—simply dissolve the flakes in alcohol. Most shellac will completely dissolve within three days. If you see a gelatinous mass after this time, the shellac is past its usable life and should be discarded. Sometimes during the summer months, shellac will cake together. This is known as "blocking" and is not a sign of defective shellac. Break up the shellac with a hammer and dissolve it in alcohol as usual.

When you make the shellac solution, make sure that the alcohol does not contain water, because water will cause the shellac solution to become cloudy or milky in appearance.

Shellac also dissolves in butyl (butanol) and propyl (propanol) alcohol. Methanol evaporates the fastest, followed by ethanol, butanol and propanol. Methylated spirits is toxic and it is extremely important to wear gloves and work in a ventilated area when the solvent is mixed or applied.

Although dissolved shellac can be successfully used after 12 months, shellac older than six months should be tested. Pour a small amount onto a piece of glass. If it does not dry to the touch within five minutes, it should be discarded. For this reason, it's a good idea to prepare only enough shellac that you plan to use within a six-month period.

## **PREPARING SHELLAC SOLUTIONS**

You can calculate the ratio of shellac to methylated spirits to best suit your needs. As a start, take a handful of flakes (30gr) and just cover it with the methylated spirits (about 120ml). This should yield about 110gr of shellac solution. Let it stand for 8-24 hours and give it a good stir. It is now ready to be used, as is, or you can add dry color pigments to get the desired color.

## **APPLYING SHELLAC**

Shellac can be applied by using a sponge (artist sponges work the best). But you can use any fine sponge and cut it into small bits as it will dry out quickly if not air tightened after use. (We use the sponges that you find in vitamin jars).

Applying multiple, thin layers of shellac produce significantly better results than one or two thick layers. Thick coats of shellac do not adhere well to the substrate or each other.

Dip the sponge about halfway into the solution, raise the sponge and let the excess shellac run off. Apply once and quickly. Don't overwork what you've applied.

Allow the shellac to dry before it is heated.