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**TECHNICAL BULLITEN**

**LOGWOOD**

Logwood, also known as Campeche wood, is the heartwood of a South American tree (Haematoxylon Campechianum). It is a small many trunked tree that was named by the Spaniards who discovered it on the shores of the Bay of Campeche in Mexico. Logwood was introduced to Europe in the 16th century and was especially prized because it could produce a good black with an iron mordant. The dye is found in the heartwood of the tree. It is usually available as chips, powder or in extract form. It is used with various chemical mordants to stain wood various colors. Depending on the mordant used logwood will yield blacks, grays, violets and blues.

To use the extract dissolve one ounce in one quart of hot water. This will give you a dark red to purple solution. Applying this solution, while hot, to the wood with a sponge or brush is best although it can also be applied when cold. Let the wood dry for 24 hours. Now brush or sponge on a solution of one of the following mordants, depending on the color desired. For grays and blacks use ferrous sulfate, for blues use copper sulfate, for lavender use alum, for purple use tin chloride, and potassium dichromate generally gives a blue toned charcoal color. To develop the purple color using tin requires the use of Cream of Tartar. Mordant solutions are prepared by dissolving two ounces of mordant in a quart of water. After applying the mordant solution let the wood dry for 24 hours. If the color is not dark enough another coat of the mordant can be applied.

To prepare a good dye using either chips or powder, it must be soaked overnight and then boiled vigorously about 30 minutes. The liquid is strained out; this is the dye. More water can be added to the wood, as further boiling will extract more dye. In formulas calling for one ounce of extract use two ounces of chips or powder.

The following are some example formulas using logwood. Other information and formulas can be found in "Adventures in Woodfinishing" by George Frank and "Woodfinishing" by F.N. Vanderwalker.

* Ebony Stain - To one pint of boiling water add ¾ ounce of ferrous sulfate and one ounce of logwood powder. Apply this to the wood hot. When the surface has dried thoroughly, wet it with a solution composed of seven ounces of steel filings dissolved in ¼ pint of vinegar.
* Ebony Stain - In one quart of water boil ¼ pound of logwood powder, subsequently adding ½ ounce of potassium carbonate, after strainings apply the mixture hot. Then again boil the same quantity of logwood in the same quantity of water, adding ¼ ounce of copper sulfate and ¼ ounce of ferrous sulfate, after which strain and put in ¼ pound of rusty steel filings. With this latter mixture coat the work, and, should the wood not be sufficiently black, repeat the application.
* Weathered Oak - Boil together 4 ounce of logwood powder and three ounces of ferrous sulfate in 2 quarts of water for 40 minutes and the solution applied hot. When this has dried it should be gone over with a wash made from 4 ounces of steel filings and 1 pint of vinegar. The steel filings are previously put into the vinegar and allowed to stand for several days. This will penetrate into the wood very deeply, and the stain will be permanent.
* Rosewood - Boil ½ pound of logwood powder in 3 pints of water. Continue the boiling until the liquid assumes a very dark color, at which point add 1 ounce of potassium carbonate. When at the boiling point stain your wood with 2 to 3 coats, but not in quick succession, as the latest coat must be nearly dry before succeeding with the next. The use of a flat graining brush, deftly handled, will produce a very excellent imitation of dark rosewood.
* Mahogany - Rub the wood with a solution of potassium carbonate, ¼ ounce to one quart of water, and then apply dye made by boiling together 4 ounces of madder root and 1 ounce of logwood powder in two quarts of water.