

BASICS OF A WOOD COLORING SYSTEM

Pigments and Dyes are the two basic color components in most coloring systems.

Both pigments and dyes start out as a powder. This is an important fact.

Pigments and Dyes do not contain binders, so while they will dry and harden, they don't adhere very well to smooth surfaces. The lack of a binder also gives them the ability to be mixed into various mediums, such as stains or paints. For this reason, if you are going to tone with either of these two materials, make sure that you mix them into a little thinned out finish. The finish component in the mix will act as a binder and aid in adhesion. Never spray dye or a pigment over sealed wood without adding the thinned out finish. Remember we said that these products started out as a powder. If no binder is added, when they dry it is like sprinkling the surface with baby powder. Intercoat adhesion will surely suffer.

PIGMENTS

- Pigments are opaque
- Pigments are composed of fairly large size particles of color
- Pigments in low concentration are used in stains
- Pigments in medium concentrations are used in glazes
- Pigments in high concentrations are used in paints
- The higher the concentration of pigments the more you obscure the grain
- Pigments will mark the texture and the pore of the wood
- Too much pigment left on the surface of the wood can cause adhesion problems
- Pigments are usually pretty lightfast



DYES

- Dyes are semi-transparent
- Dyes are composed of very small size particles
- Dyes color the fiber of the wood, but not the pore
- Dyes are not as lightfast as pigments, especially reds
- There is no white dye
- There is a limit to how dark of a color dyes can develop by themselves
- Black dyes are often a mixture of colors and can have a blue, purple or green cast
- Dyes do not work well under some polyester finishes
- Dyes are usually concentrated, it is best to weigh dyes when developing formulas



STAINING WOOD

The two most frequent ways that we change the color of wood today is through the use of dyes and wiping stains. While both dyes and wiping stains are basically particles of colored materials suspended in a liquid, the two products color the wood in very different ways.

Dyes are very fine powders that are dissolved in a solvent and then sprayed onto the wood. Fast solvents, like lacquer thinner and acetone are used because they evaporate, and dry quickly. Dyes must be applied evenly since they dry so fast that they can not be wiped to even out the color. They penetrate and color the fibers of the wood, but they have little effect on the grain and figure of the wood.

Dyes change the background color of the wood. Since they don't mark the grain they can darken without getting blotchy. There is a limit, though, as to how dark you can stain something with a dye. Dyes have a low concentration of solids and they can only penetrate so deep into the wood's fiber. After the fiber saturates, the dye just puddles on the surface and turns black.

While some Wiping Stains contain dyes, most of the colorants are ground pigments. It is the pigments that stick in the grain, as well as the scratches that you made by sanding. Generally you can get a darker color with a wiping stain than with a dye.

***Wiping Stains mark the grain of the wood,
Dye stains do not.***

