Resene

Resene Paints Limited

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COLORWOOD STAIN
its development and uses

Staining is an art whose origins stretch back into antiquity; the woad of the ancient Britains (also used by the Chinese) is one of the earliest stains recorded. Dyes were obtained from variety of natural sources: cochineal from insects, Tyrian purle from Mediterranean molluscs, plus a wide variety of fruits, berries, dyewoods, peats, lichens etc. The dyes were dissolved in water, balsams, oils, and ferments to produce the earliest stains.
By definition, stains are materials designed primarily to impart colour effects to surfaces rather than to form a protective coating.
Modern stains flourished with the start of the synthetic dye industry about the turn of the century. Today there are literally hundreds of dyes to choose from, each belonging to one of four basic dye-based types:

1. Water-Based
The water soluble dyes are probably the most light-fast but are very difficult to apply uniformly and they raise the grain of timber badly.

2. Oil Soluble
Easy to apply but tend to have very poor light fastness.

3. Spirit Soluble
These have fair light fastness but are very rapid drying. Great skill is needed to apply them to large areas.

4. N. G. R. Stains
This class of stain attempts to combine all the good properties of the preceeding three. They achieve fair light fastness, have slight grain-raising and reasonable ease of application. Considerable skill is still needed, however, to achieve uniformity over large areas.

It has, of course, long been recognised that pigments (as against dyes) have excellent light fastness. But, because they are opaque, pigments have not been used much in transparent stains.
One of the problems of the paint industry has been the difficulty in making lead-free bright reds, oranges and yellows with good obliteration properties. The reason for this is that readily available organic pigments tend to be transparent in oil-based media. This can be explained technically by referring to the refractive index of pigments:

> "When a solid is immersed in a liquid of the same refractive index, the solid seems to disappear (i.e. like putting glass into water).
> This is the case when solids (organic reds and yellows) are mixed with liquid paint media".

The technical staff at Resene concluded that this phenomena could be harnessed to produce a new and exciting kind of wood stain.

The result — Colorwood; a range of 21 colours possessing excellent light fastness while maintaining complete transparency. Other benefits are controlled penetration and a medium-slow evaporation rate that makes application virtually foolproof on all but highy porous surfaces.
Colorwood colours are concentrated. Paler shades are achieved by dilution with specially formulated Colorwood Reducing Base. Other colours can also be created by intermixing any of the Colorwood range.
Grain highlights result from the natural differences in porosity between spring and summer bands of wood. The more porous areas absorb more stain to create deeper tones. For maximum highlighting effect, excess Colorwood should wipe-off the hard grain with an absonbant lint-free cloth.
Application by brush is the normal method of applying Colorwood. But porous materials, such as chipboard or cork, can draw Colorwood from the brush and create dark spots. Here, use of a pad is recommended to achieve perfect uniformity.
Properly applied, Colorwood will dry in eight hours. Excessive application in an attempt to increse colour density only prolongs drying. Correct colour strength is best achieved by using the right shade rather than heavy coats of a lighter one.
Colorwood has been successfully applied to all common timbers, particle boards, cork, cane, hessian and ropework.
For protection Colorwood can be overcoated, but not with average vanishes and urethanes. These tend to "yellow" to the detriment of the vivid Colorwood colour beneath. Resene have produced a special range of polyurethane finishes with minimum yellowing characterist. It consists of Poly-gloss, Poly-satin and Poly-flat — the latter possessing excellent grain filling properties and, as such, is recommended as a first coat whatever final finish is required.
In only a few years, Resene Colorwood has almost completely replaced dye-based stains in the architectural market. Its success has been due to its ready acceptance by architects, specifying authorities and painters alike. While for the home handyman, Colorwood has opened-up all sorts of exciting possibilities.

Refer to Data Sheet D50 and D52 in Resene Architects Manual for further information.

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