KLUMPP COATINGS
We add value to your surface

Staining made easy

We provide a full range of pigment concentrates and dye solutions to shade stains and transparent lacquers on your own. The wood substrate plays an important role in toning stains and transparent lacquers. Types of wood, sanding procedure and application methods may also influence the colour tones.

1. Pigments vs. Dyes

In general, wood stains consist of:

- Pigments
- Dyes
- Binders = combined in the colourless stain solution
- Water/Solvent = combined in the colourless stain solution
- Additives = combined in the colourless stain solution

Pigment = a very fine unsolvable powder

In order to achieve a semi-transparent effect, the use of liquid pigment concentrate is recommended. Pigments remain on the surface.

Dyes = a substance completely soluble in solvents or water

In order to achieve a highly transparent stain appearance, the use of a dye solution is recommended. Dyes are absorbed by the wood substrate (grain).

2. Staining with pigments or colours?

The fabrication of stains with pigments or dyes depends on the desired effect you want to achieve.

A very brilliant, highly transparent stain tone is achieved by using dyes. As a consequence, the wood's grain gets naturally accentuated, especially on wood species like cherry, nut, mahogany, pear, maple and birds-eye maple.

Should slightly covering or semi-covering tones (i.e. according to RAL, Sikkens or NCS) be desired, then pigments are best used. It is also possible to use them in combination with each other. If white is used in a stain formulation, dyes are not recommended. They tend to bleed out.

The guidelines for the colour matching of stains equally apply to water- and solvent-based stains as well as coloured clear lacquers. Colour concentrates and dye solutions are available for water and solvent-based lacquers.

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3. Primary Colours

The base for the shades are:

- Colours red + yellow + blue
- Pure Colours black + white

Other colours can be made by mixing these colours

- yellow + red = orange
- red + blue = violet
- yellow + blue = green
- yellow + red + blue = brown
- yellow + red + black = brown

To save time and work, we recommend using a complete colour range (yellow, orange, red, blue, green, brown, black and white).

4. Colour matching

It is possible to break or push colours away by shading. This might get necessary, if too much of one colour has been added.

- **red can be broken with green and vice versa**
- **yellow can be broken with violet and vice versa**
- **orange can be broken with blue and vice versa**

These colours face each other in the colour circle:

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5. Brightening (lightening)

Stains can be lightened by adding a colourless stain solution or white colour. The natural colour of the wood will better shine through by diluting with a stain solution. Using white for lightening, the wood will looses its brilliance and the surface gets a milky appearance.

6. Concentrating and darkening of stains

If you want a mixed colour tone to appear stronger, all included colours must be added once more keeping the original proportion. To darken the existing mixture, all the used colours must be added again along with some additional black. By adding black you can achieve neutral or cold mixed tones.

7. Grey tones

Grey tones are made by mixing **"white and black"**. By adding different colours, various nuances can be created. A bright colour can be dulled by adding **"black, white or grey"**.

Should you have any further questions about colour matching and staining, please do not hesitate to contact our specialist **Michael Ruthof,** telephone: + 49 - (0)711 - 9 81 84 360 or send an e-mail to: michael.ruthof@klumpp-coatings.com .

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