

Textile Dying



Dyes are what we would ordinarily use to colour fabric. Dyes do not sit on the surface of fabric, but molecularly bond with its fibres, making them colourfast with an excellent handle (feel).

Dye colours have many shades, often referred to as depth of shade, which is usually expressed in percentages. For example a pale pink might have a depth of shade at 0.1% versus a rich and vibrant cerise which might have a depth of shade at 4%.

For cellulose (plant) fibres like cotton, linen, hemp and bamboo **we would colour the fibres using Direct dyes**. The dye is helped to fix by including glaubers salt in the dye bath.

For protein (animal) fibres like silk, wool, mohair or cashmere **we would colour the fibres using Acid dyes**. The dye is helped to fix by including glaubers salt and acetic acid in the dye bath.

For mixed cellulose and protein fibres, like silk-viscose, **we would colour the fibres using a mix of Direct dye and Acid dye**. These dyes are helped to fix by including glaubers salt and acetic acid in the dye bath.

Direct dying (cellulose fibres)

For cellulose (plant) fibres, like cotton, linen and bamboo, and some reconstituted fibres, like viscose, we **use direct dyes** to colour fabrics using the simple equations below to weigh out the amount of dye powder, auxiliaries and water needed:

Dye Powder

$$\frac{0.1 - 5 \% \text{ Depth of shade} \times \text{weight of dry fabric}}{100} = \text{grams of dye powder}$$

Auxiliaries

$$0.2 \times \text{weight of dry fabric} = \text{grams of glaubers salt}$$

Water

$$50 \times \text{weight of dry fabric} = \text{mls of water}$$

Recipe:

1. Direct dye powder.
2. Glaubers salt.
3. Water.

Method:

1. Gather Direct dye powder, glaubers salt, mixing pots, measuring cylinder and stirrer.
2. Weigh your dry cellulose fabrics, noting the correct dry weight, and place in a bucket of water to wet out.
3. Measure the water required for your dye bath.
4. Switch on the extraction, positioning in line with your mixing pot.
5. Weigh out your dye powder and glaubers salt, adding the dry ingredients to the measured water and ensuring you deposit all dry ingredients while stirring thoroughly. The measured water, dye powder and glaubers salt combined forms your dye bath.
6. Set your dye bath temperature to a max. of 80°C, slowly bringing to temperature.
7. At 40°C wring out fabric and add to dye bath, stirring regularly to ensure an even dyed colour.
8. When you are happy with the shade, bearing in mind that shade looks approx. x2 shades darker when wet, take off the heat and begin to cool your dye bath down.
9. The dying process can take up to an hour and optimally at the end of the process the dye bath should be clear, this is known as exhaustion.

Wash:

1. Rinse in cold water until the water runs clear.
2. Dry and press.