

Cross dying (cellulose and protein fibres)

For mixed fibre fabrics, like silk-viscose or silk-bamboo, we use **both direct and acid dyes** to colour each fibre in the fabric using the simple equations below to weigh out the amount of dye powder, auxiliaries and water needed:

Dye Powder

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

Depending on the type of fabric blend, and its structure, a beginner might start testing your cross-dye recipes at a ratio of 50:50 direct dye powder to acid dye powder. As your confidence grows it is possible to vary the depth of shade across your fibres, e.g. 0.5% direct dye: 4% acid dye, with practice.

Auxiliaries

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

$$0.05 \times \text{weight of dry fabric} = \text{mls of acetic acid @ 20\% strength}$$

Water

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

Recipe:

1. Direct dye powder.
2. Acid dye powder.
3. Glaubers salt.
4. Acetic acid @ 20% strength.
5. Water.

Method:

1. Gather Direct and Acid dye powders, glaubers salt, acetic acid, mixing pots, measuring cylinder and stirrer.
2. Weigh your dry protein 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. It is advisable to split the amount of dye stuff into a ratio of 50 Direct: 50 Acid dye as starting point, adjusting accordingly with experimentation and confidence.
6. Weigh out glaubers salt, adding all dry ingredients to the measured water and ensuring you deposit all while stirring thoroughly.
7. Add the acetic acid.
8. The measured water, dye powder, glaubers salt and acetic combined forms your dye bath.
9. Set your dye bath temperature to a max. of 80°C, slowly bringing to temperature.
10. At 40°C wring out fabric and add to dye bath, stirring your fabric regularly to ensure an even dyed colour.
11. 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.
12. 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.