

PROCION MX DYES – WORKSHOP NOTES

Procion is a brand of fibre reactive dyes. There are different types of Procion dyes – we are using MX, the cold water type (though in fact heat is needed when they are used with protein fibres). Procion MX dyes can be used with both animal (protein) and plant (cellulose) fibres, but the methods and fixatives differ:

- **Protein fibres:** the fixative is citric acid or vinegar; the fibres need to be “cooked” to fix the dye
- **Cellulose fibre:** the fixative is sodium carbonate (washing soda); no heat is needed to fix the dye, simply apply the dye and leave for at least six hours before rinsing.

Health and Safety

Avoid inhaling the powdered dye – a dust mask is recommended when working with the powder.

Avoid inhaling vapours from dye-pots. Work in a well ventilated space.

Do not eat or drink while you are working with dyes.

Wear gloves when handling dyes.

Use separate utensils and equipment for dyeing.

Making up a dye solution

The dyes come as a powder which needs to be dissolved in water. **1gm dye powder** will be sufficient to dye **100gms yarn** or fibre a single medium colour, 2gms dye per 100gms fibre will give a strong dark colour.

Making the dyes up into a solution will give more flexibility as you will be able to measure out smaller quantities of dye more accurately than you can if you work from the powder each time, and it means you only have to handle the powder once. With your dyes in solution you will be able to plan repeatable dye schemes as well as experimenting in a more random way.

Mix **5gms** (1 teaspoon) **dye powder** with **500mls warm water** to create a **1% solution**. Plastic drinks bottles are ideal for dye solutions, but jam jars or well washed milk bottles etc can also be used.

100mls of this solution will dye 100gms of yarn or fibre a good strong colour

For paler colours reduce the amount of dye – try 25mls to 100gms yarn/fibre for pastels.

Preparing yarn, fibre etc for dyeing

Scour if necessary to remove grease, and any special finishes.

Soak in fixative solution for at least 45 minutes (NB the salt helps the dye take more evenly):

- **Animal (protein) fibres:** dissolve 25gms salt and either 100mls white vinegar or 25gms citric acid in 3 litres of warm water per 100gms fibre or yarn
- **Plant (cellulose) fibres:** dissolve 25gms salt and 25gms sodium carbonate (washing soda) in 3 litres of warm water per 100gms fibre or yarn
- A squirt of washing up liquid helps the fibre or yarn to soak

Applying the dye

To make a single coloured skein:

- Weigh the dry skein
- Soak in fixative as above for 45 minutes
- Decide on the depth of colour you want, and calculate the amount of dye solution needed.
- Add the dye solution to a container which will comfortably hold your skein, leaving room for movement
- Add enough water to cover the skein, and stir to mix dye
- Squeeze most of the water out of the pre-soaked skein, and place the skein in the dye bath. Swirl gently to distribute the dye

Make a note of the colour and quantities used, then if you find there is quite a lot of colour left in the water once the dyeing is completed, next time you can reduce the amount of dye. You can re-use the dye bath to fully exhaust the dye, but remember that “second dips” will give paler results.

Fix the dye:

Plant (cellulose) fibres – leave for 24-48 hours, then rinse and leave to dry.

Animal (protein) fibres:

- Loosely place a lid on the container and **microwave** in 1-minute bursts for 3-4 minutes or until liquid is nearly boiling; **or**
- Cook in the **oven** in a Pyrex dish or similar for 20-30 minutes at 275F / 140C / gas mark 1 – stir every 10 minutes or so
- On the **hob** simmer for 20-30 minutes, stirring every 5 minutes
- Using a **steamer** wrap the yarn / fibre in clingfilm and steam for 20 minutes (5 minutes if using a microwave steamer)
- Whichever cooking method you use, ensure that the yarn / fibre is kept wet – top up container if it looks as if it might boil dry. Take particular care when microwaving – dry fibres can ignite – if using only a small amount of dye liquid, place a cup of water in the microwave to prevent overheating
- Once cooking is complete set container aside and allow yarn / fibre to cool in the liquid, then rinse and leave to dry

Playing with colour

The dyes come in a wide selection of colours. These can be mixed like paints to create a huge range of colours, tints and tones. Mix the solutions, not the powdered dyes. When mixing colours start with the paler colour and add the darker one gradually. For pastels, use very small amounts of dye to start with and add water gradually. You can test your colours on kitchen paper.

When you have created your own colour scheme you can: dye a skein multiple colours using the immersion method as above; paint the dye on; inject it into a ball of yarn; spray it. You can plan and measure for a repeatable scheme, or just play for random effects.

The thickener Manutex can be used for more precise positioning of dye colours.

When dyeing a skein or fibre multiple colours remember to scale down the amount of each dye you are using, e.g.: to dye 100gms with 4 colours you will only need about 25mls of each colour (less if you want paler shades).

Have fun - the only limit is your imagination!

Suppliers

Procion MX dyes are available from a variety of online retailers including

www.dtcrafts.co.uk

www.kemtex.co.uk

www.georgeweil.com