

Dyeing with Pre-reduced Indigo

by Catherine Ellis

Indigo belongs to a class of dyes called vat dyes. Vat dye molecules are insoluble in water and in their original state have no affinity for fiber. They must be chemically “reduced” (have some or all of their oxygen removed), in order to form a soluble dyestuff that can adhere to fiber. For centuries, dyers around the world have reduced indigo by means of fermentation and different combinations of chemicals. Maintaining an indigo dye bath properly is both tricky and time-consuming.

When indigo is pre-reduced, the dye substance has already been combined with reduction chemicals and dried. It simply needs to be added to water with small amounts of chemicals to maintain reduction. Dyeing takes place in just a few minutes, and color is excellent without the need for multiple immersions.

To set the dye-bath up for one-time use

Water: 1 gallon
Indigo: 2 TBS

Use a non-reactive container to mix the dye: hard plastic, glass, stainless steel or enamel. Add two heaping tablespoons of pre-reduced indigo grains to four quarts of cold tap water. That’s it! You’re ready to dye.

For lighter shades reduce the amount of indigo to as little as 1 tsp.

To maintain the bath over several days

Water: 1 gallon
Indigo: 2 TBS
Washing Soda (soda ash): 2 TBS
Thiox (Thio-Urea Dioxide) 1 tsp

Add two heaping tablespoons pre-reduced indigo grains to four quarts of cold tap water. Carefully stir in 2 TBS washing soda and 1 tsp thiox. The solution should appear greenish. The bath is ready to use and will be effective as long as it appears green or yellow. There may be a thin scum on top. Carefully remove it by laying a piece of newspaper on the top. Always treat an indigo bath gently so as not to introduce oxygen.

Dyeing

Carefully enter your wetted out fabric and keep under the surface of the dye for about 2 to 3 minutes. Work the dye into all areas of the cloth. Always wear rubber gloves. Before removing cloth from the bath, squeeze out all the excess dye and quickly lift from the pot without dripping back into the dye bath. Drips will introduce oxygen. Rinse immediately with cold water. The water helps to re-oxidize the cloth. Hang in the air until oxidation is complete. Additional dips may be done for a darker color. Wash thoroughly in hot soapy water or boil out.

After dyeing

The bath can be closely covered and re-used on another day. Just add a bit more thiox to get it back into reduction (greenish). Add more indigo if necessary.

Continue to use the bath until it is gone. If it must be disposed of, neutralize it first with a little vinegar, add plenty of water, and then pour it out.

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