

How to Dye Wool Using **Orco Milling™** Dyes

Orco Milling™ acid dyes offer a wide range of colors for use on wool and nylon where good wet fastness is required. These dyes are used primarily in stock or package dyeing. However, they can be used in piece dyeing as well. Characteristic of the acid milling dyes is their strong affinity for wool and nylon, making necessary the use of strict controls on temperature as well as proper selection of leveling or retarding agents to insure uniform coloration.

Prescour

Prescouring of the wool is necessary in order to remove any impurities in the goods otherwise an unlevel dyeing would result.

Run goods in bath containing 2.0% on weight of goods(owg) **Orconol CHSA Conc™** at 140°-160°F for 20 minutes.

Dyeing – General Exhaust Method

- Due to the highly substantive nature of most milling dyes, carbonized wool at a low pH should first be treated either in the fulling mill or the dye kettle to insure a starting pH of 5.5-6.5.
- Enter goods in bath at 110°F containing:
 - 2.0 - 4.0% owg Ammonium Sulfate
 - 5.0 % owg Glauber's Salt
 - 1.0 – 2.0%% owg **Orco Dye Assist 10-4™**
- Circulate for 15 minutes.
- Slowly add pre-dissolved **Orco Milling™** dyes with circulation and slowly raise temperature to 205°-210°F(96° – 99°C) at a rate of 1.5°- 2.0°F per minute.
- Maintain temperature for 20–30 minutes and then check for degree of dye exhaustion.
- Add Acetic Acid 56%, Citric Acid, or Sulfuric Acid to promote exhaustion if necessary.
- Cool bath back to at least 160°F(171°C) before dropping bath.
- If desired, an after-fixing agent may be used to help improve wet fastness but generally the degree of improvement will be minimal on wool fibers. In the case of wool/nylon blends with 20% or more of nylon, the use of 1 – 2% owg of **Orcofix MN™** will improve the wet fatness to a noticeable degree.
 - To a fresh bath set @ 160°F add:
 - 1.0 – 2.0% owg **Orcofix MN™**
 - X% Acetic Acid 56%/Citric Acid to pH of 4.5 – 5.0
 - Hold temperature for 20 minutes before dropping and extracting/drying goods.