

## How to Dye Wool/Nylon Blends using a One-Bath Dyeing Process

This is a general one-bath atmospheric dyeing procedure for wool/nylon blends which have been acid-fulled. Acid and low-energy disperse dyes are typically used on these blends. The **Orco™** acid dye classes that are used for this application are **Orcoacid™**, **Orco Milling™**, and **Orcolan Neutral™** dyes. If **Orcolan Neutral™** or **Orco Milling™** dyes are used, it is important for the dyebath pH to be adjusted to around 6-6.5 along with the addition of 4 % owg ammonium sulfate, as the acid-fulled wool will initially have a pH range of 4 to as low as 2. This low pH will cause a very quick strike of the dye onto the fiber causing unlevel dyeings. **Orcocil™** Disperse dyes are used to dye the nylon component of the nylon.

1. Prepare goods as necessary.
2. In a bath at 100°F(38°C), adjust pH to 4.5 with either ammonia or **Orco Buffer 14 Powder™**, add goods, and circulate for 10 minutes.
3. Add:
  - 5.0 % owg           Glauber's Salt
  - 1.5 % owg           **Orco Leveler LW-470™**
  - 1.0 % owg           **Orco Nylon Resist P™**
  - 4.0 % owg           Ammonium Sulfate(add this only if **Orco Milling™**, or **Orcolan Neutral™** dyes are being used)
4. Circulate at 100-120°F(38-49°C) for 10 minutes and add:
  - X % owg           **Orcoacid™**, **Orcolan Neutral™**, or **Orco Milling™** Dyes properly prepared
  - Y % owg           **Orcocil™** Disperse Dyes properly prepared
5. Raise temperature slowly to 200-205°F(93-96°C).
6. After 15 minutes, add 1-2% owg sulfuric acid to exhaust, if necessary. If **Orco Milling™** or **Orcolan Neutral™** dyes are being used, acetic acid may be used.
7. Continue running at 200-205°F(93-96°C) for a total of 60 minutes.
8. Cool back to 160°F(71°C), drop bath, and rinse.
9. Finish goods if necessary.