How to Continuous Pad/Steam Dye Nylon Using Orco Milling™ Dyes

In general **Orco Lanamide™**, **Orco Milling™**, and **Orcolan Neutral™** acid dyes may be applied by pad/steam application. In addition to wide goods, this method is of particular interest on nylon warps and webbing constructions. If lightfastness and wetfastness is of high importance, the **Orcolan Neutral™** dyes should be used exclusively. This method is best accomplished with multiple bowl continuous dye equipment.

1. Prepare goods as necessary.
2. In a padding bath at 110°F(43°C) add the following:
   - X oz/gal(x g/L) **Orco Milling™** Dye properly prepared
   - 1.0-10.0 oz/gal(7.5-75 ml/L) **Orcosolv NP™**
   - 0.5-1.0 oz/gal(3.75-7.5 g/L) Ammonium Acetate
   - 0.5-2.0 oz/gal(3.75-15 ml/L) **Orco Antimigrant U-1300™** (optional)
3. Swelling agents such as Benzyl Alcohol are sometimes used to swell the nylon fiber promoting better penetration of the dye into the fiber. If benzyl alcohol is necessary, it should first be put into a solution at 180°F(80°C) using a high-speed mixer before adding to the dyebath.
4. Pad at 180- 190°F(82-88°C) with an immersion time 15-20 seconds.
5. Steam 3-4 minutes at 215-220°F(Pass through formic acid bath at 185-195°F(85-91°C).
6. Soap off continuously at 180-195°F(82-91°C) with:
   - 0.5 oz/gal(3.75 g/L) **Orcopon PCA™**
   - Soda Ash to pH of 8.0-8.5
7. Follow with a warm-water rinse at 120°F(49°C) and dry.

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