Improvement of Dyeing Characteristic of Cotton/Acrylic Blend Fabric

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Abstract:
Dyeing formulations of Cotton/Acrylic blends are very difficult and can involve a different dye class for each component in one or two baths. The dyeing process is complicated owing to the difference in the nature of these two fibres. Union dyeing for knitted Cotton/Acrylic blend fabric was achieved using one dye (cationic dye) and one bath through a chemical treatment of cotton with an anionic agent (tannic acid). The effect of tannic acid concentration on the color strength of dyed Cotton/Acrylic fabric was carried out. The factors affected the dyeing operation of Cotton/Acrylic fabric with cationic dye in one bath such as dye concentration, salt concentration, pH value, temperature and dyeing time were studied. The optimum condition of dyeing were carried out at 4% dye concentration, 6gm/l Na₂SO₄, pH 6 at 90°C for 75 min. The fastness properties of dyed Cotton/Acrylic blended fabrics dyed with three different cationic dyes at the optimum condition after the treatment with tannic acid were studied.

This work tend to dye Cotton/Acrylic blend fabrics with one dye in one bath to save time, energy and water with soled shad for blend fabrics.

Key words
Knitted Cotton/Acrylic fabric- Cationic dyes - Anionization- Dyeing in one bath- Colour strength- Colour fastness properties.