

## **Dyeing of Polyester/Cotton Blends with Reverse-Micelle Encapsulated High Energy Disperse/Reactive Dye Mixture**

**Authors :** Chi-Wai Kan, Yanming Wang, Alan Yiu-Lun Tang, Cheng-Hao Lee Lee

**Abstract :** Dyeing of polyester/cotton blend fabrics in various polyester/cotton percentages (32/68, 40/60 and 65/35) was investigated using (poly(ethylene glycol), PEG) based reverse-micelle. High energy disperse dyes and warm type reactive dyes were encapsulated and applied on polyester/cotton blend fabrics in a one bath one step dyeing process. Comparison of reverse micellar-based and aqueous-based (water-based) dyeing was conducted in terms of colour reflectance. Experimental findings revealed that the colour shade of the dyed fabrics in reverse micellar non-aqueous dyeing system at a lower dyeing temperature of 98°C is slightly lighter than that of conventional aqueous dyeing system in two-step process (130°C for disperse dyeing and 70°C for reactive dyeing). The exhaustion of dye in polyester-cotton blend fabrics, in terms of colour reflectance, were found to be highly fluctuated at dyeing temperature of 98°C.

**Keywords :** one-bath dyeing, polyester/cotton blends, disperse/reactive dyes, reverse micelle

**Conference Title :** ICTDPR 2021 : International Conference on Textile Dyeing and Printing

**Conference Location :** Stockholm, Sweden

**Conference Dates :** July 15-16, 2021