

Effect of treatment Wool Fabrics and its Clothing properties with Pentaerythritol and its dyeability

Z. M. Abdel-Megied¹, R. A. Abdelghaffar²,
L. K. El Gabry^{3*} and M. M. Kamel²

¹Clothing and Knitting Industrial Research Department,

²Dyeing, Printing and Auxiliaries Department,

³Protinic and Synthetic Department, Textile Research Division, National Research Centre, Dokki, Cairo, Egypt

Abstract : Wool fabric was treated with pentaerythritol solution. Then pretreated fabric was dyed with acid dyes. The possibility of reducing the temperature of conventional wool dyeing with an acid dye using ultrasonic radiation was studied in order to reach exhaustion values comparable to those obtained with the conventional dyeing, obtaining dyed samples of good quality. The colour intensity of dyed fabrics using ultrasonic radiation was determined as well as fastness properties. Some properties of untreated and treated wool fabrics such as moisture regain %, roughness, pilling, tensile strength and elongation % were evaluated. The bending stiffness, bending stiffness seam fabrics and sewability of untreated and treated wool fabrics were assessed. Elemental analysis, Fourier transform infrared spectroscopy (FTIR) and scanning electron microscopy (SEM) of untreated and treated wool fabrics were performed. This study was determined also, to optimize the effect of treatment with pentaerythritol on wool fabrics in garment manufacturing.

Key Words: Wool fabrics, pentaerythritol, ultrasonic dyeing, fastness properties, sewability, garment appearance.

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