THE PHYSICAL EFFECTS OF DOMESTIC LAUNDERING ON LYOCELL SHIRT/FABRIC

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ABSTRACT

PHYSICAL EFFECTS OF DOMESTIC LAUNDERING PROCESSES ON LYOCELL SHIRT/FABRIC

The physical effects of domestic laundering process on lyocell shirts and fabrics are studied using a variety of tests, including dimensional stability measurements, fabric testing and microscopy evaluation. One of the leading problems that arises after consumer washed their clothes is shrinkage. The length size of the clothes tends to change after a certain number of washes. This study was conducted on 100% lyocell fabric, one of the latest regenerated cellulosic fibres produced and now available in the Malaysia market. A comparison of the performance of the fabric before and after washed was made through the several fabrics testing such as drapability, strength, stiffness and abrasion. SEM was used to determine fibre surface changes where the fibre fibrillations damage was expected after a few washes. The results of this study revealed that only small percentage of shrinkage occurred for each parts of the garment after 20 washes while the fabrics testing indicates no significant changes except for drapability and tearing strength of the fabric. The drape coefficient and tearing strength of the fabric increased almost 100% and decreased massively respectively. The effects of mechanical agitation and water on the appearance of the lyocell fibres as observed with SEM, showed tremendous changes on the fibre surface due to the laundering process. The fibres were severely damaged after 20 times of washes.