

Effect of laundering on physical parameters of sized materials

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■ **ABSTRACT** : Starch is added in the resin cycle of laundering, the last stage before drying. It helps to make the clothes stiff and keep the clothes clean for a longer time by holding down the fibres surfaces which catch dust and dirt. The white muslin having cloth count of 70 ends x 60 picks per inch, 34.80 GSM was selected in the present study and sized separately with 10 per cent each arrowroot and revive at 1:1 and 1:2 dilution levels. The sized samples were assessed for the various structural performances, durable and comfort properties before and after laundering where in laundering of sized samples an important aspect of the present investigation was. Nevertheless, the sized samples were subjected for a hand wash by kneading and squeezing method. On laundering the sized samples demonstrated a trend of decrease in structural properties like cloth count, GSM, thickness, bending length, crease recovery, as well as performance properties like drape, abrasion resistance, tensile strength and air permeability. This change in structural and performance was due to gradual softness and pliability induced on partial desizing. It is evident that single hand wash will not completely desize the cotton fabric thus, such partially desized cotton garments can be used/worn as 'soft-sized' materials. The sized clothes when used after one wash, indicates a way to 'cutting cost' of starching the clothes.

■ **KEY WORDS** : Muslin, Sizing, Laundering

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A laundry starch is the solutions that penetrates into the fibre but leaves it pliable and gives a smooth glossy finish that resist dirt. Thus, starching is a process of adding stiffness to the cotton fabric and tends to make subsequent washing easier as soil clings to starch rather than the fabric (Dantyagi, 1974). Clothing or laundry starch is a liquid that prepared by mixing a vegetable starch in water and is used in the laundering of clothes. Starch was widely used in Europe in the 16th and 17th centuries to stiffen the wide collars and ruffles of fine linen which surrounded the necks of the well-to-do. During the 19th century and early 20th century, it was stylish to stiffen the collars and sleeves of men's shirts and the ruffles of girls' petticoats by applying starch to them as, these clean clothes were being ironed. Aside from the smooth, crisp edges it gave to clothing, sizing did serve several practical purposes as well. Dirt and sweat from a person's neck and wrists would stick to the starch rather than to the fibres of the clothing, and would easily wash away along with the starch. After each laundering, the starch would

be reapplied.

Hence, the present study was conducted to examine the effect of hand washing on the structural, performance, durable and comfort properties of sized samples was carried out.

■ RESEARCH METHODS

The sample selected for the present study was cotton kora muslin (gray), specially hand woven having cloth count of 70 ends x 60 picks per inch, 34.80 GSM without any finish applied on to it. The fabric sample was starched separately with 10 per cent each arrowroot and revived with 1:1 and 1:2 dilution levels. In all, the test sample was subjected for 2 types of starches one being natural and the other instant at two levels of dilution totaling to 4 treatments. The sized samples were subjected for one hand washing and the main aim of the study is to assess the percentage change in the basic characteristics of the sized fabric on washing; to find out whether complete desizing is possible in single hand washing;