

Effect of Different Washing Methods on Mechanical Properties of Egyptian Denim Fabrics

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Abstract:

The aim of this paper is to study the effect of different washing methods on mechanical properties of denim fabric manufactured in Egypt. Cotton 100% and cotton/spandex 98.5% - 1.5% denim washed fabrics were selected to carry out the experiment, washing parameter; Enzyme Wash (EW), Enzyme wash with bleach (EWB), Enzyme wash with stone (EWS) and Enzyme wash with stone and bleach (EWSB). Specimens were washed for different durations, these were: 10, 30, 50, 70 and 90 minutes.

An Instron tensile tester was used and the procedure followed the ASTM 5034 – 09, standard test method for breaking strength and elongation of textile fabric (Grab Test) for evaluation the tensile strength properties of denim fabric.

The study focused on the comparison of the tensile properties on the denim washed fabric, the effect of changing the test specimens washing duration was also considered.

It was found that the tensile strength of these samples became weaker in both fabric directions. It also was found that comparing with four of the washing types, enzyme wash with stone were less damage for the tensile strength.

Keywords:

- **Denim Fabrics,**
- **Stone Wash,**
- **Enzyme Wash,**
- **Tensile Strength.**

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