



**A COMPARISON OF THE EFFECT OF REPEATED LAUNDERINGS AND
DETERGENT USE ON PERFORMANCE OF ENVIRONMENTALLY IMPROVED AND
CLASSIC DENIM FABRICS**

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Capitalizing on consumer environmentalism, some manufacturers produce denims containing environmentally improved fibers. The purpose of this study was to examine and compare the effects of repeated launderings and detergent on the performance properties of environmentally improved and classic denim fabrics. Objectives were to evaluate the relationship between repeated launderings and detergent on denim as signified by changes in breaking strength, breaking elongation, pilling, and dimensional stability. The test fabrics included two 100% classic cotton denim fabrics and four environmentally improved denim fabrics.

Generally, the environmentally improved denim fabrics performed similarly to the classic denim fabrics with respect to breaking strength, breaking elongation, pilling, and dimensional stability. Trio® and Tencel® cotton exhibited the best dimensional stability, and pill resistance after laundering but their durability deteriorated quickly as a result of laundering. Since it experienced a great amount of shrinkage, Soda Pop™ maintained its strength during laundering but had the worst color change of all of the denim fabrics. The organic cotton performed similarly to the two classic fabrics; it proved robust to laundering with respect to breaking strength and elongation but also experienced high shrinkage during repeated launderings.