

Abstract

Purpose

For cloths having direct contact with the skin, comfort properties are a priority than the physical and mechanical properties. Innerwear clothes should induce pleasant feelings because they have a direct influence on human psychological satisfaction, health and work efficiency. The purpose of this study is to investigate the impact of cotton fiber parameters on the sensorial comfort of woven fabrics.

Design/methodology/approach

Four types of cotton fiber with different fineness, mean length, uniformity index, short fiber content, strength and elongation were used to develop yarns used to weave fabric samples. Kawabata evaluation system (KES) was used to analyze the fabrics' sensorial comfort.

Findings

Results showed that cotton fiber parameters have a significant effect on surface friction and roughness properties. Low stress tensile, tensile resilience and tensile strain properties were affected by fiber micronaire, mean length, uniformity index, short fiber content, fiber strength and elongation. However, fabric shear, bending and compression properties were least dependent on fiber parameters. The correlation of the dependent variable and the independent variable was also statistically analyzed and reported. From the results, it was shown that cotton fiber parameters play a significant role in woven fabrics' sensorial comfort.

Originality/value

The cloths that are in contact with the skin can be developed using the results of these studies to feel pleasant. This will, in turn, have a direct effect on the customer's psychological satisfaction, health and work performance.