

## AN EFFECT OF STITCH LENGTH & LYCRA PERCENTAGE ON COMFORT PROPERTIES OF KNITTED SPORT WEAR

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### ABSTRACT

*Knitted industries face some difficulties with reference to the selection of correct stitch length and Lycra ratio to produce a desired quality in knitted fabric. The present project work studied on the dimensional and physical properties of weft knitted structures with varying stitch length and Lycra ratio. The weft knitted structures selected for this study are plain single jersey, 1x1 double jersey rib and double jersey interlock. The basic objective of this study is to find out the behavior of fabrics made from cotton yarn alone and made from cotton Lycra blended yarns and also investigate the influence of different stitch length on properties like wales per inch, courses per inch, stitch density, fabric weight per unit area, air permeability, bursting strength, pilling, absorbency and dimensional stability. The research revealed that both stitch length and Lycra percentage significantly influenced on the properties of single jersey and double jersey weft knitted fabrics. The Lycra percentage is positively influenced on the bursting strength and fabric weight per unit area of single jersey and rib fabrics knitted with minimum stitch length. As the percentage of the Lycra increased, air permeability and absorbency of fabric were decreased. But, Lycra percentage does not show significant effect on wales per inch, courses per inch, stitch density and pilling property. The results also concluded that the wales per inch, courses per inch, stitch density, bursting strength, and fabric weight per unit area increased with minimum stitch length. The stitch length is more significantly influence on shrinkage. This study therefore assists fabric manufacturer to select the proper stitch length and Lycra percentage as per the desired quality in fabric.*

**KEYWORDS:** *Stitch Length, Lycra Percentage, Plain Single Jersey Fabric, Double Jersey Fabric & Physical Properties*

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