THINK IN OTHER TERMS

National University
of Science & Technology

PROJECT TITLE: Minimising faults on fabrics knitted from Low grade cotton yarns using circular knitting machines.

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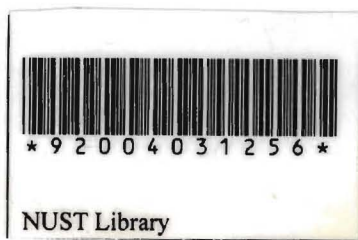
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DEPARTMENT: Textile Technology

A dissertation submitted in partial fulfilment of the requirements for the Bachelor of Textile Technology.

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Abstract

In this dissertation, the fundamental approach of the research is to investigate how best the low grade cotton yarns can be knitted to produce the fabric with minimum faults on the circular knitting machine. The research also shows the relationship between the important machine parameters and the occurrence of the defects.

 The overall objective was to knit a fabric from a low grade cotton yarn producing a fabric with minimum faults, by monitoring and controlling the important knitting parameters. The low grade cotton yarns were knitted on a Mayer and Cie large diameter circular knitting machine, varying all the important machine parameters and analysing their effects on the quality of the fabric produced. Low grade cotton yarns were defined and specifications of the yarn parameters were given for the low grade cotton yarns used in the experiment. Important knitting machine parameters investigated include yarn input tension, yarn take up tension, machine speed and yarn / metal friction.

Finally, this project shows that fabric faults can be minimised when the low grade cotton yarns are knitted using the optimum values of the knitting machine parameters. Optimum values of all the parameters were used to knit a fabric and analyse the effects of optimising the machine parameters.