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**PROPERTIES OF CORE SPUN AND SPUN POLYESTER
SEWING THREADS AND THEIR PERFORMANCE IN SEAMS**



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This thesis was submitted to the Department of Textile and Clothing
Technology of the University of Moratuwa in partial fulfilment of the
requirements for the Degree of Master of Science

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The work presented in the thesis in part or whole, has not been submitted for any other academic qualification at any institution.

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ABSTRACT

At present number of sewing threads of different varieties are available in the market and there is no single polyester based substrate, which satisfies the criteria of the complete sewing thread. The thread must be able to withstand all of the stresses and strains applied to the thread during sewing and wear of the garment. Therefore selecting a proper thread to suite a particular fabric is very complex as it is important to minimize the sewing defects and improve the performance.

The core spun and spun polyester sewing threads are having different thread structures, which contribute to significant changes in their properties. Largely because of its low price and acceptable level of sewing performance, 100% spun polyester sewing thread is the dominant product in sales volume. But the results of the research show that the core spun thread possesses superior properties to those of the other threads, which would provide an answer to the major sewing problems frequently occurring in the apparel industry.

The core spun threads considered in this project are of two types, which are cotton wrapped and polyester wrapped core spun threads. When the thread is cotton wrapped it has very good needle heat resistance and polyester wrapped thread is excellent in physical properties and sewing performance. The fibrous surface of the core spun thread reduces shiny look and contributes to superior frictional characteristics.

In today's competitive market, cost is an important factor. To reduce the thread cost of garments without sacrificing seam and sewing performance a better thread selection method is required. The findings of this research on the properties of core spun and spun polyester sewing threads and their performance in seam would provide an insight to many unresolved problems still facing the apparel industry.

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Abbreviations

- MFA - Multi-fibre Arrangement
USA - United State of America
EU - European Union
TQM - Total Quality Management
UNIDO - United Nations Industrial Development Organization
P/P - Polyester Wrapped Polyester Core Spun Thread
C/P - Cotton Wrapped Polyester Core Spun Thread
SP - 100% Spun Polyester Thread
ISO - International Standard Organisation
Tkt - Ticket Number
Fig - Figure
120/75 - Needle thread tkt. 120/ Bobbin Thread tkt 75



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