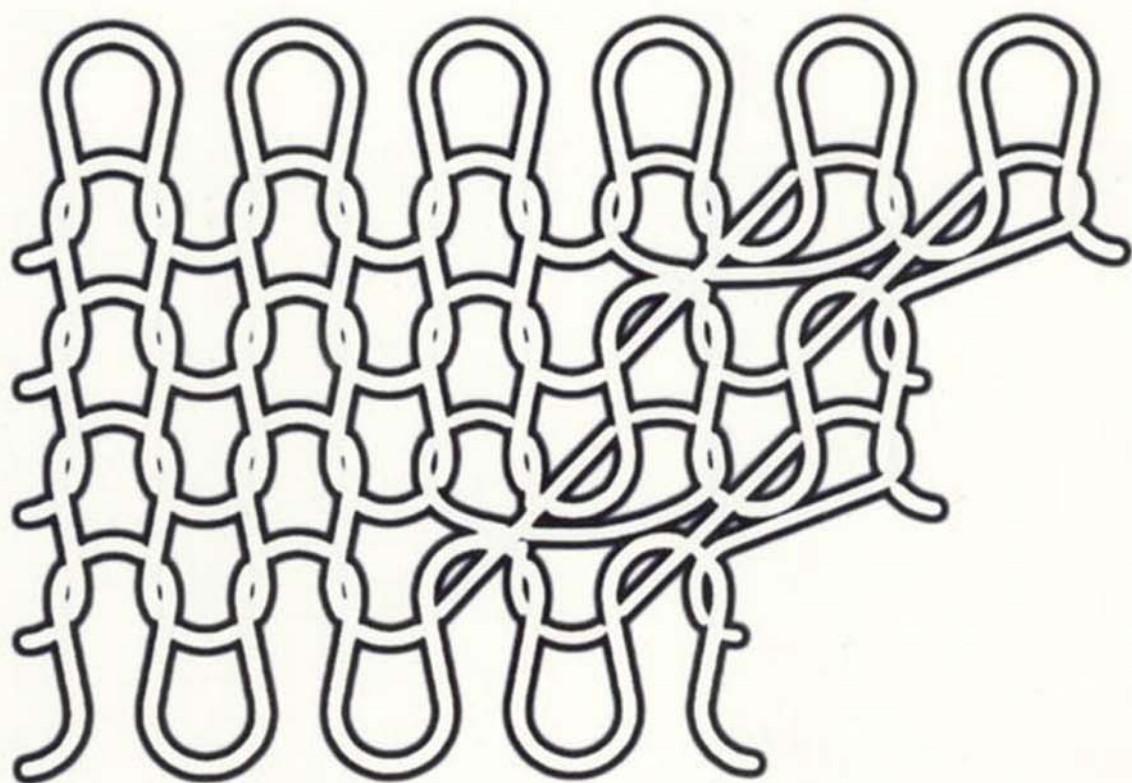


# Knitting technology

a comprehensive handbook  
and practical guide

Third edition



**David J Spencer**



WOODHEAD PUBLISHING LIMITED

# **KNITTING TECHNOLOGY**



The author, David J Spencer, C Text, FTI, ACFI, recently retired as a senior lecturer in Textile and Knitting Technology at De Montfort University, Leicester. He has been an examiner and moderator in the Manufacture of Hosiery and Knitted Goods for the City and Guilds of London Institute. He has written numerous technical articles and is Technical Editor of the journal *Knitting International* and is Contributing Editor of *ATA Journal* and *China Textile Journal*. He is Chairman of The Textile Institute Knitting Terms and Definitions Committee. He obtained his initial industrial experience with Corah of Leicester, who were then world leaders in the application of knitting technology. [Photo by Oakham Photographic.]

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*To my wife,*  
**SHIRLEY ANN**



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# Preface

The aim of this book is to combine in a single volume the fundamental principles of weft and warp knitting in such a manner that its contents are useful to readers in education, industry or commerce. It thus fulfils the long felt need for a comprehensive up-to-date textbook explaining this important sector of textile technology. Aspects covered include flat, circular, full fashioned, hosiery, Raschel, tricot and crochet production. The inclusion of the historical development of the types of machines, their actions and mechanisms as well as the construction, properties and end use of the products which they manufacture, make the book acceptable as a set text for Textile courses from technician to degree and Textile Institute examination level. It will also prove particularly suitable for professionals wishing to update or broaden their understanding of knitting.

The contents have been arranged for the convenient use of different levels of readership with the text gradually progressing from an explanation of basic terminology and principles to eventually encompass the most advanced aspects of the technology including the application of microprocessor controls and developments in knitting science. Care has been taken where possible to emphasise fundamental rules and principles which are less likely to be drastically altered by developments in later technology.

The indexed and referenced format of the text is supplemented by labelled diagrams and photographs so that the book may also serve as a handy reference work for study and business purposes. Terminology is defined either according to Textile Institute terms and definitions or current usage in the industry and is supplemented as necessary by American or continental terminology. Internationally accepted methods of notation help to clarify explanations of fabric structures. Although SI units and the tex yarn count system have been explained and used in the text, other systems of measurement and yarn count systems have also been employed wherever it has been considered that their usage is still of importance. A number of worked calculations have been included in certain chapters to further clarify explanations and assist students.

It is hoped that the inclusion of a number of fashion photographs will encourage

design and sales personnel to come to terms with technology whilst emphasizing the importance of end-product design to technologists.

This edition includes developments in electronic control and selection in warp and weft knitting. Basic software programming is covered with particular reference to shaping and integral knitting of complete garments. New information regarding the historical development of knitting techniques has also been included.

An additional chapter has been added to cover the rapidly expanding sector of technical textiles. Chapter 30 deals with the exacting requirements and end-uses of technical textiles and the type of knitted structures that can meet these conditions.

It is particularly satisfying that this book has proved useful in education, industry and commerce throughout the world. I hope the above mentioned additions will further increase its usefulness.

*Knossington*  
*Leicestershire*

DAVID J. SPENCER



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## First and second editions

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