

Textiles

Eighth Edition



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This book was set in Galliard by The Clarinda Company and was printed and bound by Courier/Kendallville, Inc. The cover was printed by Phoenix Color Corp.



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Simon & Schuster/A Viacom Company
Upper Saddle River, New Jersey 07458

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Printed in the United States of America

10 9 8 7 6 5 4 3

ISBN: 0-13-494592-1

Prentice-Hall International (UK) Limited, *London*
Prentice-Hall of Australia Pty. Limited, *Sydney*
Prentice-Hall of Canada, Inc., *Toronto*
Prentice-Hall of Hispanoamericana, S. A., *Mexico*
Prentice-Hall of India Private Limited, *New Delhi*
Prentice-Hall of Japan, Inc., *Tokyo*
Simon & Schuster Asia Pte. Ltd., *Singapore*
Editora Prentice-Hall do Brasil, Ltda., *Rio de Janeiro*

Library of Congress Cataloging-in-Publication

Kadolph, Sara J.

Textiles / Sara J. Kadolph, Anna L. Langford.

p. cm.

Rev. ed. of: Textiles / Sara J. Kadolph, et al. 7th ed. ©1993.

Includes bibliographical references and index.

ISBN 0-13-494592-1

1. Textile industry. 2. Textile fibers. 3. Textile fabrics.

I. Langford, Anna. II. Title. III. Title: Textiles.

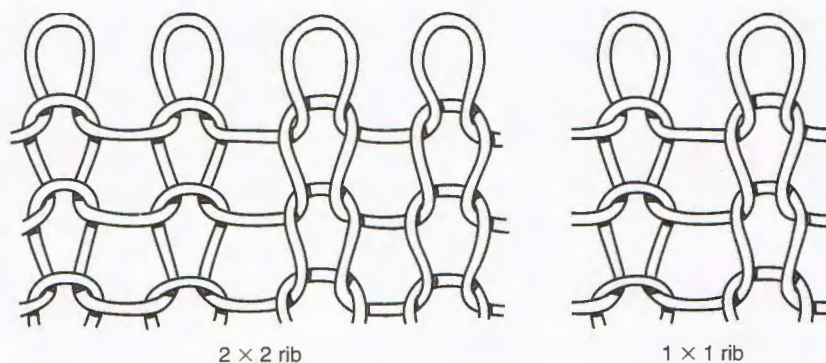
TS1446 K33 1998

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FIGURE 14-34 ♦ Rib stitches: 2×2 rib (left); 1×1 rib (right).



2×2 rib

1×1 rib

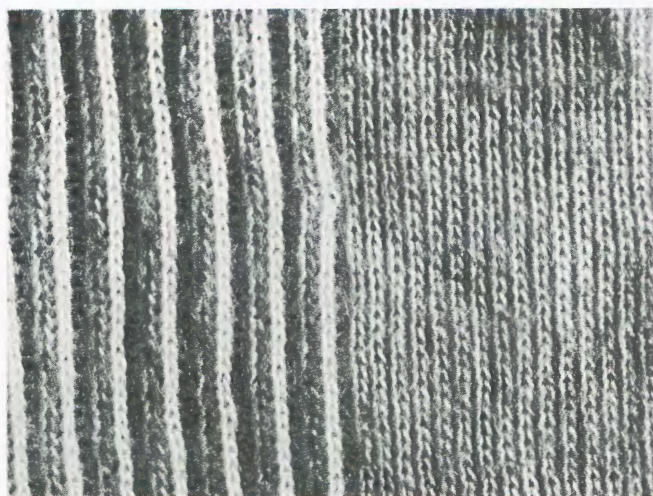
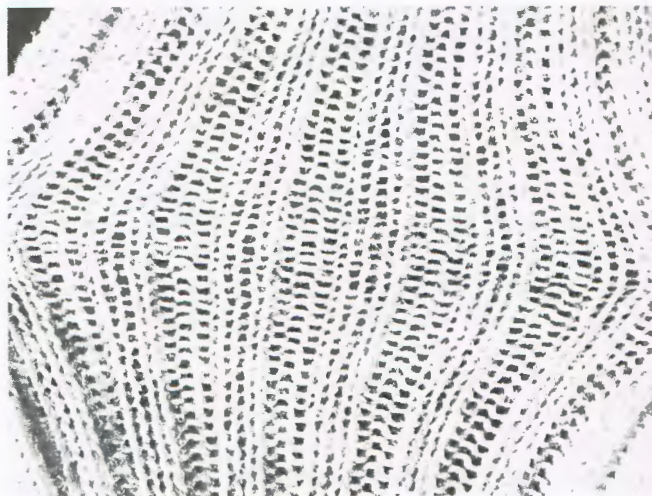


FIGURE 14-35 ♦ Rib-knit fabric: (left) fabric relaxed, left side 2×2 rib, technical face; (right) fabric stretched to show difference in stitches.

1×1 rib stitches intermeshed. (Figure 14-37 is offset for clarity.) Both sides of the fabric look alike and resemble the face of single jersey. Interlock stretches like plain jersey, but the fabric is firmer. Interlocks do not curl and fabrics run and unravel from one end only. Most interlock fabrics are plain or printed. Colored yarns can be knitted to give spot effects or horizontal or vertical stripes.

Purl Structure Purl knits usually are made on machines with two needle beds and double-hooked needles with either type of gaiting. Purl is the slowest form of knitting, but it is also the most versatile. The purl is the only filling-knitting machine that can produce all three types of filling-knit fabrics—plain, rib, and purl. Thus a purl machine can make a fabric that is part plain, part rib, and part purl.

Fabrics produced by the purl stitch are thick, wide, and short as compared to single jersey with the same number of plain stitches. Fabrics do not curl, but they

do run and may unravel from either end (see Figure 14-38).

The two major end uses for purl structures are children's and infants' wear and sweaters. Purl stitches may be used at the shoulder seams of sweaters to stabilize the garment due to less crosswise stretch compared to plain knits.

♦ WARP KNITTING

Warp knitting is unique in that it developed as a machine technique without ever having been a hand technique. Warp knitting started about 1775 with the invention of the **tricot** (pronounced tree-ko) machine by Crane of England. The tricot machine is sometimes called a warp loom because it uses one or more sets of yarns that are wound on warp beams and mounted on the knitting machine.

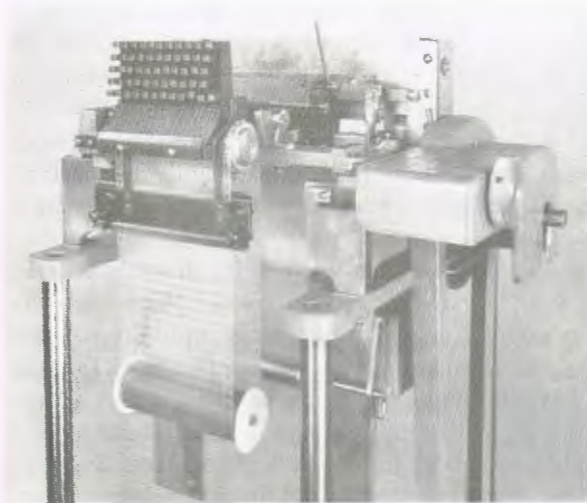
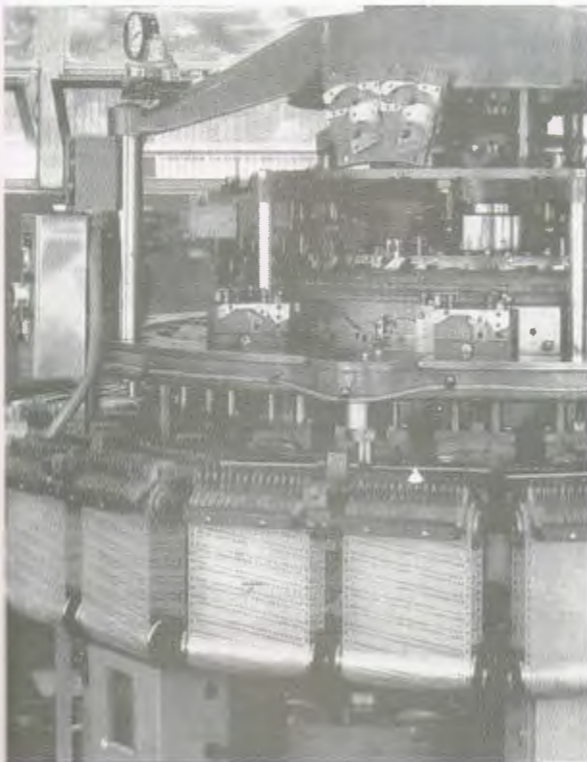


FIGURE 14-36 ♦ Jacquard knitting machine. (COURTESY OF ROCKWELL INTERNATIONAL.)

Warp knitting provides the fastest means of making fabric from yarns. It has been said that warp knits combine the best qualities of both double knits and wovens. Warp-knit fabrics tend to be less resilient and lighter weight than filling knits. They can have stability in both directions of the fabric or exhibit stretch. This is determined by the control of the knitting stitch.

Warp knitting produces a vertical-loop construction (see Figure 14-39). It is a machine process of making

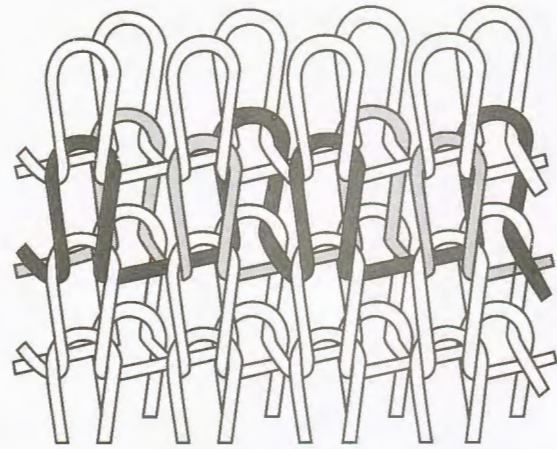


FIGURE 14-37 ♦ Interlock (diagram offset for clarity). (COURTESY OF *KNITTING TIMES*, THE OFFICIAL PUBLICATION OF NATIONAL KNITWEAR AND SPORTSWEAR ASSOCIATION.)

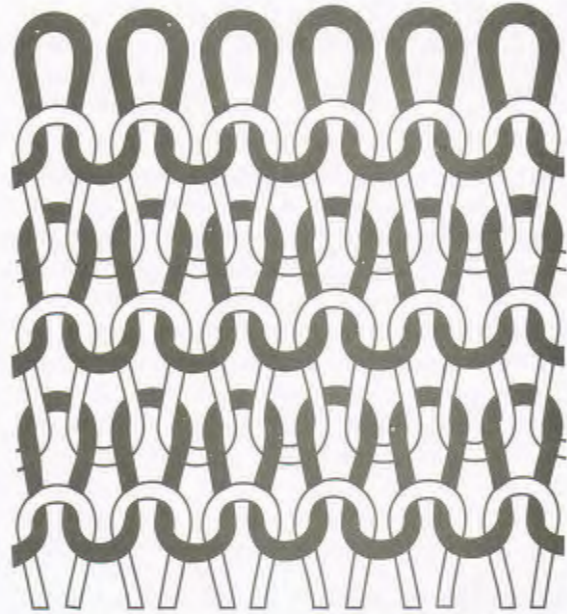


FIGURE 14-38 ♦ Purl fabric. (COURTESY OF *KNITTING TIMES*, THE OFFICIAL PUBLICATION OF NATIONAL KNITWEAR AND SPORTSWEAR ASSOCIATION.)

fabric in flat or sheet form using one or more sets of warp yarns that are fed from warp beams to a row of knitting needles extending across the width of the machine. Each set of yarns is controlled by yarn guides mounted in a guide bar that also extends across the width of the machine. Warp-knitting machines are wider than most looms. If there is one set of yarns, the machine will have one warp beam and one guide bar; if there are two sets of yarns, there will be two warp beams