

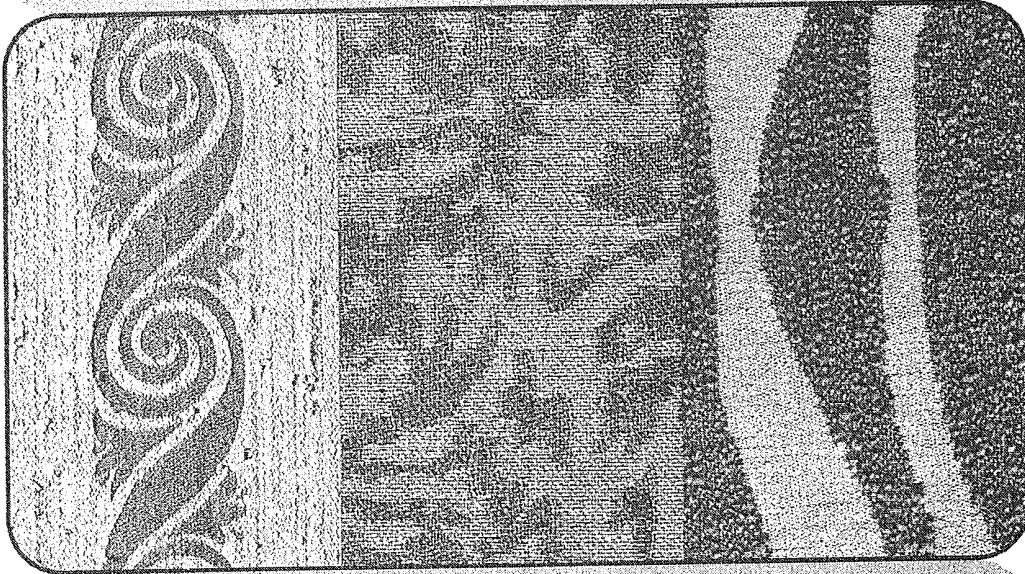
fifth edition

TEXTILES

norma hollen Professor Emeritus
IOWA STATE UNIVERSITY

jane saddler Professor Emeritus
IOWA STATE UNIVERSITY

anna l. langford Assistant Professor
IOWA STATE UNIVERSITY



Macmillan Publishing Co., Inc.
NEW YORK

Collier Macmillan Publishing
LONDON

DMC Exhibit 2079 001

Copyright © 1979, Macmillan Publishing Co., Inc.
Printed in the United States of America

All rights reserved. No part of this book may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage and retrieval system, without permission in writing from the Publisher.

Earlier editions © 1955 and copyright © 1964,
1968, and 1973 by Macmillan Publishing Co., Inc.
Some material on fabrics © 1952 by Norma
Hollen and Jane Saddler in *Modern Textiles*

Macmillan Publishing Co., Inc.
866 Third Avenue, New York, New York 10022
Collier Macmillan Canada, Ltd.

Library of Congress Cataloging in Publication Data

Hollen, Norma R
Textiles.

Includes bibliographical references and index.

1. Textile industry. 2. Textile fibers.
3. Textile fabrics. I. Saddler, Jane, joint author.
II. Langford, Anna L., joint author. III. Title.
TS1446.H6 1979 677 78-6081
ISBN 0-02-356130-0

Printing: 1 2 3 4 5 6 7 8 Year: 9 0 1 2 3 4 5

DMC Exhibit 2079 002

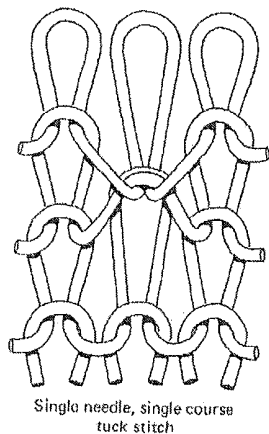


Fig. 25-8 Tuck stitch. (Courtesy of Knitting Times, official publication of National Knitted Outerwear Association.)

The word *jersey* comes from the Isle of Jersey in the English Channel. It is applied to (1) the plain weft-knit stitch, (2) a single-knit fabric—either warp or weft knit, and (3) a pullover sweater.

The single jersey structure or plain knit is widely used because it is the fastest method of weft knitting and is made on the least complicated knitting machine.

End uses for plain knit structures include hosiery, underwear of cotton or blends, shirts, T-shirts, dresses, and sweaters.

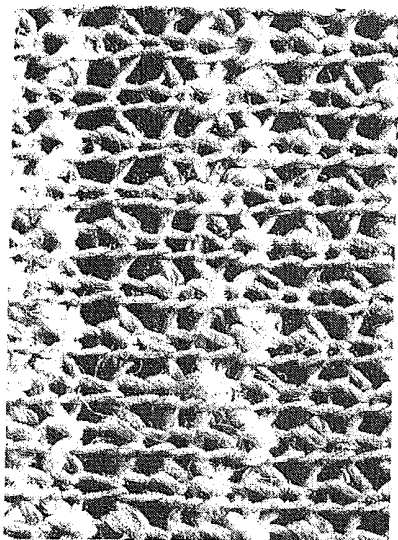
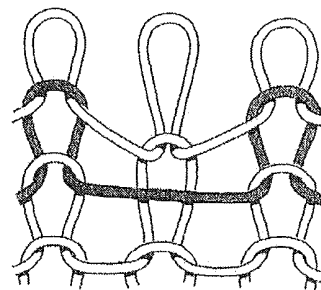


Fig. 25-9 Fabric knitted with tuck stitch.



Float Stitch

Fig. 25-10 Float or miss stitch. (Courtesy of Knitting Times, official publication of National Knitted Outerwear Association.)

Variations in plain knit are made by programming the machines to knit stitches together, to drop stitches, and to use colored yarns to form patterns or vertical stripes. Extra yarns or slivers are used to make terry cloth, velour, and fake fur fabrics.

Two stitches commonly used to make jersey variations are tuck stitch and miss stitch. *Tuck stitch* receives a new yarn on a needle but does not lose its old loop and the accumulated yarns are knitted off later (Figure 25-8). Fabrics have a lofty appearance and soft hand. Fabrics are less extensible. Tuck stitch is used to create blisters or special effects and to secure laid-in yarns or long floats of yarns on the wrong side of the fabric. Figure 25-9 shows tuck stitches in fabric. *Miss stitch* or float stitch results when a needle is held in a nonworking position as the yarn is placed on the working needles. As the yarn is carried past the working needles a float (much like that in woven fabrics) is made (Figure 25-10). It is used to carry colored yarn on the back of fabric for knitted-in designs. Miss stitches make fabrics much less extensible.

Rib Structure. A rib structure is made of face wales and back wales. The lengthwise ridges are formed on both sides of the fabric by pulling loops first to the face and next to the back of the cloth. In hand knitting, ribs are made by knitting and purling. These may be in various combinations 1×1 , 2×2 , 2×3 , and so on (Figure 25-11). Figure 25-12 shows a T-shirt fabric in rib knit.

Rib knits have the following properties: (1) they have the same appearance on the face and back, (2) the fabric has twice the extensibility crosswise as that of single jersey, (3) they do not curl at the edges, (4) they run, (5) they unravel

HANDBOOK OF TECHNICAL TEXTILES

Edited by
A R Horrocks and S C Anand



The Textile Institute



CRC Press
Boca Raton Boston New York Washington, DC

WOODHEAD PUBLISHING LIMITED
Cambridge England

DMC Exhibit 2079 004

Published by Woodhead Publishing Limited in association with The Textile Institute
Abington Hall, Abington
Cambridge CB1 6AH
England
www.woodhead-publishing.com

Published in North and South America by CRC Press LLC, 2000 Corporate Blvd, NW
Boca Raton FL 33431, USA

First published 2000, Woodhead Publishing Ltd and CRC Press LLC
© 2000, Woodhead Publishing Ltd except Chapter 16 © MOD
The authors have asserted their moral rights.

This book contains information obtained from authentic and highly regarded sources. Reprinted material is quoted with permission, and sources are indicated. Reasonable efforts have been made to publish reliable data and information, but the authors and the publishers cannot assume responsibility for the validity of all materials. Neither the authors nor the publishers, nor anyone else associated with this publication, shall be liable for any loss, damage or liability directly or indirectly caused or alleged to be caused by this book.

Neither this book nor any part may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, microfilming and recording, or by any information storage or retrieval system, without permission in writing from the publishers.

The consent of Woodhead Publishing and CRC Press does not extend to copying for general distribution, for promotion, for creating new works, or for resale. Specific permission must be obtained in writing from Woodhead Publishing or CRC Press for such copying.

Trademark notice: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation, without intent to infringe.

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library.

Library of Congress Cataloging in Publication Data
A catalog record for this book is available from the Library of Congress.

Woodhead Publishing ISBN 1 85573 385 4
CRC Press ISBN 0-8493-1047-4
CRC Press order number: WP1047

Cover design by The ColourStudio
Typeset by Best-set Typesetter Ltd, Hong Kong
Printed by St Edmundsbury Press, Suffolk, England

DMC Exhibit 2079 005

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.