

Logo

106-E, Kamla Nagar, New Delhi-110007, India.
Tel: 91-11-23843955, 23845654, 23845886, +918800733955
Mobile: +91-9811043595
Email: npcs.ei@gmail.com, info@entrepreneurindia.co
Website: www.entrepreneurIndia.co

The Complete Technology Book on Textile Spinning, Weaving, Finishing and Printing (4th Revised Edition)

Code: NI107	Format: paperback
Indian Price: ₹1875	US Price: \$150
Pages: 528	ISBN: 9788178331638
Publisher: Asia Pacific Business Press Inc.	

Description

Textile industry is one of the few basic industries, which is characterised as a necessary component of human life. One may classify it as a more glamorous industry, but whatever it is, it provides with the basic requirement called clothes. Spinning is the process of converting cotton or manmade fibre into yarn to be used for weaving and knitting. Weaving is a method of textile production in which two distinct sets of yarns or threads are interlaced at right angles to form a fabric or cloth. Finishing refers to the processes that convert the woven or knitted cloth into a usable material. Printing is the process of applying colour to fabric in definite patterns or designs.

The textile industry occupies an important position in the total volume of merchandise trade across countries. Developing countries account for little over two-third of world exports in textiles and clothing. It is the second largest employer after agriculture, providing employment to over 45 million people directly and 60 million people indirectly. The future for the textile industry looks promising, buoyed by both strong domestic consumption as well as export demand.

This book is based on the latest technology involved in textile industry, which describes the processes available at the spinning and fabric forming stages coupled with the complexities of the finishing and colouration processes to the production of wide ranges of products.

The major contents of the book are dyeing of textile materials, principles of spinning,

process preparatory to spinning, principles of weaving, textile chemicals, yarn preparation, weaving and woven fabrics, knitting and knit fabrics, nonconventional fabrics, cellulose, mixed fibers, printing compositions, printing processes, transfer dyes, transfer inks etc. It describes the manufacturing processes and photographs of plant & machinery with supplier's contact details.

It will be a standard reference book for professionals, entrepreneurs, textile mill owners, those studying and researching in this important area and others interested in the field of textile industry.

Content

1. Textile Spinning

1.1 Classification of Spinning

1.1.1 Short Staple Spinning

1.1.2 Long Staple Spinning

1.1.3 Filament Spinning

1.2 Types of Spinning Processes

1.3 Spinning Process

1.3.1 Blending

1.3.2 Carding

1.3.3 Combing

1.3.4 Gilling

1.3.5 Drawing

1.3.6 Roving

1.3.7 Spinning

1.3.8 Winding

1.3.9 Assembly Winding

1.3.10 Twisting

1.3.11 Steaming

2. How to Start Textile Spinning Business

3. The Principles of Spinning

3.1 Long Fibre Spinning

3.2 Short Fibre Spinning

4. Different Spinning Process

4.1 Spinning Process Types

4.2 Cotton Yarn Spinning Overview

4.3 Understanding Yarn

4.4 Yarn Manufacturing Process

4.4.1 Step 1 - Ginning Process of Cotton

4.4.2 Step 2-Blowing

4.4.3 Step 3-Carding

4.4.4 Step 4-Combing

4.4.5 Step 5-Drawing

4.4.6 Step 6-Roving

4.4.7 Step 7-Spinning

4.4.8 Step 8-Winding and Spooling

4.5 Machinery and Equipment used in a Cotton Mill

4.6 Spinning of Wool Yarn

4.7 Wool Yarn Spinning Process

4.8 Types of Wool Spinning Machines

4.9 Spinning of Worsted Yarn

4.10 Mule Spinning

4.11 Ring Spinning

4.12 Process of Worsted Yarn Spinning

5. Plant Layout Description of Textile Spinning Unit

6. Textile Weaving

6.1 Different Type of Weaving

6.1.1 Plain Weaving

6.1.2 Satin/Sateen

6.1.3 Jacquard Weave

6.1.4 Leno or Gauze Weave

6.1.5 Pile Fabric Weave

6.1.6 Basket Weave

6.2 Principles of Weaving Process

6.3 Yarn Requirements

6.3.1 Warp

6.3.2 Weft

6.4 Weaving Preparations

6.5 Loom Timing

6.6 Weaving Machine

6.7 The Classification of the Weaving Machinery

6.8 Steps in the Action of the Insertion of Warp and Weft Yarns in Loom to Form a Fabric

6.9 Weaving Process

6.10 Types of Loom

6.11 Weave Patterns

6.12 What is Textile Weaving Machine?

7. How to Start Textile Weaving Business

8. Yarn Preparation

8.1 Introduction

8.2 Winding

8.3 Warping

8.4 Slashing or Warp Sizing

8.5 Drawing-in and Tying-in

9. Plant Layout Description of Textile Weaving Industry

10. Textile Finishing

10.1 Types of Textile Finishing

10.1.1 Mechanical Finishing

10.1.2 Chemical Finishing

10.2 Some Requirements of Chemical Finishes Include

10.3 Factors that are Commonly Considered for Proper Formulation of the Chemical Finishes Include

10.4 The Finishes are Applied to

10.5 Routine Fabric Finishes

10.5.1 Singeing

10.5.2 Desizing

10.5.3 Scouring

10.5.4 Bleaching

10.5.5 Sizing/Stiffening

10.5.6 Degumming

10.5.7 Weighting

- 10.5.8 Tentering
- 10.5.9 Mercerization
- 10.5.10 Calendering
- 10.5.11 Carbonizing
- 10.5.12 Crabbing
- 10.5.13 Decating
- 10.5.14 Fulling/Milling
- 10.5.15 Heat Setting
- 10.5.16 Brushing
- 10.5.17 Shearing
- 10.5.18 Optical Brightening

11. How to Start Textile Finishing Business

12. The Principles of Finishing

12.1 Finishing Processes and Machines

- 12.1.1 Mending, Knotting and Burling
- 12.1.2 Scouring
- 12.1.3 Milling
- 12.1.4 Crabbing
- 12.1.5 Steaming
- 12.1.6 Dyeing
- 12.1.7 Washing-Off
- 12.1.8 Drying
- 12.1.9 Tentering
- 12.1.10 Brushing and Raising

12.1.11 Cropping or Cutting

12.1.12 Singeing

12.1.13 Pressing

12.1.14 Calendering

12.1.15 Schreincring

12.1.16 Filling

12.1.17 Conditioning

12.1.18 Waterproofing

12.2 General Notes

13. Plant Layout Description of Textile Finishing

14. Textile Printing

14.1 Origin of Textile Printing

14.2 Early Textile Printing Methods

14.3 Types of Textile Printing Methods

14.3.1 Block Printing

14.3.2 Roller Printing

14.3.3 Screen Printing

14.3.4 Heat Transfer Printing

14.3.5 Digital Printing on Fabric

14.4 Comparison between Dyeing and Printing

14.5 Textile Printing Process

14.5.1 Fabric Preparation

14.5.2 Selection of Printing Method

14.5.3 Preparation of Printing Paste

- 14.5.4 Printing Application
- 14.5.5 Fixation and Drying
- 14.5.6 Washing and After-Treatment
- 14.5.7 Finishing and Quality Control
- 14.5.8 Packaging and Dispatch

14.6 Importance of Textile Printing in the Fashion Industry

15. How to Start Textile Printing Business

16. The Principles of Designing and Colouring

- 16.1 Materials
- 16.2 Interlacing
- 16.3 The Use of Point-Paper
- 16.4 Colour
- 16.5 Figure Designing

17. The Dyeing of Textile Materials

- 17.1 Mordants
- 17.2 Assistants
- 17.3 Dyestuffs
 - 17.3.1 Mordant Dyes
 - 17.3.2 Acid-Mordant Dyes
 - 17.3.3 Acid Dyes
 - 17.3.4 The Direct Cotton Dyes
 - 17.3.5 The Basic Colours
 - 17.3.6 Dyes Applied by Special Processes
- 17.4 The Ingrain Dyes

- 17.5 Water Used in Dyeing
- 17.6 Interdependence of Processes
- 17.7 Processes Preliminary to Dyeing
- 17.8 Wool Scouring
- 17.9 "Boiling-off" Silk
- 17.10 Cotton Bleaching
- 17.11 Wool Dyeing Processes
- 17.12 Dyeing of Loose Wool
- 17.13 Slubbing (Silver)
- 17.14 Yarn Dyeing
- 17.15 Piece Dyeing
- 17.16 "Woaded Colours"
- 17.17 Blacks on Wool
- 17.18 Dark Blues, Greens, and Browns on Wool
- 17.19 Cotton Dyeing Processes
- 17.20 Fast Blacks on Cotton
- 17.21 Fast Colours on Cotton
- 17.22 Basic Colours on Cotton
- 17.23 Dyeing of Mercerized Cotton
- 17.24 Union Dyeing Processes
- 17.25 Silk Dyeing Processes
- 17.26 The Dyeing of Artificial Silk
- 17.27 Colour Matching
- 17.28 Fastness Properties of Dyes

18. Printing Compositions

18.1 Printing Pastes with Developing Dyes

18.1.1 Improved Base Printing Process

18.2 Formic Acid as Developing Medium for Azo Dyes

18.3 Auxiliary Agents in Print Formulations

18.3.1 Fixing Prints on Synthetics without Intermediate Drying

18.4 Hydroxyalkyl Carboxyalkyl Cellulose Thickening Agent

18.5 Sodium Cellulose Sulfate as Thickening and Acid-Fixing Agent

18.6 Additive for Pigmentary Printing Pastes

18.7 Salts of Diaryl Ether Sulfonic Acids

18.8 Carrier for Cationic Dyes

18.9 Dye Carrier Comprising Phenyl Cyclohexane and Derivatives

19. Printing Processes

19.1 Fixation

19.1.1 Fixation with Vapor of Organic Solvent

19.2 Dyestuffs for Methylene Chloride Fixation Processes

19.3 Improved Fixation of Reactive Dyes on Cellulose Fibers

19.3.1 Continuous Dyeing and Printing of Piece Goods

19.4 Printing Heavy Pile Fabrics with Powder Preparations

19.5 Improved Alignment of Printed Patterns

19.6 Uniform Heat-Setting of Continuous Synthetic Filament Groups

19.7 Voluminous Substrate Rolled up with Formed Dye

19.8 Continuous Printing Process by Direct Liquid Film Transfer

19.9 Method for Printing and Flocking Simultaneously

19.10 Sprayed Carriers for Continuous Print Fixation

20. Textile Chemicals

20.1 Indian Demand

20.2 Demand for Bleaching Agents

20.3 Textile Bleach Formulation

20.4 Industry Trends and Success Factors

20.5 Outlook and Opportunities

20.6 Fluorescent Whitening Agent

20.7 Usage Pattern

20.8 Industry Trends and Success Factors

20.9 Outlook and Opportunity

20.10 Flame Retardants

20.11 Halogenated Compounds

20.12 Non Halogenated Compounds

20.13 Application

20.14 Sector of Applications

20.15 Outlook and Opportunities

20.16 Bleaching Agents

20.17 Hydrogen Peroxide

20.18 Sodium Hydrosulphite (Hydros)

20.19 Sodium Hypochlorite

20.19.1 Application and Formulations

20.20 Bleaching Assistants

20.21 Chelating Agents

- 20.22 Fatty Alcohol Ethoxylate
- 20.23 Carboxy Methyl Cellulose
- 20.24 Demand
- 20.25 Acrylates
- 20.26 Industry Trends and Success Factors
- 20.27 Pattern of Use and Formulation - Starch/Modified Starch
- 20.28 The Spin Finish Compositions for Polyester and Polyamide Yarn
- 20.29 White Oil
- 20.30 Industry Trends and Success Factors
- 20.31 Warp Sizes
- 20.32 Sector of Applications for Sizing Agents
- 20.33 Filament Yarns
- 20.34 Staple or Spun Yarn
- 20.35 Starch/Modified Starch
- 20.36 Demand
- 20.37 Polyvinyl Alcohol
- 20.38 Operations Involved in the Use of the Textile Chemicals
- 20.39 Classification of Textile Chemicals
- 20.40 Classification Based on Use Pattern
- 20.41 Group Classification
- 20.42 Yarn Lubricants
- 20.43 Spin Finishing Agent

21. Transfer Dyes

- 21.1 Anthraquinones

21.1.1 Anthraquinone Ink Formulation

21.2 Anthraquinone Dyes for Synthetics

21.3 Deep Yellow Colors on Polyesters

21.4 Indolenine Methines for Acid-Modified Synthetics

21.5 Heterocyclic Naphthalene Derivatives

21.6 Printing Polyacrylonitriles with Disperse Dyes

21.7 Disperse Dyes Containing Carboxylic Acid Groups

21.8 Hydrolyzable Silyl-Substituted Dyestuffs

21.9 Nitroacridone Dyestuffs

21.10 Heat Transfer Black Dyestuff A

21.11 Heat Transfer Black Dyestuff B

21.12 Dyestuff Combinations for Long-Pile Fabrics

22. Transfer Inks

22.1 Organic Base

22.1.1 Cationic Dyes in Organic Solvents

22.2 Carbinol Base of Cationic Dyestuff as Dyestuff Intermediate

22.3 Sublimable Dyestuff Base on Acid-Modified Fibers

22.4 Aqueous and Oil in Water

22.4.1 Oil-in-Water Transfer Printing Emulsions

22.5 Aqueous Preparations of Sparingly Soluble Dyestuffs

22.6 Organic-Aqueous Printing Inks

22.7 Water-Dilutable Transfer Ink Compositions

22.8 Dry Preparation

22.8.1 Dispersing Aid for Printing Ink Preparation

22.9 Hot-Melt and Hot-Stamp Inks

22.9.1 Hot-Melt Ink Composition

22.9.2 N-Methoxymethylated Nylon Copolymer for Hot-Stamp Ink

22.10 Others

22.10.1 Production of Transfer Paper by Rotary Screen Printing

22.11 Group 1

22.12 Group 2

22.13 Transfer Inks for Household Use

22.14 Inks of High Filler Content

22.15 UV-Curable Inks for Offset-Printing Transfers

23. Nonconventional Fabrics

23.1 Introduction

23.2 Nonwoven Systems and Fabrics

23.3 Chemically or Adhesively Bonded Fabrics

23.4 Mechanically Bonded Fabrics

23.5 Tufting

23.6 Flocking

23.7 Laminated and Bonded Fabrics

23.8 Wet Adhesive Bonding

23.9 Foam-Flame Bonding

24. Synthetic Substrates

24.1 Anthraquinones

24.1.1 Nitroanthraquinones

24.2 Thiocyanomethyl-Substituted Anthraquinones

24.2.1 Tetra-a-Substituted Anthraquinone Derivatives

24.2.2 Trichromatic Dyeing of Polyacrylonitriles

24.2.3 Diverse Synthetic Substrates

24.3 Monoazo Dyestuffs

24.3.1 Water-Insoluble Monoazo Dyestuffs

24.3.2 Yellow Monoazo Dyes

24.3.3 N-b-1,2,3-Triazolyethyl Anilino Coupling Component

24.4 Mixture of Monoazo Dyestuffs for Polyesters

24.4.1 Monoazo Dye Mixtures for Navy Shades

24.5 Azo Containing Compounds

24.5.1 Water-Soluble Disazo Dyestuffs for Polyamides

24.6 Gold and Orange Prints on Polyamides

24.6.1 Bicationic Disazo and Trisazo Dyes for Acid-Modified Synthetics

24.6.2 Bisazo Dyestuffs of the 2,6-Diaminopyridine

Series

24.6.3 Heterocyclic Basic Phenylazophenyl Dyes for Polyacrylonitriles

24.6.4 Water-Insoluble Nitrophenylazophenyl Compounds

24.6.5 Having a 2-Nitro-4-Phenylsulfamoyldiphenylamine Nucleus

24.6.6 Azocoumarinic Dyes for Hydrophobia Synthetics

24.6.7 Cyanoaryl-Thiodiazole-Azo Dyestuffs

24.6.8 Dyestuffs Tolerant to Temperature and pH

Variations

24.7 Printing of Nickel-Containing Polyolefins

25. Natural and Synthetic Substrates

25.1 Anthraquinones

25.1.1 Sulfonic-Acid-Containing Anthraquinones for Polyamides

25.2 Polyfluoro Acid Anthraquinone Dyestuffs for Polyamides

25.3 Fiber-Reactive Anthraquinone Compounds

25.4 Aminoanthraquinone Reactive Disperse Dyes

25.5 Azo Compounds

25.5.1 Disazo Dyestuffs Containing Phenylmethane Sulfonic Acid and

Indole

25.6 Naphthylene and Tetrahydronaphthylene-Containing
Azo Dyestuffs

25.7 Monoazo Dyestuff Containing Fiber-Reactive Group

25.8 Cold-Water-Soluble Acid Dye Compositions

25.9 Polyvalent Metal and Azo-Barbituric Acid

25.10 Anionic and Cationic Dyes

25.10.1 Fluid and Stable Dispersions of Anionic Dyes

25.10.2 Cold-Water-Soluble Solid Anionic Dye Preparations

25.11 Heterocyclic Cationic Dyestuffs

25.12 Water-Soluble Quaternary Ammonium Phenylazo Cationic Dyes

25.13 1,2,4-Benzotriazinium Dyestuffs

26. Cellulosics

26.1 Reactive Dyes

26.1.1 Organic Dye with Phosphonic Acid Monofluoride

26.2 Aminonaphthyl Azobenzene Vinyl Type Reactive Dyes

26.3 Phthalocyanine Reactive Dyestuffs

26.4 Water-Soluble Fiber-Reactive Dyestuffs

26.5 Disperse Dyes

26.5.1 Fixation with Aliphatic Alcohols, Amines, or Aminoalcohols

26.6 Azo Dyes Having Substituted 2,6-Diaminopyridine Coupling Component

26.7 Acylating Cellulose Fibers

27. Mixed Fibers

27.1 Polyester and Wool

27.1.1 Tone-in-Tone Dyeing of Polyester-Wool Blend

27.2 Cellulosics and Synthetic Polyamides

27.2.1 Marked Reactive Dyestuff

27.3 Swellable Cellulosics And Synthetics

27.3.1 Ethoxylated Condensate of Monocarboxylic Acid and Hydroxyalkylamine

27.4 Water-Soluble Solvent and Swelling Agent

27.5 Disazo Dyes Derived from Amino-Pyrazole

27.6 Unformed Disperse Dye and Swelling Agent

27.7 Cellulosics and Synthetics

27.7.1 Unformed Disperse Dye with Reactive Dye

27.8 Textile Treated with Epoxy-Group-Containing Compounds

27.9 Impregnation with an Aqueous Composition

27.10 Blends of Natural and Synthetic Fibers

27.10.1 Aqueous Composition of Disperse and Reactive Dyestuffs

28. Plant Layout Description of Textile Printing Industry

29. BIS Standards

30. Plant Layout and Process Flow Chart & Diagram

31. Photographs of Plant and Machinery with Suppliers Contact Details

- Double Roller Gin Machine

- Carding Machine
- Weaving Machine
- Airjet Weaving Machine
- Knitting Machine
- Circular Knitting Machine
- Rapier Loom
- Air Jet Loom
- Water Jet Loom
- Needle Loom Machine
- Textile Printer
- Textile Testing Equipment
- Dyeing Jigger
- Yarn Dyeing Machinery
- Textile Washing
- Spinning Machine
- Cone Winding Machine
- Cut and Loop Tufting Machine
- Speed Frame
- Comber
- Multi Cage Screen Stretching Machine

About NIIR Project Consultancy Services (NPCS)

NIIR Project Consultancy Services (NPCS) is a reliable name in the industrial world for offering integrated technical consultancy services. Its various services are: Pre-feasibility study, New Project Identification, Project Feasibility and Market Study, Identification of Profitable Industrial Project Opportunities, Preparation of Project Profiles and Pre-Investment and Pre-Feasibility Studies, Market Surveys and Studies,

Preparation of Techno-Economic Feasibility Reports, Identification and Selection of Plant and Machinery, Manufacturing Process and/or Equipment required, General Guidance, Technical and Commercial Counseling for setting up new industrial projects and industry. NPCS also publishes various technology books, directories, databases, detailed project reports, market survey reports on various industries and profit making business. Besides being used by manufacturers, industrialists, and entrepreneurs, our publications are also used by Indian and overseas professionals including project engineers, information services bureaus, consultants and consultancy firms as one of the inputs in their research.

NIIR PROJECT CONSULTANCY SERVICES

106-E, Kamla Nagar, New Delhi-110007, India.

Tel: 91-11-23843955, 23845654, 23845886, +918800733955

Mobile: +91-9811043595

Email: npcs.ei@gmail.com, info@entrepreneurindia.co

Website: www.entrepreneurIndia.co