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NATURAL TEXTILE FIBRES

NEW
Handbook of natural fibres
Volume 1: Types, properties and factors affecting breeding and cultivation
Edited by R Kozlowski, Institute of Natural Fibres (INF), Poland

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Growing awareness of environmental issues has led to increasing demand for goods produced from natural products, including natural fibres. The two-volume Handbook of natural fibres is an indispensable tool in understanding the diverse properties and applications of these important materials.

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CONTENTS
Introduction to natural textile fibres. Part 1 Fundamentals: Types of fibres, properties, identification and testing: Cotton fibres; Bast fibres: Jute; Bast fibres: Ramie; Bast fibres: Flax; Bast fibres: Hemp cultivation and production; Silk fibres; Wool fibres; Mohair, cashmere and other animal hair fibres; Bioengineered natural textile fibres; Identification of natural textile fibres; Testing of natural textile fibres. Part 2 Improving natural fibre production through breeding and cultivation: Developments in fibrous flax breeding and cultivation; Cotton breeding and agro-technology; Flax flax cultivation in sustainable agriculture; Prevention of fungal growth in natural fibres; Genetic engineering and biotechnology of natural textile fibre plants; Wild silk: Wild silk enterprises to alleviate poverty and protect habitats.

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Handbook of worsted wool and blended suiting process
R S Tomar, Raymond Ltd, India

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NEW
Handbook of natural fibres
Volume 2: Processing and applications
Edited by R Kozlowski, Institute of Natural Fibres (INF), Poland

Woodhead Publishing Series in Textiles No. 119
Volume 2: Processing and applications focuses on key processing techniques for the improvement and broader application of natural fibres. Part one reviews processing techniques for natural fibres. Part two goes on to investigate applications of natural fibres, before a final discussion of enhancing consumer demand for natural textile fibres.

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Hyaluronan
Proceedings of an international meeting, September 2000, North East Wales Institute, UK

Edited by J F Kennedy, University of Birmingham, G O Phillips, Phillips Hydrocolloid Research Ltd, P A Williams, North East Wales Institute of Higher Education, UK and Guest editor V C Hascall, Lerner Research Institute, USA

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Regenerated cellulose fibres
Edited by C Woodings, Consultant, UK

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The chemistry and processing of wood and plant fibrous material
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Handbook of textile fibres
Volume 1: Natural fibres
J Gordon Cook
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See volume 2 - Page 4

SYNTHETIC FIBRES

Polyolefin fibres
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Polyesters and polyamides
Edited by B L Deopura, R Alagirusamy, M Joshi and B Gupta, Indian Institute of Technology, India
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‘Each chapter contains a detailed reference list and there is an excellent index.’
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**Synthetic fibres**

Nylon, polyester, acrylic, polyolefin

Edited by J E McIntyre, Professor Emeritus of Textile Industries, University of Leeds, UK

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**New fibers**

Second edition
T Hongu, Institute of Techno Strategy, Japan and G O Phillips, Phillips Hydrocolloid Research Ltd, UK

Woodhead Publishing Series in Textiles No. 7

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Journal of The Textile Institute

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**Man-made fibres and their processing**

Volume 6
W Klein

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**Handbook of textile fibres**

Volume 2: Man-made fibres
J Gordon Cook

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This book offers a comprehensive survey of the man-made fibres, including rayons and other natural polymer fibres, and the true synthetic fibres which have made such rapid progress in modern times.

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- Fundamentals of fibre structure; Natural polymer fibres: Cellulose fibres; Rayons; Cellulose ester fibres; Protein fibres; Miscellaneous natural polymer fibres; Synthetic fibres: Polyamide fibres; Polyester fibres; Polyvinyl derivative fibres; Polylefins fibres; Polyurethane fibres; Miscellaneous synthetic fibres.

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See volume 1 - Page 3

**FIBRE/FABRIC PROPERTIES AND TESTING**

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**CONTENTS**
- Part 1 Aspects of textile durability: The influence of fabric construction and fibre type on textile durability; woven, knitted and nonwoven fabrics; Strength properties of fabrics: understanding, testing and enhancing fabric strength; Dimensional stability of fabrics: resistance to shrinkage and other dimensional changes; Durable press treatments to improve the durability and wrinkle-resistance of cotton and other fabrics; Colour fastness of fabrics: mechanisms and testing; Effects of light exposure on textile durability; Testing textile durability. Part 2 Durability of particular types of textile: Durable antimicrobial textiles: types, finishes and applications; Durability of protective clothing; Durability of historic textiles; Silk durability and degradation; Durable geotextiles.

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CONTENTS
Introduction to modelling and simulation in textile technology; Neural networks and their application to textile technology; Evolutionary methods and their application to textile technology; Fuzzy logic and its application to textile technology; Computational fluid dynamics (CFD) and its application to textile technology; The finite element method (FEM) and its application to textile technology; Simulation of fibrous structures and yarns; Simulation of wound packages, woven, braided and knitted structures; Simulation of textile machinery.

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Modelling and predicting textile behaviour
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Theory of structure and mechanics of fibrous assemblies
B Neckár, Technical University of Liberec, Czech Republic and D Das, Indian Institute of Technology Delhi, India

This book discusses a system of theoretically derived inherent laws of fibrous assemblies. It includes original results of theoretical research carried out on fibrous assemblies. The topics of this book include fiber and pore characteristics in fibrous assemblies, fiber packing density and fiber orientation in fibrous assemblies, tensile behavior of fiber bundles and multiaxial systems, fiber-to-fiber contacts and compression behavior of fibrous assemblies. The chapters of this book are started with definitions, terminologies and fundamental relations.

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Handbook of textile fibre structure
Volume 1: Fundamentals and manufactured polymer fibres
Edited by S Eichhorn, University of Manchester, J W S Hearle, formerly University of Manchester, UK, M Jaffe, New Jersey Institute of Technology, USA and T Kikutani, Tokyo Institute of Technology, Japan

Woodhead Publishing Series in Textiles No. 88a

CONTENTS
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Handbook of textile fibre structure
Volume 2: Natural, regenerated, inorganic and specialist fibres
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Textile Month

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B P Saville, University of Huddersfield, UK

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Atlas of fibre fracture and damage to textiles
Second edition
J W S Hearle, B Lomas and W D Cooke, UMIST, UK

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Journal of The Textile Institute

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Monitoring and testing of manufactured fibres
Textile Progress Vol. 28 No. 2
D K Wilson

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40 pages 242 x 169mm (6 1/2 x 9 1/2) paperback 1998
ISBN: 978 1 87037 219 0
£20.00/US$35.00/€25.00
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*Not available for distribution in the USA.

Pilling
Textile Progress Vol. 28 No. 3
J O Ukponmwan, A Mukhopadhyay and K N Chatterjee

A Textile Institute publication
60 pages 242 x 169mm (6 1/2 x 9 1/2) paperback 1998
ISBN: 978 1 87037 215 2
£20.00/US$35.00/€25.00
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Mechanics of textile machinery
Gokarneshan, NIFT TEA College of Knitwear Fashion, India

This book deals with the mechanics and dynamics of textile machines. The first chapter examines various types of power drives used in textile machinery. The second chapter discusses types of gears. The third chapter deals with the design aspect of cone drums used in spinning machines. The different types and design of cams used in ring frames and looms are discussed in the following chapters. The final part of the book focuses on energy calculations in textile machines, frictional forces and their calculation, clutches and brakes.

CONTENTS
- Belt and rope drives; Gears; Design of cone drums in spinning; Types of cams in textile and their design; Equations of motion and textile application; Energy, Force and moments in textile machines; Friction in textile machines; Clutches; Sley movement.

A Woodhead Publishing India title
210 pages 234 x 156mm (6 x 9) hardback 2012
Approx. £95.00/US$160.00/€115.00
www.woodheadpublishing.com/9780857091048
Specialist yarn and fabric structures
Developments and applications
Edited by R H Gong, University of Manchester, UK
Woodhead Publishing Series in Textiles No. 123

This book reviews specialist yarn and fabric structures. Written by an international team of contributors, the text discusses the different types of specialist yarn structures such as hybrid yarns, fancy yarns and rope structures. Fabrics made from specialist weave structures are also discussed. The final part of the book explores multicomponent structures such as pile fabrics, jacquard woven fabrics and flocked fabrics.

CONTENTS
Compound yarns (core-spun yarns); Developments in hybrid yarns; Developments in rope structures and technology; Developments in fancy yarns; Developments in 3D knitted structures; Developments in leno weave fabrics; Developments in triaxial woven fabrics; Interwoven fabrics and their applications; Pile carpets; Developments in Jacquard woven fabrics; Developments in 3D nonwovens; Flocked fabrics and structures; Knotted fabrics; Developments in braided fabrics.

Published in association with The Textile Institute
384 pages 234 x 156mm (6 x 9) hardback 2011
ISBN: 978 1 84569 757 0  E-ISSN: 978 0 85709 393 6
£145.00/US$245.00/€175.00
www.woodheadpublishing.com/9781845697570

A practical guide to quality management in spinning
B Purushothama, Textile Consultant, India

This book provides an introduction to quality management in spinning operations. Chapters discuss the impact of yarn parameters on spinning and the causes of quality and other problems related to spinning.

CONTENTS
Introduction to quality management; Product quality objectives; Impact of yarn parameters at customer’s end; Reasons for poor quality in spinning; Normal problems and non-conformities - process wise; Normal complaints from customers; Process control studies; Control points and check points; Role of technicians in quality management.

A Woodhead Publishing India title
254 pages 234 x 156mm (6 x 9) hardback 2011
ISBN: 978 0 85709 006 5  E-ISSN: 978 0 85709 395 0
£95.00/US$160.00/€115.00
www.woodheadpublishing.com/9780857090065

Advances in yarn spinning technology
Edited by C A Lawrence, University of Leeds, UK
Woodhead Publishing Series in Textiles No. 99

CONTENTS
Part 1 Introduction to yarn spinning and structure: Overview of developments in yarn spinning technology; Fundamental principles of ring spinning of yarns; Fundamental principles of open end spinning of yarns; Blending and composite yarn spinning; Yarn structure and properties from different spinning techniques; Yarn structural requirements for knitted and woven fabrics. Part 2 Advances in particular yarn spinning technologies: Developments in ring spinning; Siro and solo spinning of yarns; Compact spinning technology for yarns; Rotor spinning of yarns; Friction spinning of yarns; Air-jet spinning of yarns; Hollow spindle spinning of yarns; Self-twist spinning of yarns; Minimizing fibre damage caused by spinning; Spin finishes for textiles.

Published in association with The Textile Institute
464 pages 234 x 156mm (6 x 9) hardback 2010
ISBN: 978 1 84569 444 9  E-ISSN: 978 0 85709 021 8
£155.00/US$265.00/€185.00
www.woodheadpublishing.com/9781845694449

Technical textile yarns
Edited by R Alagirusamy and A Das, Indian Institute of Technology, New Delhi, India
Woodhead Publishing Series in Textiles No. 101

CONTENTS
Part 1 Advances in textile yarn production: Introduction: types of technical textile yarn; Advances in yarn spinning and texturising; Modification of textile yarn structures for functional applications; Yarn hairiness and its reduction. Part 2 Types of technical yarns: Novel technical textile yarns; Coatings for technical textile yarns; Engineering finer and softer textile yarns; Electro-conductive textile yarns; Shape memory polymer yarns; Plasma-treated yarns for biomedical applications; Technical sewing threads; Sustainable textile yarns; Yarn and fancy yarn design using three-dimensional computer graphics and visualization techniques.

Published in association with The Textile Institute
634 pages 234 x 156mm (6 x 9) hardback 2010
ISBN: 978 1 84569 549 1  E-ISSN: 978 1 84569 947 5
£170.00/US$290.00/€205.00
www.woodheadpublishing.com/9781845695491

Modern approach to maintenance in spinning
N Nijjawan, Textile Specialist

CONTENTS
Need of maintenance; Role of maintenance; Proactive maintenance; Planning and scheduling; Maintenance audit; Role of manpower in maintenance; Maintenance repair inventory and its control; Maintenance information systems; Safety while maintenance; Lubricants; Belt drive and its maintenance; Steel wire and chain; Temporary fasteners; Oil and Gasket; Gears; Compressed air; Bearing maintenance; Tools; Tips to fine tune the spinning machinery; Tips to improve energy saving in spinning mills.

A Woodhead Publishing India title
464 pages 234 x 156mm (6 x 9) hardback 2010
ISBN: 978 0 85709 000 3  E-ISSN: 978 0 85709 405 6
£115.00/US$195.00/€140.00
www.woodheadpublishing.com/9780857090003

High speed spinning of polyester and its blends with viscose
S Y Nanal, Textile Consultant

CONTENTS
Concept of high speed spinning; Historical perspective; Getting ready to go for high speed spinning; Control on processing parameters; Economics of high speed spinning; High speed spinning - Tomorrow; Live case studies; Saluting the Pioneers.

A Woodhead Publishing India title, Published in Association with The Textile Association of India
134 pages 234 x 156mm (6 x 9) hardback 2009
ISBN: 978 81 908001 1 2  E-ISSN: 978 0 85709 409 4
£75.00/US$130.00/€90.00
www.woodheadpublishing.com/9788190800112

Hybrid yarns and textile preforming for thermoplastic composites
Textile Progress Vol. 38 No. 4
R Alagirusamy, IIT, India, R Fanguero, University of Minho, Portugal, V Ogale and N Padaki, IIT, India

This issue of Textile Progress reviews developments in polymer composites which are increasingly gaining importance as substitute materials for metals in the aerospace, automotive, marine, sporting goods and electronic industries.

CONTENTS
Types of hybrid yarns; Characterization of hybrid yarns; Textile performing; Manufacture of thermoplastic composites with hybrid yarns and textile preforms; Compaction and consolidation of hybrid yarns; Hybrid yarn structure – composite property relations; Potential application areas for thermoplastic composites; Trends in thermoplastic composite applications.

Published in association with The Textile Institute
76 pages 242 x 169mm (6 1/2 x 9 1/2) paperback 2006
ISBN: 978 1 84569 292 6
£65.00/US$110.00/€80.00
www.woodheadpublishing.com/9781845692926
*Not available for distribution in the USA.

Handbook of yarn production
Technology, science and economics
P R Lord, Professor Emeritus, NCSU, USA

Woodhead Publishing Series in Textiles No. 28

CONTENTS
Review of yarn production; Textile products and fiber production; Common principles; Filament yarn production; Carding and prior processes for short-staple fibers; Sliver preparation; Short-staple spinning; Long-staple spinning; Post-spinning processes; Staple systems and modified yarn structures; Quality and quality control; Economics of staple yarn production.

Published in association with The Textile Institute
504 pages 244 x 172mm (6 1/2 x 9 1/2) hardback 2003
ISBN: 978 1 85573 865 2  E-ISSN: 978 1 85573 866 9
£170.00/US$290.00/€205.00
www.woodheadpublishing.com/9781855736962
Fancy yarns
Their manufacture and application
R H Gong and R M Wright, UMIST, UK
Woodhead Publishing Series in Textiles No. 24
CONTENTS
Historical development; The size of the market for fancy yarns; Manufacturing attitudes and the applications of fancy yarns; Introduction to fancy yarn structures and analysis of fancy yarns; Structures and formation of fancy yarns; Manufacturing techniques; The design and application of fancy yarns; The marketing of fancy yarns.
Published in association with The Textile Institute
172 pages 234 x 156mm (6 x 9) hardback 2002
£150.00/US$255.00/€180.00
www.woodheadpublishing.com/9781855735774

Yarn hairiness: A further update
Textile Progress Vol. 31 No. 4
A Barella and A M Manich
A Textile Institute publication
42 pages 242 x 169mm (6 1/2 x 9 1/2) paperback 2002
ISBN: 978 1 87037 249 7
£25.00/US$40.00/€30.00
www.woodheadpublishing.com/9781870372497
*Not available for distribution in the USA.

Yarn texturing technology
J W S Hearle, L Hollick and D K Wilson
Woodhead Publishing Series In Textiles No. 21
CONTENTS
The origins of texturing; Scientific and engineering principles in twist-texturing; Scientific and engineering principles in other texturing processes; False-twist process; False-twist textured yarns; BCF processes and yarns; Air-jet texturing and yarns; Quality assurance; Textile yarn logistics; Retrospect and prospect.
Published in association with The Textile Institute
320 pages 234 x 156mm (6 x 9) hardback 2001
£170.00/US$290.00/€205.00
www.woodheadpublishing.com/9781855735750

Progression air-jet spinning
Textile Progress Vol. 29 No. 3
A Basu
This review in the Textile Progress series covers the history and development of air-jet spinning technology, the economic aspects, and the properties of yarns and fabrics produced by this technology.
A Textile Institute publication
40 pages 242 x 169mm (6 1/2 x 9 1/2) paperback 1999
ISBN: 978 1 87037 235 0
£20.00/US$35.00/€25.00
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Yarn production
Theoretical aspects
P Grosberg and C Lyse
A Textile Institute publication
210 pages 234 x 156mm (6 x 9) paperback 1999
ISBN: 978 1 87037 203 9
£65.00/US$110.00/€80.00
www.woodheadpublishing.com/9781870372039
*Not available for distribution in the USA.

The technology of short-staple spinning
Volume 1
2nd edition
W Klein
A Textile Institute publication
48 pages 234 x 156mm (6 x 9) paperback 1998
ISBN: 978 1 87081 298 6
£20.00/US$35.00/€25.00
www.woodheadpublishing.com/9781870812986
*Not available for distribution in the USA.

Advanced fiber spinning technology
T Nakajima, Society of Fibre Science and Technology, Japan
CONTENTS
Fundamentals of spinning; Melt spinning; Solution spinning; Spinning for nonwovens; The spinning of highly aesthetic fibres; Fibre spinning of anisotropic polymers; Spinning of thermotropic liquid-crystal polymers; Gel spinning processes; Spinning of ultra-fine fibres; Spinning of optical fibres.
256 pages 234 x 156mm (6 x 9) hardback 1994
£135.00/US$230.00/€160.00
www.woodheadpublishing.com/9781855731820

Woolen yarn manufacture
R T D Richards and A B Sykes
A Textile Institute publication
78 pages 242 x 169mm (6 1/2 x 9 1/2) paperback 1994
ISBN: 978 1 87081 218 4
£35.00/US$60.00/€40.00
www.woodheadpublishing.com/9781870812184
*Not available for distribution in the USA.

New spinning systems
Volume 5
W Klein
A Textile Institute publication
50 pages 242 x 169mm (6 1/2 x 9 1/2) paperback 1993
ISBN: 978 1 87081 255 9
£20.00/US$35.00/€25.00
www.woodheadpublishing.com/9781870812559
*Not available for distribution in the USA.

FABRIC TECHNOLOGIES

NEW
Applications of neural networks in textiles
M Senthilkumar, PSG College of Technology, India
Applications of neural networks in textiles addresses the fundamentals of Artificial Neural Networks (ANN) such as neurons, layers in the network, learning algorithms, training patterns, classification of neural networks and their applications. The book also discusses the applications and benefits of ANN in various aspects of textile manufacturing processes, such as spinning, weaving, chemical processing, polymer processing, apparel manufacturing, technical textiles and effluent treatment.
CONTENTS
Artificial neural networks (ANN); Neural network applications; Use of ANN in spinning; Chemical processing; Polymer processing; Apparel industry; Technical textiles; Effluent treatment; Challenges encountered by ANN applications in textiles; Future trends.
A Woodhead Publishing India title
300 pages 234 x 156mm (6 x 9) hardback Q3 2013
Approx. £105.00/US$180.00/€125.00
www.woodheadpublishing.com/9780857098238

NEW
Innovative jacquard textile design using digital technologies
F Ng, Hong Kong Polytechnic University and J Zhou, Zhejing Sci-Tech University, China
Woodhead Publishing Series in Textiles No. 145
Jacquard weaving machines are capable of producing particularly intricate weave designs. Traditional design techniques for jacquard fabrics are highly skilled, labour-intensive and depend on a degree of trial and error. This book reviews the application of digital textiles both to speed up the process and increase the range and complexity of jacquard textile designs, including the use of colour as well as novel simulative effects in fabric design.
CONTENTS
Introduction to jacquard textile design; The development of jacquard fabrics and jacquard textile design methods; Principles and methods of digital jacquard design; Compound structure design of jacquard textiles; Full colour compound structure design of jacquard textiles; Novel simulative effects in jacquard textile design; Design of figured shot-effect and figured double-face effect jacquard textiles; Future trends in digital jacquard textile design.
Published in association with The Textile Institute
300 pages 234 x 156mm (6 x 9) hardback Q3 2013
Approx. £140.00/US$240.00/€170.00
www.woodheadpublishing.com/9781845697112

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NEW
Mechanisms of flat weaving technology
V Choogin, Kherson National Technical University, Ukraine, P Bandara, University of Leeds, UK and E Chepelyuk, Kherson National Technical University, Ukraine
Woodhead Publishing Series in Textiles No. 144
In order to create woven fabrics the engineer must choose the appropriate type of weaving machine to produce the specific woven fabric structure required. It is also essential to understand the functioning of all mechanisms of the chosen weaving machine type such as conditions of tension on the warp. This book discusses each stage of the weaving cycle and the associated mechanisms involved. Topics include mechanisms for warp release, shedding, weft supply and picking, fabric formation and take up.

CONTENTS
Classification and mechanisms of weaving machines; Weaving machine mechanisms for warp release and tension control; Warp shedding operations in weaving; The supply of weft on weaving machines; Woven fabric formation; Woven fabric structures; Control of woven fabric quality; Appendix: Glossary of weaving terms.

Published in association with The Textile Institute
240 pages 234 x 156mm (6 x 9) hardback Q3 2013 ISBN: 978 0 85709 780 4 E-ISBN: 978 0 85709 785 9
Approx. £125.00/US$210.00/€150.00
www.woodheadpublishing.com/9780857097804

NEW
Industrial practices in weaving preparation
M K Singh, GCTI Kanpur, India
Industrial practices in weaving preparation covers the basic concepts of winding, warping and sizing processes. It includes critical comparisons between various industrial concepts, practices and processes of winding, warping and sizing. Weaving preparatory machine manufacturers have registered remarkable developments and innovations in this field and this book covers all the latest developments in this area.

CONTENTS
Introduction to weaving preparatory; Winding; Warping; Sizing; Drawing-in.

A Woodhead Publishing India title
200 pages 234 x 156mm (6 x 9) hardback Q2 2013 ISBN: 978 0 85709 825 2 E-ISBN: 978 0 85709 838 2
Approx. £95.00/US$160.00/€115.00
www.woodheadpublishing.com/9780857098252

NEW
Textiles and fashion
Materials, design and technologies
Edited by R Sinclair, The Sinclair Consultancy, UK
Woodhead Publishing Series in Textiles No. 126
This textbook is intended for those studying A-levels, diplomas or undergraduate programs that focus on textiles and fashion. It provides a clear and systematic approach to the fundamentals of topics such as textile fibres, fabric manufacture, textile dyeing, apparel design and manufacture. Developments such as environmental and sustainability, smart textiles and the integration of technology into the textile and fashion industry are also discussed. Case studies are incorporated to demonstrate practical aspects of the topic.

Each chapter includes a summary to emphasise the key points and a comprehensive self-review section for the student.

CONTENTS
Part 1 Fibre types: Understanding textile fibres and their properties; Natural fibres: vegetable fibres; Natural fibres: animal fibres; Synthetic fibres: regenerated cellulose fibres; Synthetic fibres: polyamide fibres; Synthetic fibres: polyolefin, elastomeric and acrylic fibres; Synthetic fibres: non-polymer fibres. Part 2 Manufacturing textiles: Fibre to yarn: an introduction; Fibre to yarn: staple yarn spinning; Fibre to yarn: filament yarn spinning; Yarn to fabric: an introduction; Yarn to fabric: weaving; Yarn to fabric: knitting; Yarn to fabric: nonwoven fabrics; Yarn to fabric: specialist fabric structures; Yarn to fabric: intelligent textiles; Fabric finishing: an introduction; Fabric finishing: joining fabrics and fastenings; Fabric finishing: textile wet processing; Fabric finishing: dyeing and colouring; Fabric finishing: printing textiles; Applications of textile products; Sustainable textile production. Part 3 Developing textile products: the case of apparel; Fashion and culture; Design techniques for apparel; Computer assisted design (CAD) and computer-assisted manufacture (CAM) of apparel and other textile products; Garment manufacture; Adding functionality to garments; The marketing of fashion; Care of apparel products.

700 pages 234 x 156mm (6 x 9) hardback Q3 2013 ISBN: 978 1 84569 931 4 E-ISBN: 978 0 85709 561 9
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NEW
Process control and yarn quality in spinning
G Thilagavathi and T Karthik, P Senthilkumar, PSG College of Technology, India
Process control and yarn quality in spinning outlines the concepts of raw material selection, control of various process parameters to optimise the process conditions, and analysis and interpretation of various types of test reports to find out the source of fault. Chapters also discuss count and strength variation, yarn evenness and imperfections, and control of productivity. Real time examples and case studies are also presented.

CONTENTS
Scope for process and quality control in spinning; Statistical techniques in quality control; Cotton fibre selection and bale management; Yarn realization and waste control; Control of neps and fibre rupture; Count and strength variation; Yarn evenness and imperfections; Analysis of yarn faults and package defects; Control of productivity; Examples and case studies.

A Woodhead Publishing India title
300 pages 234 x 156mm (6 x 9) hardback Q2 2013 ISBN: 978 0 85709 820 7 E-ISBN: 978 0 85709 833 7
Approx. £105.00/US$180.00/€125.00
www.woodheadpublishing.com/9780857098207

NEW
Processing of knitted fabrics
P Senthilkumar, PSG College of Technology, India
Processing of knitted fabrics covers the entire spectrum of preparatory processes, colouration and finishing of cotton, wool, synthetic and blended knits. This book provides comprehensive information about quality control in processing of knits and testing of processed knit fabrics. It also covers processing of knitted apparel, including preparatory processes, colouration and finishing.

CONTENTS
Preparatory processes; Colouration of knits; Finishing of knits; Quality control in processing of knits; Testing of processed knit fabric; Processing of knitted apparel.

A Woodhead Publishing India title
250 pages 234 x 156mm (6 x 9) hardback Q2 2013 ISBN: 978 0 85709 819 1 E-ISBN: 978 0 85709 832 0
Approx. £95.00/US$160.00/€115.00
www.woodheadpublishing.com/9780857098191
NEW

Process control in textile manufacturing
Edited by A Majumdar, A Das, R Alagirusamy and V K Kothari, Indian Institute of Technology, India
Woodhead Publishing Series in Textiles No. 131
Process control in textile manufacturing provides a vital overview of process control across the entire process of textile manufacture, ranging from yarn manufacture through to textile applications. Part one introduces key issues associated with process control and principles of control systems in textile manufacturing, before part two goes on to consider control in fibre production and yarn manufacture. Finally, part three explores process control in the manufacture, colouration and finishing of knitted, woven, nonwoven, dyed and printed textiles, with additional focus on process control in apparel manufacturing.

CONTENTS

544 pages 234 x 156mm (6 × 9) hardback Q1 2013 ISBN: 978 0 85709 027 0 E-ISBN: 978 0 85709 563 3 Approx. £165.00/US$280.00/€200.00 www.woodheadpublishing.com/9780857090270

NEW

Woven textiles
Principles, technologies and applications
Edited by K Gandhi, Consultant, UK
Woodhead Publishing Series in Textiles No. 125
Woven textiles: Principles, developments and applications provides an essential overview of the manufacture, structure and application of these important textiles. Part one explores key preparatory techniques and the fundamentals of weaving technology. The characteristics of woven structures are then discussed in greater depth in part two. Part three focuses on the application of woven textiles to a wide range of technologies.

CONTENTS
Part 1 Yarns and weaving technology: Types and properties of fibres and yarns used in weaving; Yarn preparation for weaving: winding; Yarn preparation for weaving: warping; Yarn preparation for weaving: sizing; The fundamentals of weaving technology. Part 2 Woven structures: Woven structure and their classification; Computer assisted design (CAD) systems for woven textile design; Modelling the structure of woven fabrics; 3D woven structures and methods of manufacture. Part 3 Applications of woven textiles: Woven textiles for automotive interiors and other transport applications; Woven apparel fabrics; Woven fabrics for geotextiles; Hollow woven fabrics; Woven textiles for medical applications.

Published in association with The Textile Institute
488 pages 234 x 156mm (6 × 9) hardback 2012 ISBN: 978 1 84569 930 7 E-ISBN: 978 0 85709 558 9 £155.00/US$265.00/€185.00 www.woodheadpublishing.com/9781845699307

NEW

Woven cloth preparation and production planning
J Hayavadana, Osmania University, India
Woven cloth preparation and production planning is a comprehensive review of various types of weaves and their production in the weaving process. This book discusses the weaving preparation and the type of yarns used in warp and weft directions and explains the need and use of special yarns, such as fancy yarns and yarns prepared on modern spinning systems. It is the first time both elementary and advanced fabric design is dealt with in an in-depth analysis.

The book also includes general subjects like ornamentation of plain cloth, fabric engineering and fabric structure.

A Woodhead Publishing India title
350 pages 234 x 156mm (6 × 9) hardback Q1 2013 ISBN: 978 0 85709 814 6 E-ISBN: 978 0 85709 827 6 Approx. £105.00/US$180.00/€125.00 www.woodheadpublishing.com/9780857098146

NEW

Advances in knitting technology
Edited by K F Au, Hong Kong Polytechnic University, Hong Kong
Woodhead Publishing Series in Textiles No. 89
This book is an important text for designers, engineers and technicians involved in the manufacture and use of knitted textiles and garments. The first set of chapters begins with a review of the fundamental principles of knitting, including types of knitting and properties achieved. Part two of the book reviews the major technological advances in knitting such as advances in weft knitting and knitted fabric composites. Part three discusses technical knitted applications such as medical textiles.

CONTENTS
Part 1 Introduction: Fundamentals of knitting: Types and suitability of yarns for knitting; The physical properties of weft knitted structures; Modelling of knitting. Part 2 Advances in knitting: Intelligent yarn delivery systems in weft knitting; Advances in warp knitted fabric production; Wett knitted structures for industrial applications; Advances in circular knitting; Knitted fabric composites; Quality control in the knitting process and common knitting faults. Part 3 Case studies: Advanced knitted products: Women’s apparel; Knitted underwear; Knitted structures for sound absorption; Wett knitted structures for moisture management.

Published in association with The Textile Institute
346 pages 234 x 156mm (6 × 9) hardback 2011 ISBN: 978 1 84569 372 5 E-ISBN: 978 0 85709 062 1 £135.00/US$230.00/€160.00 www.woodheadpublishing.com/9781845693725

Training and development of technical staff in the textile industry
B Purushothama, Textile Consultant, India
There are a number of books and articles available dealing with technology and management separately, but explaining how these techniques could be used in the daily life of a supervisor is very few. Training and development of technical staff in the textile industry explains various aspects of management related to working on the shop floor by supervisory staff. This book is a practical guide for firms looking to develop their supervisory staff.

CONTENTS
Technical staff development; Technical staff - the middle management; Policy deployment and middle management; Job description; Leadership and self development; Individuals and teams; Decision-making process; Communication and supervision; Testing and cost of quality; Problem solving and change management; Supervisors and customer orientation; Quality management and assurance; Practical competency and underpinning knowledge; Control points and check points; Normal problems and nonconformities.

A Woodhead Publishing India title
270 pages 234 x 156mm (6 × 9) hardback 2011 ISBN: 978 0 85709 581 7 E-ISBN: 978 0 85709 584 8 £95.00/US$160.00/€115.00 www.woodheadpublishing.com/9780857095817
Innovation in linen manufacture
Textile Progress Vol. 37 No. 3
M A Hann, University of Leeds, UK

CONTENTS
Flax fibre and its cultivation; Fibre extraction; Yarn formation and winding; Fabric formation; Bleaching; The dyeing of linen; The printing of linen fabrics; The finishing of linen and linen blends; Commercial considerations; Summary of the major developments of the past few decades.
48 pages 242 x 169mm (6 1/2 x 9 1/2) paperback 2005 ISBN: 978 1 84569 056 4
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www.woodheadpublishing.com/9781845690564
*Not available for distribution in the USA.

Air-jet weft insertion
Textile Progress Vol. 29 No. 4
L Vangheluwe

A Textile Institute publication
64 pages 242 x 169mm (6 1/2 x 9 1/2) paperback 1999 ISBN: 978 1 87037 225 1
£20.00/US$35.00/€25.00
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Weaving Technology and operations
A Ormerod and W S Sondhelm

Woodhead Publishing Series in Textiles No. 3
P R Lord and M H Mohamed, NCSU, USA

CONTENTS
An introduction to weaving technology; From hand knitting to frame knitting; General terms and principles of knitting technology; Basic mechanical principles of knitting technology; Elements of knitted loop structure; Comparison of weft and warp knitting; The four primary base weft knitting structures; The various types of weft knitting machines; Stitching produced by varying the sequence of knitted structures; The various types of weft and warp knitting; The four primary base weft technology; Elements of knitted loop structure; Comparison of the major developments of the past few decades. 408 pages 200 x 128mm (5 x 8) paperback 1982 ISBN: 978 1 85573 483 8 E-ISBN: 978 1 85573 502 9
£40.00/US$70.00/€50.00
www.woodheadpublishing.com/9781855734838

COLOURATION AND FINISHING

NEW
Joining textiles
Principles and applications
Edited by I Jones, TWI and G Stylios, Heriot-Watt University, UK

Woodhead Publishing Series in Textiles No. 110
For any fabric structure, the ability to understand how to join fabrics together and maintain the integrity of the join is critical. After an introductory chapter on types of fabric and their joining properties, the first part of this important book reviews stitching and sewing technologies and factors affecting seam performance. The second part of the book discusses adhesive bonding of textiles, whilst a third group of chapters covers techniques such as ultrasonic, laser and radio frequency welding as well as heat sealing. A final group of chapters looks at applications. This book is an important reference for textile technologists, fibre scientists, textile engineers and those in academia.

CONTENTS
Types of fabric and their joining requirements. Part 1 Sewing technology: The mechanics of stitching; The sewing of textiles; Mechanisms of sewing machines; Problems relating to sewing; The quality and performance of sewn seams; Intelligent sewing systems for garment automation and robotics. Part 2 Adhesive bonding of textiles: Adhesive bonding of textiles: Principles, types of adhesive and methods of use; Adhesives bonding of textiles: Applications; Bonding requirements in coating and laminating of textiles. Part 3 Welding technologies: The use of heat sealing, hot air and hot wedge to join textile materials; Ultrasonic and dielectric welding of textiles; Laserseaming of fabrics; Properties and performance of welded or bonded seams. Part 4 Applications of Joining textiles: The appearance of seams in non-iron shirts; Seams in car seat coverings: properties and performance; Joining of wearable electronic components; Joining of technical textiles with stringent seam demands; Nonwoven materials and joining techniques; Epilogue: Joining textiles.

Published in association with The Textile Institute
672 pages 234 x 156mm (6 x 9) hardback Q1 2013 ISBN: 978 1 84569 627 6 E-ISBN: 978 0 85709 396 7 Approx. £175.00/US$300.00/€210.00
www.woodheadpublishing.com/9781845696276

Handbook of nonwovens
Edited by S Russell, University of Leeds, UK

Woodhead Publishing Series in Textiles No. 58
CONTENTS
Development of the nonwovens industry; Dry-laid web formation; Wet-laid formation; Polymer-laid web formation; Mechanical bonding; Thermal bonding; Chemical bonding; Chemical and mechanical finishing; Characterisation, testing and modelling of nonwovens fabrics.
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Colouration and finishing

NEW Advances in the dyeing and finishing of technical textiles
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Dyeing and finishing techniques can play a critical role in the functionality of technical and other textiles. This important book reviews major advances in this field. Part one reviews advances in dyes and colourants such as chromic materials, optical effects, pigments, antimicrobial and water-repellent dyes. Part two reviews advances in finishing techniques such as mechanical and enzymatic techniques, softening treatments, surfactants, printing, coating and lamination.

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NEW Chemical processing of textile materials
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NEW Guide to wet textile processing machines
J N Shah, M S University of Baroda, India

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CONTENTS
Fundamentals of wet textile processing machines; Yarn preparatory machines; Machines for preparation of fabric - woven; Machines for preparation of fabric - non-woven; Machines for garment processing; Technical aspect and selection criteria for machine used at various stages; Working principle of all machines included; Comparative aspect with reference to advantages and limitation; Resent developments in era of wet processing machines; Manufacturers in India and abroad; Guidelines for processors for selection of machine.

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NEW Colour design
Theories and applications
Edited by J Best, Colour Management Consultant, UK

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This important book summarises the wealth of recent research on colour and its use in design. The first part of the book reviews research on colour and its perception and a second group of chapters surveys ways of measuring and describing colour. The third part of the book discusses the role of colour in design, dyeing and printing, before the final section covers applications of colour in areas as diverse as fashion, interior design, art and food. Colour design: Theories and applications is suitable for a wide range of readers including designers, colour technologists, colour quality inspectors, product developers and anyone who uses colour in their work. It is also intended for academics and students studying colour and design.

CONTENTS
Part 1 Colour and colour perception: What is colour? Variability in normal and defective colour vision: consequences for occupational environments; Colour illusions and the human visual system; Colour psychology: the emotional effects of colour perception; Understanding colour perception and preference; Predicting responses to colour. Part 2 Measuring and describing colour: International standards for colour; Colour description and communication; Colour naming for colour communication; Colour specification and visual approval methods for textiles; Colour management and approval methods in lithographic printing. Part 3 Colour, design and coloration: The history of colour theory in art, design and science; Enhancing design using colour; Understanding and forecasting colour trends in design; Colour symmetry: the systematic colouration of patterns and tilings; The history of dyes and pigments: from natural dyes to high performance pigments; Dye types and application methods; Colour printing techniques. Part 4 Colour and design in particular applications: Colour trends and selection in fashion design; Colour in interior design; Colour in food; Choosing effective colours for websites; Evolution and colour change in works of art.

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Handbook of textile and industrial dyeing
Volume 1: Principles, processes and types of dyes
Edited by M Clark, University of Leeds, UK
Woodhead Publishing Series in Textiles No. 116

Dyeing is one of the most effective and popular methods for colouring textiles and other materials. This two volume collection provides comprehensive coverage of all aspects of textile dyeing. Volume 1 discusses general principles, pre-treatment, chemistry, dye fastness, modelling and machinery. The second part of the book focuses on different types of dyes and processes. Topics range from natural and acidic dyes to environmentally friendly dyes. The book is aimed at a variety of different readers including designers, colour technologists, product developers and those in academia.

Contents
Part 1 General aspects of dyeing: Fundamental principles of dyeing; Structure and properties of textile materials; Pre-treatment and preparation of textile materials prior to dyeing; Chemistry of dyeing; Thermodynamics and kinetics of dyeing and dyebath monitoring systems; An overview of dye fastness testing; Molecular modelling and predicting dye properties; Methods and machinery for the dyeing process. Part 2 Dye types and processes: The chemistry of reactive dyes and their application processes; Disperse dyes; Direct dyes; Metal complex dyes; Sulphur dyes; Acid dyes; Environmentally-friendly dyes and dyeing processes; Fluorescent dyes; Near-infrared dyes; Azolic dyeing.

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Handbook of textile and industrial dyeing
Volume 2: Applications of dyes
Edited by M Clark, University of Leeds, UK
Woodhead Publishing Series in Textiles No. 117

Volume 2 provides a review of how dyes are used in different applications. The first part of the book discusses dyes used for textiles such as wool and synthetic fibres. Part two explores the use of dyes for non-textile applications, including dyes for the food, cosmetics and medical industries. The book is appropriate for a variety of different readers including designers, colour technologists, product developers and those in academia.

Contents
Part 1 Textile applications: The coloration of wool; Dyeing of synthetic fibres; Dyeing of cellulosic fibres; Dyeing of textile fibre blends. Part 2 Industrial applications: Colourants and dyes for the cosmetics industry; Dyes for the medical industry; Automotive dyestuffs and pigments; Food colourants.

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Advances in textile biotechnology
Edited by V Nierstrasz, Ghent University, Belgium and A Cavaco-Paulo, University of Minho, Portugal
Woodhead Publishing Series in Textiles No. 107

Contents
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Colour measurement
Principles, advances and industrial applications
Edited by M L Guirajani, Indian Institute of Technology, India
Woodhead Publishing Series in Textiles No. 103

The measurement of colour is important in many commercial operations such as the textile, paint and food industries. Colour measurement discusses colour measurement theories, the latest technological and scientific developments in measuring colour and the applications of colour measurement.

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Part 1 Theories, principles and methods of measuring colour: Colour vision; theories and principles; Scales for communicating colour; Expressing colours numerically; Visual and instrumental evaluation of whiteness and yellowness; Use of artificial neural networks (ANNs) in colour measurement; Camera based colour measurement; Colour shade sorting; Determining and improving the accuracy of colour measurement; Colour measurement and fastness assessment. Part 2 Colour measurement and its applications: Colour measurement methods for textiles; Grading of cotton by colour measurement; Colour measurement of paint films and coatings; Colour measurement of food; Colorimetric evaluation of tooth colour; Hair colour measurement.

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Smart textile coatings and laminates
Edited by W C Smith, Industrial Textile Associates, USA

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CONTENTS
Part 1 Fundamentals of textile coatings and laminates: Overview of textile coating and laminating; Coating and laminating processes and techniques for textiles; Base fabrics and their interaction in coated fabrics; Testing heat and mass transfer through membranes and coatings for textiles. Part 2 Smart and intelligent coatings and laminates for textiles: Microencapsulation technology for coating and laminating of textiles; Conductive coatings for textiles; Intelligent breathable coatings and laminates for textile applications; Shape memory polymers in coatings and laminates for textiles; Phase change materials and their application in coatings and laminates for textiles; Nanotechnology-based advanced coatings and functional finishes for textiles; Smart flame retardant textile coatings and laminates.

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Fundamentals and practices in colouration of textiles
J N Chakraborty, National Institute of Technology, Jalandhar, India

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Introduction to dyeing of textiles; Colouring materials; Dye-Fibre interaction; Dyeing with direct dyes; Dyeing with sulphur dyes; Dyeing with reactive dyes; Dyeing with reactive H-E dyes; Dyeing with indigo; Dyeing with solubilised vat dyes; Dyeing with insoluble azoic dyes; Dyeing with mineral color; Dyeing with oxidation black; Dyeing with phthalocyanine dyes; Dyeing with acid dyes; Dyeing with metal-complex dyes; Dyeing with basic dyes; Dyeing with disperse dyes; Colouration with pigments; Dyeing of silk; Dyeing of polyester; Dyeing of nylon; Dyeing of acrylic; Influence of fibre and dye structures in dyeing; Processing of micro-fibres; Dyeing of blend; Dyeing in super-critical carbon dioxide; Garment dyeing; Assessment of fastness of dyeings; Identification of dye class on cellulosics; Dyeing and finishing processes of cellulosics; Repellent processes; Softening finishes; Hand building finishes; Easy-care and durable press finishes of cellulosics; Repellent finishes; Soil release finishes; Flame retardant finishes; Nonslip finishes; Antistatic finishes; Antipilling finishes; Elastomer finishes; Finishes to improve colour fastness; Ultraviolet protection finishes; Antimicrobial finishes; Insect resist and mite protection finishes; Finishing with enzymes: bio-finishes for cellulose; Novel finishes; Actual and future trends in chemical finishing.

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Edited by Q Wei, Jiangnan University, China

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Edited by R Shishoo, Shishoo Consulting AB, Sweden

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DESIGN AND PRODUCT DEVELOPMENT

NEW
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Technological advances and future challenges
Edited by R Shishoo, Shishoo Consulting AB, Sweden

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J W Parchure, Textile Consultant, India

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B Purushothama, Textile Consultant, India

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Structural design of woven fabrics
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A M Seyam


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R Lowson, A Hunter and R E King

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Handbook of textile design
J Wilson, UMIST, UK

Woodhead Publishing Series in Textiles No. 14

This thoroughly practical book deals not only with the textile design process itself but also with the development and day-to-day running of a textile design business. Written by a very experienced academic, the book is a valuable resource for both newcomers and established professional designers alike.

CONTENTS
Part 1 What does a textile designer do? An overview of textiles and textile design from fibre to product purchase; The different design disciplines within textiles and clothing: The textile design function; The principles and elements of textile design; Commercial aspects of textile design; The professional practice of design; Institutional and legal aspects; Designing for future fashion. Part 2 The processes of textile production and the designer’s relationship with them: Printing and printed textile design; Weave and woven textile design; Knitting, knitted fabric and knitwear design.

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C E Horne, University of Leeds, UK

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Textile Progress Vol. 27 No. 4
D M Sigmon, P L Grady and S C Winchester

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The design logic of textile products
Textile Progress Vol. 27 No. 3
T Matsuo and M N Suresh

A Textile Institute publication
92 pages 242 x 169mm (6 1/2 x 9 1/2) paperback 1998 ISBN: 978 1 87037 195 7 £20.00/US$35.00/€25.00 www.woodheadpublishing.com/9781870372015 *Not available for distribution in the USA.

Watson’s advanced textile design
Compound woven structures
Edited by Z Grosicki

Woodhead Publishing Series in Textiles No. 2

Watson’s advanced textile design: Compound woven structures is a companion volume to Watson’s textile design and colour. It represents a continuation of the subject and deals with compound woven structures. This edition was revised and rewritten by Z Grosicki and the changes were brought about by modern advances in manufacturing and the need for a more logical organisation of the book.

436 pages 234 x 156mm (6 x 9) hardback 1977 ISBN: 978 1 85573 996 3 E-ISBN: 978 1 84569 852 2 £135.00/US$230.00/€160.00 www.woodheadpublishing.com/9781855739963

Watson’s textile design and colour
Elementary weaves and figured fabrics
Seventh edition
Edited by Z Grosicki

Woodhead Publishing Series in Textiles No. 1

This book presents the results of recent research on quick response. Computer integrated manufacturing and total quality management

Woodhead Publishing Series in Textiles No. 3

This book presents the results of recent research on quick response.
Environmental Technology and Management

Handbook of sustainable textile production
M I Tobler-Rohr, Euresearch, Switzerland
Woodhead Publishing Series in Textiles No. 124

This authoritative reference work provides a detailed study of sustainable development of textiles. The book opens with an introduction to the topic. The second part of the book is dedicated to defining the principles of sustainability and relevant legislation in the industry. Chapters in the third part of the book investigate the impact of textiles throughout the supply chain. The book examines methods that can be used to reduce textile waste and improve sustainability. A series of Life Cycle Assessments (LCA) carried out in the European textile industry are investigated in the fifth part of the book. The book concludes with a discussion on sustainable textiles from a marketing perspective.

CONTENTS
Sustainable development (SD) as a goal in production, marketing and trade; The supply chain of textiles; Product specification function and textile process technology; Life cycle assessment (LCA) and ecological key figures (EKF); Product development and marketing: Management and communication.

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520 pages 234 x 156mm (6 x 9) hardback 2011 ISBN: 978 0 85709 136 9 E-ISBN: 978 0 85709 286 1 £155.00/US$265.00/€185.00
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Sustainable textiles
Life cycle and environmental impact
Edited by R S Blackburn, University of Leeds, UK
Woodhead Publishing Series in Textiles No. 98

CONTENTS
Part 1 Sustainabilty through the supply chain: Achieving sustainable textiles: A designer’s perspective; Sustainable cotton production and processing; Sustainable wool production and processing; Sustainable synthetic fibres: the case of poly(hydroxyalkanoates) (PHA) and other fibres; Enzyme biotechnology for sustainable textiles; Key sustainability issues in textile dyeing; Environmentally-friendly plasma technologies for textiles; Understanding and improving textile recycling: A systems perspective. Part 2 Applications and case studies: Consumer perceptions of recycled textile fibres; Eco-labelling for textiles and apparel; Organic cotton: Production practices and post harvest considerations; The role of nanotechnology in sustainable textiles; The use of recovered plastic bags in nonwoven fabrics; Environmentally-friendly flame-retardant textiles; Systems change for sustainability in textiles.

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Environmental aspects of textile dyeing
R Christie, Herriot-Watt University, UK
Woodhead Publishing Series in Textiles No. 66


CONTENTS
European legislation relating to textile dyeing; US legislation relating to textile dyeing; Toxicology of textile dyes; Environmentally responsible application of textile dyes; Supercritical fluid textile dyeing technology; Reducing pollution and waste minimisation in textile dyeing; Decolourisation of textile dye effluent and re-use of spent dyebath; Chemical treatment of textile dye effluent; Biotechnological treatment of textile dye effluent.

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256 pages 234 x 156mm (6 x 9) hardback 2007 ISBN: 978 1 84569 115 8 E-ISBN: 978 1 84569 309 1 £145.00/US$245.00/€175.00
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Ecotextiles
The way forward for sustainable development in textiles
Edited by M Mirafab and A R Horrocks, University of Bolton, UK
Woodhead Publishing Series in Textiles No. 60

CONTENTS
Part 1 Recycling and use of waste as raw materials: Perception towards clothes with recycled content and environmental awareness; the development of end markets; Acoustic and mechanical properties of underlay manufactured from recycled carpet waste; Carpet fiber recycling technologies; Use of waste as raw materials: Efficient recycling technologies; Part 2 sustainability and eco-design: Building eco-design throughout the supply chain, a new imperative for the textile industry; Supply chain partnerships for sustainable textile production; Molecular manufacturing for clean, low cost textile production; The substitution of hemp and flax for cotton in wound spool filters; It may be eco-friendly but is an INGETIM/cellulose blend strong enough to withstand wet processing? Eco initiatives in the textile pipeline: A South African experience. Part 3 Sustainable development and renewables: The use of renewable resource based materials for technical textiles applications; Some properties of kenaf and kenaf combined waste composites; Tensile and flexural properties of composites made from spinning waste; UK technical textiles: Issues relating to sustainability. Part 4 Waste management: The effect of a fluorescent on the colour removal properties; The anaerobic digestion of textile desizing wastewater; Efficient treatment using a submerged aeration reactor; Efficient Treatment at Thos Chadwick & Sons Ltd; Protective properties of textiles dyed with natural dyes. Part 5 Novel technologies: Tandem wet-on-wet foam application of both crease-resist and antistatic finishes; An all natural slip resistant and absorbent fibrous material; Laser and devore; Cellulose-protein textiles: Utilisation of sericin in textile finishing.

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Recycling in textiles
Edited by Y Wang, Georgia Institute of Technology, USA
Woodhead Publishing Series in Textiles No. 50

CONTENTS
Part 1 General textile recycling issues and technology: Textile recycling: A system perspective; The design of easy to recycle textile products; Carpet stewardship in the United States: A commitment to sustainability; System’s planning for carpet recycling; Carpet recycling technologies. Part 2 Chemical aspects in textile recycling: Recycling waste water from textile production; Recycling and reuse of textile chemicals. Part 3 Recycled textile products: Development of products made of reclaimed fibers; Manufacturing nonwovens and other products using recycled fibers; Textile products produced from alternative fibers. Part 4 Applications of recycled textiles: Recycling of textiles used in the operating theatre; Utilization of recycled fiber waste for soil stabilization; Utilization of recycled carpet fibers for reinforcement of concrete and soil.

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Biodegradable and sustainable fibres
Edited by R S Blackburn, University of Leeds, UK
Woodhead Publishing Series in Textiles No. 47

CONTENTS
Microbial processes in the degradation of fibres; Bast fibres (flax, hemp, jute, ramie, kenaf, abaca); Alginate fibres; Cellulosic fibres and fabric processing; Lyocell fibres; Polylactic acid fibres; Poly(hydroxyalkanoates) and polycaprolactane; The route to synthetic silks; Biodegradable natural fibre composites; Biodegradable nonwovens; Natural geotextiles; Conversion of cellulose, chitin and chitosan to filaments with simple salt solutions; Soybean protein fibres - past, present and future.

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Environmental impact of textiles
Production, processes and protection
K Slater, University of Guelph, Canada
Woodhead Publishing Series in Textiles No. 27

CONTENTS
Structure and stability of the ecosystem; The health of our planet; The nature of textiles; Textile fibre production; Yarn production; Fabric production; Fabric treatment processes; Use of textiles; Environmental protection; Effect on textiles of natural exposure; Thermal exposure; Chemical and microbiological attack; Protection of, or by, textiles from environmental damage.

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Water recycling in textile wet processing
J K Skelly

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Recent advances in environmentally compatible polymers
Cellucos 99 proceedings
Edited by J F Kennedy, University of Birmingham, G O Phillips, Phillips Hydrocolloid Research Ltd and P A Williams, North East Wales Institute of Higher Education, UK

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Recycling textile and plastic waste
Edited by A R Horrocks, University of Bolton, UK

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CONTENTS
Waste minimisation; Process optimisation; Recovery, recycling and re-use; New products and processes; Environmental impact analysis.

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NEW Modification of fibres for technical applications
S Mukhopadhyay, Indian Institute of Technology Delhi, India

Modification of fibres for technical applications reviews the physical and chemical modification of natural and synthetic fibres for technical applications. Problems such as the high level of moisture absorption of natural fibres, poor wettability by non-polar plastics, and insufficient adhesion between untreated fibres and the polymer matrix result in poor properties in composites, for example. The book reviews a range of methods to physically and chemically modify fibres to provide appropriate functionality for technical applications.

CONTENTS
Synthetic fibres; Natural fibres; Physical methods of modification: Extraction; Physical methods of modification: Treatment; Physical methods of modification: Non-thermal methods; Chemical methods of modification; Modification methods for biopolymers.

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NEW Multidisciplinary know-how for smart textiles developers
Edited by T Kirstein, Schweizerische Texitlafachschule, Switzerland

Woodhead Publishing Series in Textiles No. 139
The development of smart textiles requires multidisciplinary expertise ranging from textile manufacture to materials science and microelectronics. This important book reviews recent research in materials and technologies as well as product development and applications of smart textiles.

CONTENTS
Part 1 Overview of fire resistant textiles: Combustion processes; Burning mechanisms; Chemical modification to improve flame retardancy; Multi-component flame resistant coatings; Wash durability of flame resistant coatings; Safety, health and environmental aspects of flame retardants. Part 2 Types of flame resistant fibre: Cellulose and cellulose blends; Mannmade cellulosic fibres; Wool blends; Ceramic fibres. Part 3 Composites and nanocomposites; Non-woven fabrics. Part 4 Testing and regulation of fire resistant textiles: Design of flame resistant protective clothing; Flame resistant clothing standards and regulations; Comfort properties; Managing heat stress; Flame retardancy testing and regulation of soft furnishings. Part 5 Applications: Structural and proximity fire fighting; Electric arc flash hazards; Welded metal hazards; Transport applications; Furnishings.

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Fire toxicity
Edited by A A Stetc and T R Hull, University of Central Lancashire, UK

‘Represents the best currently available understanding and application of its subject matter to fire safety and is a welcome addition to the fire science literature.’ Journal of Fire Sciences

CONTENTS
Part 1 Introduction: Introduction to fire toxicity; Fire scenarios and combustion conditions. Part 2 Harmful effects of fire effluents: Hazards from smoke and irritants; Asphyxiant components of fire effluents; Effects of fire effluents on fire victims. Part 3 Biological assessment of fire toxicity: Experimental methods in combustion toxicology; Animal exposure studies; Application of human animal exposure studies to human fire safety; In vitro biological toxicity assessments for fire combustion products; A combined fire smoke and lung model test equipment. Part 4 Toxicity assessment using chemical analysis: Sampling and measurement of toxic fire effluents; Bench-scale generation of fire effluents; Large scale generation and characterisation of fire effluents; Effects of the material and fire conditions on toxic product yields; Estimation of toxicity during burning of common materials. Part 5 National and International fire safety regulations: Prescriptive regulations and tests considering the toxicity of fire effluents; An international standardised framework for prediction of fire gas toxicity. Part 6 Numerical simulation of fires and their hazards: Computer simulation of fire hazards and evacuation; Toxic hazard calculation models for use with fire effluent data; Modelling fire growth and toxic gas formation.

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NEW
Smart textiles for protection
Edited by R Chapman, Consultant, UK
Woodhead Publishing Series in Textiles No. 133
Smart textiles are materials and structures that sense and react to environmental conditions or stimuli, such as those from chemical, thermal and electrical sources. Integration of smart textiles into protective textiles is creating products with higher levels of protection in hazardous situations. Part one of this book reviews smart materials and technologies such as surface treatments, nanofibres, sensors and actuators. Part two discusses their application in such areas as fire, ballistic and chemical protection as well as protection of more vulnerable groups such as older people.

CONTENTS
Part 1 Smart materials and technologies: Smart textiles for protection: an overview; Types of smart textile materials for protection; Smart surface treatments for textiles for protection; The use of nanofibres in smart protective clothing; Smart barrier membranes for protective clothing; Sensors, actuators and computing systems for smart textiles for protection; Biomimetic approaches to the design of smart textiles for protection. Part 2 Applications of smart textiles for protection: Smart protective textiles for older people; Smart high performance textiles for protection in construction and geotechnical applications; Smart textiles for protection of armoured vehicles; Protective clothing for firefighters and first responders; Advances in chemical protective clothing.

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Military textiles
Edited by E Wilusz, US Army Natick Soldier Center, USA
Woodhead Publishing Series in Textiles No. 73

CONTENTS
Part 1 General requirements for military textiles: Future soldier requirements: Dealing with complexity; Non-woven fabrics for military applications; Mechanical failure criteria for textiles and textile damage resistance; The sensory properties and comfort of military fabrics and clothing; Testing and analyzing comfort properties of textile materials for military; Sweat management for military applications; Cold-weather clothing; Designing military uniforms with high-tech materials. Part 2 Protection: High-performance ballistic fibres; Ballistic testing of textile materials; Chemical and biological protection; Self-decontaminating materials for chemical biological protective clothing; Camouflage fabrics for military protective clothing; New developments in coatings and fibers for military applications; Military fabrics for flame protection.

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NEW
Advances in military textiles and personal equipment
Edited by E Sparks, Cranfield University, UK
Woodhead Publishing Series in Textiles No. 122
Advances in military textiles and personal equipment summarises key research on the design, manufacture and applications of military textiles. Part one explores anthropometric methods, psychological, colour and camouflage issues related to the successful design of military textiles. Materials and design issues in military helmets, footwear and hand wear are also reviewed. Part two goes on to consider applications of particular types of military clothing and equipment, including optimisation of body armour design, high performance ballistic protection using polymer nanocomposite technology as well as advances in materials and modelling of chemical, biological, radiological and nuclear protective clothing. Finally, Advances in military textiles and personal equipment looks specifically at designing load carriage and advanced hydration systems for military personnel.

CONTENTS
Part 1 Design issues in military clothing and equipment: Key issues in body armour: Threats, materials and design; Assessing military equipment requirements and capability: The Australian experience; Anthropometric methods for the successful design of military clothing and equipment; Psychological issues in military uniform design; Colour and camouflage design issues in military clothing; Materials and design issues for military helmets; Design issues in military footwear and hand wear. Part 2 Applications to particular types of military clothing and equipment: Customization of a lightweight bullet proof vest for the female form; Optimisation of body armour design parameters; Vulnerability and survivability assessment; High performance ballistic protection using polymer nanocomposites; Modelling the comfort and protection qualities of chemical, biological, radiological and nuclear (CBRN) protective clothing; Advances in materials for chemical, biological, radiological and nuclear (CBRN) protective clothing; Designing load carriage systems for military personnel; Advanced hydration systems for soldiers: the example of the US army.

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356 pages 234 x 156mm (6 x 9) hardback 2012 ISBN: 978 1 84569 699 3 E-ISSN: 978 0 85709 577 2 £140.00/US$240.00/€170.00
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NEW
Functional nanofibers and their applications
Edited by Q Wei, Jiangnan University, China
Woodhead Publishing Series in Textiles No. 134
Functional nanofibers and their applications summarises key trends in the processing and applications of these exciting materials. Part one reviews core-shell, aligned, porous and gradient nanofibers. The processing and application of composite functional nanofibers, carbon and polymer nanofiber reinforcements in polymer matrix composites, and inorganic functional nanofibers are then explored in detail, before part one concludes with a consideration of surface functionalization. A wide variety of functional nanofiber applications are then reviewed in part two. Following consideration of their use in filtration, drug delivery and tissue engineering applications, the role of functional nanofibers in lithium-ion batteries, sensor applications, protective clothing, food processing and water purification is explored. Discussion of their use in sound absorption, electromagnetic wave attenuation and biomedical and microelectronic applications follows, before a final discussion of future trends.

CONTENTS
Part 1 Types and processing: Nanofibers: principles and manufacture; Types and processing of structured functional nanofibers: core-shell, aligned, porous and gradient nanofibers; Processing of composite functional nanofibers; Carbon and polymer nanofiber reinforcements in polymer matrix composites: processing and applications; Inorganic functional nanofibers: processing and applications; Surface functionalization of polymer nanofibers. Part 2 Applications: Functional nanofibers for filtration applications; Functional nanofibers for drug delivery applications; Functional nanofibers for tissue engineering applications; Functional nanofibers in lithium-ion batteries; Functional nanofibers in sensor applications; Functional nanofibers in clothing for protection against chemical and biological hazards; Functional nanofibers in food processing; Functional nanofibers in sound absorption, electromagnetic wave attenuation and biomedical applications; Functional nanofibers for water purification; Functional nanofibers in microelectronics applications; Future trends in the processing of functional nanofibers.

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Performance of home textiles
S Das, CSTRI

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Interior textiles
Design and developments
Edited by T Rowe, University of Bolton, UK
Woodhead Publishing Series in Textiles No. 92

CONTENTS
Part 1 Fundamental principles of interior textiles: Natural fibres for interior textiles; Synthetic fibres for interior textiles; The use of knitted, woven and nonwoven fabrics in interior textiles; Surface design of fabrics for interior textiles; The use of textiles in carpets and floor coverings. Part 2 Developments in interior textiles: Advances in joining fabrics for the furniture industry; Environmental issues in interior textiles; The role of textiles in indoor environmental pollution: problems and solutions; Developments in flame retardants for interior materials and textiles; Fire testing of upholstered furniture, current and future methods; Innovative textiles for seating.

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Advances in carpet manufacture
Edited by K G Goswami, Indian Institute of Carpet Technology, India

Woodhead Publishing Series in Textiles No. 87

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Carpet types and requirements; Structure and properties of carpet fibres and yarns; Advances in carpet weaving; Developments in wool carpet manufacture; Developments in textile sports surfaces; Developments in handmade carpets: design and manufacture; Reducing static electricity in carpets; Developments in the thermal processing of carpets.

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Textiles, polymers and composites for buildings
Edited by G Pohl, Leichtbau Institut, Germany
Woodhead Publishing Series in Textiles No. 95

CONTENTS
Part 1 Main types of textiles and polymers used in building and construction: Types and production of textiles used for building and construction; Technical characteristics and requirements of textiles used for building and construction; Fibre reinforced polymer composite materials for building and construction; Developing and testing textiles and coatings for tensioned membrane structures; Polymer foils used in construction. Part 2 Applications of textiles and polymers in construction: Tensile structures - textiles for architecture and design; The role, properties and applications of textile materials in sustainable buildings; Learning from nature: lightweight constructions using the ‘technical plant stem’; The role of textiles in providing bioclimatic solutions for construction; Smart textile and polymer fibres for structural health monitoring; Textiles for insulation systems, control of solar gains and thermal losses and solar systems; Sustainable buildings: Biomimicry and textile applications; Challenges in using textile materials in architecture: the case of Australia; Innovative composite-fibre components in architecture.

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Textile advances in the automotive industry
Edited by R Shishoo, Shishoo Consulting AB, Sweden
Woodhead Publishing Series in Textiles No. 79

CONTENTS
Part 1 General: Requirements for automotive textiles - A car manufacturer’s view; Mapping the automotive textile supply chain; Woven and knitted fabrics used in automotive interiors; Nonwovens used in automobiles; Recycling of automotive textiles. Part 2 Automotive interiors: Design of automotive interior textiles; Three-dimensional textiles and nonwovens for polyurethane foam substitution in car seats; Physiologically optimized car seats; Smart textiles in automotive interiors; Reducing noise in automotive interiors; Leather and coated textiles in automotive interiors. Part 3 Safety applications of automotive textiles: Technical developments and market trends of automotive airbags; Key technology developments in textiles for use in automotive tires. Part 4 Use of textiles in automotive bodywork: Textile structures for load-bearing applications in automobiles; Textiles composites for automotive structural components.

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Advances in fire retardant materials
Edited by A R Horrocks and D Price, University of Bolton, UK
Woodhead Publishing Series in Textiles No. 70

‘...provides a wealth of information, written with a concise and critical approach by an internationally acknowledged expert in the field.’ International Dyer

CONTENTS
Part 1 Advances in fire retardant materials: Flame retardancy of textiles: New approaches; Developments in phosphorus flame retardants; Halogen-free flame retardants; Nanocomposites I: Current developments in nanocomposites as novel flame retardants; Nanocomposites II: Potential applications of nanocomposite-based flame retardant systems; Flame retardant/resistant textile coatings and laminates; Environmentally-friendly flame resistant textiles; Recycling and disposal of flame retardant materials. Part 2 Testing, regulation and assessing the benefits of fire retardant materials: Challenges in fire testing: A tester’s viewpoint; Challenges in fire testing: Reaction to fire tests and assessment of fire toxicity; New and potential flammability regulations; Life cycle assessment of consumer products with a focus on fire performance. Part 3 Applications of fire retardant materials: The risks and benefits of flame retardants in consumer products; Conclusions; Improving improved fire resistance; Improving the fire safety of road vehicles; ‘Firefighters’ protective clothing; Fire protection in military fabrics; Flame retardant materials for maritime and naval applications; Materials with reduced flammability in aerospace and aviation.

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Materials in sports equipment
Volume 1
Edited by M Jenkins, University of Birmingham, UK

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Composites forming technologies
Edited by A C Long, University of Nottingham, UK

When forming composite materials with textiles there is always a degree of error when draping a fabric over the mould and adding the resin. The fabric can deform or shift in the mould before adding the resin or whilst it is being poured in. Such problems can cause weaknesses in the composite leading to failure or even rendering the composite useless. Composites forming technologies brings together the research of leading experts in the area to give a comprehensive understanding of modelling and simulation within composite forming and design.

CONTENTS
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Published in association with The Textile Institute

Textiles for protection
Edited by R A Scott, RASCOTEX, UK

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International Dyer

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Published in association with The Textile Institute

Materials in sports equipment
Volume 2
A Subic, RMIT University, Australia

'...an essential reference describing improvements in materials technology and their impact on equipment in a range of sports.'

Future Materials

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Published in association with The Textile Institute

Textiles in sport
Edited by R Shishoo, Shishoo Consulting AB, Sweden

Woodhead Publishing Series in Textiles No. 45
'This book provides a well-balanced and extremely useful account of textiles in sport.'

Textile Month

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Part 1 Current sportswear design: Market overview; Key trends in sportswear design; Material requirements for the design of performance sportswear; Functional sport footwear. Part 2 Innovative fibres and fabrics in sport: High performance and high functional fibres and textiles; Smart and intelligent fibres and fibres; Coated and laminated textiles in sportswear. Part 3 Sportswear and comfort: Physiological comfort of sportswear; Elastic textiles. Part 4 Sportswear technology and materials: Technical textiles in sportswear. Part 3 Sportswear and comfort: Physiological comfort of sportswear; Elastic textiles. Part 4 Sportswear technology and materials: Technical textiles in sportswear. Part 5 Specific applications: Textile composites in sports against cold; Water resistance and water vapour transfer. Impact using clothing and personal equipment; Protection

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Geosynthetics in civil engineering
Edited by R W Sarsby, University of Wolverhampton, UK

Journal of Natural Fibers

CONTENTS
Manufacturing and internal geometry of textiles; Mechanical analysis of textiles; Rheological behaviour of prepregmated textile composites; Forging textile composites; Manufacturing with thermosets; Composites manufacturing - thermoplastics; Modeling, optimization and control of resin flow during manufacturing of textile composites with liquid molding; Mechanical properties of textile composites; Flammability and fire resistance of composites; Cost analysis; Aerospace applications; Application of textile composites in the construction industry; Textile reinforced composites in medicine; Textile composites in sports products.

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Design and manufacture of textile composites
Edited by A C Long, University of Nottingham, UK

Woodhead Publishing Series in Textiles No. 41
'...an invaluable guide for manufacturers of polymer composite components, end-users and designers, researchers in the fields of structural materials and technical textiles and textile manufacturers.'

Journal of Natural Fibers

CONTENTS
Manufacturing and internal geometry of textiles; Mechanical analysis of textiles; Rheological behaviour of prepregmated textile composites; Forging textile composites; Manufacturing with thermosets; Composites manufacturing - thermoplastics; Modeling, optimization and control of resin flow during manufacturing of textile composites with liquid molding; Mechanical properties of textile composites; Flammability and fire resistance of composites; Cost analysis; Aerospace applications; Application of textile composites in the construction industry; Textile reinforced composites in medicine; Textile composites in sports products.

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Composites forming technologies
Edited by A C Long, University of Nottingham, UK

Woodhead Publishing Series in Textiles No. 61

When forming composite materials with textiles there is always a degree of error when draping a fabric over the mould and adding the resin. The fabric can deform or shift in the mould before adding the resin or whilst it is being poured in. Such problems can cause weaknesses in the composite leading to failure or even rendering the composite useless. Composites forming technologies brings together the research of leading experts in the area to give a comprehensive understanding of modelling and simulation within composite forming and design.

CONTENTS
Composite forming mechanisms and materials characterisation; Constitutive modelling for composite-forming; Finite element analysis of composite-forming; Virtual testing for material formability; Optimisation of composites forming; Simulation of compression moulding to form composites; Understanding composite distortion during processing; Forming technology for composite/metal hybrids; Forming of self-reinforced polymer materials; Forming technology for thermoset composites; Forming technology for thermoplastic composites; The use of draping simulation in composite design; Benchmarking of composite forming modelling techniques.

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Geosynthetics in civil engineering
Edited by R W Sarsby, University of Wolverhampton, UK

Woodhead Publishing Series in Textiles No. 57

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Textiles for protection
Edited by R A Scott, RASCOTEX, UK

Woodhead Publishing Series in Textiles No. 44

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International Dyer

CONTENTS
Part 1 Materials and design: Overview of protective clothing; Standards for protective textiles; Fashion and function factors affecting the design and use of protective clothing; Steps in the selection of protective clothing materials; Fibres and fabrics for protective textiles; Technical textiles for protection; Intelligent textiles for protection; Surface treatments for protective textiles; Evaluation of protective clothing systems using manikins; Interactions between protection and thermal comfort; Modelling thermal burn injury protection. Part 2 General: Protection requirements and applications: Civilian protection and protection of industrial workers from chemicals; Textiles for UV protection; Textiles for protection against cold; Thermal (Heat and fire) protection; Microorganism protection; Textiles for respiratory protection; Electrostatic protection; Ballistic protection; Chemical and biological protection. Part 3 Case studies: Military protection; Firefighting protective clothing; Protection against knives and other weapons; Flight suits for military aviators; Protection for workers in the oil and gas industry; Motorcyclists.

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Materials in sports equipment
Volume 2
A Subic, RMIT University, Australia

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CONTENTS
Part 1 General issues: Modelling of materials for sports equipment; Non-destructive testing of sports equipment: The use of infrared thermography; Materials and design for sports apparel; Protective helmets in sports; Mouth protection in sports. Part 2 Specific sports: Design and materials in baseball; Design and materials in snowboarding; Design and materials in ice hockey; Design and materials in Fly fishing; Design and materials in archery; Design and materials in rowing; Design and materials in athletics equipment; Design and materials in fitness equipment.

Published in association with The Textile Institute

Textiles in sport
Edited by R Shishoo, Shishoo Consulting AB, Sweden

Woodhead Publishing Series in Textiles No. 45
'This book provides a well-balanced and extremely useful account of textiles in sport.'

Textile Month

CONTENTS
Part 1 Current sportswear design: Market overview; Key trends in sportswear design; Material requirements for the design of performance sportswear; Functional sport footwear. Part 2 Innovative fibres and fabrics in sport: High performance and high functional fibres and textiles; Smart and intelligent fibres and fibres; Coated and laminated textiles in sportswear. Part 3 Sportswear and comfort: Physiological comfort of sportswear; Elastic textiles. Part 4 Protection: Is protection part of the game? Protection against impact using clothing and personal equipment; Protection against cold; Water resistance and water vapour transfer. Part 5 Specific applications: Textile composites in sports products; Textiles in sailing; Textile use in sport shoes.

Published in association with The Textile Institute
Handbook of fibre rope technology
H A McKenna, Tension Technology International, USA, J W S Hearle, Professor Emeritus, UMIST, UK and N O’Hear, Tension Technology International, The Netherlands
Woodhead Publishing Series in Textiles No. 34
CONTENTS
Introduction to fibre ropes; Rope-making materials; Rope structures; Properties of rope; Rope mechanics; Rope production; Terminations; Use of rope; Inspection and retirement; Testing; Consumption, markets and liability; Case studies.
Published in association with The Textile Institute
432 pages 244 x 172mm (6 1/2 x 9 1/2) hardback 2004
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Carpet manufacture
G Crawshaw
‘...a timely and unique “onestopshop” resource book for carpet information; just what all carpet people need on their bookshelves.’
Errol Wood, Canesis
400 pages 234 x 156mm (6 x 9) hardback 2002
ISBN: 978 0 90897 425 2
£120.00/US$205.00/€145.00
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Application of textiles in rubber
D B Wootton, formerly Milliken Industries Ltd, UK
248 pages 255 x 190mm (7 1/2 x 10) hardback 2002
ISBN: 978 1 85573 277 1
£110.00/US$185.00/€130.00
www.woodheadpublishing.com/9781855732771
*Not available for distribution in the USA.

High performance fibres
Edited by J W S Hearle, Professor Emeritus, UMIST, UK
Woodhead Publishing Series in Textiles No. 15
Published in association with The Textile Institute
344 pages 234 x 156mm (6 x 9) hardback 2001
£155.00/US$265.00/€185.00
www.woodheadpublishing.com/9781855735392

Fire retardant materials
Edited by A R Horrocks and D Price, University of Bolton, UK
‘An authoritative reference source.’
Materials World
‘... a wealth of interesting information, technical rationale and quality text and diagrams.’
IFPO Fire Journal
448 pages 234 x 156mm (6 x 9) hardback 2001
£165.00/US$280.00/€200.00
www.woodheadpublishing.com/9781855734197

Textiles in automotive engineering
W Fung, Collins and Aikman Automotive Fabrics and J M Hardcastle, Consultant, UK
Woodhead Publishing Series in Textiles No. 13
CONTENTS
Interior design; Fabric structures and production methods; Yarn and fabric processing; Quality assurance and testing; Product engineering - interior trim; Other textile applications; Automotive textiles and the environment; Textiles in other forms of transportation; Future development and outlook.
Published in association with The Textile Institute
384 pages 234 x 156mm (6 x 9) hardback 2000
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Handbook of technical textiles
Edited by A R Horrocks and S C Anand, University of Bolton, UK
Woodhead Publishing Series in Textiles No. 12
Published in association with The Textile Institute
576 pages 244 x 172mm (6 1/2 x 9 1/2) hardback 2000
£200.00/US$340.00/€240.00
www.woodheadpublishing.com/9781855733855

3-D textile reinforcements in composite materials
Edited by A Miravete, University of Zaragoza, Spain
336 pages 234 x 156mm (6 x 9) hardback 1999
£150.00/US$265.00/€185.00
www.woodheadpublishing.com/9781855733763

Automotive textiles
Textile Progress Vol. 29 Nos. 1/2
5 Mukhopadhyay and J F Partridge
A Textile Institute publication
128 pages 242 x 169mm (6 1/2 x 9 1/2) paperback 1999
ISBN: 978 1 87037 221 3
£40.00/US$70.00/€50.00
www.woodheadpublishing.com/9781870372213
*Not available for distribution in the USA.

Barrier fabrics for protection against aerosols
Textile Progress Vol. 26 No. 1
S M Maini, S P Hersh and P A Tucker
A Textile Institute publication
44 pages 242 x 169mm (6 1/2 x 9 1/2) paperback 1995
ISBN: 978 1 87081 274 0
£20.00/US$35.00/€25.00
www.woodheadpublishing.com/9781870812740
*Not available for distribution in the USA.

INTELLIGENT AND MEDICAL TEXTILES

NEW
Advances in shape memory polymers
Edited by J Hu, Hong Kong Polytechnic Institute, Hong Kong
Woodhead Publishing Series in Textiles No. 146
Shape memory polymers (SMPs) have the ability to change shape in response to an external stimulus. This makes them promising smart materials for textiles and other applications. Building on the author’s earlier, pioneering, work in this field, this book summarises key recent research in this important area. It covers the various types of SMP, how they respond to temperature, moisture and other stimuli, methods of manufacture and applications in such areas as textile finishes for smart, self-cleaning textiles.
CONTENTS
Introduction to shape memory polymers (SMPs); Tm type SMPs; Tg type SMPs; High performance MOCA SMPs; Supramolecular SMPs; Supramolecular SMPs containing pyridine; Thermally-induced shape memory properties of supramolecular SMPs containing pyridine; Moisture-sensitive shape memory properties of supramolecular SMPs containing pyridine; SMPs with novel functions: electro-active, magnetically-active, light-responsive and phase change materials; Shape memory finishing treatments for smart textiles; Manufacture of Tg and Tm shape memory polyurethane fibers; Future developments in SMPs.
Published in association with The Textile Institute
350 pages 234 x 156mm (6 x 9) hardback Q2 2013
Approx. £135.00/US$230.00/€160.00
www.woodheadpublishing.com/9780857098528

Medical and healthcare textiles
Edited by S C Anand, University of Bolton, J F Kennedy, Chembiotech Ltd, M Miraftab and S Rajendran, University of Bolton, UK
Woodhead Publishing Series in Textiles No. 75
CONTENTS
Published in association with The Textile Institute
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NEW

Biotextiles as medical implants
Edited by M W King, B S Gupta, North Carolina State University, USA and R Gudoin, Laval University, Quebec, Canada

Woodhead Publishing Series in Textiles No. 113

Textures play a vital role in the manufacture of various medical implants including the replacement of diseased or non-functioning parts of the body. This book provides an invaluable single source of information on the main types of textile materials and products used for medical implants. The first series of chapters provide the reader with an overview of biotextile structures, the types of textiles used for medical implants and processing issues. The second group of chapters focus on the different types of biotextile implants, including sutures and cardiovascular implants.

CONTENTS
Part 1 Technologies: Biotextile fibres, yarn and fabric production; Nanofibers for biotextile applications; Surface modification of textiles; Sterilisation techniques for biotextiles; Regulation of biotextiles for medical use; Assessing the effectiveness of biotextiles as medical implants. Part 2 Applications: Drug delivery systems using biotextiles; Surgical sutures; Embolic protection devices; Septal defect repair; Anterior cruciate ligament prostheses; Percutaneous heart valves; Cartilage; Neural tissues.

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Medical textiles and biomaterials for healthcare
Edited by S C Anand, University of Bolton, J F Kennedy, Chembiotech Ltd, UK, M Miraatba and S Rajendran, University of Bolton

Woodhead Publishing Series in Textiles No. 48

CONTENTS
Basic biomaterials; Healthcare and hygiene products; Infection control and barrier materials; Bandaging and pressure garments; Wound dressing; Biomaterials; Medical devices; Smart technologies.

520 pages 234 x 156mm (6 x 9) hardback 2005 ISBN: 978 1 85733 683 2 E-ISBN: 978 1 84569 410 4 £175.00/US$300.00/£210.00
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Medical textiles
Proceedings of the 2nd International Conference, 24th & 25th August 1999, Bolton Institute, UK

Edited by S C Anand, University of Bolton, UK

Woodhead Publishing Series in Textiles No. 17

Published in association with The Textile Institute
256 pages 234 x 156mm (6 x 9) hardback 2001 ISBN: 978 1 85753 494 4 E-ISBN: 978 1 84569 314 5 £150.00/US$255.00/€180.00
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NEW

Healthcare and hygiene textiles and products
G Thilagavathi, M Parthiban and S Viju, PSG College of Technology, India

Healthcare and hygiene textiles and products remains one of the most dynamic areas in textile technology research. An increasingly intimate combination of textile technology and medical sciences has made healthcare and hygiene textiles an emerging multidisciplinary field with tremendous potential. With issues such as rising population and increased concern over the hygienic environment and infection prevention, the need to understand and improve hygiene and healthcare products has become increasingly important. Healthcare and hygiene textiles and products outlines the complexity of applications and developments in the manufacture of various hygiene and healthcare textile products, such as wound dressings; scaffolds for tissue management; medical gowns; bed linens; wipes and sanitary products; and implants, including the replacement of diseased or non-functioning parts of the body. Design specification, application and evaluation of nonwoven products in the area of healthcare and hygiene textiles are also addressed in this book.

CONTENTS
Healthcare and hygiene textile products; Value added functional finishing and barrier materials; Bandaging and shearware garments; Wound dressing; Biomaterials; Intelligent textiles for medical application.

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Biologically inspired textiles
Edited by A Abbott and M Ellison, Clemson University, USA

Woodhead Publishing Series in Textiles No. 77

CONTENTS
Part 1 Biomimetic principles, production and properties: Recombinant DNA methods applied to the production of protein-based fibers as biomaterials; Purification of protein solutions; Spinning of fibers from protein solutions; Biomimetic principles of spider silk for high-performance fibers; A Biomimetic approach to the production of sustainable structural composites using plant fibers. Part 2 Biomimetic applications in textiles: Biomimetic principles in clothing technology; Self-cleaning textiles using the lotus effect; Analysing the thermal properties of animal furs for textile applications; Analysing the thermal properties of animal furs for textile applications; Assessing the effectiveness of biotextiles as medical implants; Sterilisation techniques for biotextiles; Surgical sutures; Embolic protection devices; Septal defect repair; Anterior cruciate ligament prostheses; Percutaneous heart valves; Cartilage; Neural tissues.

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www.woodheadpublishing.com/9781845692717

Handbook of medical textiles
Edited by V Bartels, Bartels Scientific Consulting GmbH, Germany

Woodhead Publishing Series in Textiles No. 100

With a rising population and the increasing range of textiles for medical products, the need to understand and improve medical textiles is becoming increasingly important. This invaluable reference provides a broad overview of the different types of medical textiles, as well as focusing on specialised topics. Part one discusses the types and properties of medical textiles from reusable textiles to fabrics with cosmetic effects. Part two focuses on how textiles interact with skin. Part three provides the latest developments in textiles for hygiene and infection control and part four concludes by providing a range of applications and case studies.

CONTENTS
Part 1 Types and properties of medical textiles: Modern textiles and biomaterials for healthcare; Hi-tech textiles for interactive wound therapies; Reusable medical textiles; Nonwoven materials and technologies for medical applications; Textiles for implants and regenerative medicine; Textiles with cosmetic effects; Drug-releasing textiles; Medical textiles and thermal comfort. Part 2 Textiles and the skin: Contact sensations of medical textiles on the skin; Mechanical skin irritations due to textiles; Allergies caused by textiles; Biofunctional textiles based on cellulose and their approaches for therapy and prevention of atopic eczema. Part 3 Textiles for hygiene: Infection prevention and control and the role of medical textiles; Absorbent products for personal health care and hygiene; Bio-functional textiles; Hospital laundries and their role in medical textiles; Odour control of medical textiles. Part 4 Medical textile case studies and applications: Textiles for medical filters; Textiles for patient heat preservation during operations; Evaluation of occupational clothing for surgeons: achieving comfort and avoiding physiological stress through suitable gowns; Supersorbents and their medical applications; Nanofibrus textiles in medical applications.

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Advanced textiles for wound care
Edited by S Rajendran, University of Bolton, UK

Woodhead Publishing Series in Textiles No. 85

...a detailed and thorough look into this exciting application of textiles.

International Textile and Apparel Association

CONTENTS
Part 1 The use of textiles in particular aspects of wound care: Wound management and dressings; Testing dressings and wound management materials; Textile materials and structures for wound care products; Interactive dressings and their role in moist wound management; Bioactive dressings to promote wound healing; Advanced textiles for wound compression; Antimicrobial textiles dressings in managing wound infection; Novel textiles in managing burns and other chronic wounds. Part 2 Types of advanced textile for wound care: Drug delivery dressings; The use of ‘smart’ textiles for wound care; Composite dressings for wound care; Textile-based scaffolds for tissue engineering.

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360 pages 234 x 156mm (6 x 9) hardback 2009 ISBN: 978 1 84569 271 7 E-ISBN: 978 1 84569 630 6 £145.00/US$245.00/€175.00
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27
Smart textiles for hygiene and infection control
Edited by B J McCarthy, TechniTex Faraday Limited, UK
Woodhead Publishing Series in Textiles No. 108

With issues such as a rising population and increasing concerns surrounding the environment and infection prevention, the need to understand and improve hygiene and healthcare products has become increasingly important. This book begins with an insight into the types of fibres used and explores how hygiene and infection control textiles are designed and produced. Concluding chapters discuss a range of applications.

CONTENTS
Part 1 Design and production techniques for hygiene textiles: The design of novel hygiene textile products; Nanotechnology and its applications in medical hygiene textiles; Use of knitted spacer fabrics for hygiene applications; Innovative and sustainable packaging strategies for hygiene products; Biodegradable hygiene products. Part 2 Design and production techniques for infection-control textiles: Micro-organisms, infection and the role of textiles; Creating barrier textiles through plasma processing; Disposable and reusable medical textiles; Ensuring fabrics survive sterilisation. Part 3 Product types: Washable textile-based absorbent products for incontinence; Biological containment suits used in microbiological high containment facilities and by emergency responders; Coated textiles for skin infections; Antimicrobial treatments of textiles for hygiene and infection control applications: an industrial perspective.

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Shape memory polymers and textiles
J Hu, Hong Kong Polytechnic University, Hong Kong
Woodhead Publishing Series in Textiles No. 65

‘It will be of great interest for textile engineers and designers, who like to introduce innovative material technologies.’

CONTENTS
Preparation of shape memory polymers; Characterisation technique for shape memory polymer; Structure and properties of shape memory polyurethane ionomer; Water vapor permeability of shape memory polyurethane; Characterization of shape memory properties in polymers; Structure modeling of shape memory polymers; Environmental sensitive polymer gel and its application in textiles field; Evaluation of shape memory fabrics; Shape memory textiles.

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Intelligent textiles and clothing
Edited by H Mattila, Tampere University of Technology, Finland
Woodhead Publishing Series in Textiles No. 54

Published in association with The Textile Institute
528 pages 234 x 156mm (6 x 9) hardback 2006 ISBN: 978 1 84569 005 2 E-ISSN: 978 1 84569 162 2 £170.00/US$290.00/€205.00 www.woodheadpublishing.com/9781845690052

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Wearable electronics and photonics
Edited by X M Tao, Hong Kong Polytechnic University, Hong Kong
Woodhead Publishing Series in Textiles No. 46

CONTENTS
Electrostatically generated nanofibres for wearable electronics; Electroceramic fibres and composites for intelligent apparel applications; Electroactive fabrics and wearable man-machine interfaces; Electromechanical properties of conductive fibres, yarns and fabrics; Integration of fibre optic sensors and sensing networks into textile structures; Wearable photonics based on integrative polymeric photonic fibres; Communication apparel, optical fibre fabric display; Wearable computing systems - electronic textiles; Data transfer for smart clothing: requirements and potential technologies; Interaction design in smart textiles clothing and applications.

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Smart fibres, fabrics and clothing
Fundamentals and applications
Edited by X M Tao, Hong Kong Polytechnic University, Hong Kong
Woodhead Publishing Series in Textiles No. 20

Published in association with The Textile Institute
336 pages 234 x 156mm (6 x 9) hardback 2001 ISBN: 978 1 85573 546 0 E-ISSN: 978 1 85573 750 7 £160.00/US$270.00/€190.00 www.woodheadpublishing.com/9781855735460
CLOTHING

NEW

Anthropometry, apparel sizing and design
Edited by D Gupta, Indian Institute of Technology, India and N Zakaria, Universiti Teknologi Mara (UiTM), Malaysia
Woodhead Publishing Series in Textiles No. 148
One of the greatest challenges for the apparel industry is to produce garments that fit customers properly. Anthropometry refers to the study of body dimensions such as size, weight and shape. Anthropometric data is critical in determining sizing systems for clothes and their design. This book reviews recent research in anthropometry, sizing systems and their applications to the design of clothing.

CONTENTS
Introduction to garment sizing and design. Part 1 Anthropometric methods and analysis: Principles of anthropometry for the clothing industry; Anthropometric methods: body measurement devices and techniques; Analysing anthropometric data: tools and techniques for identifying key body dimensions; Analysing anthropometric data: tools and techniques for segmentation and classification in developing clothing sizing systems. Part 2 Clothing sizing systems: International sizing surveys for clothing design; The development of sizing systems for clothing; International clothing sizing systems and classification; Clothing size designation and labelling. Part 3 Sizing and clothing design: Static human body modelling and clothing design; Body motion modelling, clothing design and fit; Clothing pattern drafting and design; Manikins for clothing size fit and analysis. Published in association with The Textile Institute

NEW

Optimizing decision making in clothing management using artificial intelligence (AI)
From production to fashion retail
W K Wong, Z X Guo and S Y S Leung, Hong Kong Polytechnic University, China
Woodhead Publishing Series in Textiles No. 143
There has been growing interest in the use of artificial intelligence (AI) to plan and optimize apparel production. This pioneering book reviews how AI can be used to optimise the apparel supply chain, from production order, cut order and marker planning through to fabric spreading and cutting, sewing and assembly, sales forecasting and cross-selling.

CONTENTS
Understanding key decision points in the apparel supply chain; Fundamentals of artificial intelligence (AI) techniques for textiles applications; Selecting the location of apparel manufacturing plants using AI; Optimization of production order planning and scheduling in apparel production using AI; Optimization of cut order planning in apparel production using AI; Optimizing marker planning in apparel production using AI; Optimization of fabric spreading and cutting schedules in apparel production using AI; Optimizing apparel sewing and assembly operations using AI; Sales forecasting for apparel production and fashion retailing using AI; Intelligent apparel cross-selling using radio frequency identification (RFID) technology for fashion retailing. Published in association with The Textile Institute

NEW

Clothing manufacture management
A systematic approach to planning, scheduling and control
J Gersak, University of Maribor, Slovenia
Woodhead Publishing Series in Textiles No. 147
This book reviews the development of new systems for rapid development and manufacture of garment collections. Chapters review developments in international garment classification and sizing systems, techniques for developing an overall garment collection, garment design and pattern preparation, garment production and testing.

CONTENTS
Clothing classification systems; Clothing sizing systems; Key management issues in developing a garment collection; Planning and organisation of clothing production; Planning of clothing design, pattern making and cutting; Planning sewing, assembly and other aspects of clothing manufacturing; Clothing production management; scheduling, monitoring and cost control; The use of textile material testing in clothing production. Published in association with The Textile Institute

NEW

Handbook of footwear design and manufacture
Edited by A Luximon, Hong Kong Polytechnic University, China
Woodhead Publishing Series in Textiles No. 141
The application of textiles in footwear is an active area of research, the understanding of which can improve design as well as the marketability of a product. This important book reviews key research in this field. Part one discusses foot anatomy and its implications for footwear design. Parts two and three look at design issues from foot and footwear drawing templates to shoe last design and footwear manufacture. The final part of the book includes the design of particular types of footwear.

CONTENTS
Part 1 Fundamentals of footwear anatomy: The anatomy of the human foot; Foot development in childhood and adolescence; Food models and measurements; Foot problems and their implications for design. Part 2 Footwear design: Shoe design: an overview; Foot sketch templates; Footwear drawing templates; Characterising footwear fit and comfort. Part 3 From design to manufacture: Design and manufacture of shoe lasts; Sizing and grading of shoe lasts; Shoe last design templates; Shoe last design for mass customised footwear; Textile materials for footwear; Shoe manufacturing techniques; Advertising and markets; The environmental impact of footwear manufacture. Part 4 Applications: Footwear for cold weather applications; Textiles for protective military footwear; Orthopaedic insoles; Geriatric footwear. Published in association with The Textile Institute

NEW

Ergonomics in the garment industry
G Colovic, The College of Textile Design, Serbia
Ergonomics in the garment industry impacts knowledge on ergonomics and safety at work in the garment manufacturing industry. Chapters discuss ergonomics development; divisions of ergonomics; ergonomic conditions of work; ergonomic principles; and ergonomic design of the workplace.

CONTENTS
Ergonomics development; Divisions of ergonomics; Ergonomic conditions of work; Ergonomic principles; Ergonomic design of workplace. A Woodhead Publishing India title

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G Colovic, The College of Textile Design, Serbia
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CONTENTS
Ergonomics development; Divisions of ergonomics; Ergonomic conditions of work; Ergonomic principles; Ergonomic design of workplace. A Woodhead Publishing India title

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**Strategic management in the garment industry**

G Colovic, The College of Textile Design, Technology and Management, Serbia

Strategy implementation in the garment industry requires a special kind of expertise. Formulating a strategy requires an entrepreneurial focus and emphasizes the ability to conceptualize, analyze and weigh, whereas applying strategy has a primarily managing focus. All fashion companies must, regardless of their current situation, develop a long-term strategy. There is not a single strategy that would be optimal for all companies, because each of them must determine a strategy in accordance with its objectives, capabilities, resources and market position. **Strategic management in the garment industry** illustrates advances in business strategy in the garment industry for current and future managers, students of textile technology and engineers.

**CONTENTS**
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**Industrial engineering in apparel production**

V Ramesh Babu, Sona College of Technology

This book focuses on the industrial engineering aspects in apparel production. Garment fashion technology students, researchers and textile engineers will find this book useful.

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**Improving comfort in clothing**

Edited by G Song, University of Alberta, Canada

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Wear comfort is one of the most important properties of clothing demanded by consumers. Part one of this book reviews the fundamental principles of comfort. A second group of chapters examine the measurement and assessment of comfort, including both laboratory measurement and consumer perceptions of comfort. Subsequent topics analyse how to improve the physical aspects of comfort in textiles and apparel. The final part of the book offers a selection of case studies involving the incorporation of comfort into medical, military, firefighter and sportswear applications.

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**Management of technology systems in garment industry**

G Colovic, The College of Textile Design, Technology and Management, Serbia

**Computer technology for textiles and apparel**

Edited by J Hu, Hong Kong Polytechnic University, Hong Kong

**Woodhead Publishing Series in Textiles No. 121**

Computer technology has transformed textiles from their design through to their manufacture. This book reflects the significant advances that have been made in computer technologies, covering a wide range of topics from modelling to electronic textiles and apparel. Part one provides a review of different computer-based technologies suitable for textile materials. Chapters include computer technology for yarn structure, fabric defects and garment structure. It also discusses modelling and simulation of fibres and textiles, including the modelling of yarn and garments. Part three concludes with a review of computer-based technologies specific to apparel, ranging from 3D body scanning to electronic textiles.

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**Science in clothing comfort**

A Das and R Alagirusamy, Indian Institute of Technology, New Delhi, India

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