Textile Printing

Revised Second Edition

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2003

Society of Dyers and Colourists

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Published by the Society of Dyers and Colourists, PO Box 244, Perkin House, 82 Grattan Road, Bradford, West Yorkshire BD1 2JB, England, on behalf of the Dyers' Company Publications Trust.

First Edition 1981 ISBN 0 901956 33 3 Second Edition 1994 ISBN 0 901956 57 0

This book was produced under the auspices of the Dyers' Company Publications Trust. The Trust was instituted by the Worshipful Company of Dyers of the City of London in 1971 to encourage the publication of textbooks and other aids to learning in the science and technology of colour and coloration and related fields. The Society of Dyers and Colourists acts as trustee to the fund.

Typeset by the Society of Dyers and Colourists and printed by Hobbs The Printers, Hampshire, UK

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From the preface to the First Edition

Textile printing is probably best described as an industrial art, having a long history and an assured future. It has become more dependent on the sciences than it was, but will always be a multidisciplinary activity, requiring more than a knowledge of science and technology.

For those readers with practical, rather than academic, objectives, perhaps looking for answers to specific technical questions, a warning may be necessary. In a short book on such a substantial subject, some generalisations are inevitable but dangerous. Successful printing depends not only on using the appropriate materials and techniques, but also on the coordination of many individuals' skills. Printing machines have been compared to musical instruments, in that the results obtained depend on who is playing. In any printworks, the difficult patterns are given to the best printers, but even the best printer has to work within the limitations of his equipment and his supporting team.

Before describing current techniques, a brief discussion of the historical development of textile printing may be helpful. The English term 'printing' was coined in the 18th century and is derived from a Latin word meaning pressing, the word 'impression' being similarly derived. At that time printing was normally achieved by the use of wood blocks, with raised printing surfaces, which required pressure to obtain good contact between the fabric and the colour on the block.

Wood blocks were certainly used for printing illustrations in books at around 1400, and on linen hangings at about the same time. In China, they had been used in the 10th century. Stencil printing of playing cards was established in around 1440, and engraved-copper-plate printing was used in Venice in 1450. Techniques used on paper were naturally tried on fabrics, but often required long processes of trial and error before they could be successfully adapted.

Techniques of resist dyeing, mordant printing and painting had been developed in the East at a much earlier period. Herodotus wrote of the painting of garments in the 5th century BC, a dye that was probably indigo being used. In fact, it was the enormous demand for colourful hand-painted cotton fabrics, imported from India in the 17th century, that stimulated the inventiveness and drive of the European pioneers. By 1842 some 90% of British prints were produced on machines, rather than by hand block and, at about that time, 60% of the cotton fabric produced was printed. The pioneer printers of Europe not only developed the machinery and mastered the art of using suitable thickeners, but were also innovators of the factory system.

LESLIE MILES

From the preface to the Second Edition

The 1981 edition was widely welcomed and became a standard textbook. But it was clear that a second edition was required and we have taken the opportunity to effect some significant updating. The whole book has been updated and I hope that it will prove to be of lasting value, to students and the industry around the world.

Screen printing is certainly the dominant method at the present time, but block printing and roller printing are still of some significance and of technical interest. I am pleased that we have included both this time. The other development that we have reflected is the substantial use of computer-aided design (CAD) and of computers in screen production in printing processes.

My thanks are gratefully recorded to all the authors, especially Ian Rattee who has provided invaluable expertise on transfer printing (originally dealt with by the late Frank Jones). I wish to acknowledge the assistance of Paul Dinsdale (the Society's editor) and Carol Davies for her expert typesetting and layout. Jean Macqueen has improved the text significantly and provided the index, for which I am indebted. I am also grateful for all those individuals and organisations who granted permission to reproduce illustrations, as signified in the figure captions.

LESLIE MILES

Preface to the Revised Second Edition

In the 1994 edition the early developments in jet printing for flat fabrics were noted. Because these developments have continued apace, a new chapter on digital printing has now been added. Grateful thanks are due to Tim Dawson, whose expertise in this area is widely acknowledged, for this chapter.

In other respects the changes since 1994 have not been large and we have been pleased to see how well the book is wearing. I hope that this edition will also prove to be useful to students and the industry worldwide.

LESLIE MILES

Contents

Contributors Prefaces					
CHAPTER 1		Traditional methods by Leslie W C Miles	1		
1.1	A historica		1		
1.2	A historical perspective 1 Surface printing methods 8				
1.3	Engraved-1				
CH.	APTER 2	Screen printing			
		by Christopher J Hawkyard	18		
2.1	Introduction	on 18			
2.2	Hand scree	en and semi-automatic screen printing 20			
2.3	Fully autor	matic flat-screen printing 24			
2.4	Rotary-screen printing 31				
2.5	Design aspects 37				
2.6	Computer-aided design 40				
2.7	Screen pro				
2.8	The funda				
2.9	Nontextile	applications of screen printing 54			
CH.	APTER 3	Transfer printing by Ian D Rattee	58		
3.1	Introductio				
3.2	Sublimatio	n transfer 60			
3.3	Melt and fi	ilm release transfer 87			
3.4					
CH.	APTER 4	Carpet and yarn printing by Timothy L Dawson	99		
4.1	Historical	development of carpet printing 99	22		
4.2	Yarn printing (space dyeing) 102				
4.3					
4.4	• •	carpet tiles 114			

4.8	Printing of carpets tufted from fibres other than nylon 135				
CHA	APTER 5 Direct print coloration				
	by Heinz Gutjahr and Robert R Koch	139			
5.1	Introduction 139				
5.2	Pigment printing 140 Cellulosic fibres 153				
5.3 5.4	Polyester fibres 172				
5.5	Cellulose acetate fibres 176				
5.6					
5.7	Polyamide fibres 181				
5.8	Protein fibres 183				
5.9	Polyester/cellulose fibre blends 187				
OLL	ADTED (D. 1 . 1 . 1				
CHA	APTER 6 Discharge, resist and special styles	100			
6.1	by Clifford Berry and John G Ferguson Introduction and definitions 196	196			
6.2	Discharge printing 197				
6.3	Application procedures in discharge printing 206				
6.4	Resist printing 217				
6.5	Special styles 230				
CH	APTER 7 The production and properties of printing pastes				
	by Leslie W C Miles	240			
7.1	The requirements 240				
7.2	Thickeners 241				
7.3	Raw materials: polysaccharides 245				
7.4	Viscous feems 257				
7.5 7.6	Viscous foams 257 Synthetic polymer thickeners 257				
7.7	Synthetic-polymer thickeners 257 Print paste rheology 260				
7.8	Print paste mediogy 200 Print paste production 272				
	Colour shop organisation 273				
SI.	r				

Treatments before and after printing 115

Physical factors affecting the quality of printed carpets 118

Selection of dyes and chemicals for printing nylon carpets 126

4.5

4.6

4.7

CHAPTER 8		Fixation and aftertreatment processes			
		by Leslie W C Miles	275		
8.1	Introduction	275			
8.2	Pigment prints 275				
8.3	Steamers 276				
8.4	Miscellaneous techniques 291				
8.5	Washing-off processes 292				
8.6	Washing-off equipment 296				
~**					
CHA	APTER 9	The use of digital systems in textile printing			
		by Timothy L Dawson	301		
9.1	Introduction 301				
9.2	Image capture and display 304				
9.3	Screen making using digital pattern data 308				
9.4	Digital contro	ol systems in the screen printing industry 311			
9.5	Principles of i	nk-jet printing systems used for textiles 313			
9.6	Large-format	printing machines for textiles 319			
9.7	Ink systems for	or digital printing 322			
9.8	Variables affe	cting shade reproducibility 326			
9.9	Markets for je	et-printed textiles 328			
9.10	Conclusion				