

Handbook on Printing Technology (Offset, Flexo, Gravure, Screen, Digital, 3D Printing with Book Binding and CTP) 5TH Edition

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Format: Paperback

ISBN: 9788194099505

Code: NI73

Pages: 616

Price: Rs. 1,875.00 US\$ 45.00

Publisher: Asia Pacific Business Press Inc.

Usually ships within 5 days

Printing is a process for reproducing text and image, typically with ink on paper using a printing press. It is often carried out as a large-scale industrial process, and is an essential part of publishing and transaction printing. Modern technology is radically changing the way publications are printed, inventoried and distributed. Printing technology market is growing, due to technological proliferation along with increasing applications of commercial printing across end users.

In India, the market for printing technology is at its nascent stage; however offers huge growth opportunities in the coming years. The major factors boosting the growth of offset printing press market are the growth of packaging industry across the globe, increasing demand in graphic applications, the wide range of application in various industry, and industrialization. 3D printing market is estimated to garner \$8.6 billion in coming years. The global digital printing packaging market is expected to exceed more than US\$ 40.02 billion by 2026 at a CAGR of 13.9%. Computer-to-plate systems are increasingly being combined with all digital prepress and printing processes.

This book is dedicated to the Printing Industry. In this book, the details of printing methods and applications are given. The book throws light on the materials required for the same and the various processes involved. This popular book has been organized to provide readers with a firmer grasp of how printing technologies are revolutionizing the industry.

The major content of the book are principles of contact (impression), principles of noncontact printing, coated grades and commercial printing, tests for gravure printing, tests for letterpress printing, tests for offset printing, screen printing, application of screen printing, offset lithography, planography, materials, tools and equipments, sheetfed offset machines, web offset machines, colour and its reproduction, quality control in printing, flexography, rotogravure, creative frees printer, shaftless spearheads expansion, digital printing, 3D printing, 3D printing machinery, book binding, computer-to-plate (ctp) and photographs of machinery with suppliers contact details.

A total guide to manufacturing and entrepreneurial success in one of today's most printing industry. This book is one-stop guide to one of the fastest growing sectors of the printing industry, where opportunities abound for manufacturers, retailers, and entrepreneurs. This is the only complete handbook on the commercial production of printing products. It serves up a feast of how-to information, from concept to purchasing equipment.

Contents

Contents

1. INTRODUCTION 1

History

Four Major Printing Processes

Relief Printing Process

The Process

Letter Press Printing Process

Plano Graphic

Offset

The Advantages of Offset Printing Include

Screen Printing Process

Other Printing Methods

Digital Printing

Paper for Printing

2. MODERN PRINTING TECHNIQUES 15

Printing (Press Operation)

Colour Printing

How a Printing Press Works

The Latest Technologies in Printing Industry

Digital Inkjet Printing

3D Printing Rise

Software Innovations

Hybrid Print Technologies

Efficient Technology

Special Printing Technologies

Basic Principles of Hybrid Printing System

Hybrid Printing System Concepts of Combining Conventional Printing Technologies

Hybrid Printing Systems Combining NIP Technologies

Hybrid Printing Systems Combining Conventional and NIP Technologies

Hybrid Printing Systems Combining Computer to Press/Direct Imaging with NIP Technologies

Hybrid Printing Systems Combining Conventional Printing Technologies with Computer to Press Technologies

Basic Principles of Waterless Offset Printing

Advantages/Merits of Waterless Printing

Qualitative Advantages

Production Advantages

Ecological Advantages

Basic Principle of Digital Printing

Flow Chart of Digital Composition of a Printed Page

Direct Imaging (with master)

Computer to Print (without master)

Scope and Job suitability of Digital Printing Process

Digital Printing has a very bright future because

Digital Printing is Suitable for

Basic Principle of Direct Imaging

Once Imageable Master (Plate Imaging)

Re-imageable Master (Surface Imaging)

3. PRINCIPLES OF CONTACT (IMPRESSION)

PRINTING PROCESSES 33

Introduction

Printing Methods
The Printing System
Preparatory Sections
Halftone Photography
Platemaking
Printing
Binding and Finishing
Inks for Letterpress and Lithography
Speciality Printing
4. PRINCIPLES OF NONCONTACT PRINTING 82
Introduction
Impactless printing system for variable printing
Summary
5. COATED GRADES AND COMMERCIAL PRINTING 105
Coated and Commercial Papers
Coating Methods
Coating Materials
Adhesives
Coated Paper Properties and Use
6. TESTS FOR GRAVURE PRINTING 117
Introduction
Print Smoothness
Gravure Print Testing
7. TESTS FOR OFFSET PRINTING 123
Introduction
Runnability
Surface Strength
Water Resistance
Mechanical Properties
Web Runnability
8. SCREEN PRINTING 130
Select Correct Screen Printing Fabric
An Antistatic Stencil Mesh
Screen Printing Frames
Stretching Equipment
Correct Stretching
Adhesives
The Manufacture of Diapositives
Stencils
The Diapositive
9. APPLICATION OF SCREEN PRINTING 177
Screen Printing Accessories
Stencils
Chemicals Used and Formulations
Common Faults in Screen Printing
Printing Unit
Automatic Screen Printing Machine
Screen Printing on Different Surfaces
Inks for Screen Printing
10. OFFSET LITHOGRAPHY 218
Printing Processes
Origin and History of Lithography
Job Planning

Evolution of Offset Printing
Offset Machine Construction
Pre-Make Ready and Make Ready
Setting the Machine for Operation
Small Offset
Running Problems
Colour
Rollers
11. PLANOGRAPHY 257
Origin of Planography
Principle of Planographic Printing
Direct Printing Process
Offset Printing Process
Working Process
12. MATERIALS, TOOLS AND EQUIPMENTS 266
Lithographic varnish
Acids
Turpentine
French Chalk
Resin
Asphaltum
Paraffin
Driers
Sponge
Dampening Cloth
Vaseline
Tools and Equipments
Scraper
Ink Knife
Wrench
Proofing Devices
Mechanical Features
Automatic Proof Presses 402
Qualities of a Good Proof
13. SHEETFED OFFSET PRINTING 282
Names of the machines
Mechanical Features
Lubrication
Sheet feeding mechanism
Sheet board
Functions of blowers
Functions of the blower foot
Sheet lifting and forwarding
Sheet Controls
Sheet Register
Sheet Insertion and Transfer
Inking System
Distribution System
Multiroll System
Wash-up device
Adjustment of Rollers
Different Dampening Systems
Cleaning of Dampeners

Construction of the machine
Working on the cleaning machine
Plate Cylinder
Blanket Cylinder
Impression Cylinder
Adjustment of Cylinders
Advantages of Both Principles
Delivery Mechanism
Anti-setoff Spray
Miscellaneous Operations
14. WEB OFFSET PRINTING 358
Driving Mechanism
Printing Units
Main Parts of Printing Unit
Inking System
Delivery Unit
Folding Unit
Ancillary Operations by Delivery Unit
15. COLOUR AND ITS REPRODUCTION 391
Terminology Related to Colour
Mixing and Matching of Colors
Sequence of Colours in Printing
16. QUALITY CONTROL IN PRINTING 398
Before Printing
During Printing
After Printing
17. FLEXOGRAPHY 407
Flexography
Flexographic Platemaking
Photochemical Change
Rotary Principle
Rubber Plates
Substrates
Paper and Board
18. ROTOGRAVURE 413
19. DIGITAL PRINTING 421
Introduction
Digital Printing
Important Things We Should Know About Digital Printing
Types of Digital Printing
1. Inkjet Printer
2. Laser Printer
Important Features of Laser Printer
Advantages of Digital Printing
Benefits of Digital Printing Design & Printing
1. Cheaper Printing
2. High quality
Difference between Screen Printing and Digital Printing
Screen Printing
Digital Printing
Comparison between Digital Printing and Press Printing
Digital Printing
Press Printing

20. 3D PRINTING 438

Introduction

History of 3D Printing

How Does 3D Printing Work?

Technology

3D Printing Applications

1. Medical and Dental

2. Aerospace

Complex Designs

Weight Reduction

Improved Strength and Durability

Major Savings

3. Automotive

4. Jewellery

5. Art/Design/Sculpture

6. Architecture

7. Fashion

8. Food

Benefits of 3D Printing

Advantages of 3D Printing in Manufacturing

1. 3-D Printers are Becoming More Affordable

2. Quicker Turnaround Times for Prototyping

3. Quicker Product Launches

4. Competitive Advantage

5. Reduction in Manufacturing Errors

6. Complex Geometries

7. Mass Customization

8. Less Tooling

9. Fewer Costs

10. Environmentally Friendly

Benefits of 3D Printing in Healthcare

What Materials do 3D Printers Use?

1. Plastics

(a) Nylon (Polyamide)

Features

(b) PLA Filament

Features

(c) ABS Filament

Features

(d) PVA Filament

2. Powders

3. Resins

Features

4. Other Materials

How do the Different 3D Printing Technologies Work?

1. Fused Deposition Modeling (FDM)

How does FDM Work?

Materials for FDM

ABS (Acrylonitrile Butadiene Styrene)

ABSi (Acrylonitrile Butadiene Styrene – Biocompatible)

ABS-M30 (Acrylonitrile Butadiene Styrene)

ABS-M30i (Acrylonitrile Butadiene Styrene – Biocompatible)

PC (Polycarbonate)

ABS-ESD7 (Acrylonitrile Butadiene Styrene – Static-Dissipative)

PC-ABS (Polycarbonate ABS)

PC-ISO (Polycarbonate ISO)

Ultem 9085

2. Stereolithography and Digital Light Processing (SLA & DLP)

3. Selective Laser Sintering (SLS)

4. Material Jetting (PolyJet and MultiJet Modeling)

5. Binder Jetting

6. Metal Printing (Selective Laser Melting and Electron Beam Melting)

Electron Beam Melting

Characteristics

Selective Laser Melting Applications

7. PolyJet Photopolymer

Benefits of Polyjet

Realistic Finish

Greater Choices

Multiple Materials and Colors

Polyjet Materials

1. Digital Materials

2. Digital ABS

3. High Temperature

Wide Range of Applications

4. Transparent

3D Print Clear and Tinted Prototypes

3D Printing With Transparent Material

3D Print Translucent Shades and Patterns

Wide Range of Applications

5. Rigid Opaque

6. Polypropylene-like

3D Print Tough, Flexible Models

7. Bio-compatible

3D Print Medical Devices

3D Printing With Bio-compatible Material

8. Rubber-like

3D Print Flexible, Soft-touch Models

3D Printing With Rubber-like Material

8. Syringe Extrusion

9. Other Methods

3D Printing is a Game Changer

21. 3D PRINTING MACHINERY 491

Airwolf AW3D HD

SLA 3D Printing Machine

3D Printing Machine

Makerbot Replicator

Dual Head 3D Printer

Prototyping Machine

Flashforge Finder

3D Systems Cube

3D Jet

Formlabs

22. BOOK BINDING 501

Terms and Techniques

Cutting & Folding

Folded Sheet or Section Binding
 Book Binding Methods
 Perfect Binding
 Hardcover/Case Binding
 Saddle Staple (Fold, Staple, Trim) Binding
 Wiro Binding
 Automatic Book Binding Machine
 Programmable Logic Controllers (PLC)
 Perfect Book Binding Machine
 Disc Perfect Binding Machine
 Perfect Binding Line
 Thread Book Sewing Machine Semi Automatic
 23. COMPUTER-TO-PLATE (CTP) 513
 CTP Technologies
 Regulatory Requirements
 Plate Development
 Visible Laser Plates Using Silver Halide
 Thermal Laser Plates Using Ablation
 Plate Making Process Steps
 Temperature Control for Computer to Plate Technology
 Process
 Platesetter Cooling
 Plate Processor Cooling
 CTP Technology in Offset Printing
 Digital Plate Setter UV CTP Machine
 24. PROCESS FLOW DIAGRAMS & LAYOUTS 527
 25. PHOTOGRAPHS OF MACHINERY WITH SUPPLIER'S
 CONTACT DETAILS 549
 Single Color Offset Printing Machine
 Two Color Satellite Offset Printing Machine
 Offset Printing with Numbering and Perforating Machine
 Web Offset Printing Machine
 Color Screen Printer
 Flatbed Screen Printer
 Automatic Sheetfed Offset Printing Machine
 Sheetfed Offset Machine
 Mini Offset Printing Machine
 Flexographic Printing Machine
 Label Master Flexographic Printing Press
 Poly Offset Printing Machines
 Prepress Equipments
 Flip Top Printing Down Frame Single/Double Sided Machine
 Instant Start Metal Halide Plate Exposure
 Plate Coating Whirler
 Plate Curing Equipment
 Damper Roller Washer
 Vertical Process Camera
 3M Plate Processor
 Computer-to-Screen Exposure System
 IGP Plate Processor
 Screen CTP System
 Inkjet CTP System (Computer to Plate Machine)
 Rotogravure Printing Machine

4 Hi Tower (Automatic)
3 Colour + Stack Unit (Manual)
Finishing System
UV Inkjet Digital Printing System
Perfecting Production System
Tape Binder
High Light Color System
Color Printer
Digital Press
Digital Color Press
Manual Offset Printing Machine
Rotogravure Printing Machine
Black and White Digital Print Production System
Digital Printing Machine
Paper Binding Machine

About NIIR

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Sun, 28 Apr 2024 03:50:59 +0530