

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

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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.

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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

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Characteristics

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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

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 Mini Offset Printing Machine
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 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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