

Overview

Introduction to the Flexographic Printing Process

What: Hands-on overview to the entire process of flexographic printing

- A. What is Flexography?
- B. Why print by the flexographic printing process and what are the advantages?
- C. What types of products are printed by flexography and why?
- D. What are the major components of the flexographic printing press and their functions?
- E. What are the different flexographic printing press configurations and their advantages/disadvantages?
- F. What are the options today for flexographic printing?

Take away in the end:

- A. Key flexographic and graphics terms
- B. Digital prepress for flexography
- C. Flexographic plate making and plate mounting
- D. Anilox roller selection
- E. Flexographic press designs and print production set up
- F. Print registration and die cut registration
- G. Ink blending and overview of spot color matching

Terms:

| | | |
|--------------------|-----------------------|----------------------|
| Flexography | Gear Pitch / Undercut | Dot Gain |
| Printing Processes | Central Impression | Spot / Process Color |
| Halftone Screening | In-Line | Digital Proofing |
| LPI | Stacked | RIP / 1 bit TIFF |
| Vector Artwork | Photopolymer | pH / viscosity |
| Raster Artwork | Digital Imaging | Doctor Blade |
| Trap / Bleed | Face Exposure | Rubber Roller |
| Fill / Stroke | Back Exposure | Anilox Roller |
| Layout | Relief | BCM / CPI |
| Distortion | Stickyback | Bearer Bars |
| Step and Repeat | Impression | Register Marks |

Intro Flexo Daily Topics

Day 1

8:30 AM Godfrey Hall

Printing processes, graphics, design and prepress

Introductions & Program Orientation

Presentation: 6 Major Printing Processes, Advantages/Disadvantages

- A. Letterpress
- B. Lithography
- C. Gravure
- D. Screen Printing
- E. Digital Printing
- F. Flexography

Presentation: Image Reproduction

- A. Types of Artwork
- B. Resolution
- C. Halftones
- D. LPI
- E. Practical terms

Hands-On: 1 Color Job Design

- A. Die line selection
- B. Spot Color Selection
- C. Thumbnails and Design Concepts for Flexography

Lunch

Computer: Electronic Layout

- A. Document Setup
- B. Clipart preparation
- C. Color Setting
- D. Screen tints
- E. Bleeds

Presentation: Prepress for Flexo

- A. Gear Pitch and Cylinder Repeat
- B. Minimum Dot
- C. Step and Repeat
- D. Production Marks
- E. Image Distortion

Proofing, Platemaking, Ink Mixing, Anilox Rollers

Presentation: Flexographic Platemaking

- A. Parts and function of flexo plates
- B. Plate types and characteristics of
- C. Plate imaging
- D. Plate Processing

Presentation: Proofing

- A. Purpose of Proof
- B. Soft proof, Hard proof, remote proof
- C. Con-tone and halftone proof
- D. Challenges of proofing for flexo

Hands-on: RIP and Digital Platemaking

- A. Set image LPI's
- B. Set screen angles
- C. Distort Layouts
- D. Soft proof 1-Bit TIFF
- E. Image Digital Plate

Lunch

Hands-on: Platemaking *continued*

- A. Plate exposure
- B. Thermal plate processing
- C. Plate finishing

Presentation: Anilox Rollers

- A. Mechanics of
- B. Attributes of
- C. Specifying anilox roller based on print needs
- D. Care and Maintenance

Hands-on: Flexographic inks

- A. Types of
- B. Water-based pH and Viscosity
- C. Ink Blending and drawdown

Hands-on: Flexographic Press Assembly

Day 3

8:30 AM Godfrey Hall

Plate Mounting, 1C Press Run, 3 Color Design & Prepress

Hands-on: Mount plates

- A. Plate Cylinder Selection
- B. Stickyback Selection
- C. Plate Trimming
- D. Plate Register

Press Run: Print 1 Color Jobs

- A. Setting Rubber Roller Pressure
- B. Setting Doctor Blade Pressure
- C. Setting Print Impression
- D. Process control points
- E. Register to Die cut
- F. Strip Waste Matrix and slit web
- G. Press Clean up

Lunch

Computer: 3 Color Job Design and Layout

- A. Multi-Color Document Setup
- B. Clipart preparation
- C. Combining Screen Tints for Built Colors
- D. Trapping Multi-Color artwork
- E. Bleeds

Hands-on: Proofing & CTP

Follow 1-Color Job steps now using 3 color job

- a. Set image LPI based on substrate / anilox roller choice
- b. Set screen angles to prevent moire
- c. Gang files for production efficiency
- d. Use Digital workflow software to color separate
- e. Hard Proof layout
- f. Soft proof 1-Bit TIFF

3 Color Platemaking, 3 Color Production Run, Flexo Review

Computer-to-Plate (CtP) Making

- A. Assemble color separation files on master plate
- B. Digital Image Plate (output)
- C. Expose Plate
- D. Thermally Process plate
- E. Plate Measurement

Hands-on Multicolor Plate mounting

- A. Plate Cylinder Selection
- B. Stickyback Selection
- C. Plate Trimming
- D. Plate Registering

Hands-on: Flexographic inks

- A. Ink Blending and drawdown
- B. Color measurement and recording

3-Color Press Runs

- A. Assemble Press Components
- B. Setting Rubber Roller Pressure
- C. Setting Doctor Blade Pressure
- D. Loading Plate Cylinders
- E. Setting Print Impressions
- F. Process control
- G. Registering multiple colors

Lunch Break

Press Runs continued

Workshop wrap up

Question and Answer Session

Evaluations and Certificates

3:00 END