

Gravure

Processes

	1998	2002
• Letterpress	6%	6%
• Flexography	18%	19%
• Offset	45%	42%
• Screen	3%	3%
• Gravure	18%	15%
• Electronic	10%	13%

Gravure

- \$15 billion industry
- High quality, long run, low cost/unit

Advantages

- Simple - fast startup
- Low spoilage
- Long runs
- High quality
- Various size cylinders, image size may vary
- Seamless designs

Disadvantages

- Cylinder preparation
 - Time consuming
 - Costly

Product Areas

- Publications
- Packaging
- Specialty

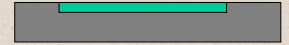
Area Companies

- American Greetings - Corbin
- Ft. James? – Lexington

The Process

Image Area

- Intaglio (I-tal-yo)
 - Engraving - image below surface
 - Ink squeegeed over plate, image is inked
 - Pressure - transfers ink to substrate
- Gravure - rotogravure
 - Cylinders



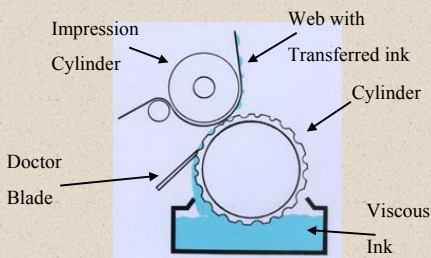
Cylinder

- Copper plating
 - Polishing
- Engraving
 - Electromechanical - diamond stylus
 - Original computer based
 - Engraving head cuts cells, 4000 per second
 - Diamond stylus

Cylinder Preparation

- Proofing
- Chrome plating

The Press



The Gravure Press

- Engraved cylinder
 - Ink - very viscous
 - Doctor blade - leaves ink only in cells
- Prints directly from cylinder to substrate
- Entire image made up of cells
 - Cell depth determines ink density
 - Deeper cells hold more ink, print darker

Identification

- Cells create an easy way to identify
 - Screened edges
 - Digital images, low resolution
- Engraving
 - Raised image
 - Up from the bottom

