A Crash Course in Graphic Communications

Press Page Up or Page Down to navigate through the program.
Press Esc twice to exit the program.
Part 4
Paper and Ink
Paper

- *Paper* is the most popular substrate for printing
  - A *substrate* is any material with a surface to which ink can adhere
In the beginning...

- The first writing materials were stone and clay tablets.
- Ancient civilizations also made use of leaves, papyrus, and parchment for writing surfaces.
In the beginning...

- AD 105—The Chinese were the first manufacturers of paper
- *Pulp*, the fibrous material from wood, is used to make paper today
Paper and printing are economically linked.
What Is Paper?

- *Cellulose fiber* is the building block of plants
- *Fillers* are chemicals—such as calcium carbonate—that are used to make paper smooth and opaque
Paper

- Coating
  - Some paper stock is coated, which creates a bright surface ideal for image reproduction
    - Coated papers are also known as enamels
    - Coated papers can have a matte or satin finish
  - Uncoated paper is in more widespread use, mainly because it is less expensive and permits ink to dry faster
• **Size**
  
  - Paper is available in both standard and non-standard sizes
  
  • Non-standard sizes are referred to as *custom cuts*
Caliper

- Paper comes in a variety of thicknesses, or caliper
  - Most paper we come in contact with is the thin variety called *text stock*
  - *Cover stock* is a thicker grade paper used for such things as book covers and business cards
Paper

Classifications

- There are thousands of types of printing papers
- Some common categories are
  - Bond (or business) papers
  - Offset papers
  - Cover papers
  - Index/bristol papers
  - Utility papers
Bond papers (sometimes called business papers) are used for letterhead stationery, checks, business forms, and writing pads.

- Types include xerographic papers and carbonized paper.
- Characteristics include smooth surfaces, durability, and sufficient hardness for writing and typing.
• Book
  – Products include the pages of hardcover books, magazines, and brochures
  – Types of book paper include coated and uncoated
Paper

- Offset papers
  - Perform well on offset presses
  - Very bright and smooth
  - Very opaque
  - Long-lasting; retain their color and brilliance over time
  - Uncoated
Paper

• Cover stock
  • Products include the covers of annual reports and journals; posters; and greeting cards
  • Types include coated and uncoated
  • Similar to offset papers, but thicker
  • Hold up well to handling and to graphic finishing operations
Paper

• Bristol
  – Used for folders, postcards, index cards
  – Types include index bristol, postcard bristol
  – Allow smooth writing
  – Very stiff and durable
• Utility
  – Used for a wide variety of products such as newspapers, directories, tags, paper bags, labels
  – Types include newsprint, tag board, pressure-sensitive paper
Thinking Ink

- The printer’s first concern with ink is to get the right ink for the job
- *Printing ink*—A dispersion of a colored solid (pigment) in a vehicle formulated to produce an image on a substrate
Thinking Ink

- Ink is created using chemical formulas designed for use with specific printing processes and substrates
- Approximately 250 companies in the US are involved in the printing ink market
Ink

Components
- *Pigments*—Give ink its color
- *Vehicle*—Carries the pigment on press and binds the pigment to the surface of the substrate as it dries
- *Modifiers*—Enhance the ink’s performance on press and in drying
Ink

- Two broad classifications
  - Paste inks and fluid inks
Ink

- Setting and drying
The various classifications of inks are based primarily on their drying methods:
- Quickset
- Heatset
- Moisture-set
- Radiation-set

There are also high-gloss, metallic, magnetic, and fluorescent inks
Ink and Paper

Good color match

Poor color match
End of Part 4