

Printing techniques

Choosing a printing technique—or a combination of them—is never just a matter of taste. Factors like cost, time and design objective are also part of the decision. To make that thought process easier, here is a summary of different printing techniques and how they interact with paper.

Offset

The workhorse.

Offset printing is the most technically mature, simplest, most versatile and most commonly available process. In the hands of a fine printer, virtually any design element can be applied to virtually any kind of stock. In offset printing, an image is transferred from plate to rubber blanket to paper in a positive–negative–positive sequence. Offset printing is an economical and efficient method for printing a stationery system.

Digital

The fast, vast frontier.

This rapidly evolving, broadly defined technology allows images to be formed through the deposit of toners or ink using highly specialised equipment. With advances in technology, digital printing has gained the clarity of reproduction it once lacked, and now combines speed, affordability and quality for virtually any printing purpose. Digital printing is particularly valuable when time is short, the run is small, or when the information is customised or has a short shelf-life.

Engraving

The noblest of processes.

The very nature of engraving adds sophistication and dignity to communications, particularly stationery systems. Historically, engraving is used for smaller quantity runs due to time and expense required for the technique.

Engraving begins with a flat printing plate that is etched with an image generated from film or electronic file. Often, the process and craftsmanship of engraving requires the deep steel or copper plate to be hand-tooled in preparation for printing, adding to the mystique of the process.

The actual impression is made under high pressure to fully transfer the ink from the “valleys” of the plate to the paper. This produces the surface relief that immediately identifies a printed piece as engraved.

Thermography

Call it the poor man's engraving.

Thermography is the chemical technique that creates a raised surface on paper. Specially formulated inks are applied to paper, dusted with a resinous powder and then heated to cause the ink to swell and rise. The amount of expansion can be difficult to control and the surface of the impression is shinier than the engraved surface that thermography tries to imitate.

Letterpress

A lasting impression.

Once one of the most common methods of printing, letterpress is rarely found today. Yet in the hands of specialty printers, letterpress is a living art for small-run projects. Capable of producing a handsome and more economical alternative to engraving when an impression in the paper is desired.

Letterpress is printing from a negative, raised and inked surface applied directly to the paper. Traditional difficulties in registration make multi-colour work problematic. Remember, the ability to hold fine details will vary depending on the smoothness of the paper stock. Letterpress is for line art and type, and not for halftone images, unless intended for a specific design effect.

Embossing and Debossing

The flipside of letterpress.

Embossing uses two dies—one positive, one negative—to tightly sandwich a sheet of paper and create an image. The embossed surface is raised; the debossed side of the surface is lowered. Because presses capable of embossing can supply only a limited amount of pressure per square inch, smaller design elements work better for this technique.

Embossing is particularly attractive in the way it smoothes the paper surface within the image or type, enhancing and adding contrast to textured papers that surround an embossed area.

Diecutting

Adding by subtracting.

Think of diecutting as adding by subtraction. Type and shapes are removed from paper in diecutting, usually to reveal information or a design element beneath. A die cut begins with sharp metal strips shaped to a desired die form and embedded in a wooden block. As paper passes over the die and opposite pressure is applied, the paper is cut in the precise shape of the die.

While diecutting involves no colour application, it does require the designer to think three-dimensionally, to the surface below the diecut. And although diecutting can be a spectacular effect, shapes that are particularly intricate are difficult to accurately reproduce. Large shapes and sans serif type are most commonly diecut. And while paper selection for diecutting doesn't involve decisions about inks, it must take into account the weight, sturdiness and flexibility of the paper to be cut.

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