Printing Technology

Letterpress printing

It is one of the oldest printing techniques used since the 13th century. Johann Guttenberg is known to have introduced printing from the individually cast, movable type reusable letters set together in a frame in the 14thcentury. Also known as the typographic printing technique, this commercial printing technique includes the production of many copies of an image by repeated direct impression of an inked, raised surface against sheets or a continuation roll paper. The letterpress printing process involves printing images by relief type printing plates where the images or printing areas are raised above the non – printing areas. Ink is applied on the roller, which further passes it on to a separate ink bed where a fresh film is picked for the following sheets of paper.

Gutenberg invented this process. Even though it is more advanced than the original press, the process is still the same. On the paper, the image being printed is higher than the surface of the plate, which will be pressed.

Monotype

The machine was invented by Tolbert Lanston in 1886 in America.

This machine is still used in some of the presses.

It casts single-type characters.

Monotype has two machines, a keyboard, and a caster.

The keyboard operator perforates a paper tape, which is then fed into the caster.

Holes in the tape represent the characters of the type font and the spacing required.

Advantages

The monotype offers greater precision in spacing between words so that composition is more eyes pleasing.

It ensures, fast rate printing quality because of new types cast for every job.

It also offers a wide range of type sizes, faces, and families for different types of newspapers.

Disadvantage

Monotype is somewhat more expensive than the linotype for routine work particularly in respect of its recurring cost. It requires two machines and two operators.
Many occupational diseases may occur due to the use of lead.
Coordination between two machines also creates a problem.
A lot of space is also required to install these machines.

Ludlow

This machine was introduced by Washington I, Ludlow in 1909 and later developed by William A. Reade. It is a semi-automatic machine. A compositor sets the matrices of type characters in a special stick.

The stick is then fed into the machine which casts the slugs, trims them, and delivers the same after cooling it.

Linotype

A kind of typesetting machine, which produces castings, corresponds to a line of separate types. By pressing upon keys like those of a typewriter the matrices for one line are properly arranged; the stereotype, or slug, is then cast and planed, and the matrices are returned to their proper places, the whole process being automatic.

Use and advantage of different printing processes

- **Graphic screen printing is used on a large scale to create mass or large batch-produced graphics, such as posters or display stands.**
- **Inkjet printers operate by propelling tiny droplets of liquid ink on the paper. The most common type of computer printer for the general consumer due to their low cost and high quality.**
- **Rotogravure printing is mostly used for magazines and packaging, commercial printing, postcards, and corrugated products.**
- **Laser printing is mostly used in offices and for printing bills and blank documents. Like photocopies laser printers employ a xerographic**

printing process, but it is different from analog photocopiers in that the image is produced by the direct scanning of a laser beam across the printer's photoreceptors.

- **Screen printing is preferred over other processes such as dye sublimation or inkjet printing because of its low cost and ability to print on many media.**
- **Pop art is currently popular both in the fine arts and in commercial printing, where it is commonly used to put images on t-shirts, CDS, DVDS, glass, paper, metals, or wood**

Letterpress

Offset

Flexography

Gravure

Screen printing

Electrostatic

Embossing

Relief

Plano-graphic(lithographic, offset)