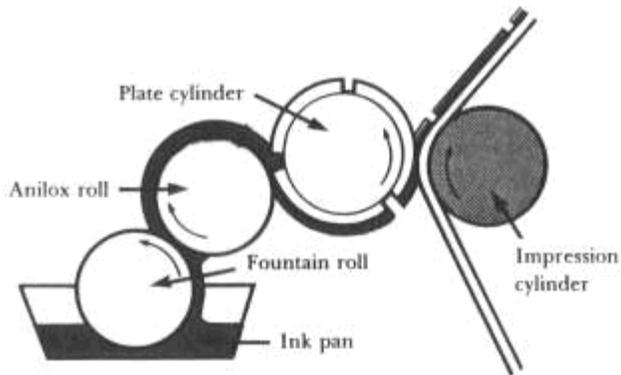


FLEXOGRAPHIC PRINTING

What is Flexographic printing?

-This printing process uses raised image printing plates made from photopolymer or rubber transferring ink from the plate to the substrate. This process is also called surface printing. Often abbreviated to "Flexo".



Process Overview

In the typical flexo printing sequence, the substrate is fed into the press from a roll. The image is printed as substrate is pulled through a series of stations, or print units. Each print unit is printing a single color.

The major unit operations in a flexographic printing operation are:

- Image preparation
- Plate making
- Printing
- Finishing

Image Preparation

Image preparation begins with camera-ready (mechanical) art/copy or electronically produced art supplied by the customer. Images are captured for printing by camera, scanner or computer. Components of the image are manually assembled and positioned in a printing flat when a camera is used. This process is called stripping. When art/copy is scanned or digitally captured the image is assembled by the computer with special software. A blue line proof is prepared to check for position and accuracy. When color is involved, a color draw or other form of proof is submitted to the customer for approval.

Flexographic Plate Making

Flexographic and letterpress plates are made using the same basic technologies utilizing a relief type plate. Both technologies employ plates with raised images (relief) and only the raised images come in contact with the substrate during printing. Flexographic plates are made of a flexible material, such as plastic, rubber or UV sensitive polymer (photopolymer), so that it can be attached to a roller or cylinder for ink application. There are three primary methods of making flexographic plates; photomechanical, photochemical and laser engraved plates.

Flexographic Inks

Flexographic inks are very similar to packaging gravure printing inks in that they are fast drying and have a low viscosity. The inks are formulated to lie on the surface of nonabsorbent substrates and solidify when solvents are removed. Solvents are removed with heat, unless U.V. curable inks are used.

After printing, the substrate may run through a number of operations to be "finished". Finishing may include operations such as coatings, handle application and folding.