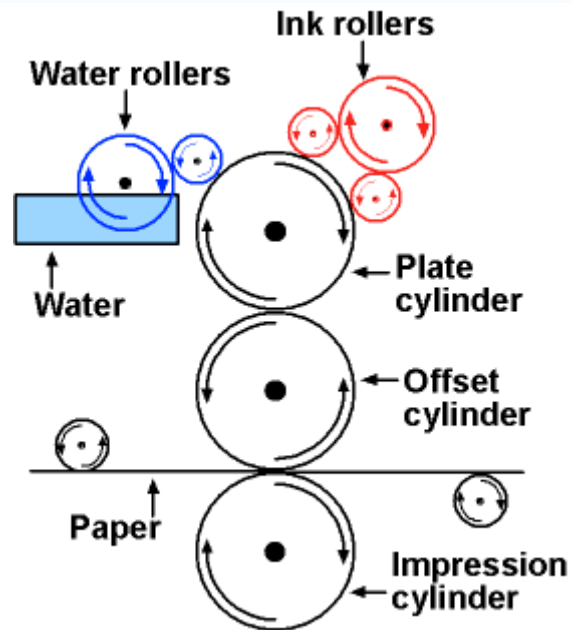


Offset Printing



Offset printing is a widely used printing technique where the inked image is transferred (or "offset") from a plate first to a rubber blanket, then to the printing surface. When used in combination with the lithographic process, which is based on the repulsion of oil and water, the offset technique employs a flat (planographic) image carrier on which the image to be printed obtains ink from ink rollers, while the non-printing area attracts a film of water, keeping the nonprinting areas ink-free.

The advantages of offset printing include:

- Consistent high image quality — sharper and cleaner than letterpress printing because the rubber blanket conforms to the texture of the printing surface
- Usability on a wide range of printing surfaces in addition to smooth paper (e.g., wood, cloth, metal, leather, rough paper)
- Quick and easy production of printing plates
- Longer plate life than on direct litho presses — because there is no direct contact between the plate and the printing surface.

Present day

Offset printing is by far the dominant form of commercial printing due to its quality in respect of volume and paper costs, with this market being split between sheet-fed offset for low to medium volume (any job too large to be economic for laser printer or digital press, but too small for web offset) and web offset for medium volume up

to the 1-2 million copies market. (For high volume, a rotogravure press is often used.) The principal difference here is that sheet-fed litho machines are fed with sheets of paper whereas web offset machines (which are larger) are fed with reels of paper and run at higher speeds; the basic offset technology remains the same. Modern offset presses increasingly use computer to plate systems.

Private or hobby presses, engaged in patient production of limited editions of fine quality books, often use letterpress as well as offset methods, some "purists" preferring the slightly embossed look resulting from the direct impression of inked type upon fine paper. These books are sometimes printed from hand-set foundry type (individual pieces of movable, lead-alloy type). Flexography, a form of letterpress, is still used in the printing of high-quality premium labels, in ticket printing, and in envelope manufacturing/printing, though is now no longer the dominant technology.