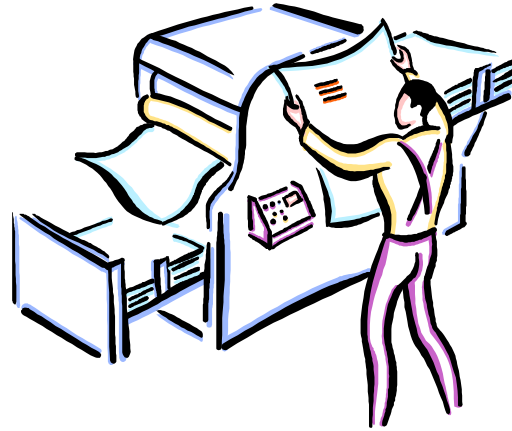


Introduction to Graphics and Offset Printing - Workbook



This module will help build an understanding of the products we offer our customers who are offset printers, and build a foundation to understand the offset printing process related to the products we sell.

Objectives:

- Review the offset printing process
- Review the products we sell

Offset printing is also called lithograph. Here are just a few familiar products created by the printing process.

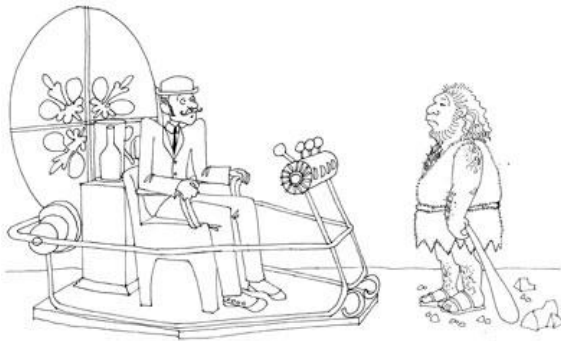
Printed products:

- Brochures
- Booklets
- Posters
- Business cards
- Postcards
- And Much More

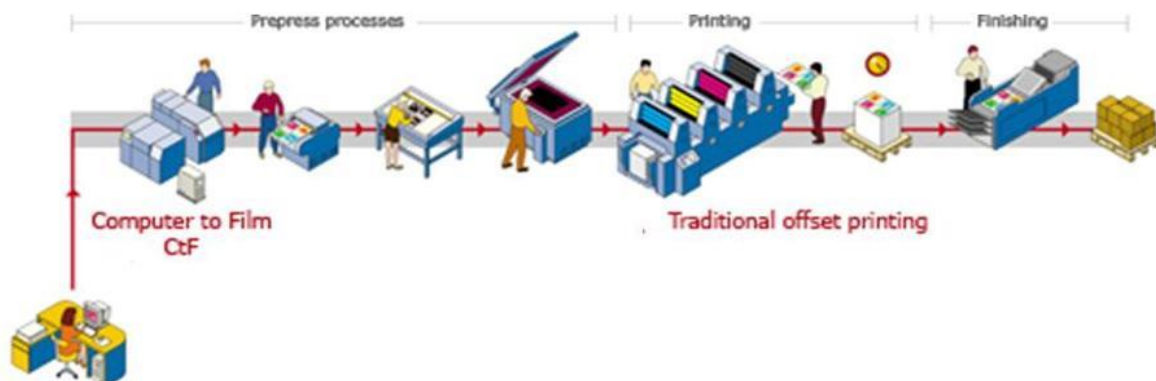
Offset Printing - There are two key operations of the printing process.

- The creative process - Every printed piece starts with the creative process where a designer creates a concept based on a customer's specifications.
- The printing process - The design is then printed with ink onto paper (or some other substrate).

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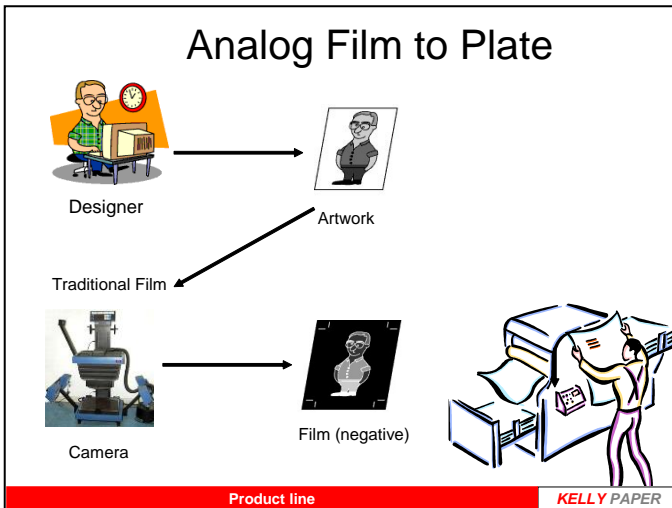
- Creative Process
 - ✓ Concept – this is the idea from the customer
 - ✓ Design – The designer interprets the customer’s concept and turns it into a printed product
- Determine the type of printing process – There are a number of factors to consider when deciding the best way to print a project:
 - ✓ One color job
 - ✓ Spot color job
 - ✓ Four color process job
- Paper Stock
- Image Design
 - ✓ Running Size
 - ✓ Finished Size
 - ✓ Finishing/Bindery needs



- Three stages of the printing process
 - ✓ Pre-press
 - ✓ Pressroom
 - ✓ Bindery/Finishing

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Pre-press Production - Pre-press is where a plate is made. The plate is then mounted on the press to transfer the ink on to the selected paper substrate. There are different types of plates that can be used: analog plates or image direct plates.



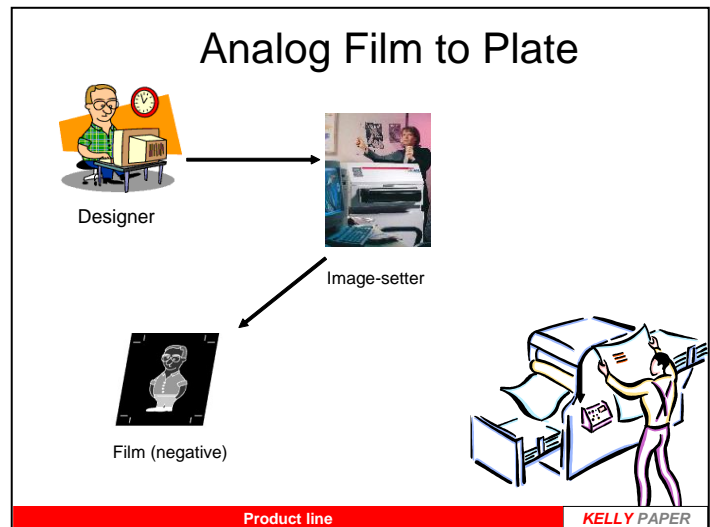
Analog Film to Plate - To produce an analog plate you first need to make a negative of your artwork. A negative is a piece of film. There are two ways to create a negative. In this illustration the designer has created a design.

Then a hardcopy of the artwork is printed in black and white from a laser printer.

The hardcopy is then taken to the camera where the artwork is shot and a negative is produced.

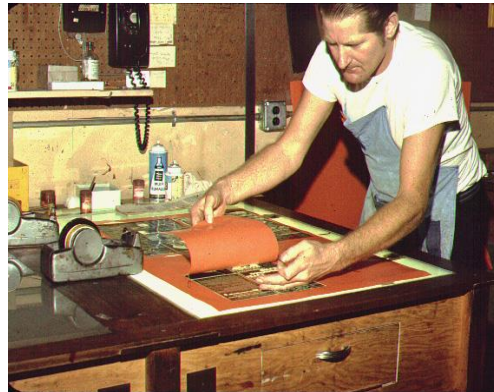
Another way a negative is created is by a computer to film system, where a designer sends the finished artwork direct to an image-setting unit to produce the film needed.

This information is sent using software that helps the computer and image setter communicate with each other to translate the information. Then the film is processed and developed.



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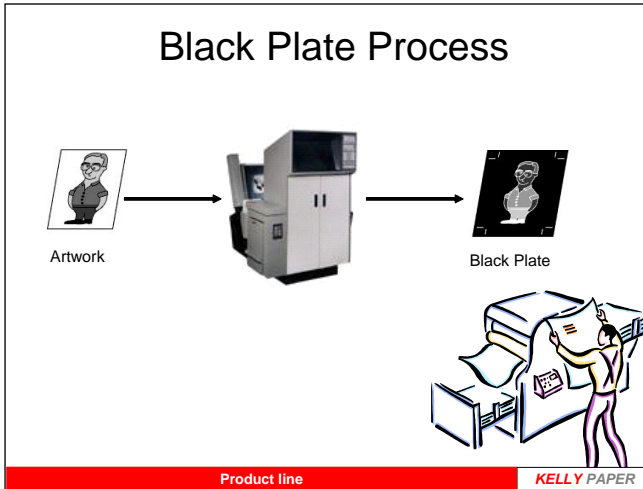
The next step in the plate making process is to mask the film to and expose the plate. The masking material is cut away from the image area so that the image area can be exposed during the burning process.



Masking the film (Stripping)



After the plate is exposed to light, the image is burned onto the plate. Then it must be developed before running it on the press. The developer chemical removes the emulsion that is not exposed leaving only the image to be printed.



Black Plate Process: This is another analog plate system to apply camera-ready artwork to make black, paper or polyester plates

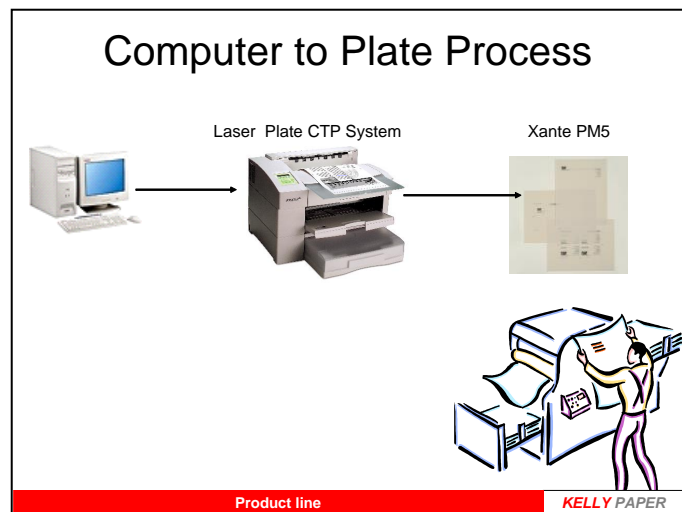
One machine is the itek 430 camera which makes both film and black plate material.

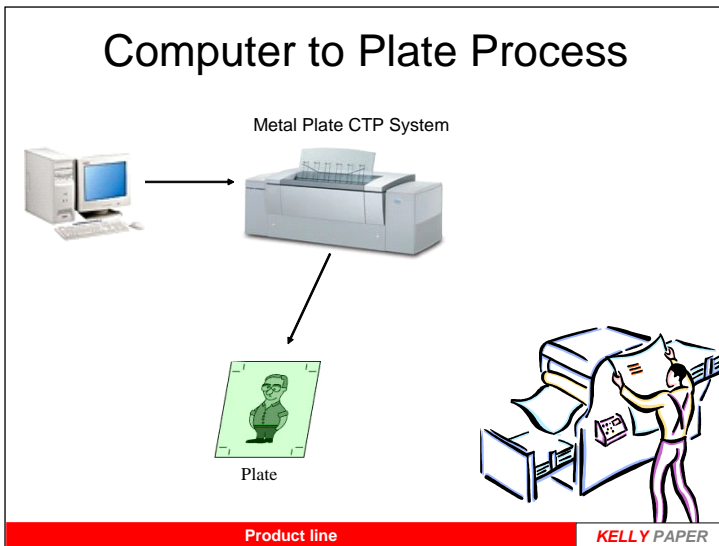
The artwork is exposed to a light sensitive plate that is then developed in a processor and dried to produce a press ready black plate.

This process eliminates the step of making a film negative and masking the material to burn the plate for press.

Computer to Plate Process (CTP) - Here, the plate has been chemically treated to accept toner from the laser printer. Once the plate has been imaged it is press-ready.

This is known as a chemical free system since no chemicals are used in the developing process.





Another CTP system is a direct to metal plate system. This is where the design is directly imaged on the metal plate,

The plate may be developed with or without chemicals depending on which plate making system the printer is using.

Pre-press product opportunities: So when looking for an opportunity to sell pre-press consumables, here are just a few supplies that you can up sell to your customers!!

- Masking supplies
- Black plate material
- Film supplies and chemistry
- Plate chemistry
- Laser plates

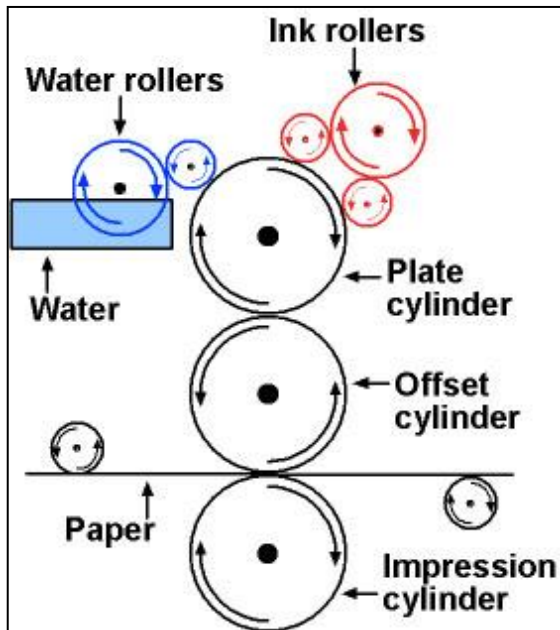
The better you know your product line the more opportunity you will find to suggest a sell!

Ready for the Pressroom - Offset Printing is the process of using an intermediate blanket cylinder to transfer an image from the image carrier to the substrate.

Using an ink and water balance Only, the imaged area receives the ink and the non-imaged area receives the water which cleans off excess ink. This process gives you the sharp printed image that you see on a print sheet.



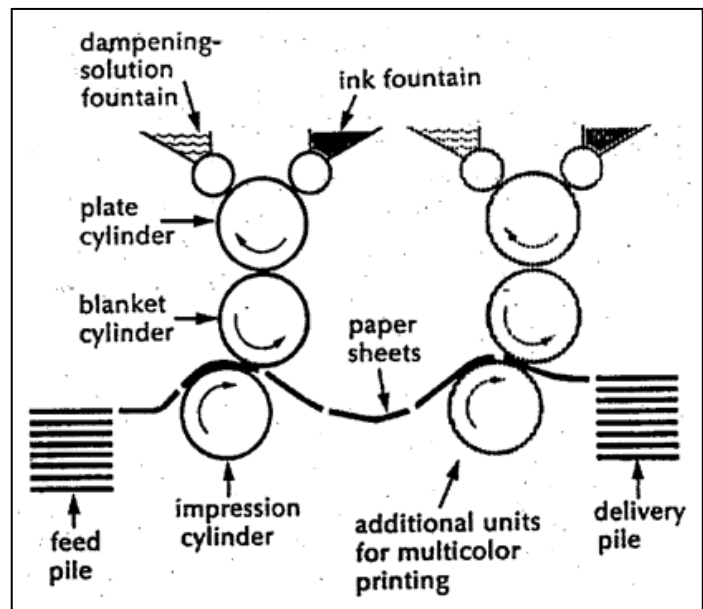
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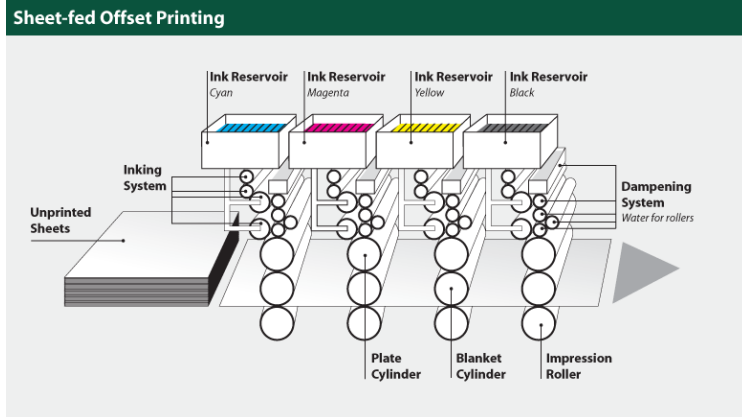


Single Color Press - prints one color at a time. For multi colored jobs the paper must make one pass through the press for each color.

Two Color Press - a two color press has two dedicated towers that will print two separate colors.

As you see on the diagram the press will have two of every component needed to print. So the pressman will need two plates, two blankets, and so on.





Four Color Press - A four color press will have four individual towers which print four colors in one pass.

So a press this size will consume more supplies than the one color press.

Pressroom product opportunities:

Here are just a few graphics consumables that you can up sell your customer!!

- Fountain solution
- Plates
- Inks
- Blanket
- Chemicals

Bindery/Finishing Process – After the product is printed the bindery process finishes the job. The job may need to be:

- Cut
- Collated
- Folded
- Padded

Here are just a few bindery consumables that you can suggest:

- Combs, coil, or wire supplies
- Laminating pouches
- Padding supplies
- Velo bind strips
- Clear or vinyl covers

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Finished products:

- Brochures
- Booklets
- Posters
- Business cards
- Postcards
- and much more

Printing customers also need packaging supplies to ship or deliver the finished product.

These added sales add to profits.



Introduction to Graphics and Offset Printing – Quiz

1. What are the two key operations of the printing process
✓ Chose all that apply
 - a. The creative process
 - b. Proof reading
 - c. The printing process

2. Four color process is also known as CMYK
 - a. True
 - b. False

3. Three stages of the printing process are: Pre-press, Pressroom, plate making
 - a. True
 - b. False

4. Printing plates are always made of metal
 - a. True
 - b. False

5. A single color press can print multiple colors--one pass at a time
 - a. True
 - b. False

6. When customers buy printing supplies there is an opportunity to sell which products
 - a. Fountain solutions
 - b. Plates
 - c. Inks
 - d. Blankets
 - e. Pressroom washes
 - f. All of the above