

In memory of Chief Chico Croaksby
2018-2020



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Additive v. Subtractive

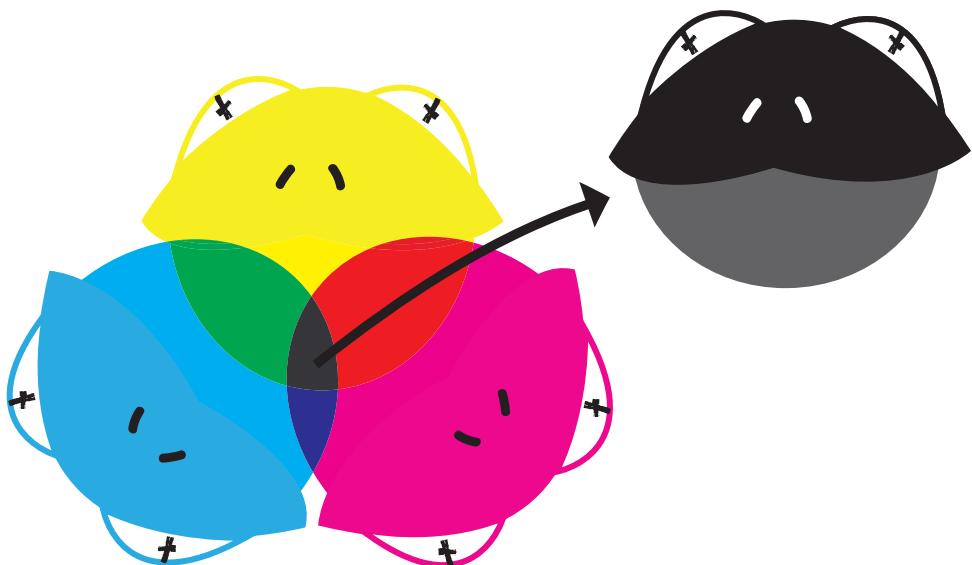
Additive color mixing uses wavelengths. When certain wavelengths are added on top of one another, the lights mix and create a new color. We see this most often on computer or phone screens that use LED backlights. Subtractive mixing happens when we mix paints, dyes or pigments together. In this type of mixing, instead of adding wavelengths, when paints are mixed together you subtract wavelengths to make a new one. This is most commonly used in printing.

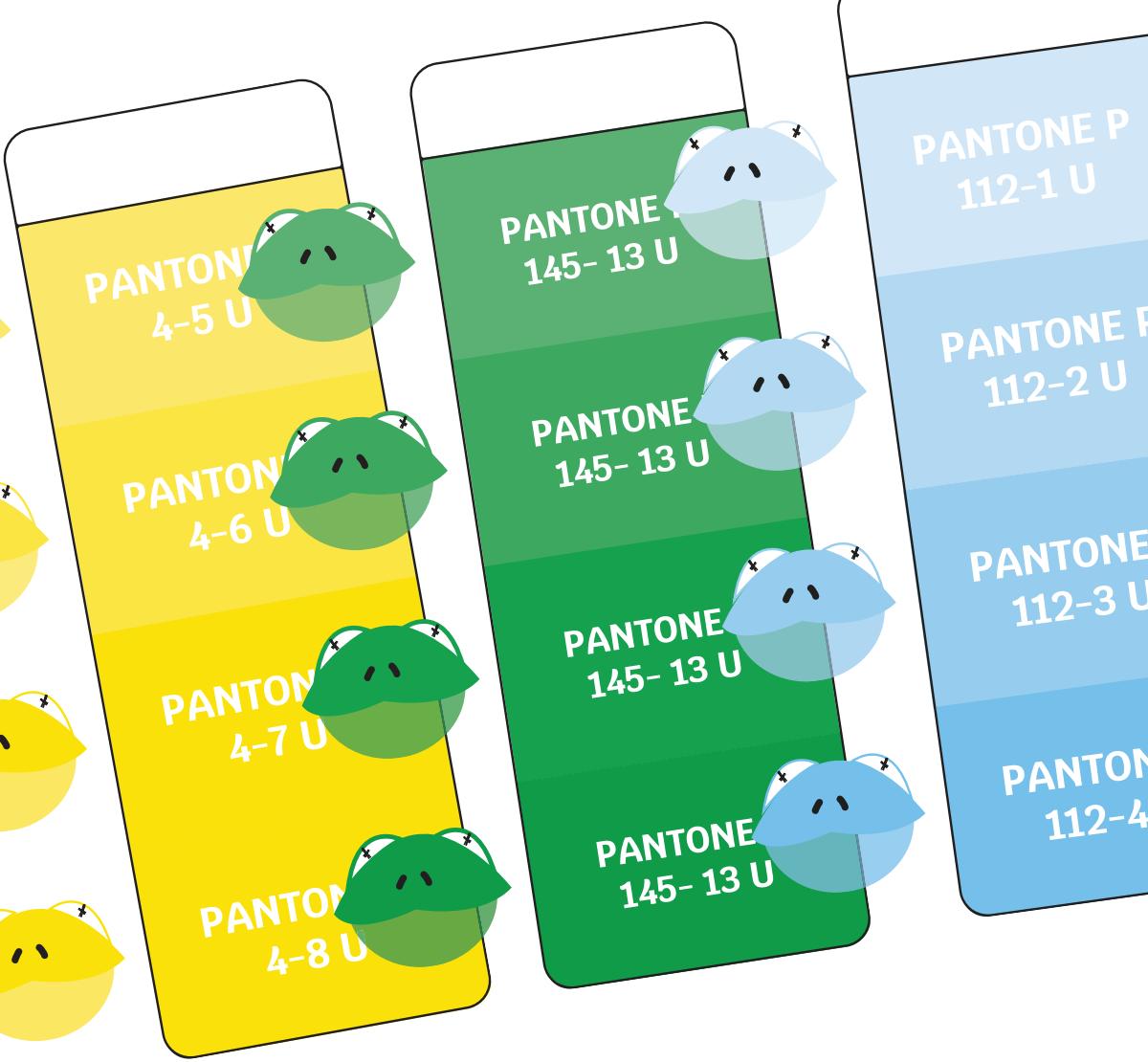
CMYK

Cyan, magenta, yellow and black (CMYK) is the color space most often used for printed materials. Printing machines combine CMYK at varying rates to make a desired color. This is known as subtractive mixing.

RGB

Red, green and blue (RGB) is the color space most often used for digital screens such as your computer or your phone screen. RGB uses lights at varying intensities to create the images you see on your screens. This is known as additive mixing.





Spot / Pantone

Spot colors, also known as Pantone Matching System (PMS) is a color that has a specific mixture and can be matched to a color sorting system, such as Pantone. Using spot colors is similar to using paint swatches when you want to paint your house a specific color.

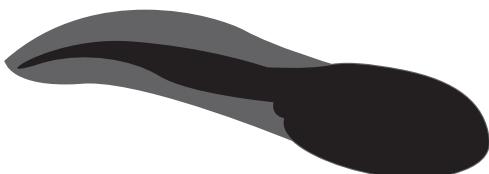


Color Gamut

The color gamut is the big rainbow circle you use in Photoshop to select a color (sort of). The color gamut holds all the colors an imaging system is able to produce. Typically, devices that use RGB to display colors have a larger color gamut compared to printing devices that use CMYK.

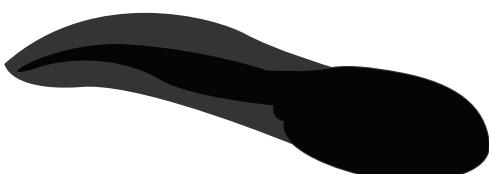
Rich Black

Rich black is used in printing, and is different compared to the standard black. When using standard black your printer is simply just laying down the K in CMYK. Rich black, though, uses all components of CMYK to make a deeper, richer black compared to the standard. Rich black is often used for large, solid black sections of design pieces and helps to improve quality and legibility.



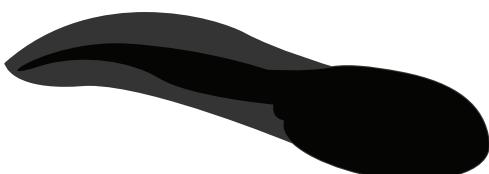
Key Black

C 0
M 0
Y 0
K 100



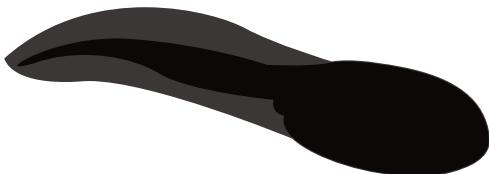
Rich Black

C 50
M 50
Y 50
K 100



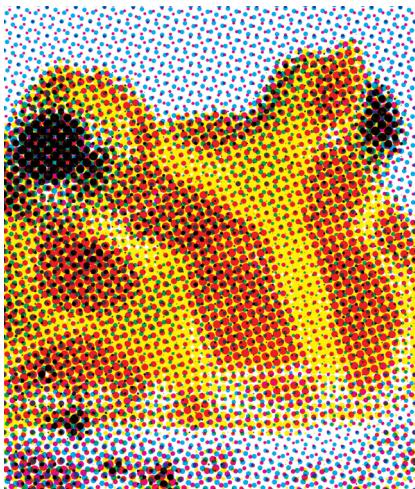
Cool Black

C 70
M 35
Y 40
K 100



Warm Black

C 35
M 60
Y 60
K 100



Halftone

Halftone is the process of using dots in varying size and color to recreate an image. This process is very similar to the art concept of pointillism where if you view these dots from a distance they will turn into a fluent, legible image.



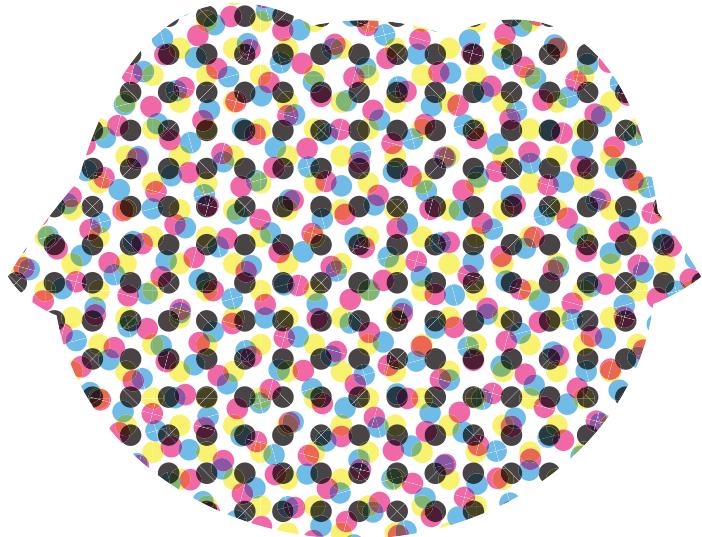
Duotone

Duotone is the process of taking two colors and reproducing an image using only those colors. This process helps bring out the highlights and midtones of an image.

Four Color process

Four color process is used in several different printing techniques. CMYK color space is used for this process.

Printers separate these colors and layer them in order to create images on paper, fabric, glass, and many other mediums.

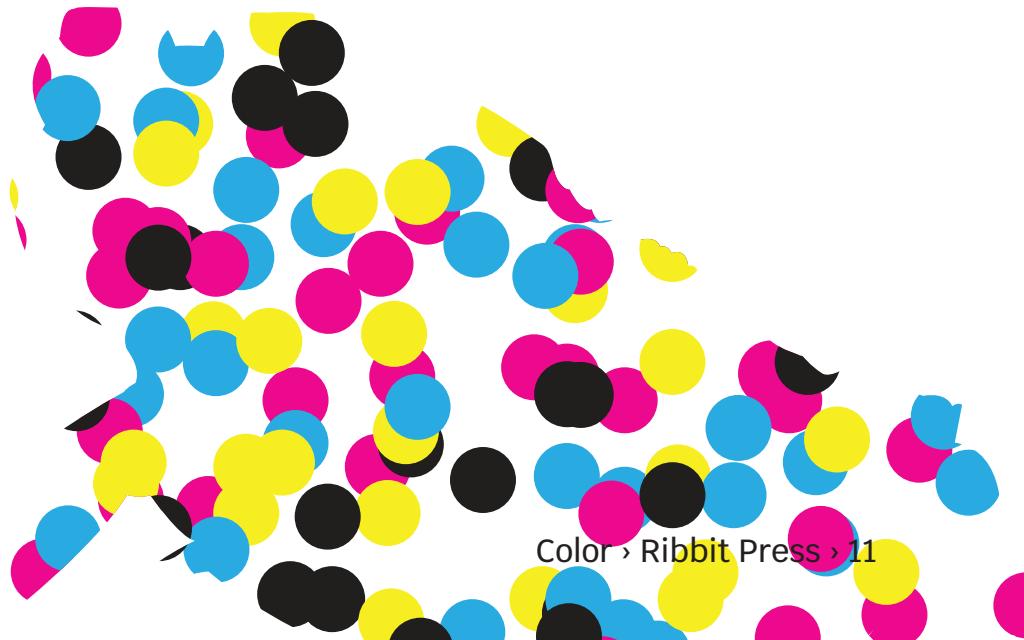


Screen angles

Screen angles decide where halftone screens are placed over images in order to get the best legible results. If screen angles were not used in print designers would struggle with the issue of over-printing.

Stochastic printing

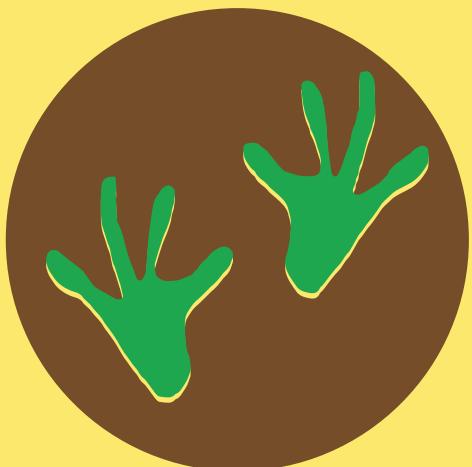
Stochastic printing, also known as frequency modulation (FM) screening, uses very small dots of the same or varying sizes and places them in a random pattern at varying densities to create an image that resembles a continuous tone.



PREPRESS

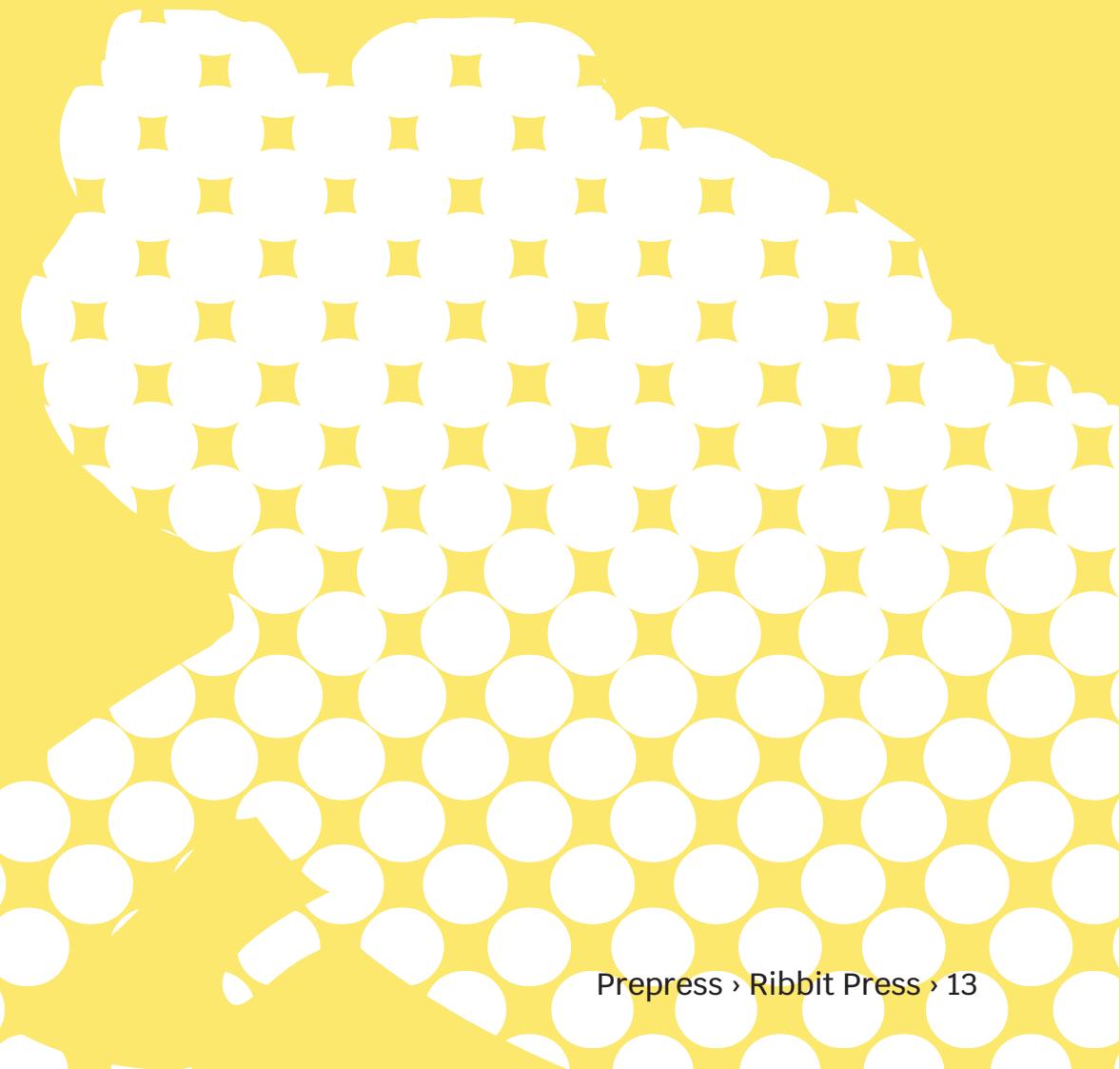
Trapping

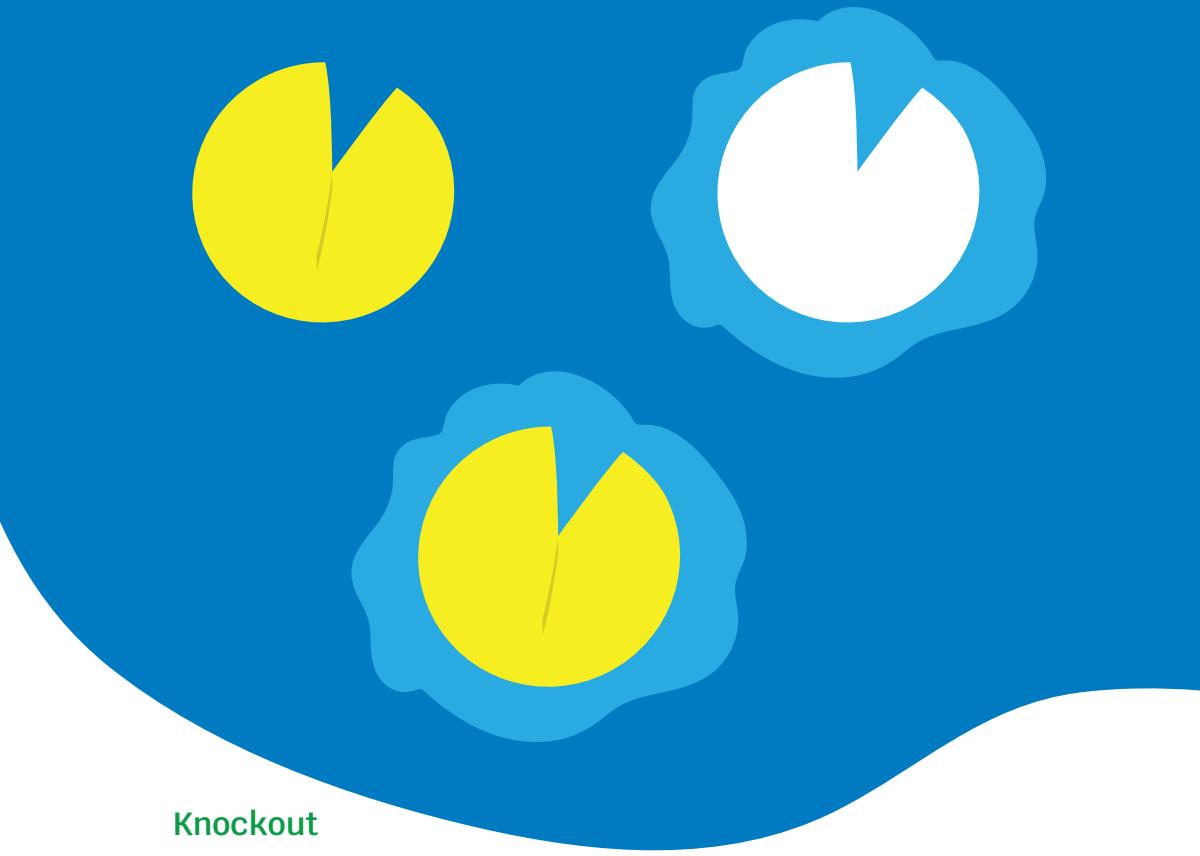
When paper runs through a printing press, they typically fly through the machine at a high speed. Because of this, the paper is bound to shift. The solution to prevent any mistakes when printing, we use trapping. The way this is done is by expanding/extending an image or type to compensate for the minuscule amount of paper that was not printed due to the shifting that happens during the process.



Dot Gain

Dot gain is when the diameter of a halftone dot is increased from the time it is on your screen to when it is printed on paper. Dot gain is expressed in numerical value (typically percentages) and describes how much bigger the dots have gotten from screen to ink.





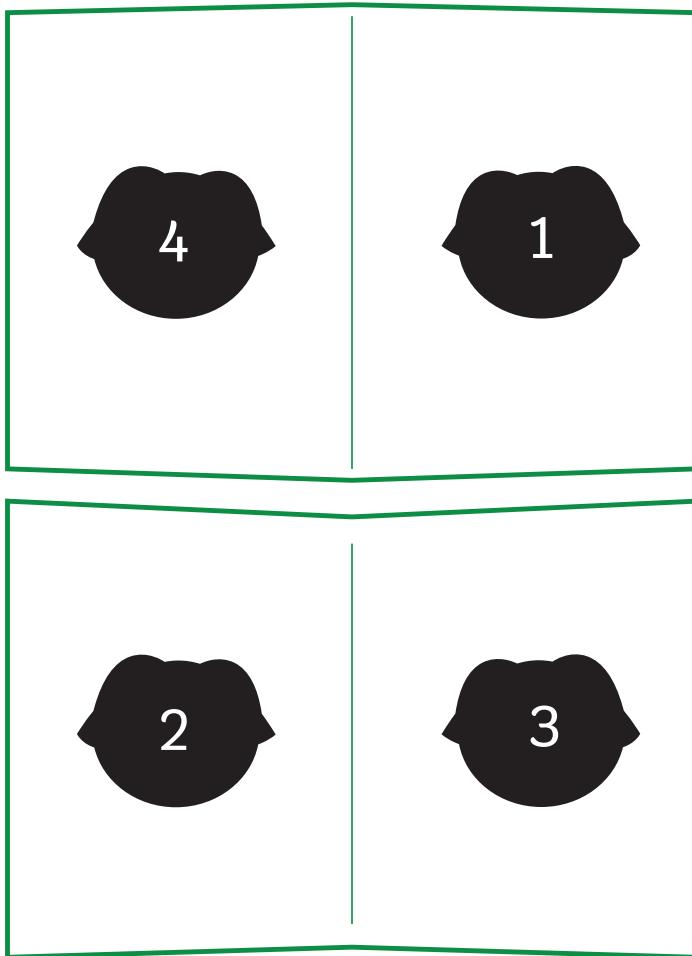
Knockout

Knockout is the opposite process of overprinting. Instead of printing one color on top of one another, the second color is “knocked out” or taken away from the first original color. This produced a cleared image or text in your designs. The only downfall is that trapping will have to be used to prevent misprints.



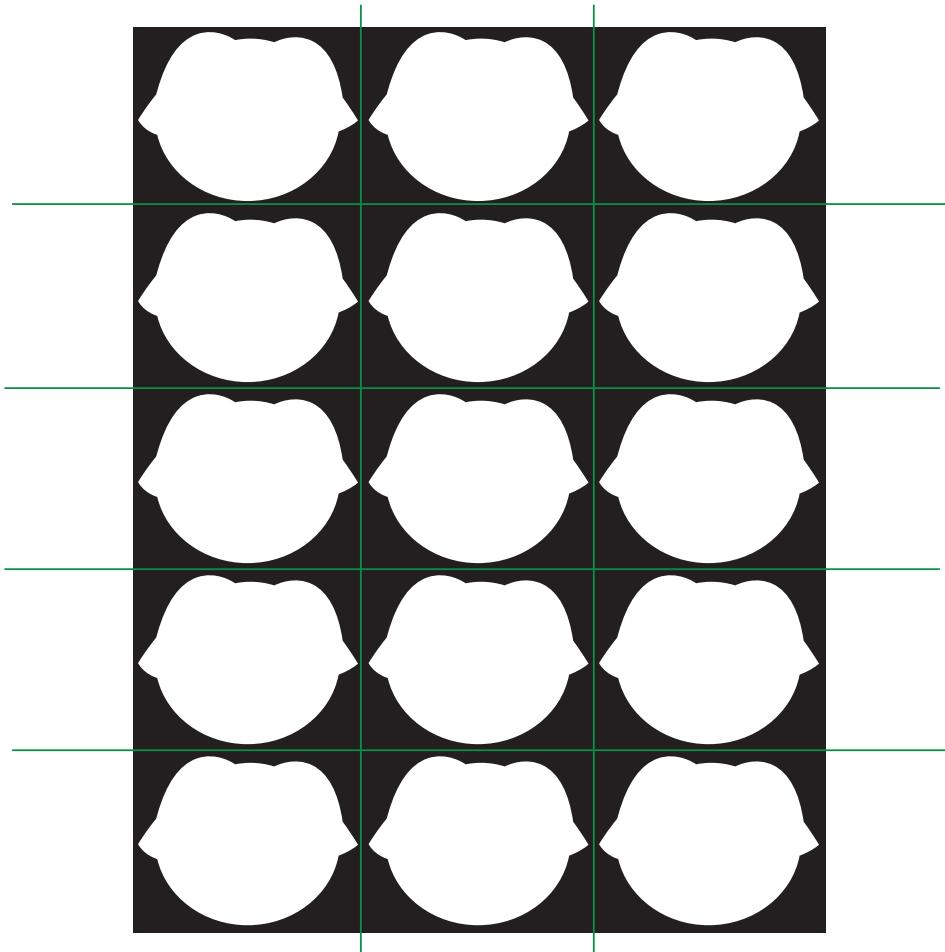
Overprinting

Over printing is the opposite process of knock out. Instead of taking away a color two colors are printed on top of one another to possibly create a third color. Designers use overprinting to avoid paying for more runs of ink on the press. Instead, two colors can be mixed to make the third needed color, while only paying for the original two colors.



Imposition

Imposition is the order that pages are lined up onto press sheets so they can be printed. This is an important step in the process because if done wrong it can lead to excessive use of paper and a higher expense for your printing job. It is also used to speed-up the printing process and make binding of papers simpler.

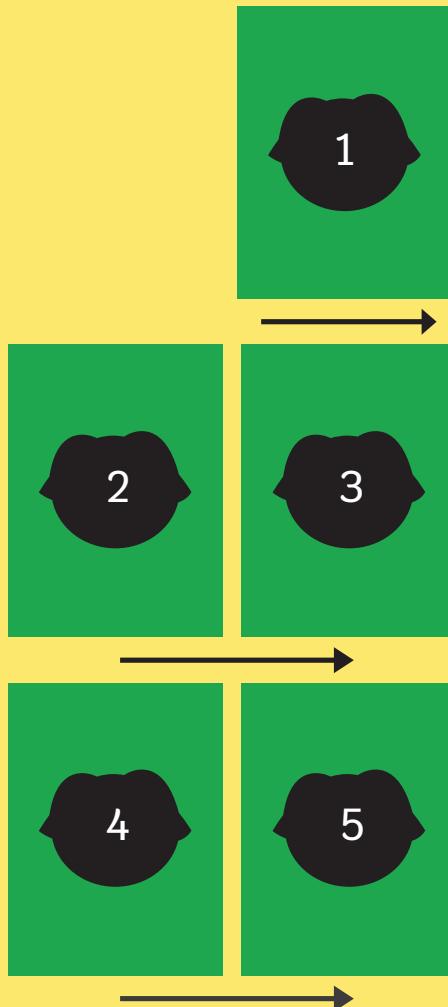


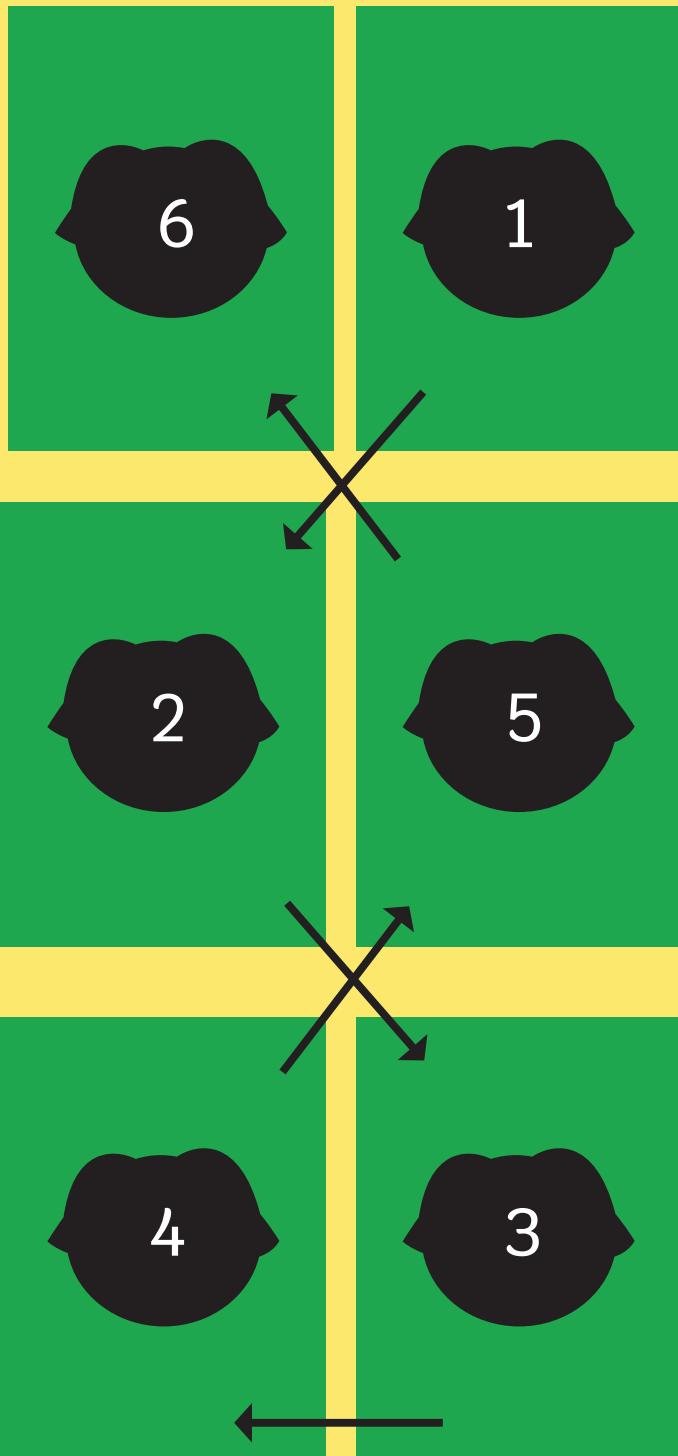
Nesting

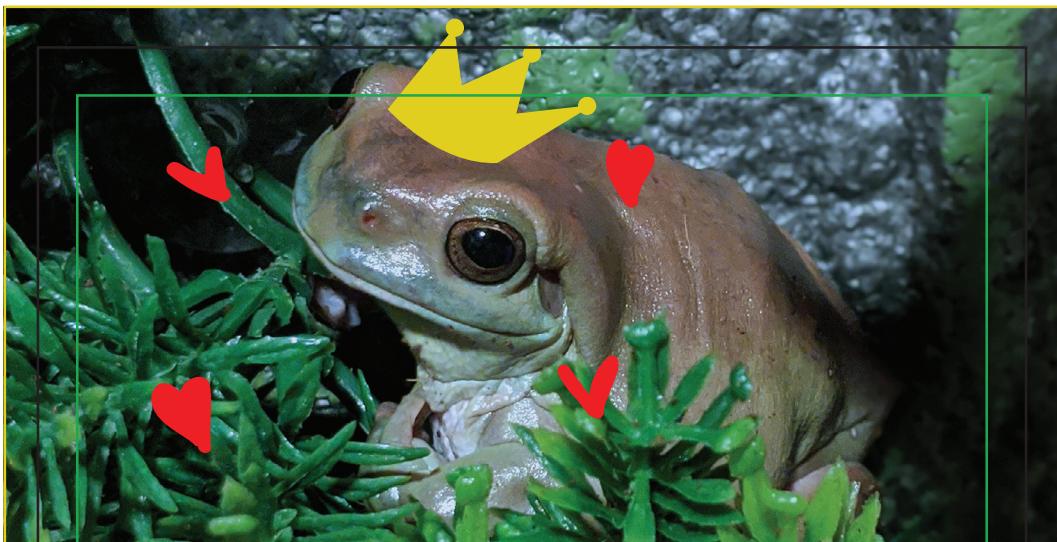
To optimize paper use, nesting is used to lay shapes next to one another to fit the maximum amount of content onto the printing sheet. This reduces the amount of wasted paper and money.

Readers spreads vs Printers spreads

When you are reading a book, you are always reading them in a “readers spread”. This is when pages of a document are laid next to one another in a two-page spread. Printer spreads are what the printer sees when they are printing a book. The pages are laid out in a particular order so that when the document is printed, trimmed, and assembled all the pages appear consecutively.







Charming Prince Looking for LOVE!!

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Trim size and bleed size

Trim size shows the final dimensions and layout of your project when they are printed and cut. However, to avoid accidental narrow slivers of white paper at the edge of your paper, photos and background colors should be extended to the bleed size, the portion of your design that extends past the trim size and will be cut off when your final design is trimmed.



Bleed

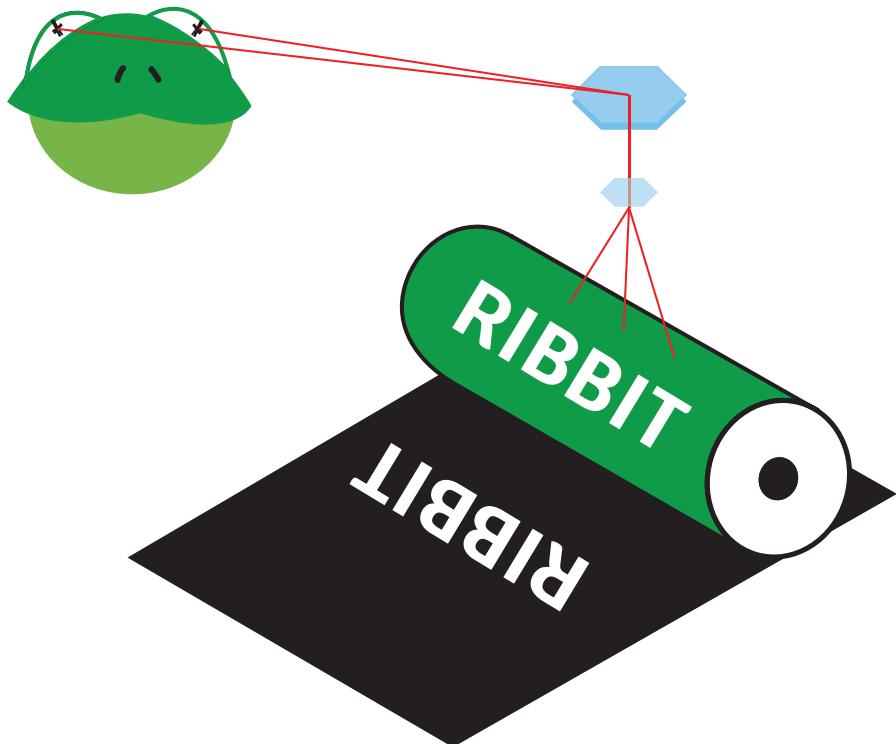
Trim

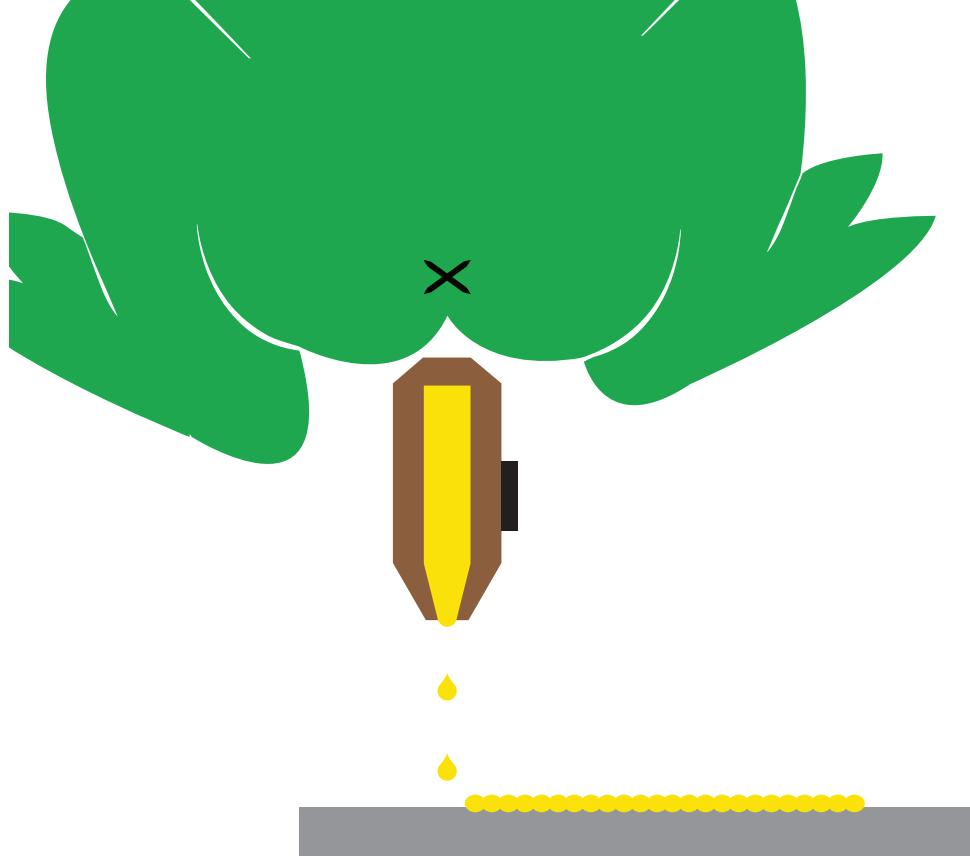
Type safety

PRINT

Xerography

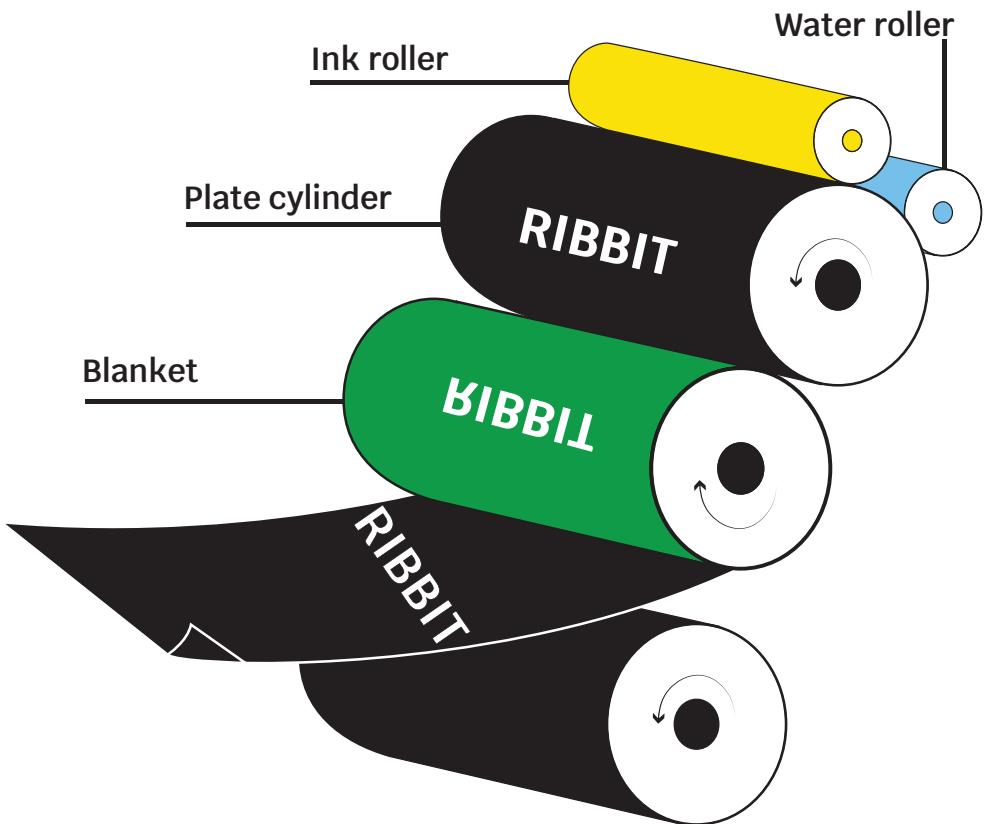
Xerography, also known as electrophotography, is a dry photocopying and printing technique. We often see this technology in modern day printers and photocopiers. This process uses the basis of electrostatic charges, light sources, photoreceptors and toner to produce or reproduce a final printed output. Toner, the dry component, is a very fine, dry powder that becomes electrically charged during the printing process so it can heat up and stick to the printing material.





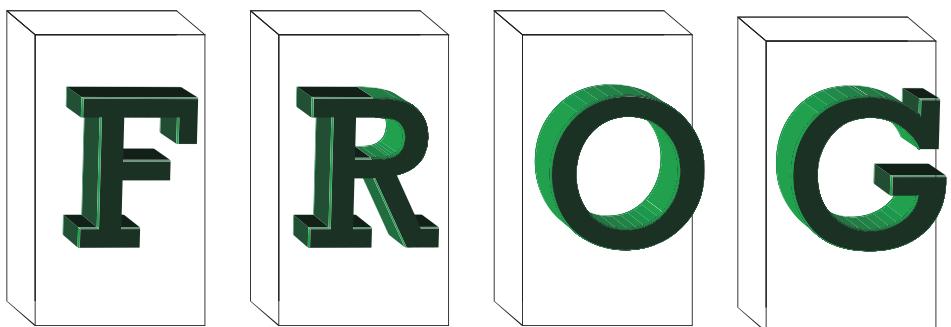
Ink-Jet

Ink-jet printing is a wet printing process, opposite of xerography, that uses microscopic black and white or CMYK ink droplets to develop an image on paper. This process is ideal for detailed image printing because the droplets are so small and accurate that they get the smallest details. However, Ink-Jet printing can be expensive due to the cost of ink and has a slower output speed compared to laser printers.



Offset

Offset printing, also known as offset lithography, is a commonly used printing technique where an image is transferred from a plate to a rubber blanket, then to paper. This process works because of the repulsion of oil and water. Offset Printing is often used for business cards, letterhead, catalogs, books/booklets, business forms, flyers, brochures, calendars, invitations and several other printed goods.



F R O G

Letterpress

Letterpress printing, aka relief printing or typographic printing, is a process where several copies of an image are repeatedly pressed onto a material with an inked, raised surface. This process was once used for printing everything from literature to newspapers, and is now used for printing as an art form and craft.

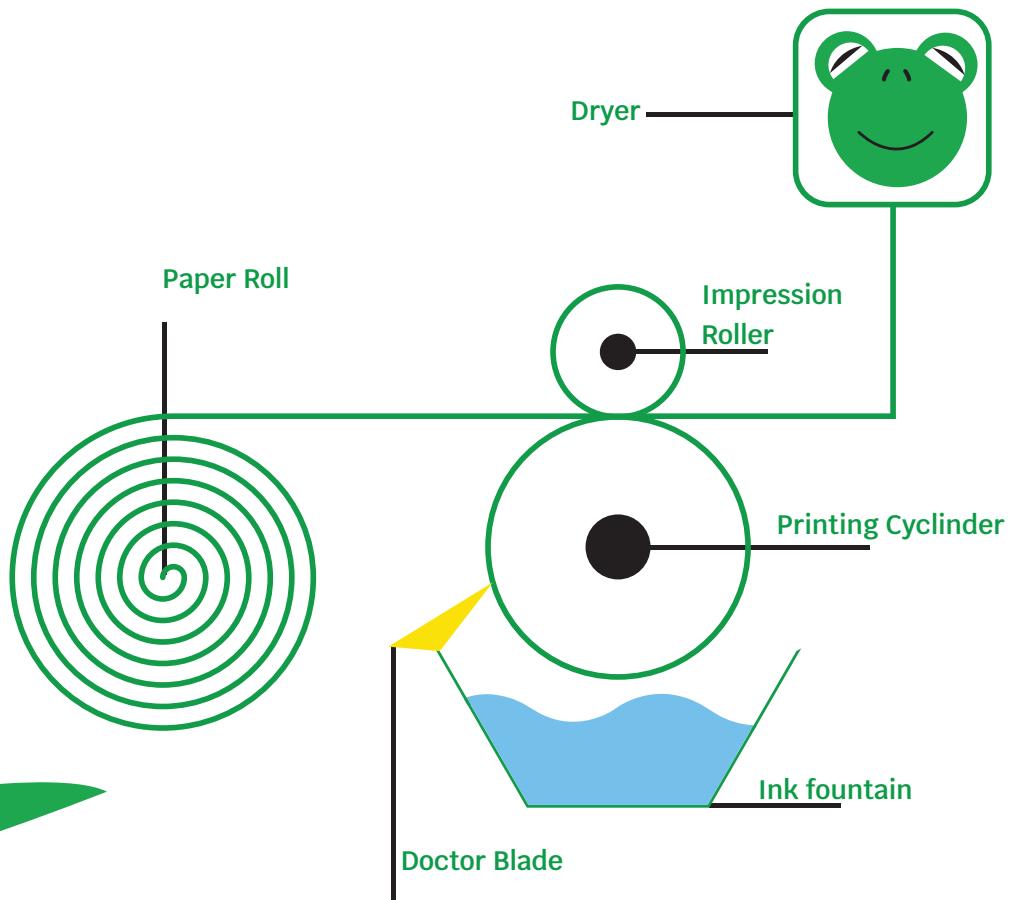
Screen printing

Screen printing is the process of forcing ink through tiny holes in a screen to print onto a shirt, paper, or many other materials. To begin the process, a mesh screen material is stretched tightly against a frame. The areas of the design that will not receive ink are filled with a mask that blocks off the holes in the screen, leaving just the desired printing space. Once the base is done, ink is placed down and a squeegee is used to press the fairly thick ink through the screen mesh and onto the canvas.



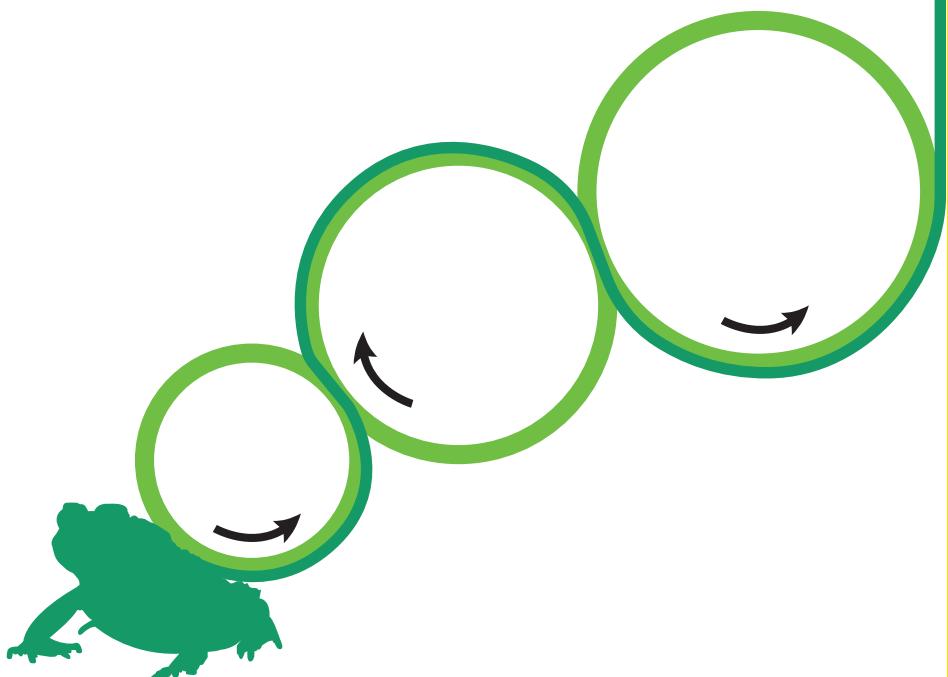
Gravure

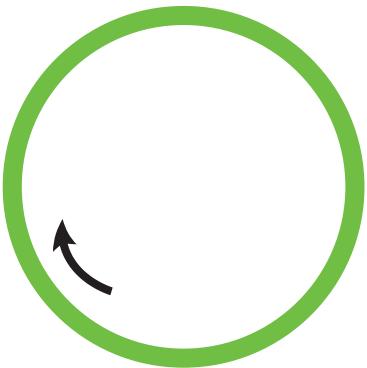
Gravure printing is the process in which the image that is being printed is etched into the printing plate, and the ink is transferred directly on to the paper. This process is used primarily for long runs of high quality multicolor printing. Also called photogravure printing.



Flexographic

Flexogrphy printing is known today as the modernized letterpress. This process uses flexible photopolymer printing plates that are wrapped around rotating cylinders on a web press. The plates have a slightly raised image, similar to a letter press, and rotate at high speeds to transfer the image to the paper, fabric and many other types of material. Flexography is well-suited to print continuous patterns, such as for gift wrap and wallpaper.





FINISH & BIND

Varnishing

Varnish is a thin, liquid coating that can be applied either before or after you print an image. Varnish allows for protection and enhance the images and their quality. There are several different types of varnish, such as gloss, matte, satin and strike-through matte and all types can be applied to a design.



RIBBIT
PRESS



Foiling

Foil printing, also known as foil stamping, is a technique that involves applying a metallic or pigmented foil to a substrate in order to create a decorative shiny finish. Combined with heat and pressure, the metal dyes permanently bond a thin foil film to a paper-based material.



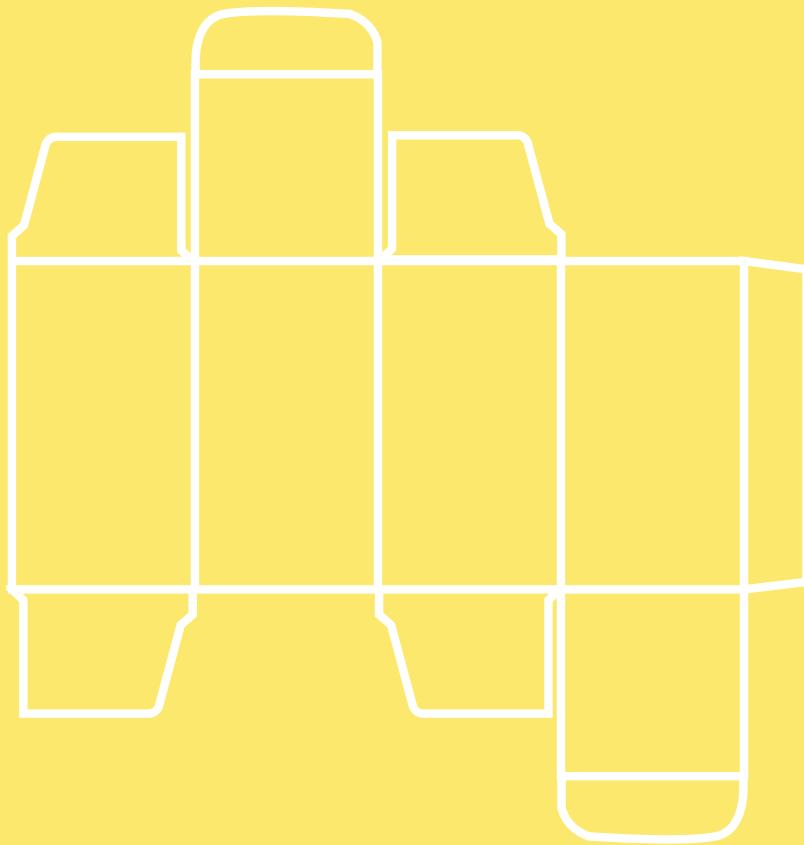
Embossing

Embossing is the method of pressing an image into paper or cardstock to create a three dimensional design. A paper sheet is placed between two dies, heated, and pressure is applied to squeeze the raised die into the recessed die, causing the paper fibers to permanently reshape and take on the desired design.



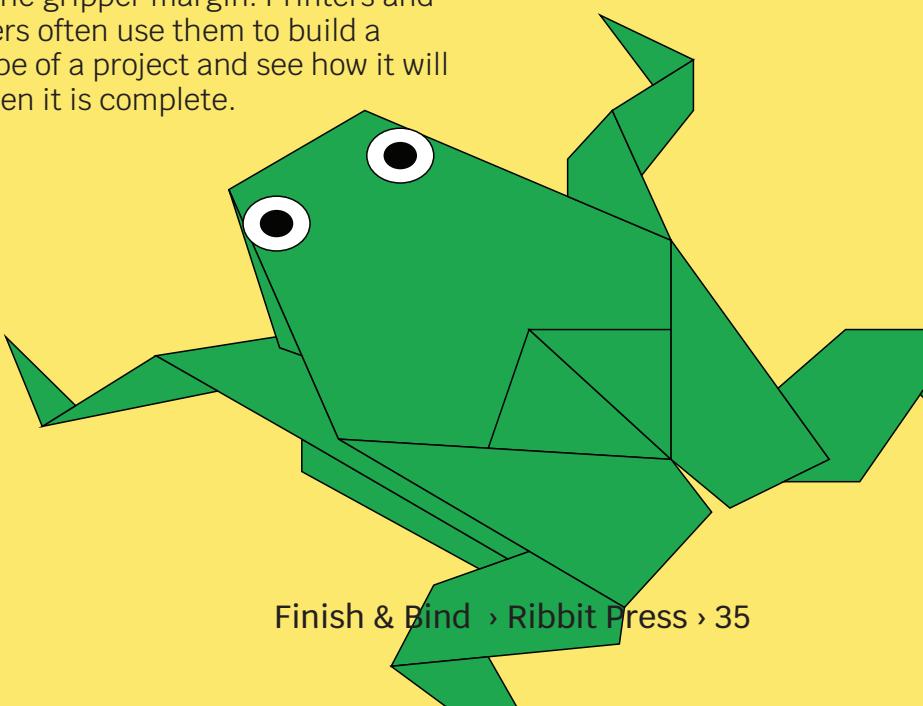
Die Cutting

Die-cutting is the process of cutting a piece of material to a custom shape and size. This process uses a sharp blade, which is formed into a specific shape and then used to cut through the material. It is cut on special machinery and creates a crisp, smooth edge which offers a consistent and very specific cut. This allows for very unique printed pieces.



Folding Dummy

A folding dummy typically indicates where the gripper margin. Printers and designers often use them to build a prototype of a project and see how it will look when it is complete.

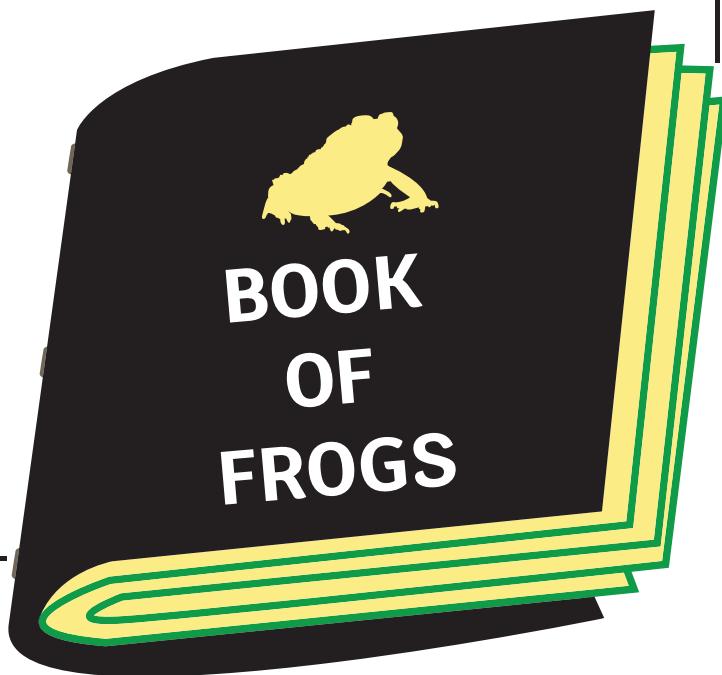


Signatures

Signatures are the long sheets of substrate that have multiple pages printed on each side. They are most often used for long-run book orders printed on offset presses. The use of signatures speeds up the printing process, simplifies the binding operation, and reduces the amount of paper waste.

Page creep

Page creep refers to the shift in paper when the document's pages are folded inside each other. This is most often seen in saddle stitched bound booklets.



Saddle Stitch

Saddle stitching is when single sheets of paper are printed on both sides, put together in page number order, folded in half and then stapled through the fold in the center by a saddle stitch stapler.



Perfect bound

Perfect bound books, in a way, are the opposite of saddle stitch books. In this process, the cover and pages of the book are glued together at the spine and the edges are trimmed to present sharp, even edges.



Spiral Bound

Spiral bound books take single sheets of paper printed on both sides, aligned together and bound with a wire or plastic spiral that is then threaded through a row of holes along one edge.

PAPER

Paper sizes US, A and B

Paper sizes are the regulated sizes of paper throughout the world with a variety of uses.

USA:

North America and parts of central and South America are the only areas that do not use the ISO 216 standard paper sizes. They instead use:

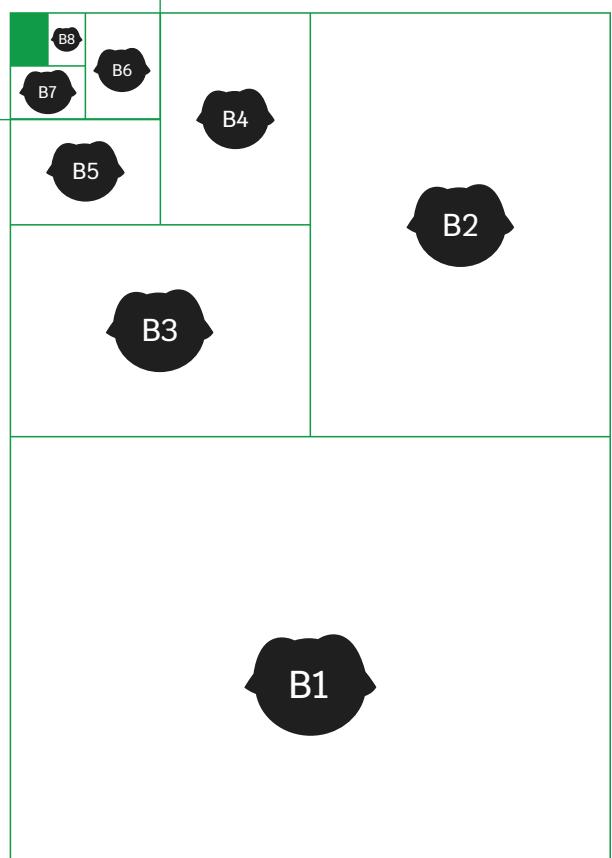
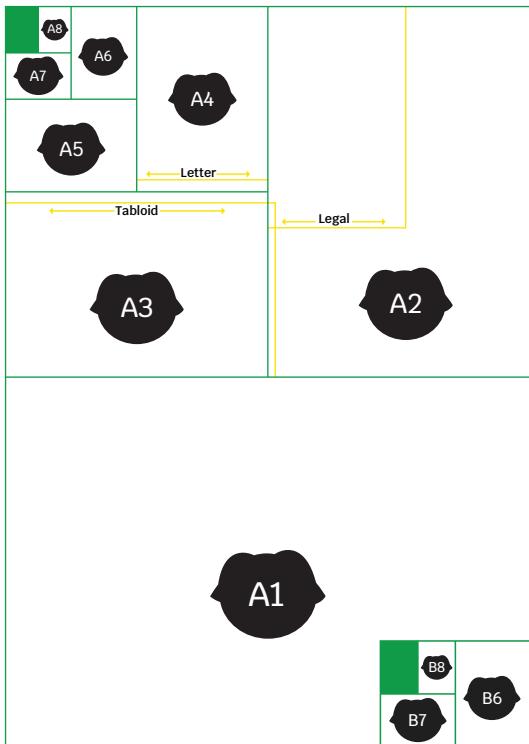
Letter (8.5 x 11), Legal (8.4 x 14) Tabloid (11 x 17)

International:

The ISO 216 standard, which includes the commonly used A4 size, is the international standard for paper size. The sizes included are:

A: A(33.1 x 46.8) A1(23.4 x 33.1) A2(16.5 x 23.4)
A3(11.7 x 16.5) A4(8.3 x 11.7) A5(5.8 x 8.3) A6(4.1 x
5.8) A7(2.9 x 4.1) A8(2.0 x 2.9) A9(1.5 x 2.0) A10(1.0
x 1.5)

B: B(39.4 x 55.7) B1(27.8 x 39.4) B2(19.7 x 27.8)
B3(13.9 x 19.7) B4(9.8 x 13.9) B5(6.9 x 9.8) B6(4.9 x
6.9) B7(3.5 x 4.9) B8(2.4 x 3.5) B9(1.7 x 2.4) B10(1.2
x 1.7)



Paper weights

Paper weight is the heaviness and thickness of paper. The most common sizes are Bond, Book, Text, Cover, Index, and Tag. There are three common methods for specifying paper weight and thickness: The U.S. Basis Weight, Metric weight (GSM or G/m²) and, often interchangeable, Points or Mils, which uses a Caliper reading of the paper thickness. The heavier the paper is, the thicker and higher quality it is.

Light

Medium

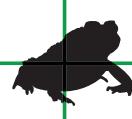
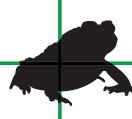
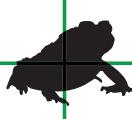
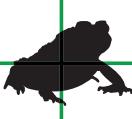
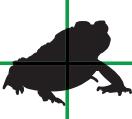
74 LB
Text

80 LB
Text

59 LB
Cover

65 LB
Cover

80 LB
Cover



Comparitive Basis Weights

Writing	Text	Cover	GSM
20	50		75
24	60		90
27	68		100
28	70		105
	78		115
32	80		120
36	91	50	135
40	100	55	150
	110	60	162
	119	65	175
	122	67	180
	146	80	215
		92	250
	182	100	270
		120	324
		130	350
		160	432
		180	486

Heavy

Bulky

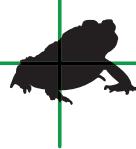
92 LB
Cover



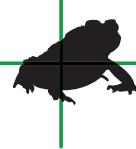
100 LB
Cover



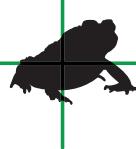
110 LB
Cover



130 LB
Cover



140 LB
Cover



NOTES



