



THE A – Z OF PRINTING

“A” Sizes

Series of finished trimmed sizes in the ISO international paper sizes range. See page 39.

Against The Grain

At right angles to the direction of the grain of the paper. In practice folding of printed material should be with the grain direction to avoid unsightly cracking, otherwise creasing may be a necessary.

Aqueous Coating

Water based coating applied in line by a specialised unit on a printing press to protect and enhance the printed surface. Aqueous dries instantly which allows post production processes to begin immediately, i.e. trimming, folding.

Art Paper

Paper that has received a coating of china clay. It has a very smooth surface which may be matt, but is usually shiny.

“B” Sizes

The ISO international paper sizes intended primarily for posters, wall charts and similar items where the difference between each “A” size represents too large a jump. See page 39.

Back Up

To print the second side of a sheet already printed on one side.

Banding

A printing problem in a solid or screen area that goes from dark to light.

Blanket

In offset printing, a rubber surfaced fabric that is clamped around a cylinder. The image is transferred from the plate to the blanket, and from there, transferred to the paper.

Bleed

Printed image designed to run off the edge of the paper. The bleed allowance is usually 3 mm beyond the trimmed size.

Board

A cellulose based material which is usually above 200gsm.

Book Paper

General term used to define a group of papers having common physical characteristics that, in general, are most suitable for book production.

Brightness

The reflectance or brilliance of a paper.

Bulk

Relative thickness of a sheet or sheets of paper. Measured by caliper, volume or papers per inch. Not to be confused with the weight, two papers of varying thickness, may have the same weight.

Butt Register

Register where ink colours meet precisely without overlapping or allowing space between. Also called butt fit.

Burn Out

An opaque mask used in plate making to clean up areas of printing plate where there might be unwanted images when a plate is made from more than one exposure.

Caliper

The thickness of paper. Also a device on a sheet fed press that detects double sheets or on a binding machine that detects missing signatures or inserts.

Cast Coated Paper

A high gloss finish on both or one side of paper or board.

Catch up

An effect when an image occurs in what should be a non image area of a plate due to water/ink imbalance.

Chalking

Drying problem which with some ink/paper combinations, leaves loose pigment on the surface.

Choke (Choking)

Technique of slightly reducing the size of an image to create a hairline trap or to outline. This is done to compensate for minor paper movement in the press.

CMYK

The acronym for the four process colour inks: Cyan, Magenta, Yellow and Black.

The process colours cyan, magenta, yellow and black are combined in varying amounts to represent colours in an original image. K is used for black to avoid confusion with blue.

Coated Paper

Paper that has received a clay-based coating on one or both sides, such as art paper and cast coated papers. Improves reflectivity and ink hold out.

Colour Bar

A coloured strip in various percentages on the back edge of the sheet which enables the printer to check by eye or instrument the amount and density of ink needed.

Colour Management Systems

Electronic characterisation, calibration and control systems that help to assure colour consistency and accuracy throughout the print production process from scanning through previewing on screen and proofing to reproduction on the press.

Colour Matching System

Method of colour specification by matching the colour required to one in a swatch of colours. Each colour in the swatch will have its ink mix formula described. An example of this is the Pantone Matching System (PMS).

Computer to Press

A printing system that is capable of rapidly changing the images it is printing on the press without the use of removable plates.

Cure

To dry inks, varnishes or other coatings after printing to ensure good adhesion and prevent set off.

Curl

The distortion of paper due to differences in structure or coatings from one side to the other or from absorption of moisture on the press.

Densitometer

An instrument used to measure density. Reflection densitometers measure light reflected from paper and other surfaces. Transmission densitometers measure light transmitted through film.

Density

The weight of tone or colour in any image, measurable by a densitometer.

Digital Printing

A system of printing, which involves bypassing the traditional route of making printing plates and imaging directly from digital data.

An example of black and white digital printing is high-speed laser printing from a "Docutech". The docutech represents a good alternative for short run black and white print production.

Due to the minimal set up time required in the production of digital work, often just a matter of sending the file to the "Docutech", this process offers substantial advantage when timeframes may be tight. Often the first few books can be produced within a matter of hours.

Digital printing generally produces printed sheets in A4 – A3 loose leaf format, therefore finished books may be saddle stitched, perfect bound, comb or wiro bound.

Dot Gain

A phenomenon, which occurs when wet ink comes in contact with paper. As the halftone dots are applied to the paper, the wet ink spreads, causing the dots to increase in size and halftones to appear darker. A number of factors affect dot gain.

Double Coated

Better quality coated papers receive two (and sometimes more) coatings on each side.

Draw Down

A strip of ink spread on a sheet of paper with a pallet knife and allowed to dry to show the resulting colour. Often used for special mixes, such as corporate colours to match to when printing.

Drier

A substance added to ink to hasten drying.

Fingerprint

To test a printing press to determine its exact printing characteristics, such as dot gain, ink density and trapping.

Finish

The smooth (or rough) surface given to paper by coating or embossing.

Gang Up

To print two or more finished products on the same sheet during one press run.

Gas (Gloss) Ghosting

The transfer of volatile gases from inks or (more commonly) matt/gloss varnishes, through or between sheets in a stack of printed material, causing unwanted faint reverse images to appear within printed areas.

Ghosting

A faint image repeating in a printed solid where it was not intended to appear, due to uneven ink take-off and inadequate replenishment from the inking rollers.

Grain Direction

The direction in which most fibres within a paper are aligned. It is best to have the grain direction running parallel with the line of folding.

If printed material is to be overprinted via a laser printer the general requirement will be long grain A4 (the grain runs parallel to the long edge) or short grain A3 (the grain runs parallel to the short edge).

Grammage

The metric basis weight of paper. Weight is expressed in grams per square metre (gsm).

Gripper Edge

Allowance of extra space on a sheet of paper for the grippers to hold the sheet, this is an unprintable area.

Heatset

Web printing process whereby non-absorbent paper goes through the press and the ink is dried by heat.

Hexachrome

A proprietary colour separation process, developed by Pantone, that uses six (6) instead of four process colours. (CMYK plus Orange and Green.)

Hickie

Printing defect caused by specks of dust, dirt, paper debris (usually from the paper or boards surface) or ink skin holding the paper away from the printing surface. A hickie will give the appearance of a solid spot with a halo which shows on the printed sheet as a blemish. A hickie is particularly noticeable in solids.

House Stock

Paper kept in house by the printer which is suitable for a wide variety of printing applications.

Imposition

The process of positioning multiple pages on a flat sheet of paper to be printed at one time, which when folded will read consecutively.

Laid Paper

The smooth wove surface is replaced by a series of translucent watermarked laid lines. These are impressed into the sheet at the time of manufacturing.

Lightfast

An ink which is not affected by exposure to light.

Lupe (Loupe)

From the German word for magnifying glass, a lens used by photographers, printers, and designers to examine details in printed materials.

Matt Art

Dull finished coated paper as opposed to gloss.

Machine Seal

This is a solvent based coating applied like ink by a printing press to protect the printed surface, and may be a matt (dull) or gloss finish. Machine seals are not suitable for work which is to be digitally overprinted or requires to be written over at a later date, e.g. an application form. Seals can be applied to a full sheet or spot seals can be applied to certain portions of a sheet only.

Make ready

Preparation of a printing press before the run, setting it up for colour, size, substrate and registration. Finishing processes of binding, folding etc also require make ready processes.

Moire

A pattern, which is created when two or more screen patterns are placed over one another.

Mottle

Spotty or speckled printing in solid areas caused by poor ink or uneven absorption characteristics in the paper.

Offset Printing (Offset Lithography)

Currently the most common commercial printing method, in which ink is offset from the printing plate to a rubber roller then to paper.

Opacity

Characteristic of paper to impede print from one side showing through to the other.

Overprint

To print over an area or sheet which has already been printed on.

Perfecting

Printing both sides of a sheet of paper in one pass through the press.

Photocopy

A mechanical printing process that uses a light sensitive printing element, electrostatic toner and a heating element to fuse the toner to the paper, bypassing the traditional route of making printing plates.

Plate

Image carrier used to transfer ink to a blanket for printed impression onto paper. Offset plates work on the basis that the imaged areas attract ink and repel water, the non-image areas, attract water and repel ink.

PMS Colour (Pantone Matching System)

A proprietary colour system for choosing and matching specific spot and process colours.

Polymer Plates

A vinyl-based, short life image carrier plate. Polymer plates are mainly used in the newspaper industry where resolution levels are not as high as that in commercial printing. Newspapers print almost anything from between 70 dpi to 200dpi, whereas, commercial printing requires an ideal minimum of 350dpi.

Press Pass

When a client checks and approves their job on the press as it is beginning to print.

Printing

The process of applying ink to paper.

Process Colour

The mechanical process of reproducing a full colour image with the three primary subtractive colour inks (CMYK/ Cyan, Magenta, Yellow) and Black. When viewed under a lupe, the individual colour halftone dots can be seen in a process colour image.

Ream

500 sheets of printing paper.

Register Marks

Marks on film/plates that when superimposed during the printing process the rest of the work is in register.

Registration

The quality of alignment of the different coloured inks as they are applied to paper. (i.e. If the inks can be seen to overlap improperly or to leave white gaps on the page, the printing is said to be “out of registration” or “poorly registered”.)

Semi Matt

A matt coated paper with a smooth and slightly glossy finish halfway between a matt and a full gloss finish.

Set Off

Ink from a printed sheet rubs off or marks the next sheet in the delivery stack after printing. The application of a sealer or aqueous can help alleviate this problem.

Sheet Fed Press

A printing press that uses sheets of paper rather than a continuous roll.

Sheet Work

To print one side of a sheet of paper with one image and then be backed up and have the other side of the sheet print with a different image.

Show Through

The printed image on one side of a sheet being visible on the other side of the sheet under normal light conditions.

Slug Marks

Stepped black marks on the spine of a folded signature, indicating the sequential position for checking the collation order of a book block after gathering.

Specs

Complete and precise written description of features of a printing job such as type size, paper grade and quantity, printing quality or binding method.

Spot Colour

Where single colours are printed using a specific colour of ink rather than creating it from the process colours. This is applied to printing when process colour is not necessary (i.e. one, two and three colour printing), or when process colours need to be augmented (i.e. a fluorescent pink headline or a metallic tint).

Spot Varnish

Varnish applied only to certain portions of a sheet to highlight those areas.

Tack

The degree of stickiness of a printing ink or varnish.

Thermography

A printing process that results in raised type similar to engraved printing.

Trapping

Trapping colour is achieved by the use of chokes and spreads, and is the technique of slightly overlapping one image on an adjacent one to avoid white gaps if any paper movement occurs in printing.

Uncoated Paper

Paper with no coating. Often considered not suitable for high quality illustration work.

Watermark

Translucent logo in paper created during manufacture.

Web Press

A high speed printing press that prints on both sides of a continuous roll of paper. Web presses are used for high volume printing such as newspapers and magazines.

Work and Tumble

To print one side of a sheet of paper then turn the sheet over from gripper to back using the same side-lay and plate to print the second side.

Work and Turn

To print one side of a sheet of paper then turn the sheet over from left to right and print the second side. The same gripper and plate are used to print the second side.