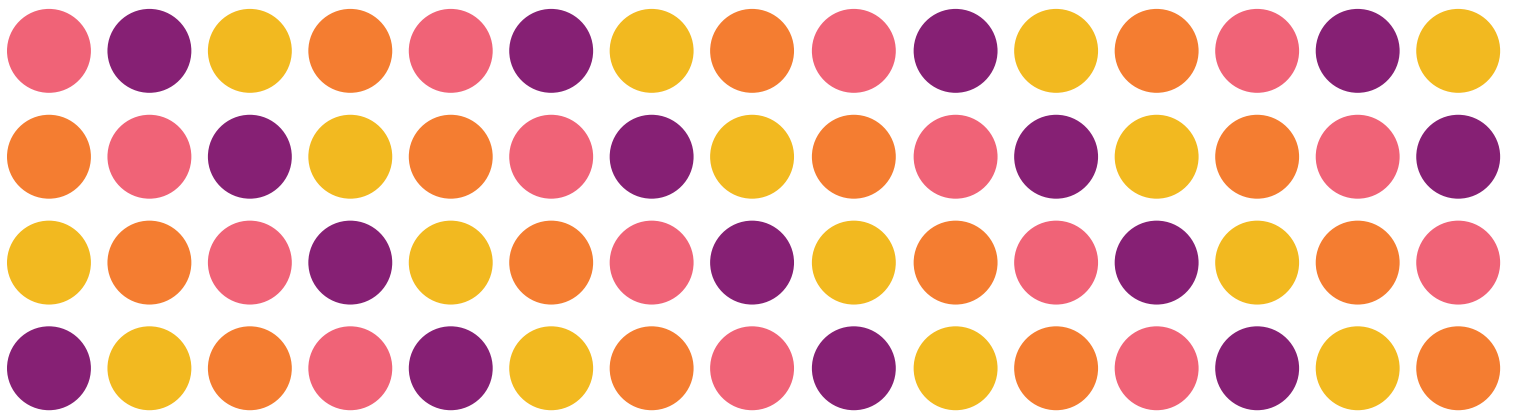




# A guide to Design & Printing

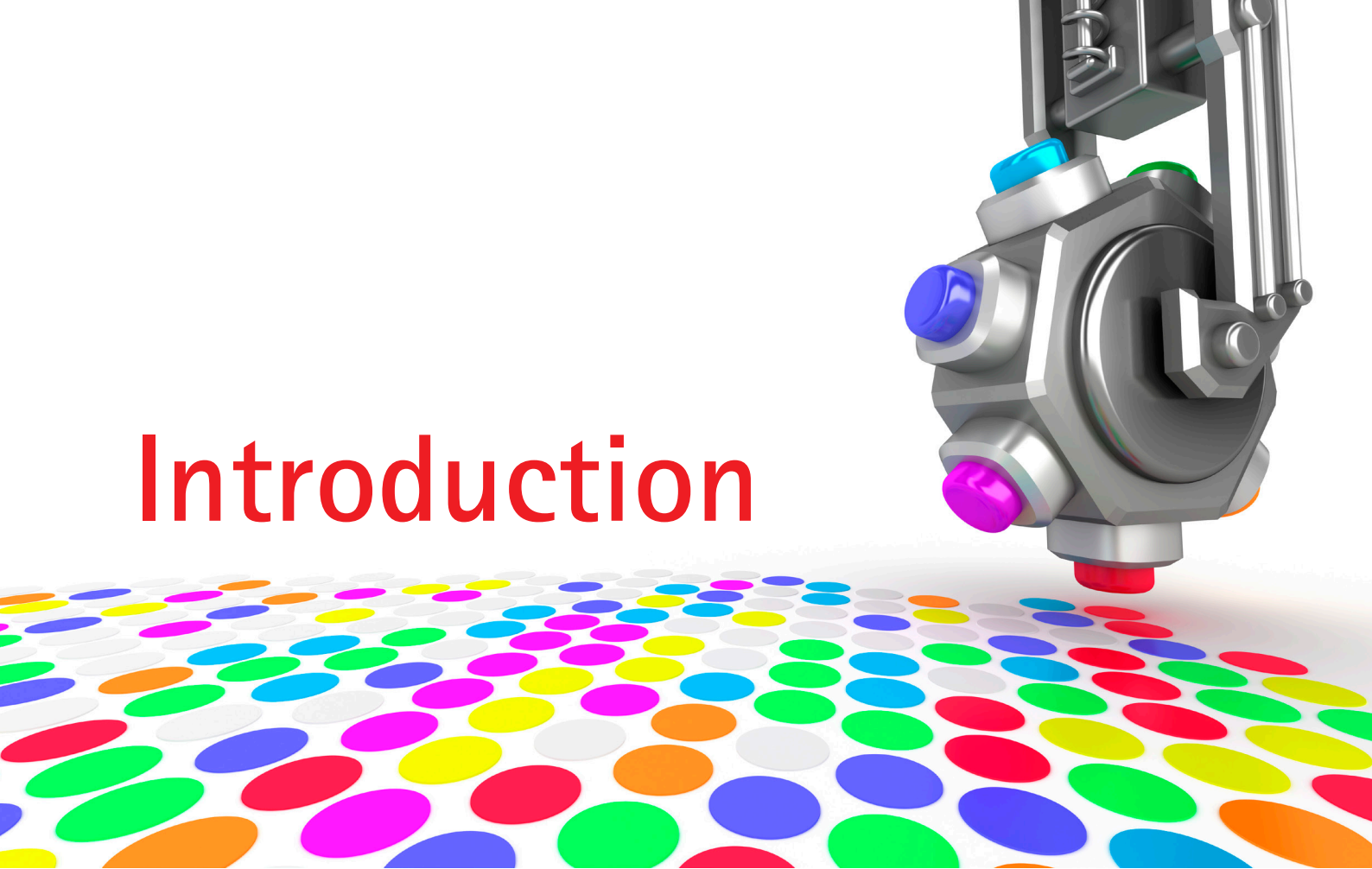




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# Introduction



Every piece of printed communication your company produces – from letterhead to brochures – sends a message about your company. A well-designed brochure can speak volumes to your customers about how professional and capable your company is.

Equally, an old-fashioned logo or a basic, photocopied flyer are unlikely to impress your target market.

Design and print are, of course, specialist skills. Understandably, many people don't ask questions – such as "how do I set up my artwork?" or "what does CMYK mean?" – for fear of looking foolish.

Kwik Kopy decided to produce this book to help you understand the basics of print and design. It has been written and designed in an easy-to-follow format, so you can use it as a guide to producing a high-quality printed piece.

Of course, your local Kwik Kopy printer is always there to help you with any of your design and print questions.



# What is graphic design?

Graphic design isn't simply applying colour to paper – it is the aesthetic arrangement of type and image in order to interest, inform, persuade, or sell.

A graphic designer translates ideas into visual form to reach specific target markets.

Graphic design, traditionally the design of printed material, also includes signage, architectural graphics and exhibit design, and, with changing technology, it now encompasses computer-related imagery, video, television, and film. The professional designer must be able to problem solve, plan, and execute solutions that really communicate with the potential target audience.

# Design basics

While there are no firm rules, designers adhere to a basic set of principles when working on a project.

## Balance

Once your page is balanced, you will no longer notice the elements as being individual. The entire page will become one piece and your eyes will flow from one element to the next seamlessly.

There are several types of balance:

### Symmetrical

If you draw a line down the centre of the design, you'll find the exact same elements on either side of that line.

Designs using symmetrical balance tend to have a formal, traditional look to them.

### Asymmetrical

If you compare two sides of a design, the objects are different on each side.

### Radial

The objects in your design radiate out from a central point in the design.



## Consistency

Consistency is exactly that —your printed logo and colours should look exactly the same from one print job to another.

To ensure you have consistency, it's best to use the same printer. And be sure to speak to your printer about the colours and paper stock you are using as they can all affect the final outcome.

## White space

Just as you wouldn't want a cluttered home, you don't want a cluttered page. Wall to wall graphics, boxes or type that is over-designed can be confusing and look unprofessional.

White space is the part of the design that 'isn't there'. White space can focus attention on the most important elements of the design.

## Contrast

Contrast creates visual interest by placing two different objects next to one another. You can create contrast in many different ways: size, colour, value, fonts, emphasis, shape, and texture.

# Colour

In the graphic design profession there are three main colour models used for design depending on the application: CMYK, PMS and RGB.



## CMYK

CMYK stands for cyan, magenta, yellow, and black. It is referred to as four-colour process and is commonly used for printed materials that include images, photos or documents with many colours. These four colours are printed in tiny dots, which when layered onto each other can produce a wide range of colours.



## PMS

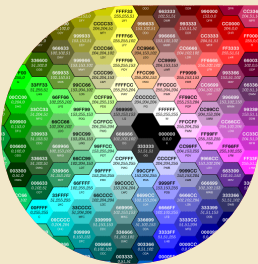
PMS – or Pantone matching system – is the most widely used system for specifying and blending match colours. This system identifies more than 700 colours, provides designers with swatches for specific colours, and gives printers a formula for making these. They are also known as spot colours, and are used when a specific colour is required, for example, the Kwik Kopy logo uses two PMS colours PMS 485 for the red and PMS 280, which is the blue.



Metallic and fluorescent colours cannot be achieved by using four-colour process printing. A spot colour is necessary for printing these colours.

## RGB

RGB stands for red, green, and blue. These are the colours used on a computer monitor to create colour images on the screen. However, when it comes to printing, they must be converted to CMYK. RGB colours are used when designing for web or multimedia.



## Hex Code

Color references in webdesign (HTML and CSS) can be expressed with six hexadecimal digits (two each for the red, green, and blue components, in that order) prefixed with #: white, for example, is represented #FFFFFF

## When to use.

CMYK colours can be used in both Digital and Offset printing and give a similar result.

PMS colours can be used in Digital printing but is converted to CMYK so the results will not be as accurate as using PMS colours for Offset printing where a PMS specific ink is used to produce the colour.

RGB colours can be used in both Digital & Offset printing but will be converted to CMYK in both processes. As RGB colours are used to display colour on a monitor they will vary considerably when output to Digital or Offset printers.

A Hex Code is used for digital use only.

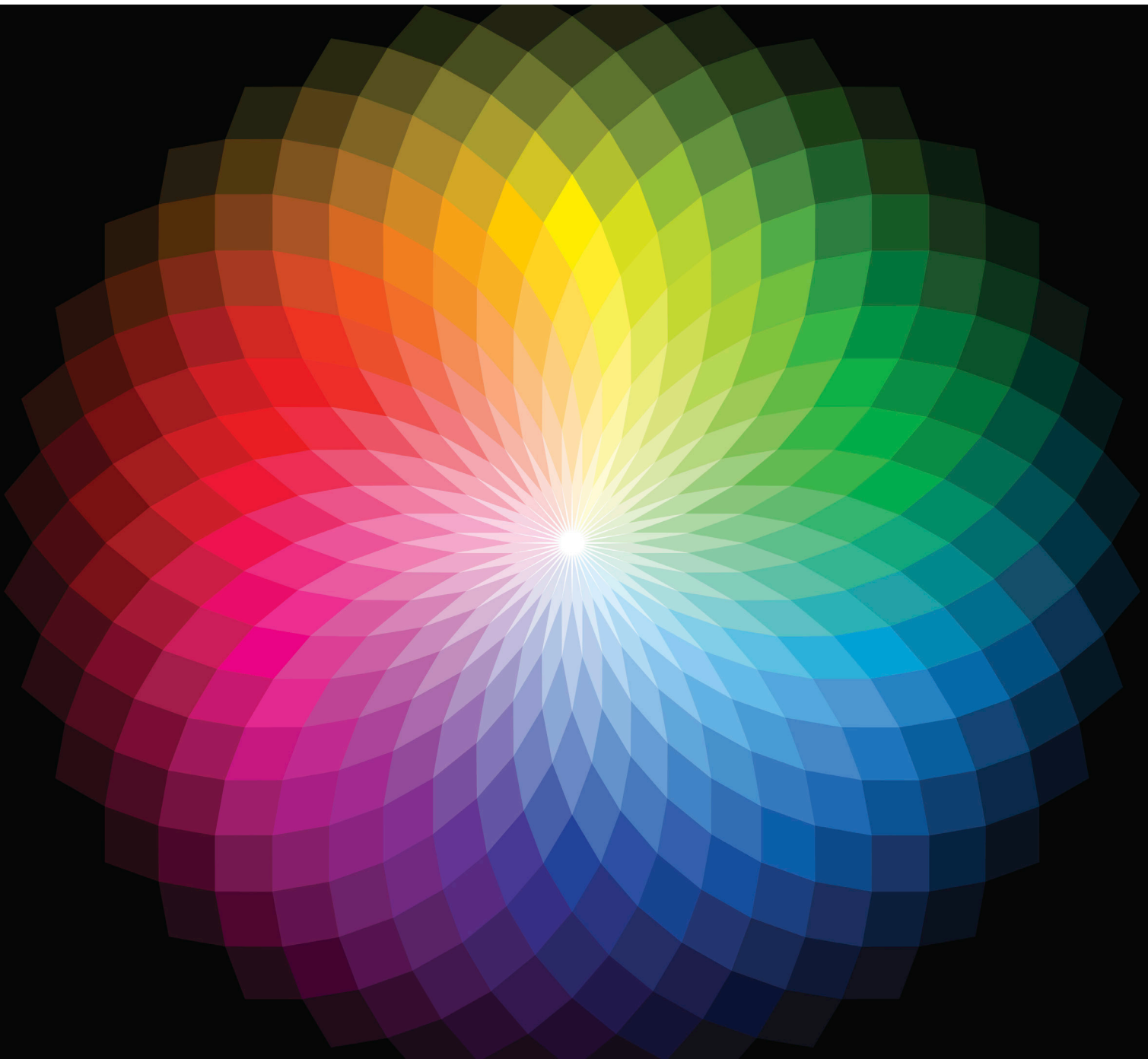
# Warm, cool & neutral

Colours are often grouped into warm, cool and neutral, depending on the emotional responses they invoke.

For example, 'cool' colours like blue and green evoke a feeling of trust, relaxation and freshness.

Red is the hottest of 'warm' colours, followed by orange and bright yellow. Warm colours evoke energy, movement and change.

Neutral colours, such as greys, mushrooms and beiges, provide a quiet space or act as a balancing colour.



# Typography basics

Typography is the selection and arrangement of typefaces, sizes, and spacing on a printed page. It is an extremely important piece of the overall design process – but with over 20,000 typefaces available and more being created every day, where do you begin?

typeface

design

Aa Bb Cc Dd Ee Ff Gg

## Typographic tone

First, narrow down your choices by selecting the tone you want to present. Typography can be used to create personality and feeling on a page:

- Formal or informal
- Modern or classic
- Dense or open
- Light or dramatic

## Serif Typefaces

Serifs are lines or curves projecting from the end of a letterform. Typefaces with these additional strokes are called serif typefaces. Serif fonts are generally used to achieve an elegant or classical look.

## Sans Serif Typefaces

Sans serif typefaces do not have finishing strokes at the ends of the letterforms. The name comes from the French word sans, meaning 'without'. Sans serif typefaces generally project a contemporary look.

## *Script Typefaces*

Script typefaces simulate handwriting, with one letter connected to another visually, if not physically. Script typefaces emulate several different types of handwriting, including calligraphic, drafting, and cartoon.



# Principles of type

## Height

Type is measured in points — there are approximately 72 points in an inch, so 72-point type is approximately 1 inch in height on a printed page. The height of a typeface is commonly referred to as its 'x' height, which is a measurement of a lower case letter in that typeface.

## Style

Style refers to options such as bold, italic and reverse, that you can choose as part of your type specifications.

## Weight

Weight refers to the density of letters, the lightness or heaviness of the strokes in a typeface. It is described as a continuum: light, regular, book, demi, bold, heavy, black, and extra bold.

## Alignment

Alignment refers to the shape of the text block in relation to the margins. Most software programs allow left alignment (sometimes called flush left), right alignment (sometimes called flush right), centre alignment, justified alignment (where both left and rights sides are aligned).

## Leading

Leading is the vertical space between lines of type.

## Kerning

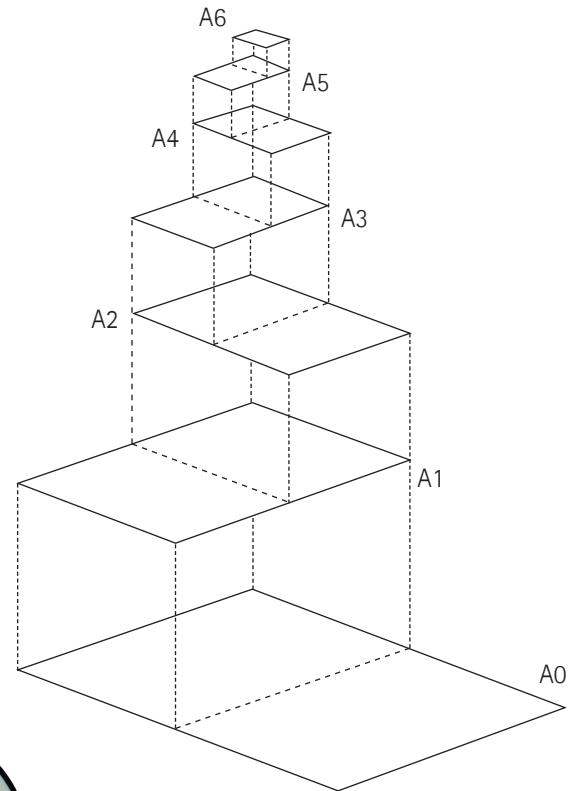
In typography, kerning refers to an adjustment of the space between characters, especially by placing two characters closer together.



# Page sizes & formats

## Sizes

'A' size or 'A' series is a set of paper sizes established by the International Standards Organisation (ISO) that ranges from 2A0 (the largest) to A7 (the smallest). A4 is the most common size (standard letterhead), while A3 is the size of two A4 pages put together.



## Weight

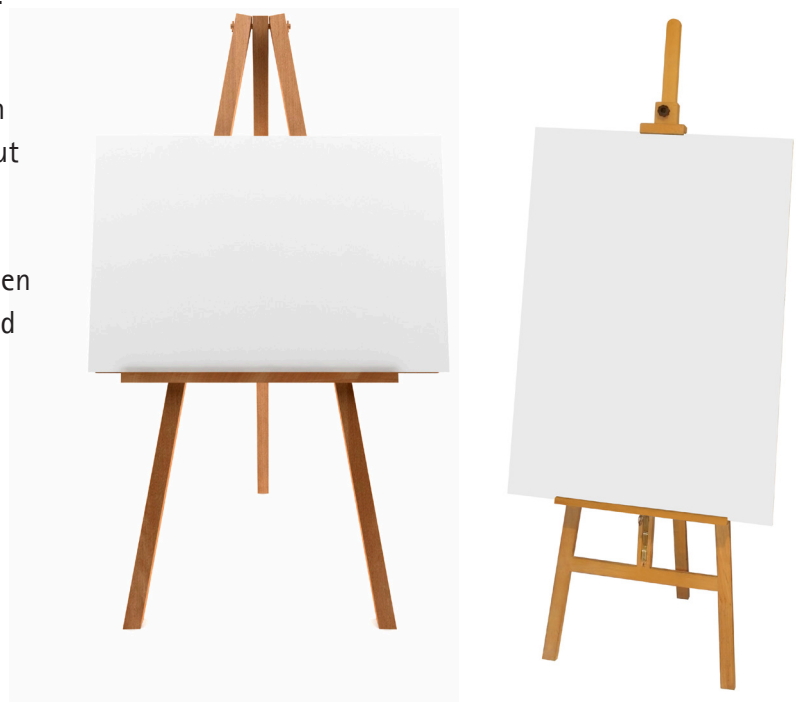
The weight of metric paper is given in grams per square metre (gsm). As a general guide to paper weight, normal typing and photocopy paper is around 80 gsm. For a higher quality letterhead, you may use 110gsm. If you are producing an A4 flyer, you may use 200 gsm.



When working on a project, a designer needs to consider the basics of paper and layout.

## Formats

Paper format refers to the way in which the paper is laid out. The standard layout is portrait – but for a different look, designers may use landscape. There are other formats, including concertina (when a page opens several times) and gatefold (often seen in magazines, where an A4 page will open up to become A3).



# Imagery

## Photography

There is no substitute for professionally produced photography. While a professional photograph can make a brochure look polished, a simple 'happy snap' can look amateurish and unprofessional.

## Illustration

An illustration is a commissioned drawing, painting or computer animation. Designers will use illustration over photography in place of a complicated visual, to 'relax' a visual or for graphic impact.

## Other graphic elements

Charts, boxes, stars, arrows and other symbols may be incorporated in a design to add visual interest and impact.

## DPI & resolution

Dots per inch, or DPI, indicates the resolution of images – the more dots per inch, the higher the resolution. Resolution refers to the sharpness and clarity of an image. When a designer asks for a high resolution image, this refers to an image which is at least 300 dpi at final output size. (Speak to your local Kwik Kopy to ensure that you have set up the correct dpi for their machines.)



# On the computer

Using the right software and file formats for your design job will help you to properly prepare artwork for printing.



## Software

To allow you to handle the range of tasks involved in your design you will need to have access to software that allows you to handle page layout, image editing, logo design and document distribution tasks. Kwik Kopy uses and recommends the use of the Adobe Creative Suite software. The Creative Suite provides you with InDesign, Photoshop, Illustrator & Acrobat.

### Adobe InDesign

Is page layout software that allows you to setup page size & format information, add & control type attributes and position and size images and logos.

### Adobe Photoshop

Is image editing software that allows you edit and range of image attributes including colour, resolution, rotation and size.

### Adobe Illustrator

Is logo design software that allows you to create and edit logos.

### Adobe Acrobat

Is document distribution software that allows you to package your design work for easy and reliable distribution to your printer. Other software is available for use in these areas so if you are unsure about the software you are using contact your Kwik Kopy centre.

## Pixels

A unit of picture measurement. One pixel is about the size of a period (.) in 12 point font.

## File Types

### NATIVE

Native files are those created by the software. InDesign, Photoshop, Illustrator all create a file that is native to that software and therefore can only be read and edited by that software.

### VECTOR

Vector based files contain data that is created using mathematical equation to describe the information. It is a very accurate method that is used to describe logos.

### PIXEL

Pixel based files are made up of pixels or dots to describe images. They tend to be large in file size (depending on resolution) and require a certain resolution to achieve the best results.

## File Formats

### PDF

A PDF – Portable Document File – retains the 'look and feel' of the original document with formatting, graphics, and colour intact. This is the format that most printers prefer to receive as an artwork file.

Kwik Kopy has software available called Kwik Kopy Direct, which makes it easier for you to produce PDF artwork.

### JPG

Stands for Joint Photographic Experts Group and pronounced "jay-peg". A JPG will compress a file (reduce file size) while retaining colour. A JPG should be used online, while a TIFF format (see below) should be used in print.

### TIFF

A TIFF – Tag Image File Format – is the recommended image file format for printing. It is an uncompressed format, therefore the file size is much larger than JPG.

### EPS

Encapsulated PostScript. A file format that is used to save vector based artwork. An EPS format ensures the attributes of the file are maintained.

### BMP

Standard file format for storing images. BMP is an uncompressed image file used with Microsoft Windows. It is not recommended for printing purposes.



## Screen calibration

With each monitor, the quality of the display, the gamma setting, and the brightness and contrast differs. Your computer should tell you how to do this, and there are numerous programmes to be found on the internet.

# Artwork

A beautifully designed project can fall apart if the artwork isn't set up correctly. To ensure that it is printed exactly the way that you intended, it is important to understand the basics.

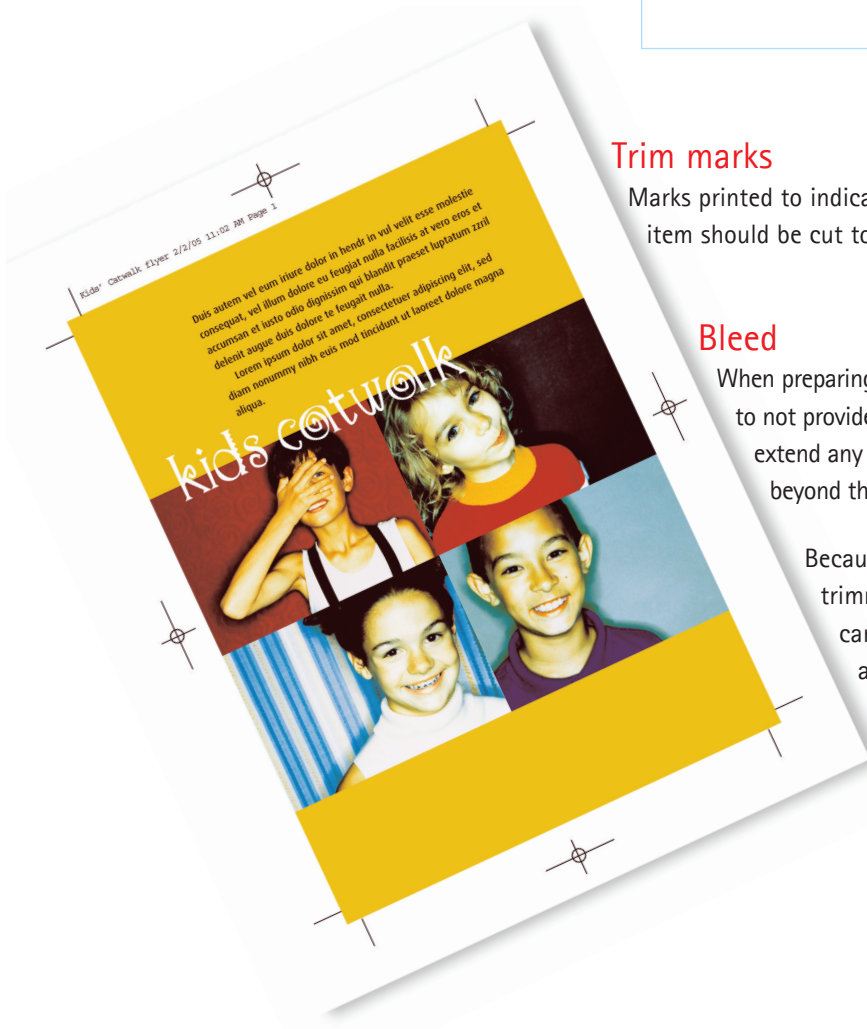
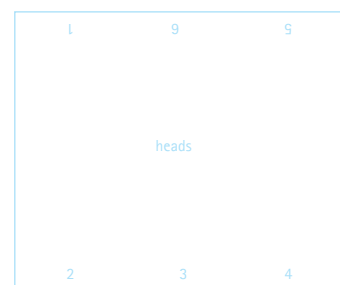
## Impositions

In multiple page projects, this means the arrangement of pages so they will appear in proper sequence after press sheets are folded and bound. In terms of artwork, this means planning spreads from back to front i.e. the front cover and the back page are one spread, page two and the final page are spreads etc.

4pp work and turn



6pp work and tumble



## Trim marks

Marks printed to indicate the final size of a printed piece, and where the item should be cut to remove excess (see example below).

## Bleed

When preparing final artwork, one of the most common mistakes is to not provide the printer with bleed. To provide bleed, you need to extend any image or coloured box anywhere from 3mm to 6mm beyond the trimmed size of the artwork.

Because slight variations can occur when a page is trimmed to size, bleed ensures that colours and images can extend to the very edge of the trimmed page, and no unwanted white edges will appear.

## Embedding fonts

If you supply native artwork (such as InDesign) to a printer, you will also need to supply every font file which was used to create the specific project. Embedding fonts means that you do not need to supply the fonts. Producing a PDF of your artwork, for example, can embed the fonts, as long as this option has been selected.

## PDF

This is the final step before sending your artwork to the printer – and a very important one. Printers prefer artwork delivered in PDF form, especially if a quick turnaround time is needed. Saving as PDF distills and crystallises your document – you are literally taking a picture of it, freezing text and images into place. PDF files are especially good for large documents full of images.

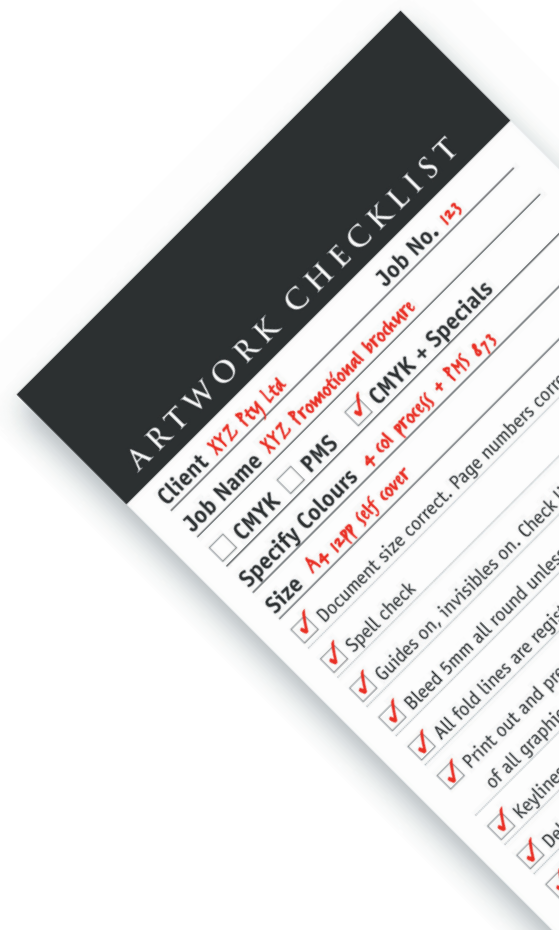
To create PDF files you need PDF creation software. Adobe Acrobat is the most common software used for this purpose. To ensure you get the best quality PDF file check with your Kwik Kopy centre for the details of the best process.

## Checklist

Before sending artwork to a printer, we recommend that you use a checklist to ensure that all elements have been covered (please note that these are just a few points which need to be addressed – ask your local Kwik Kopy printer for the full list):

- Make sure document size is correct
- Bleed has been added
- Colours converted to CMYK where appropriate
- Correct file format used for images
- All fonts either included or embedded
- PMS colours nominated

Whenever possible, artwork should be supplied to the printer with a hard copy printout so that formatting can be checked before output of a printers proof.



# Proofing

Once artwork has been sent to the printer, it is highly recommended that you request a proof of your project before proceeding to the final printing stage. This will allow you to check colour accuracy, as well as final type and positioning. There are a number of types of proofs:

## Film proofs

Traditionally in printing, sheets of film are produced to make printing plates. In film proofing, these film sheets are used to create a colour proof that is checked prior to printing. Chromalin is a colour proofing system that uses film and is acknowledged as being the most colour accurate type of proof.

## Digital proofs

These are not as expensive as film, and have around 85% colour accuracy. If you are simply checking final type and positioning of artwork, it is recommended that you ask for a digital proof.

## Soft proofs

A soft proof is a digital file usually supplied in a PDF format. As you will view the PDF on your monitor or print on your printer, colour accuracy is not high. Final type and positions of object on the page are accurate.



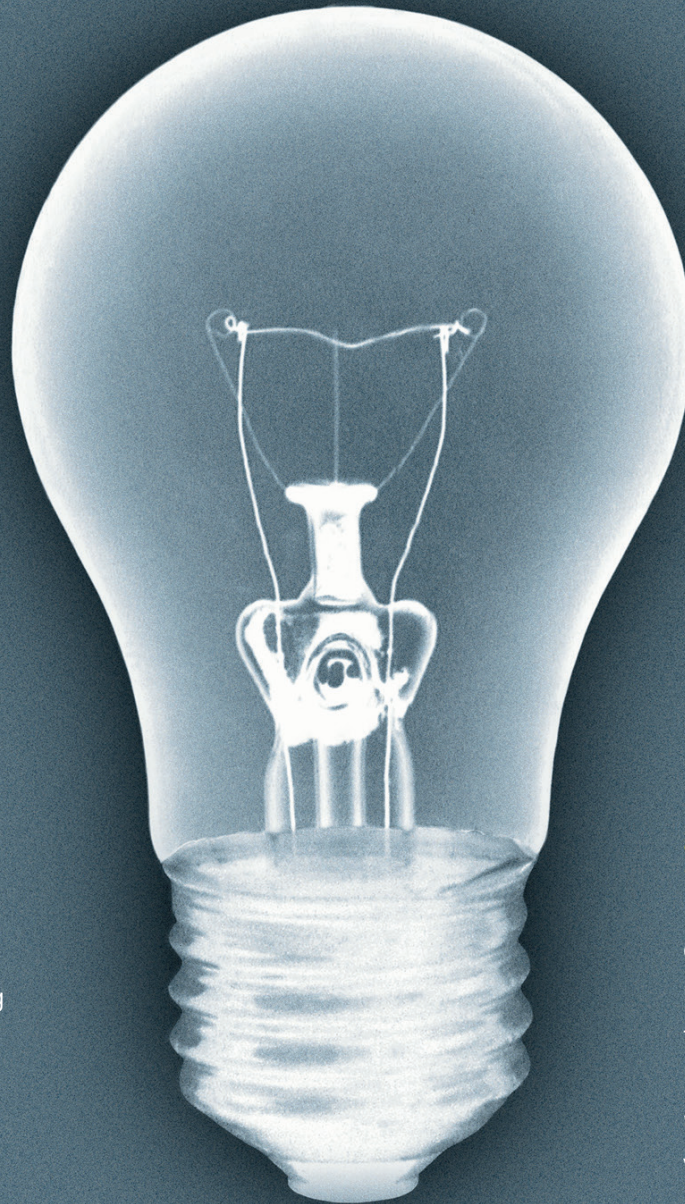


## Colour bars

A series of coloured squares printed on the edge of a proof to indicate that the colour balance is correct on the proof — this is used for quality control by the press operator.

## Marking up a proof

If there are any changes to the proof, you should write clear instructions onto the proof and indicate exactly where these changes are to be made.



## Registration

These are marks on the proof that look a little like bullet mark symbols (outside of the print area). Registration marks ensure perfect alignment when printing with more than one ink colour.

## Signing off

Proofs should only be signed off once you are completely happy with all colour and formatting. You may be held liable if a print job proceeds with incorrect artwork after you have signed off the proof. Always remember to check your proofs carefully!

## The right light

When checking a proof, always view it in the right light. If that means taking the proof outside to look at it in full sunlight, then please do! Interior lighting, especially fluorescent, can radically affect how colours appear.



# Paper

The paper you choose for your project will have an enormous effect on the look and feel of the final printed piece. The weight and format of the paper are just two things to consider.



## Uncoated vs coated

When printing on coated paper, the ink lies on the surface of (or the coating of) the paper. When printing on uncoated (bond) paper, the ink absorbs into the paper, thus spreading and producing a larger dot. This can cause colours to look different across coated and uncoated papers. Be sure to ask your printer for their recommendation on each project.

## Specialty papers

These tend to be more expensive papers that would typically be used in the creation of stationery ranges or for a special project.

## Matt vs gloss

Coated papers can appear glossy or matt depending on the coating that has been applied to the paper. The choice between gloss and matt by a designer tends to be purely aesthetic.

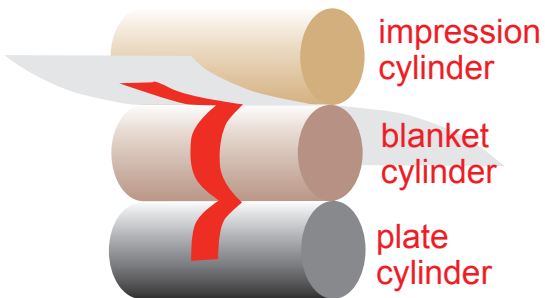
## Recycled paper

A paper product consisting of more than 20% recovered fibre.

## Watermark

A watermark is a mark in fine papers imparted during manufacture that identifies a paper. It doesn't leave an impression in the paper, but instead leaves a translucent mark.

# On the press



If you produce a large amount of printed materials, you should be familiar with at least the basics of the actual printing process.

## Offset (also known as offset-litho)

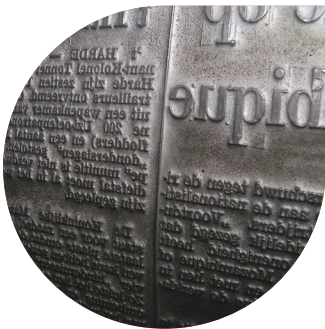
A method of printing in which an inked image is transferred to rubber cylinders, and from that to the sheet of paper. This term most often designates a print reproduced commercially in fairly large runs. It's important to keep in mind that offset printing requires time for the inks to dry before trimming is possible.

## Plates

Printing processes such as offset lithography use printing plates to transfer an image to paper or other substrates. The plates may be made of metal, plastic, rubber, paper, and other materials. The image is put on the printing plates using photomechanical, photochemical, or laser engraving processes.

## Digital

If you're printing smaller runs or need a quick turnaround, digital printing is ideal. The process of printing straight from a computerised digital media means that no film or plates are involved. However, for longer print runs, traditional offset litho is cheaper.





### Sheet-fed

The sheet-fed press prints on individual sheets of paper, as opposed to continuous rolls of paper used on web presses. Sheet-fed presses can print on cardstock, plastics, metal, and other substrates. A sheet-fed press may consist of multiple print units that each print a different colour of ink.

### Make-ready

Printing term for press preparation. This includes checking register and colour preparation, and matching the proof before beginning a printing run.

### Hickey

A 'hickey' is printmaking slang for an unwanted, unplanned mark on a print. Hickeys are caused when a foreign element makes its way into the ink or onto the press. Dirt is the most typical hickey culprit.



# Finishing

The final touches will often turn a printed project into something special.



## Trimming

After a job is printed, it may require certain edges of the paper to be 'trimmed' to achieve the required size.



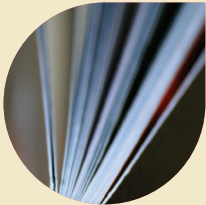
## Comb and spiral binding

These are inexpensive and simple methods, which are fairly robust, look professional and allow publications to be opened up flat.



## Saddle-stitching

A book binding process where pages are stapled together through the spine of the book. This is traditionally performed on a V-shaped saddle.



## Perfect binding/burst binding

In both perfect and burst binding, the spine edge of the sheets are glued. Burst binding provides a more secure form of binding due to the addition of cuts along the spine edge, allowing for more glue. Traditionally used for bulky publications where saddle stitching is impractical.



## Die-cutting

Die-cutting uses a specially shaped knife to precision-cut, or to cut shapes into a piece of paper or board.



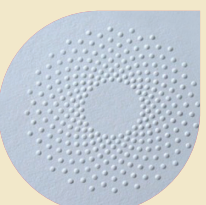
## Varnishing & coating

A layer of material that is sprayed, rolled, or brush applied over a surface for protection or sometimes decoration.



## Foil stamping

The application of foil to paper. May also be combined with embossing for added effect.



## Emboss/deboss

Embossing is the creation of a raised image by pressing a shape into a sheet of paper with a metal or plastic die. Debossing is to press an image into paper so it lies below the surface.



Kwik Kopy <<Centre\_name>>

<<CAdd\_1>> <<CAdd\_2>>

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PRINT



DESIGN



SIGNAGE



MARKETING