

Shop Talk

Graphic Design and Production.

A guide to terminology and general knowledge.

Not familiar with the graphic design and print jargon? No worries, we got you covered. Take a look through our ShopTalk guide to learn a bit about the graphic design and print basics.

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Designing Graphics: Colors, Fonts & Files

CMYK Colors vs. RGB Colors

To put it simply, CMYK is for Print, and RGB is for Digital pieces.

CMYK stands for Cyan, Magenta, Yellow, Black — the four traditional ink colors that are mixed to create most full-color printed pieces (such as print ads, brochures, signage, etc.).

RGB stands for Red, Green, Blue — the light frequencies that are combined to produce the visual aspect of digital pieces (such as websites, PowerPoint presentations, non-printing PDFs, videos, etc.).



The above examples are slightly exaggerated for demonstration purposes. Printed CMYK colors can never be as bright as RGB colors which appear on computer screens, TV monitors, and mobile devices.

HEX colors (short for hexadecimal) are used by designers and developers in web design. A HEX color is an RGB color, but expressed as a six-digit combination of numbers. For example, Rev One orange can be named as RGB 240-83-35 or HEX #f05323, but they are both the same RGB color.

Pantone® Colors



In addition to CMYK inks, Pantone colors can also be used for print. Also known as PMS colors (Pantone Matching System), these are premixed special colors which are often printed in addition to CMYK on a piece. Pantones are often especially rich colors, neon colors, or metallic colors which cannot be achieved by mixing traditional Cyan, Magenta, Yellow, and Black inks.

Pantone inks are also good for maintaining color consistency from one print vendor to another. Say you have a special red in your company logo, and you want that red to look the same no matter where it's printed. Choosing a Pantone for that color will be the best way to ensure consistency of your brand.



Pantone 871 C, metallic gold



Pantone 021 C, orange

Font Styles & Point Sizes

Fonts can be categorized in many different ways, but the most common broad groups are Serif and Sans Serif. Here are examples of both:

This Serif font has decorative strokes that finish off the ends of letter stems.

This Sans Serif font has no decorative strokes that finish off the ends of letter stems.

Historically in print, Serif fonts have been more commonly used in body text as serifs guide the eyes across the paper while reading. Sans Serif fonts have been used mainly for headlines and larger display text. With the advent of the internet, sans serif fonts were favored; but with improved screen quality, both serif and sans serif fonts are acceptable.

Of course there are many other font categories such as Script, Handwritten, Rounded, Outlined, Dingbats, and so on. Some fonts can be put into multiple categories, and some would be difficult to categorize at all.

A very common question about particular fonts in use is “What’s the point size?” A Point is the smallest unit of measure for a font’s height and leading (the space between lines of copy). And while different fonts may be displayed in the same point size, they often give completely different impressions of emphasis depending on their styles. For example, all of the words you see below are displayed at 14pt. They’re just in different fonts:

The same point size looks different from one typeface to another.

The same point size looks different from one typeface to another.

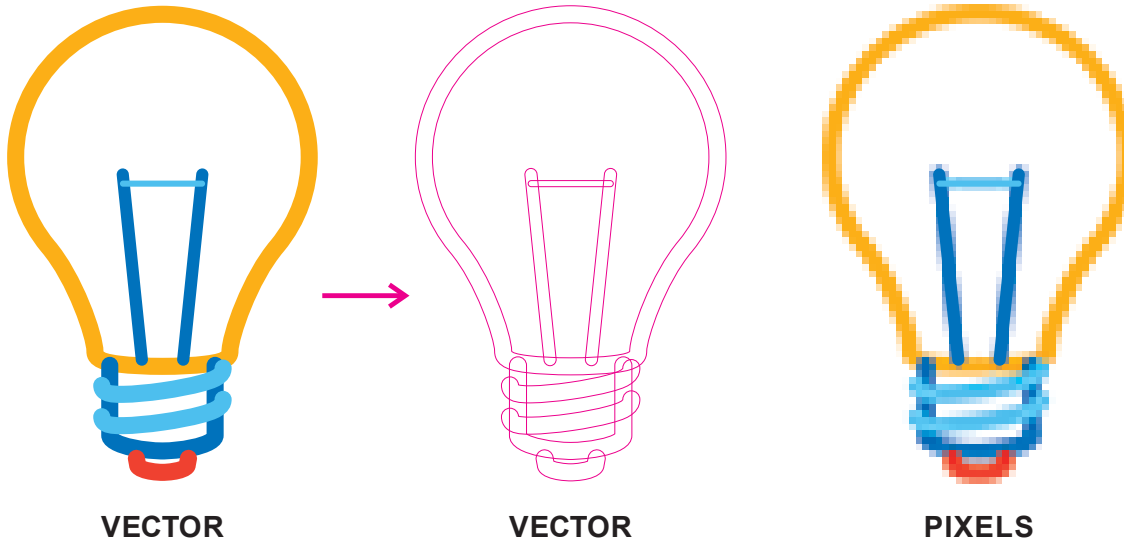
The same point size looks different from one typeface to another.

The same point size looks different from one typeface to another.

As far as terminology goes, very often “font” and “typeface” are used interchangeably. However, technically there’s a difference:

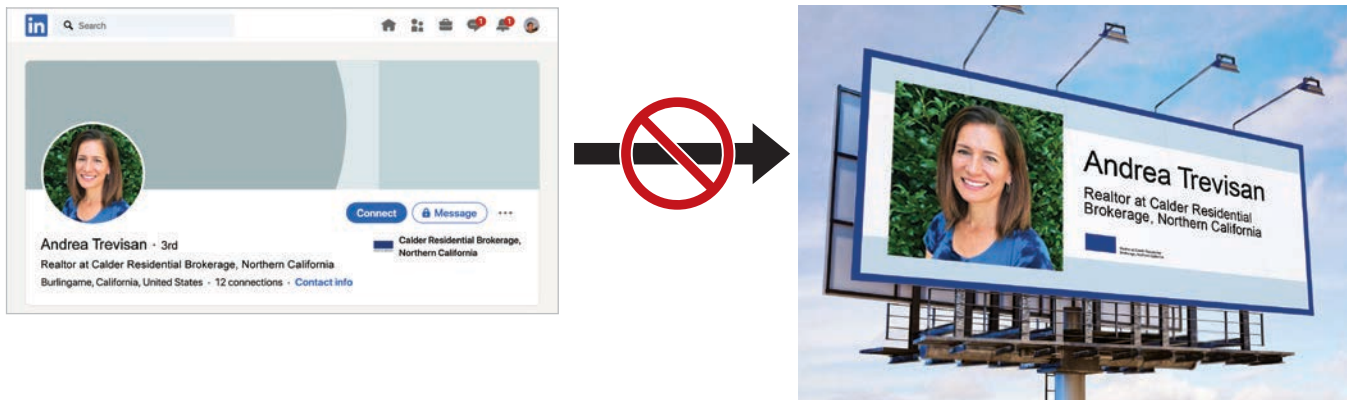
Helvetica is a typeface. (In this case “Helvetica” is the font family name.)
Helvetica Regular, Helvetica Light, Helvetica Bold Condensed Oblique, etcetera, are fonts.

Vector Files vs. Pixel Files



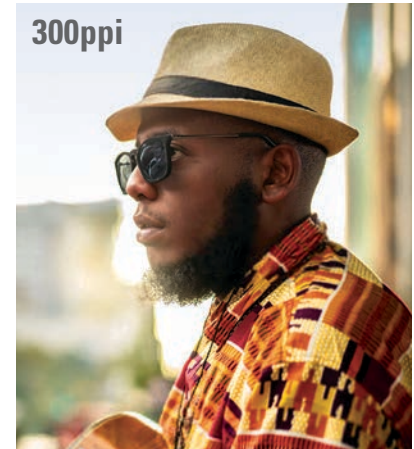
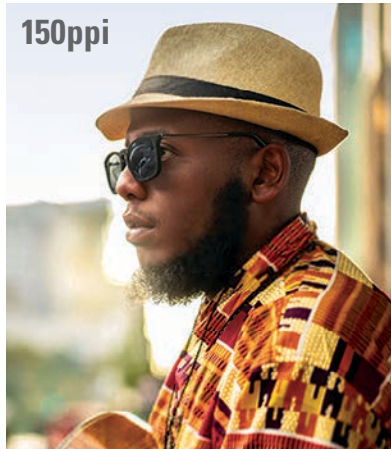
Don't let this comparison fool you. Pixel graphics can look just as sharp as vector ones if they are high-res enough. And many graphics (such as photos) can only exist in pixel form.

Typically, most graphic files created in Adobe Illustrator are going to be Vector-based, while most Adobe Photoshop files will be Pixel-based. (See the "Graphic File Formats" section.) Vector graphics are made up of points, lines, curves, and shapes that are based on mathematical formulas. Thus, if a piece of art is purely vector, it can be blown up as large as you want without losing any quality at all. If it's pixel-based, blowing it up too large may produce a blurry or "pixelated" image.



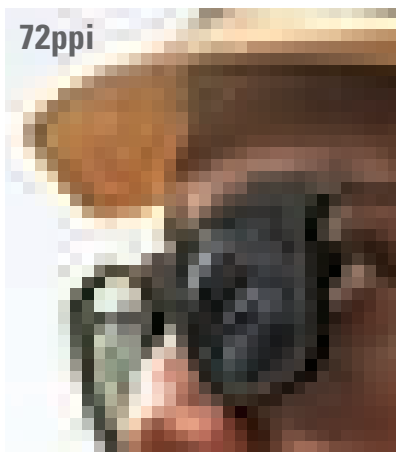
"Can you blow it up?" Not always. An extreme example would be to take an image off the internet and try to use it in a billboard design.

High-Res Files



For digital graphics that are intended to be printed, the standard resolution is 300ppi, or pixels per inch. (The term dpi — or dots per inch — describes the resolution on an actual printed piece.) For most printed pieces, a file of at least 300ppi would be considered “high-res” or “high-resolution.” Of course, the image would also need to be at the minimum dimensions that you’d like it to print. If unsure, ask one of the experts at Rev One Design.

For graphics that are intended to remain in a digital form, the minimum resolution should be 72ppi. Images with this low of a resolution are usually just fine for websites and PowerPoint presentations as these are most commonly viewed on computer screens which are usually only 72ppi themselves. For pieces that are intended to only print on Office Printers or Home Printers, usually 150ppi is just fine.



Close-up views to show how the pixels actually appear in each example.

Bleed & Trim

Bleed is printing that goes beyond the edge of where the sheet will be trimmed, or cut off. This gives the printer a small amount of space to account for movement of the paper. Typical safety bleed for medium to small printed pieces is 1/8", but can be more for very large pieces like wall graphics.



Crop Marks designate where a piece will be Trimmed.

Packaged Files

A “packaged” file is one that includes the source file (usually in Adobe InDesign or Adobe Illustrator) as well as any linked graphics and fonts. The entire package is often referred to as the “native files.” A graphic design agency will usually need these packaged files in order to make revisions to your documents and eventually send them to print. Although high-res PDFs are often sufficient for printing documents and sometimes sufficient for revising them, PDFs don’t always contain high-res images and will usually make editing copy difficult.

Name	Date Modified	Size	Kind
▼ 2021_Fall-Flyer_8.5x11_v4.1_Print-Files_Folder	12:10 PM	--	Folder
2021_Fall-Flyer_8.5x11_v4.1_Print-Files_LoRes.pdf	1/27/21	175 KB	PDF Document
2021_Fall-Flyer_8.5x11_v4.1_Print-Files.indd	1/28/21	2.2 MB	InDesign® 2021.0 Document
▼ Document fonts	12:11 PM	--	Folder
Source Sans Pro Black.otf	6/5/19	121 KB	OpenType® font
Source Sans Pro Bold.otf	2/10/19	124 KB	OpenType® font
Source Sans Pro Italic.otf	6/5/19	120 KB	OpenType® font
Source Sans Pro Medium.otf	6/5/19	117 KB	OpenType® font
Source Sans Pro.otf	2/9/14	165 KB	OpenType® font
▼ Links	12:15 PM	--	Folder
Autumn-Leaves_Color-Spectrum_CMYK.jpg	12:15 PM	475 KB	JPEG image
Fall-Logo_CMYK_2021_V3.eps	12/11/20	1.1 MB	Encapsulated PostScript
Fall-Logo_White_2021_V1.eps	12/11/20	1.1 MB	Encapsulated PostScript
Mountain-View_Fall-Colors.tif	12:15 PM	2.2 MB	TIFF image

Packaged files often include the source file, fonts, and links.

Graphic Design Applications

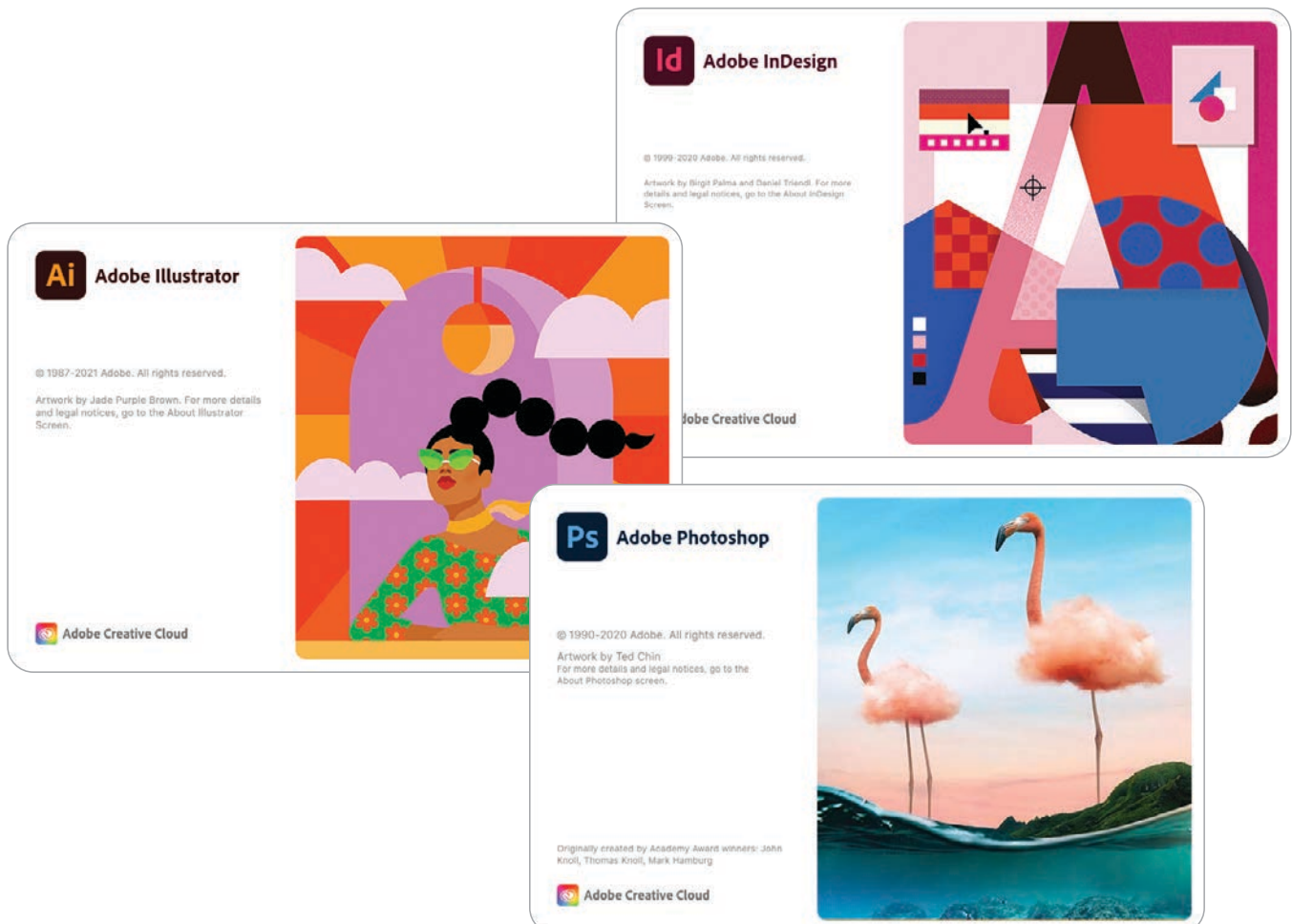
The three most-used graphic design applications are Adobe InDesign, Adobe Illustrator, and Adobe Photoshop, and here is what they are typically used for:

InDesign is a desktop publishing software application for creating flyers, brochures, magazines, newspapers, and books. Projects created in InDesign can be shared in both digital and print formats. InDesign file name extensions include .indd and .idml.

Illustrator is a design application in which one can use shapes, color, effects, and typography to create logos, infographics, complex illustrations, and so much more. Although Illustrator can also create multipage documents, InDesign is much better suited and has a lot more features and flexibility. Results of work in Illustrator can be used for print, web and apps, video and animations, and beyond. Illustrator file name extensions include .ai, .eps, .pdf, .ait (Adobe Illustrator Template), .svg, and .svgz.

Photoshop is a raster graphics software which has become the industry standard in raster graphics editing and in digital art as a whole. Some of the most popular extensions for the files Photoshop can save out are .psd, .jpg, .png, .tiff, .gif, .bmp, and .eps.

The “About” screens seen upon launching Adobe InDesign, Illustrator, and Photoshop.



Graphic File Formats

Here's an alphabetical list of some of the most common graphic file formats:



.AI - Adobe Illustrator artwork file. This graphics file format is a creation of Adobe systems for containing vector based graphics.



.BMP - Short for Bitmap — a raster graphics image file format used to store bitmap digital images, independently of the display device. A Raster Graphic is a dot matrix data structure that represents a generally rectangular grid of pixels (points of color), viewable via a bitmapped display (monitor), paper, or other display medium.



.EPS - Encapsulated PostScript — a standard graphics file format that instructs images and drawings to be placed on a document. EPS file format is very popular among publishers for its versatility on different operating systems. A popular standard for saving out vector art from Illustrator is as an .eps. But just because a file is an .eps doesn't guarantee that it's vector, as sometimes pixel-based graphics are embedded into .eps files. In fact, even a pixel-based Photoshop file can be saved out as an .eps.



.GIF - Graphics Interchange Format — a computer file format for image files that supports both animated and static images.



.JPEG / .JPG - Joint Photographic Experts Group — a widely used compressed image format for containing digital images. It supports varying levels of compression, which makes it ideal for web graphics, use in digital cameras, different operating systems, and on the internet.



.PDF - Portable Document Format — a file format designed to present documents consistently across multiple devices and platforms. PDFs can be viewed, printed, and electronically transmitted. Sometimes vector art is saved out as a .pdf, but you can only tell for sure by opening it in a vector application such as Adobe Illustrator.



.PNG - Portable Network Graphics — pronounced “ping” or “P-N-G,” is a compressed raster graphic format commonly used on the Web and is also a popular choice for application graphics. A particularly good aspect of PNGs is that they can include transparency, whereas JPGs cannot. However, PNGs can only exist in RGB format, and not CMYK.



.SVG - Scalable Vector Graphic — a standard file type used for rendering two-dimensional images on the internet. This type of file can be opened and manipulated in Adobe Illustrator.



.PSD - Photoshop Document — Photoshop's native, layered file format, which is a standard in the graphics arts industry for digital images.



.TIFF - Tag Image File Format — a bitmapped graphics file format which can handle color depths ranging from 1-bit to 24-bit.

Note: Graphic file icon styles can vary greatly, even when representing the same file format. The above icons are a random sampling of what you may encounter.

Brand Guidelines

Also referred to as a Style Guide, Brand Standards, or a Brand Book, Brand Guidelines are a set of rules that outline and explain your brand or company's image. Brand Guidelines can vary greatly from one-pagers to multipage documents which can show official logos, colors, fonts, photography usage, taglines and mottos, and even writing styles. Some Brand Guidelines are very strict about how their company's artwork is used, whereas others claim to be merely suggestions.

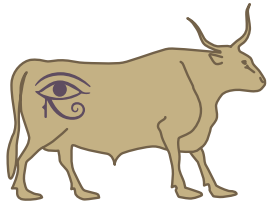


Graphic Design Fun Facts

#1. What Colors Invoke

Color meanings stem from psychological effects, biological conditioning, and cultural developments. Color choice can invoke specific emotions which is important in graphic design since feelings are often much more powerful than rational thoughts. Here is a list of common colors and the feelings and themes they are often used to represent.

- Red** - boldness, energy, excitement, danger, heat, passion, power, sex
- Orange** - creativity, enthusiasm, friendliness, warmth, youth
- Yellow** - cheerfulness, energy, fun, happiness, hope, jubilation, spontaneity, sunshine
- Green** - earthiness, environmental, growth, harmony, jealousy, money, nature, organic
- Blue** - calm, coolness, freedom, intelligence, medical, trust
- Purple** - decadence, luxury, mysterious, royal, sensual, spiritual, Victorian, vanity
- Pink** - feminine, playful, romantic, soft, sweet
- Brown** - antique, classic, down-to-earth, honesty, rustic, wholesomeness



#2. First Logo Designers

The Ancient Egyptians were possibly the first logo designers. In the 13th century BC they used to brand domestic animals with hieroglyphs to designate ownership.



#3. Huge Logo, Tiny Payment.

In 1971, the Nike logo was designed by a student named Carolyn Davidson for just \$35. But in 1986, three years after Nike went public, the executives surprised her with a gift of 500 shares of Nike stock.



#4. Helvetica, the Most Popular Font in History

The font Helvetica was developed in 1957 by Swiss typeface designer Max Miedinger, and is named after the Latin word for Switzerland. Helvetica is popular among designers for its clean, bold and modern look.



#5. "Photoshop it!"

The first edition of Photoshop was released in February of 1990. It was created in 1988 by American brothers Thomas and John Knoll. At first, the distribution license was sold to Adobe Systems, but later the rights to the program were sold for \$34.5 million.



#6. Watermarks

The first Watermark can be dated back to Fabriano, Italy in 1282. Watermarks were created by changing the thickness of paper and thereby creating a shadow/lightness in the watermarked paper. This was done while the paper was still wet/watery, hence the name. Although these days watermarks are often created digitally, they have always been used to identify and protect work, and to prevent counterfeiting.



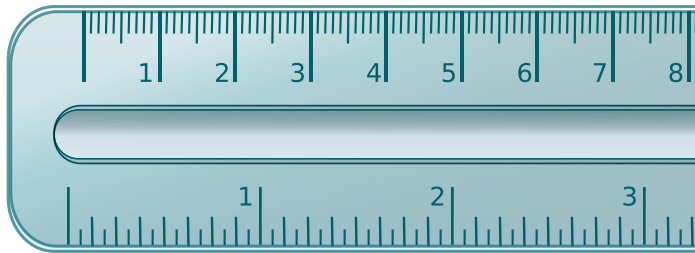
#7. "I'm a Visual Person"

The human mind processes visual information 60,000 times faster than text. Over 90% of the transmitted information to the brain is visual.

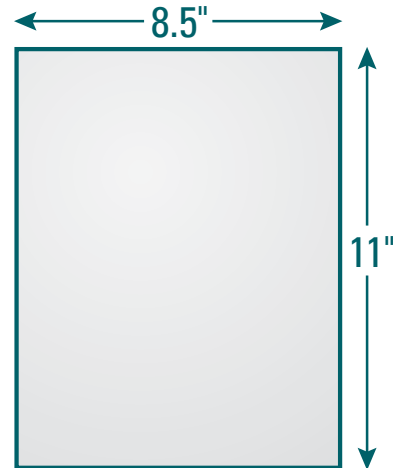
Print Specs

Measurements

In the United States, inches and feet are the most commonly used unit of measure in printing, and pixels are the most commonly used unit for web design. However, most files from Europe and Asia will use the metric system (millimeters, centimeters, etcetera). But have no fear — it's easy for graphics professionals to convert them from one unit of measure to another.



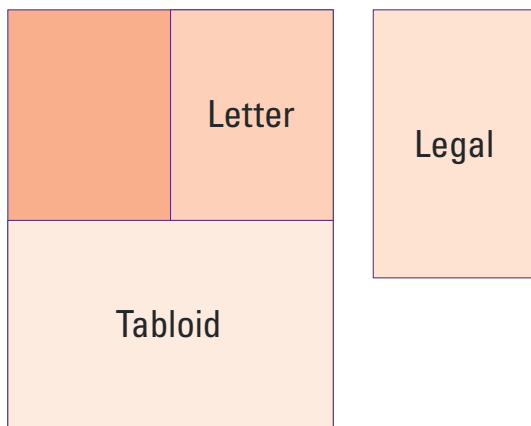
72 pixels



Width first, then height

In the world of graphic design, print, and art in general, when listing the dimensions of an image, the first number always refers to the width and the second always refers to the height. It is helpful if everyone involved in a project knows and follows this standard. However, it never hurts to add a W and an H to measurements when requesting or referring to a graphic. All of these are acceptable ways to express dimensions: 8.5x11 • 8.5" x 11" • 8.5"W x 11"H

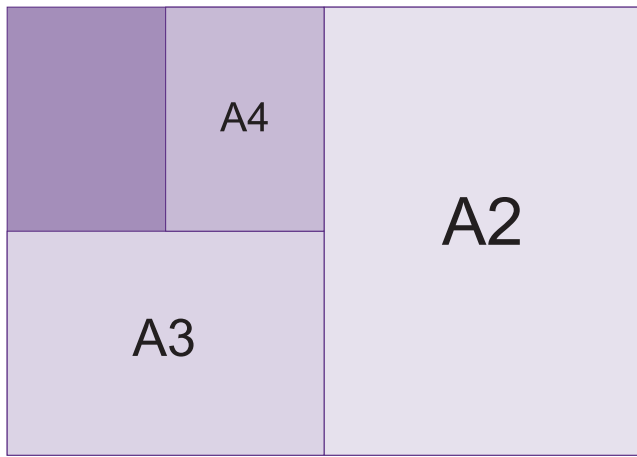
Paper Sizes



In North America paper sizes are based on traditional formats with arbitrary aspect ratios. The most popular formats of the traditional sizes are as follows:

Letter 8.5 x 11 inches, **Legal** 8.5 x 14 inches, **Tabloid** 11 x 17 inches (also called Ledger).

(Continued...)



The International Standard ISO 216 is a paper size standard that has been adopted by the majority of the countries of the world. It is a metric-based system with a consistent ratio (1:1.4142) so that each size can be divided evenly into smaller half sheets. Here are some of the most popular International sizes:

A2 420mm x 594mm (16.5 x 23.4 inches),

A3 297mm x 420mm (11.7 x 16.5 inches),

A4 210mm x 297mm (8.3 x 11.7 inches)

Digital vs. Lithographic Printing

Long before the Digital revolution, there was Lithographic Printing — a traditional process by which ink is printed from a plane surface (such as a metal plate) to paper or other substrate. In this process, any color of printing ink can be used (including metallics and Pantones). However, for the Digital printing process, typically only CMYK colors can be replicated. Digital printing is direct to a surface, much quicker, and makes small quantity jobs much more practical and affordable. However, metallic colors and Pantones usually cannot be used (though there are exceptions). Speak with your Rev One Design representative for more information.



Lithographic Printing

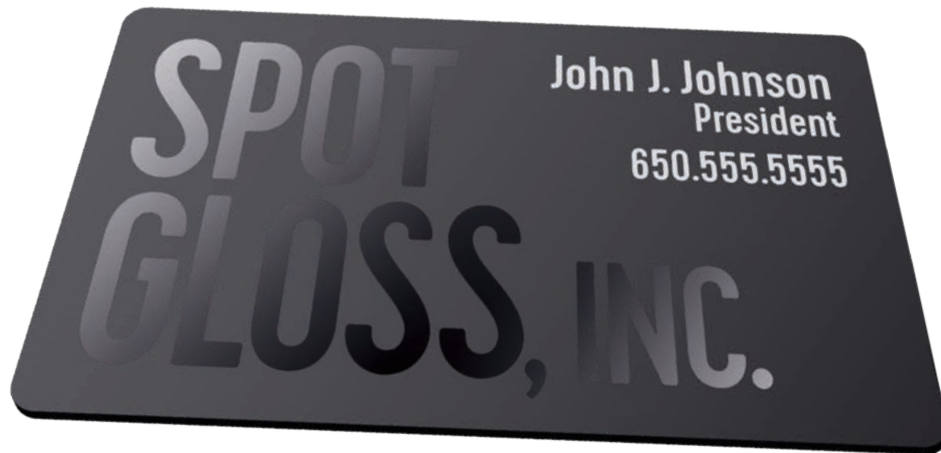


Digital Printing

Print Finishings

Spot UV / Spot Gloss

Also known as UV Gloss or Spot Varnish, this technique is used to add shine to selective areas of a printed piece. A spot gloss is usually considered an additional color in the printing process and added last.



Emboss & Deboss

Embossing creates raised areas of a printed piece to enhance typography or other objects, or it can be used on its own as a subtle 3D effect. Debossing is the opposite, whereby certain areas are indented in a material.



Foil Stamping

Also known as Hot Stamping, Foil Stamping is a method of relief printing in which pre-dried ink or foils are transferred to a surface at high temperatures. In a hot stamping machine, a die is mounted and heated, with the product to be stamped placed beneath it. A metalized or painted roll-leaf carrier is inserted between the two, and the die presses down through it causing the dry paint or foil to be impressed into the surface of the product.



Die Cutting

Die Cutting is a fabrication process that uses specialized machines and tools to convert stock material by cutting, forming, and shearing. In printing, die cuts are used to create custom shapes and designs for labels.



Glossary Terms

Bleed

In printing, bleed is printing that goes beyond the edge of where the sheet will be trimmed. This gives the printer a small amount of space to account for movement of the paper.

Brand Identity

The visible elements of a brand, such as color, design, and logo, that identify and distinguish the brand in consumers' minds.

Brand Guidelines

Also referred to as "brand standards," "style guide," or "brand book" — a set of rules that explain how your brand works.

CMYK

Cyan Magenta Yellow Black — the four basic colors used for printing color images. CMYK colors are "subtractive" meaning that the colors get darker as you blend them together.

DPI

Dots Per Inch — used to measure the resolution of an image both on screen and in print. DPI measures how many dots fit into a linear inch. The higher the DPI, the more detail can be shown in an image. (See PPI.)

Font

The specific style of a typeface. (See Typeface.)

Gradient

Also known as color transitions, a gradual blending from one color to another color.

Kerning

The spacing between letters or characters in a piece of text to be printed.

Leading

The space between adjacent lines of type. First used in reference to hand typesetting whereby leading was the thin strips of lead inserted between lines of type in preparation for printing.

Pantone®

A universal color matching system used primarily for printing. Each color is represented by a numbered code. Unlike CMYK, Pantone colors are pre-mixed with a specific formula of inks prior to printing.

PMS

Pantone Matching System. (See Pantone.)

PPI

Pixels Per Inch — the number of pixels per line per inch in a digital photo. This number is directly related to the number of megapixels a digital camera can capture. (See DPI.)

Resolution

The sharpness of an image or of the fineness with which a device (such as a video display, printer, or scanner) can produce or record such an image.

RGB

Red Green Blue — three hues of light that can be mixed together to create different colors. The standard method of producing color images on screens, such as TVs, computer monitors, and smartphones.

Scale

To resize a digital image. A vector graphic image is scaled using geometric transformations, with no loss of image quality. Scaling up a pixel-based image usually results in a visible quality loss, whereas scaling down a pixel-based image will not.

Slug

In the layout of an InDesign or Illustrator file, the slug is an optional space outside of the normal printing boundaries where technical marks and information can be recorded.

Stock Photography / Stock Art

Professional-grade photographs or illustrations that are available for free or bought and sold for a range of purposes.

Style Guide

(See Brand Guidelines.)

Substrate

Any surface on which printing is done.

Trim

The final dimensions of a printed piece. In the layout of most printed pieces, crop marks are used in each corner to designate where the unnecessary outer material should literally be trimmed off.

Tracking

Font tracking is a typography setting that defines the horizontal distance between each character. Most typefaces (besides cursive ones) have a natural padding on the sides of each character. The tracking setting adjusts this padding to be smaller or larger.

Typeface

An artistic design of a collection of alphanumeric symbols which may include letters, numerals, punctuation, various symbols, and more. A typeface is usually grouped together in a family containing individual fonts for italic, bold, condensed, and other variations of the primary design. (See Font.)

Vector

A mathematical equation that defines a curve or straight line. These lines define the shapes of the character outlines in a font or complex illustrations. Vector fonts are scalable without any loss of quality.