

Why does the company logo I sent look so fuzzy? Why can't they simply pick up our logo from our website? What is 'vector' art and why does my supplier keep asking for it? (and what is the difference between raster and vector graphics?).



Raster image at 1000%

Raster Graphics

A raster graphic contains a grid of individual dots (pixels) of color. Digital photographs and most images you see on the Web are raster images. Each raster image contains a fixed number of pixels which limits how much the image can be enlarged. The more pixels the image contains, the more color and detail it will have. More pixels also creates a larger file size (in general, reducing the size of a raster image will produce better results than increasing the size of the image). When you make the image larger, pixels are added. The new pixels have an estimated color value based on the surrounding pixels, resulting in lost detail and low quality—as the image is enlarged.

Raster formats are known as 'bitmaps' and are often recognized with the following file extensions: .bmp, .gif, .jpg, .png, .psd files. (.eps and pdf can contain bitmap or vector formats)

Egan Recommends: Always supply raster images at a minimum of 200 dpi resolution at 100% reproduction size.



Vector image at 1000%

Vector Graphics

A **vector** graphic contains curves and lines that are described using mathematical equations. The curves and lines are called paths and are assigned properties of color, fill and outline. Most clipart and illustrations made up of shapes and lines are vector drawings. Vector images can be scaled up or down without loss of quality.

Vector images can contain bitmap information within the file. Formats like Illustrator and Acrobat support both raster and vector art to be embedded. It is very important to **not include raster graphics** in these documents as only the vector graphic(s) will be acceptable for EganINK.

Vector graphic(s) are infinitely scalable, have very small file sizes and are preferred. Raster graphics at full size will be very large and cannot be enlarged without image degradation. Vector formats have the file extensions .ai and .eps.

Egan Recommends: Vectors - 100% size as with fonts outlined and no placed raster images below the above raster specifications.

Resizing your artwork—why can't we just use the pictures from our website?

Scans or picture images can be reduced in any page layout program and still retain quality. However, enlarging an image will result in a degradation. In order to determine if an image is suitable for usage, **Dots Per Inch (dpi) is used to measure the resolution of an image both on screen and in print.** For example, if an image that has 300 dpi (dots per inch) is enlarged 200%, the resolution will be reduced to 150 dpi. This process will result in loss of sharpness and detail of the image. Typical resolution of images posted on the web is 72 dpi – if you were to enlarge a 4" x 4" at 72 dpi image up to say, 36" x 36" which is about 1,000% the resulting image will be fuzzy and pixelated with only 10 dpi resolution.

The average camera can only provide images up to a certain size but the resolution can be compressed so that when it's enlarged it will still look clear. Of course that means if your original image is 4" x 4" and your final product is specified as 24" x 24" the dpi should be as high as possible. The file size is a pretty good indicator – a 1600 dpi file will be much larger than one that is 72 dpi.



Logo captured from website



Same image file sized up to about 8" wide

As this sample shows, images from the web are smaller file sizes and at 72 dpi, therefore making them unsuitable for large format printing.

Egan Recommends: Always use a high resolution raster (a minimum of 200 dpi) or vector file when supplying a logo or image for printing.

You have my logo—why are you asking me about ‘spot’ colors?

(and what does CMYK and RGB mean?)

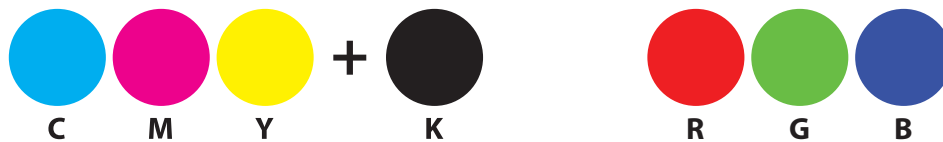
PMS - Pantone Matching System (Spot Colors)

Your company logo or wordmark was probably created using a standard graphic arts color model. The most commonly used colors are taken from the Pantone Matching System (PMS) and are also known as ‘spot’ colors. For example, your corporate colors may be **PMS344** and **PMS7526**—which sounds complicated enough, but reproducing those colors to meet your order poses another, more complicated problem.

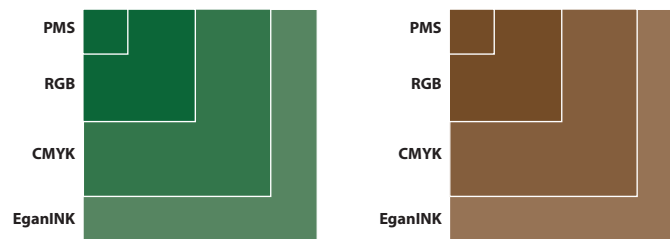
CMYK and RGB Color Models

The printing process separates artwork into a **CMYK** format – **C**yan, **M**agenta, **Y**ellow and **B**lack. Separate films are created and printed with special process inks and the final product looks like the original artwork. When four-color process printing is done with care you can get an entire spectrum of colors and match the original artwork very closely. PMS colors must be converted to CMYK for us to print and the results are usually pretty close to your company color.

The process known as **RGB** - **R**ed, **G**reen, **B**lue is the color model used for websites, televisions, computer monitors and digital cameras.



A common practice is for a graphic designer to specify a custom CMYK breakdown for different applications— we do our best to match the PMS color, but occasionally subtle shifts in color may occur when using the default breakdowns.



Egan Ink Process

EganINK is currently a CYM (**C**yan, **M**agenta, **Y**ellow) process in which black will only be used on its own for line rules or text and never in combination with another color.

Egan Recommends: Always provide files in either PMS or CMYK for best results when printing.

My font's better than your font...

If you search the word 'fonts' on Google you'll come up with multiple pages of font providers. That means there are thousands of fonts in circulation with the same or similar names that are not identical in appearance. The chances that your font is exactly the same as one on another system is unlikely, so most computers will substitute the font with something it has decided is close to it. When substitution is being used to find a replacement for an unavailable font, it can lead to inconsistent visual appearance—open gaps, overlaps or sometimes letters may drop off entirely. Even if your font is something common, like Arial or Courier it might not match our version and the result probably won't meet your expectations.

The best way to be sure that your type remains true to your logo or artwork is to have your graphic design team provide it as **outlined or as a raster at the recommended settings**. The outlining process converts the individual letters into vector art. This process also has the benefit of preventing any changes to your content by ensuring that text can't be edited.



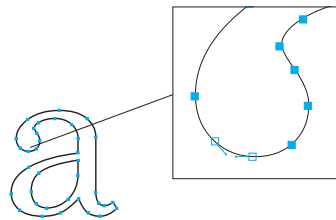
non-outlined Century Schoolbook 48 pt.
as it looks to you (without font substitution)



non-outlined Century Schoolbook as it might look
when substituted with Courier 48 pt.



Century Schoolbook 48 pt. outlined
('invisible' blue lines indicate prepress highlighting)



This outlined letter "A" has been converted
from a font letter to editable artwork

Egan Recommends: When supplying a Vector image, always make sure your designer outlines your fonts to avoid a potential font substitution.



Proportional artwork... why 8.5" x 11" doesn't work out to 24" x 36"

Even though your artwork has been converted to vector art, the colors are all cmyk and fonts are outlined – your artwork must still be the right size. We can scale vector art easily, but for it to match the product that you've chosen, the file must be proportional. If the dimensions don't match, the scale will not match and your logo or picture could wind up squeezed, stretched, or cut off.

Correct



Logo is proportionate to product

Incorrect



Logo has been stretched and is disproportionate to product

Egan Recommends: When supplying a logo, make sure that the file supplied is correctly proportionate.