



## Frequently Asked Questions

### What is a vector graphic?

A vector graphic is made up of lines and curves, allowing it to be scaled up or down without loss of quality. An EPS file is an example of a vector file format. Adobe Illustrator®, Macromedia Freehand® and CorelDraw® are able to open and edit these files. Vector files may also be used in other design software, e.g. QuarkXpress™ and Adobe Photoshop®.

**NOTE:** Not all EPS files are vector graphics. Adobe Photoshop® also saves raster graphics in EPS format. If you open a vector file in Photoshop® and save it, it will become a raster graphic.

### What is a raster graphic or bitmap?

A raster graphic or bitmap is made up of patterns of picture elements, called pixels, that reproduce well only when left as is. When scaled up or rotated, they produce a poor quality image. When printing bitmap files, the image reproduces exactly as it is stored — in other words it is resolution-dependent. BMP, TIFF, GIF, JPEG and PCX files are examples of raster graphics. PC Paintbrush® and Adobe Photoshop® are examples of applications that can open these files. Raster images are usually reproductions of original art, photographs or "paint" images.

### What is high resolution/low resolution?

In electronic imaging the measurement of printout quality for raster images is expressed as the number of dots per inch (dpi). Image resolution typically ranges from 72 dpi for screen viewing (low-res) to 720 dpi for professional printing (high-res). Generally the higher the resolution, the higher the quality of the output, and the larger the file size. If you have a low resolution image, or you "stretch" a small raster image into a larger size, the image will print with jagged edges and appear pixilated. Resolution and size are different, but proportional. For example, a 3"x3" image at 300 dpi resolution will appear to be the same quality as a 6"x6" image at 150 dpi. Every time you increase the measurements of a raster file, the resolution decreases accordingly.

**NOTES:** Once the resolution of a raster file is reduced it cannot be restored.

Images from the Internet or any kind of web site are usually 72 dpi GIF, JPEG or PNG files, which cannot be reproduced in large format printing due to the poor quality. Color and resolution are removed from these images to allow rapid transfer through the Internet.

### What are the different color systems?

PANTONE MATCHING SYSTEM® (PMS) is a standard among ink matching systems for color reproduction. This method is typically used in professional printing to assure accurate colors between different materials and printing methods. Pantone numbers (from a specific chart) or Pantone color "chips" are used to convey the desired color and should be included along with the artwork. An example would be "PMS 485C" which would denote a fire red color from the "Coated" materials chart.

CMYK (Cyan, Magenta, Yellow, Black) is an ink system used in four-color process reproduction. The CMYK method mixes these four colors by predetermined percentages to replicate the selections in a color palette. This color system is used by most printers for reproducing art on paper and many other materials.

RGB (Red, Green, Blue)

In the RGB color system a color is represented by indicating how much of each ingredient (red, green, and blue) should be included in it. Each of the three values can differ from the minimum (no color) to the maximum (full intensity). When all the colors are at their minimum value the displayed color will be black, and when all colors are at their maximum the displayed color will be white. RGB is not used for printing on paper even though it allows for a wider range of more vibrant colors.

### What is a gradient?

An area in which an image or color gradually fades into the background or another color, such as a color that is dark at the top and gradually fades to light toward the bottom of a screen or image.