

Working With Images

Working With Images

When preparing files for delivery to the printer, a designer must make sure that all the digital files are correctly prepared for output. This includes all logos, photos, InDesign files, fonts, etc.

The designer should make sure the digital files are:

- Set to the correct DPI (dots per inch)
- 300 dpi is standard, unless otherwise requested by a vendor
- Submitting files below the requested DPI will result in pixilation of imagery
- Set to the correct color mode (Spot, Grayscale, and/or CMYK)
- Failure to use the correct color mode for a project may result in either additional fees, as the vendor will have to spend additional time in prepress correcting the file, or incorrect colors in the final product
- Using fonts that are loaded onto computer; no missing fonts

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- Saved in the correct file formats (.eps, .tiff, .pdf, .indd, etc)
- Failure to save a file in the correct format may result in additional fees, as the vendor will have to spend additional time in prepress correcting the file
- Free of nested images and/or fonts, or include the nested images and/or fonts are included with the digital package

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PPI : POINTS PER INCH

- number of points within an area of an inch
- measurement system used when working with digital images for the web
- indicates the screen resolution

DPI : DOTS PER INCH

- number of dots within an area of an inch
- measurement system used in printing
- 300 dpi is the most common pixel measurement in printing
- indicates the print resolution of an output device

LPI: LINES PER INCH

- number of lines within an area of an inch
- measurement system used on the printing press • also referred to as screen density

COLOR MODE

Color mode refers to how the artwork has been prepared, and ultimately determines how it will be printed.

The following are color modes you will find in various design software systems: line art, spot color/pantone matching system, grayscale, duotone, RGB, lab, cmyk, index and raw.

RGB, RAW, Index or Lab colors should NOT be used in a document that will output to a substrate. These color modes are transmitted color, that will only output correctly through colored light. Since printing is done by ink and not light, attempting to print RGB, Index or Lab color will produce different results. Correct color is often key to a happy client.

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LINE ART:

- imagery that only contains black & white pixels; no gray
- photoshop classifies this mode as bitmap
- best applied to scanned images of floor plans, signatures and black & white art
- minimum dpi is 600
- best to use 1200 dpi when scanning in images; this creates a transparent background that is only evident in high resolution settings on monitors and printers
- .eps, .gif, .pdf, .psd and .tiff are file formats that support this color mode

SPOT COLOR:

- a pre-mixed color; a color mixed prior to the printing press
- photoshop only recognizes this color mode when used in a duotone or alpha channel
- vector .eps and photoshop duotone .eps file formats are the only true supporters of spot color

GRAYSCALE

- a raster-based photo or graphic that ranges in tones from 0% to 100% black
- .eps, .jpg, .pdf, .psd and .tiff are file formats that support this color mode
- when saved as a .tiff, image can be colored in layout program

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RGB : RED, GREEN AND BLUE

- web and broadcast color mode
- transmissive color model: colored light

LAB

- color is created through a degree of lightness and two color values (a & b)
- lightness is determined by the L-Value
- value a is stated between green and red
- value b is stated between blue and yellow
- .ai, .eps, .pdf, .psd and .tiff are file formats that support this color mode

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CMYK: CYAN, MAGENTA, YELLOW AND BLACK

- color process in printing that allows for the creation of color on the press
- through use of screen patterns and various dot sizes these four colors are printed to paper in layers to create an image, text and graphics
- .ai, .eps, .jpg, .pdf, .psd and .tiff are file formats that support this color mode
- reflective color model: color is perceived from light reflected off a colored object

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INDEX COLOR

- used for images that will display on a monitor
- 256 colors is the maximum number of colors
- .gif, .png, .pdf, .psd and .tiff are file formats that support this color mode

RAW FORMAT

- file format commonly associated with digital cameras
- each pixel represents only one color: red, green or blue

PANTONE MATCHING SYSTEM

Pantone Matching System (PMS) is a brand of color libraries, that designers, vendors and manufacturers use to reference color.

Within the print industry, designers and printers use the PMS library for reference to spot, process (CMYK), metallic, and pastel color systems.

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.AI: ADOBE ILLUSTRATOR

- native file for adobe illustrator documents
- most likely to contain object-based images, but can contain raster-based images that are linked to the file
- mainly used to create and edit illustrations and logos
- files are commonly saved in .eps or .pdf formats
- mostly likely to contain original layers and fonts

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.PSD: ADOBE PHOTOSHOP

- native file for adobe photoshop documents
- most likely to contain raster-based images, but can contain vector-based images
- mainly used to create and edit photos and photo illustrations
- files are commonly saved in .eps, .pdf, .jpg, .tiff and .gif formats
- mostly likely to contain original layers and fonts

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.INDD: ADOBE INDESIGN

- native file for adobe indesign documents
- contains raster- and vector-based images, fonts and colors
- mainly used to create and edit layouts
- files can be exported as .eps, .jpg and .pdf formats

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.EPS: ENCAPSULATED POSTSCRIPT

- supports both vector- and raster-based graphics
- has 2 elements to the file low-resolution preview, for placing and viewing in layout programs postscript-based image which the layout program refers to when outputting a document
- one of the more popular formats used by designers
- all design applications allow documents to be exported in this format
- depending on set up dpi can range from 72dpi to 2400 dpi
- compared to .tiff, .jpg, .gif and other file formats the file size is relatively larger

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VECTOR-BASED .EPS FILES

- saved in quarkxpress, adobe illustrator, and indesign
- solely object-oriented
- has unlimited scalability
- supports transparent backgrounds
- mostly likely to contain original layers and fonts
- supports spot, rgb and cmyk color modes

RASTER-BASED .EPS FILES

- saved in adobe photoshop
- consist of pixels
- has limited scalability; 120% is the maximum percentage an image can scale up to, anything more and the image will pixelate
- does not support transparent backgrounds
- supports line, grayscale, rgb, cmyk, duotone, tritone and quadtone color modes
- supports clipping paths, which allows for silhouetted images

.TIFF: TAGGED IMAGE FILE FORMAT

- used for only raster-based graphics
- format differs from mac and pc; when saving an image as a .tiff file, a pc tiff allows for an image to be opened on a pc or mac; a mac tiff will only open on a mac
- compared to an .eps file the file size is relatively smaller, because of the compression of the file
- supports line, grayscale, rgb and cmyk color modes
- although format supports clipping paths, not all layout applications allow for clipping paths in .tiff files
- older versions of photoshop did not allow for .tiff files to contain original layers and fonts; where as photoshop cs3 allows .tiff files the option of containing layers and fonts, as a result .tiff files saved with layers and fonts will be larger in file size

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.PDF: PORTABLE DOCUMENT FORMAT

- supports the viewing vector- and raster-based graphics as well as layout documents
- accessible to everyone with adobe reader
- files can embed fonts, images and color
- can be formatted for viewing online
- can be formatted for final file output to a commercial printer

.JPG: JOINT PHOTOGRAPHIC EXPERTS GROUP

- mainly used for web graphics
- supports grayscale, rgb and cymk
- file format is compressed which allows for small file sizes and easy portability online

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.GIF: GRAPHIC INTERCHANGE FORMAT

- used only for web graphics
- supports index and rgb with a maximum of 256 colors
- supports transparent backgrounds in web graphics
- supports web animation

.PNG : PORTABLE NETWORK GRAPHIC

- used only for web graphics
- supports index and rgb color modes
- does not support web animation

NESTING is when an image, normally an .eps, is placed into a document, that document is saved as an .eps. The .eps file is placed in an InDesign document, and when InDesign collects the files for output it only retrieves the documents that directly linked to the layout program.

EXAMPLE:

- AmericanFlag.eps is placed in Patriot.ai.
- Partiot.ai is saved to an .eps, then placed in AMAAnnualReport.indd.
- When AMAAnnualReport.indd is collected for delivery to the printer, it only collects Patriot.eps. When the file is outputted to plates, the AmericanFlag.eps is missing, so therefore it is not printed.

This also can occur with fonts. Make sure the nested files are included in the document packaging or that the files are embedded within the documents.

