

Please follow these guidelines carefully — they are provided to help ensure optimal flexographic printing results.

Type

- All fonts must be included with your job. Be sure to include both screen and printer fonts for Postscript fonts. True Type and Open Type fonts have only one file. (Please be aware that True Type fonts do not always print the same on every printer.)
- All © and TM copy should be at least 1/16" in height.
- Positive copy should be no smaller than 6pt.
- Reverse copy should be no smaller than 7pt. in a bold typeface. Avoid thin serif typefaces, they tend to fill in when printed.
- Ingredient and distribution copy must be no less than 1/16" in height.
- In most cases, type reversing out of vignettes, screen areas made up of multiple colors, or intersecting colors should be outlined in a .72pt/.010 inch stroke of the darkest color to act as holding line. This will not eliminate trapping and registration problems, but does define the character edges.
- Avoid using the style buttons in the QuarkXpress measurement palette. Although the type appears correct in QuarkXpress, using the style buttons causes the type to be imaged improperly. Use the bold or italic versions of the font from the font list.

Transparency in Illustrator

- We recommend not sending files with transparency. Transparency is flattened for print output. This can alter colors and transparent objects in a way that can affect output quality. If the Illustrator file has any spot colors which are affected by the transparency, the file as a whole must not be flattened. Spot colors will convert to process color during the flattening process. Files supplied with transparencies will add to production time and cost.
- Common sources of transparency are: areas that have an opacity less than 100%; objects with blending modes other than "normal"; objects utilizing an opacity mask, drop shadow effect, feather effect, inner glow, or outer glow; and placed files with transparency.
- Removing Transparency by Exporting — All transparent effects need to be converted to individual images by exporting them into Photoshop and placing the image back into Illustrator. Be sure to use the desired output resolution when exporting an effect. See Scan Guidelines: Resolution, Enlargement & Line Screen for determining proper resolution.
- Removing Transparency by Flattening — Flatten each effect in Illustrator. This creates an embedded image of the effect within the Illustrator file. Save a copy of the original file in case you need to edit the effect. Please include the original files with the job. Be sure to specify the Transparency Flattener resolution found in the Effect drop down menu, under the "Document Raster Effects Settings..." selection. See Scan Guidelines: Resolution, Enlargement & Line Screen to determine proper resolution. Flattened files are very difficult to work with and should be avoided.
- Removing Transparency by Overprinting — Calling out overprints in the Attributes palette often eliminates the need for transparency.

Supporting Files

- All supporting files for placed images or embedded images should be provided in a high resolution/working format (unsupplied embedded files increase processing time which, in turn, increases cost). The job process will be delayed if the supporting files are not provided. See Scan Guidelines: Types of Scans.
- Process and Bitmap images should be placed at 100% and rotated in the program in which they were created. Working with placed files that are resized and/or rotated in a program other than which they were created, increases processing time and cost.

Color

- Include all process/PMS colors with the file.
- Remove all unused color from the file. Only the colors printing should be used in the art file and visible in the swatches palette.

UPC

- UPC's should be sized at 100% when possible. Absolute minimum UPC size is 80%, but this size is not recommended. The smallest recommended truncation size is 5/8" top to bottom. UPC bars should be oriented in machine direction and print in the darkest color.
- Refrain from making UPC's any shade of red, or any color that is closely related to red. Many scanners cannot detect reddish hues.

Miscellaneous

- Remove all unused elements and stray points from the file.
- The output resolution of a file should be set at 800 dpi (Attributes palette in Illustrator 8, Document Setup in Illustrator 10).
- Files with multiple items, set up files to share common elements and positioning.
- Clearly indicate on the file any areas of foil, clear or opaque substrate, or metallic ink.
- Positive strokes should be a minimum of .5pt/.007 inches.
- Reverse strokes should be a minimum of 1.44pt/.020 inches.
- Drop shadows should be no thinner than 1.44pt/.020 inches.
- Follow government specifications for all NLEA's and net weights.

Sending Files

- Provide a current printout and/or samples with the file.
- Supply all files needed including necessary fonts, linked images, and editable files.
- Include any special instructions if need be.

Questions

- If there are questions regarding the general guidelines please contact Customer Service at **414-421-8262**.

Please follow these guidelines carefully for providing scans that will ensure optimal printing results.

Photographs, transparencies, slides, artwork or separated films can be scanned at Pen & Inc. with high quality results. Scans can also be provided electronically if the following is taken into consideration: File Type/Format (.jpeg, .tiff, .eps, .psd, etc.), Resolution, Percentage of Enlargement or Reduction within the art file, and Line Screen that the item will be printed at.

Types of Scans

- **Bitmapped** — A black and white scan composed of pixels that are either on or off. A Bitmapped scan will print as line work. It will not be as sharp as art that is created in an art program such as Illustrator.
The following types of scans will print as continuous tone. Please include a regular Photoshop file (.psd) that includes any **selections** or **layers**. This will help with any adjustments that might have to be made at Pen & Inc.
- **Grayscale** — A black and white image that is made up of 256 shades of gray.
- **Monotone/Duotone/Tritone/Quadtone/DCS** — A scan that will utilize inks of one, two, three or four colors. Usually the colors will be spot colors.
- **RGB** — Scans that use three colors to reproduce up to 16.7 millions colors on-screen. An RGB file will print as continuous tone and separate out as CMYK when printed.
- **CMYK** — CMYK scans are four colors consisting of Cyan, Magenta, Yellow and Black.

Resolution, Enlargement & Line Screen

- Resolution, enlargement and line screen all work together in determining how well a scan will print. Resolution is the number of pixels per linear inch in the final printed image, if the scan is placed at 100%. If a scan is enlarged in an art program (Quark, Illustrator, Freehand, etc.) the number of pixels per inch is reduced and the scan quality will also be reduced. The opposite is true if the scan is reduced. When a scan is placed at less than 100% of its actual size, the number of pixels per inch increases.
- Also, too high of a resolution can be overkill and make the file larger then necessary. This increases the need for storage space, as well as, increasing print and file rip times. To determine what the optimal resolution of a scan should be to attain a quality printed image, you must first know: the resolution, the percentage of enlargement (in the art program), and the line screen it will be printed at. You can then use the following formula to determine if your scan is the proper resolution for optimal printed results:

$$\text{Resolution} \div \text{Enlargement Percentage} \div \text{Line Screen} = \text{Minimum (No lower than 1.75)}$$

Example 1: $300 \text{ DPI} \div 100\% \div 120 \text{ Line Screen} = 2.5$

Result: OK, but the resolution could be reduced to 210 DPI to save time and storage.

Example 2: $72 \text{ DPI} \div 200\% \div 85 \text{ Line Screen} = .42$

Result: This scan resolution is too low, and would probably have to be rescanned at a higher resolution or at a larger size.

- Another quick way to figure resolution is to double the line screen and use that as your optimal resolution. Make sure that the scan is being placed at 100%. If a scan is enlarged in any manner the resolution will decrease and so will the quality.

Questions

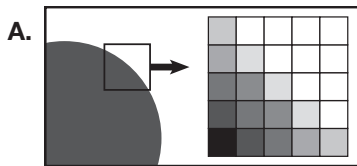
- If there are questions regarding scan work please contact Customer Service at **414-421-8262**.

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File Formats

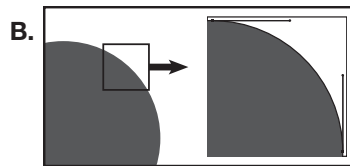
- **Bitmap or Raster:** this format covers Photoshop Files (tiff, pict, jpeg, psd or bmp). Bitmap or Raster artwork is stored as a series of pixels with different values.
- **Vector:** this format includes Illustrator, QuarkXpress, and Freehand. Vector artwork consists of lines and curves that form shapes, stored as a series of mathematical instructions.

Note: If a working file is created in a Vector format converting it to a Bitmap or Raster format for email purposes is unacceptable. To make a file smaller in size to email, stuff the file or make it self-extracting.



Bitmap or Raster

Small squares represent pixels.
Artwork is a series of values.



Vector

Artwork is a series of lines and curves that form shapes using mathematical instructions.

- If you have a file with type or graphic elements, send the file in a vector format (Illustrator, QuarkXpress, or Freehand). This is especially important for type. Type in a Bitmap or Raster format will appear fuzzy due to the series of values used to create it (as shown in Diagram A above). The output resolution of vector format files should be set at 800 dpi (this can be adjusted in the Attributes window of Illustrator 8 and in the Document Setup of Illustrator 10). Vector files are usually trapped 1/32" and most often utilize spot colors.
- If you have a photographic image, send the file in Bitmap or Raster format. The image should be placed at 100%. An image placed at 100% should be at a resolution that is at least two times the line screen used to print it (i.e.: printing at a line screen of 65, an image needs to have a minimum resolution of 130 dpi). If you don't know the line screen set the resolution at 300 dpi. Remember, this is for an image placed at 100%. Enlarging an image decreases its resolution causing it to look jagged.

Resolution: the number of pixels per linear inch in the final image. (In Photoshop it can be found under Image, Image Size. The Image Size window contains an area for adjusting the resolution, make sure it's set to pixel/inch).

Questions

- If there are questions regarding the bitmap and vector guidelines please contact Customer Service at **414-421-8262**.