....

Resolution and scanned images for print

....

Line art

Line art (Photoshop's "Bitmap" mode) is defined as art with no tones. It is either black or white. When line art is tinted (ie. shaded to 10% gray or built as process tints), it will no longer print as line art.
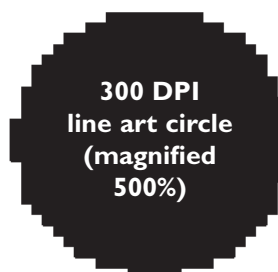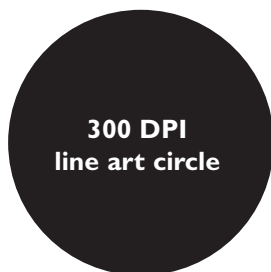
In theory, line art should be scanned at the same resolution as the target printer. However, for practical purposes, most designers scan line art at 600 PPI.

Continuous tone art

Continuous tone art (grayscale or color) is defined as art with up to 256 levels of tones between solid and transparent. Continuous tone art is represented as halftone dots when it is printed.
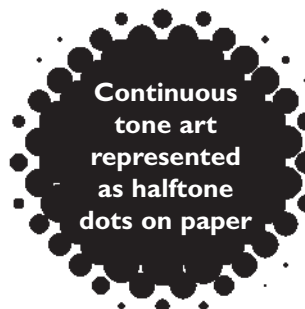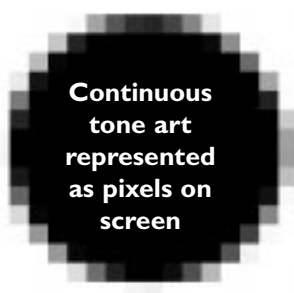
Continuous tone art should be scanned at approximately double (2x) the halftone dot frequency of the final printed piece. The smaller the dot, the better the image will look. Uncoated stock requires larger dots. Art intended to be photocopied reproduce better with coarser dots (ie. 60 LPI).

Halftone Dots (LPI)	Target Scan (PPI)	Actual Scan (PPI)
60 (photocopies)	2 x 60 = 120	100
85 (newspaper)	2 x 85 = 170	150
100 (color lasers)	2 x 100 = 200	200
133 (magazines)	2 x 133 = 266	300
175 (annual reports)	2 x 175 = 350	300

Notes

• DPI = dots per inch (print); LPI = lines per inch (halftone screens); PPI = pixels per inch (scans).
• Scale art in the scanner. Scanned art should not be resampled to a larger size (always rescan).
• Over estimate the size you need. You can always resample to a smaller size with no loss of quality.
• When importing scanned art, try to retain the size of the original file. In general, a 20% variance in size will produce acceptable results.
• Art for web pages or screens should be scanned at screen resolution (72 PPI).