



DEFINITIONS:

Bitmap Bitmap images are made up from pixels with different colors. When bitmap images are sized up, it usually increases the pixel size, which affects the overall clarity of the image. Any bitmap images, which are used for, print needs to be saved in 300 dpi. Bitmap is most suitable for photographs and images. However, it is not suitable for type setting and illustrations.

Dot Pattern **Elliptical or oval shaped dot:** will provide the best results for screen-printing
Round shaped dot: Can influence the difficulties of screen-printing i.e. Gradients, vinnetts, and moiré.
Square shaped dot: Are not recommended for screen-printing.

DPI Dots Per Inch. Specifies how many dots are contained in one inch of space. The higher the DPI, the more defined the document will be.

EPS Encapsulated Postscript. A picture used when importing into a working document. Usually created in Photoshop or Illustrator.

FILM POSITIVE This type of film has the printable items in black, (emulsion side up).

FTP File Transfer Protocol. Used to transfer data from one Internet address to another. If files are sent via FTP they should be compressed.

JPEG Joint Photographic Experts Group. Similar to an EPS, but is used more for pictures or graphics. The quality of the image is lower than that of an EPS or TIFF.

Keyline Visible lines that border the image (also known as a template). Keylines are used for positioning purposes only and should be removed if they are not meant to print.

LPI Lines Per Inch. Specifies how many lines are contained in one inch of space. The higher the LPI, the more defined the document will be.

Match print A color laminate proof made from the same film used for CD output.

Mirror Band Replicators manufactures information is located in this area (36mm – 47mm). Text could look different when no undercolor is used.

Moiré A checkered pattern either created by film separation or at the screen making process.

Registration Marks Marks used to align film layers.

Stacking Ring The stacking ring will keep disc from touching other disc during the manufacturing Process.

TIFF Tagged - Image File Format. Similar to an EPS, but is used more for pictures or graphics.



Trapping The manipulation of artwork or films to provide a slight overlap between adjoining images. Trapping can be accomplished electronically or manually.

Tonal Range Percentage of the size of dot. Screen-printing can maintain between 15% to 85%.

Vector Graphic Graphics, which are made from calculations of x, y, z-axis. Therefore vector graphics can be resized indefinitely without becoming pixilated or losing clarity like bitmap images. It is most suited for typesetting and illustrations.

REGISTRATION MARKS / TARGETS

Typically cross hairs located at the top, bottom, right, and left (north, east, south, and west) of the artwork to insure each film will be properly aligned with the other films in the job, and centered properly on the screen.

LINE WIDTH AND TYPE SIZE

The screen-printing process does not reproduce of very small type or extremely small details well. This is particularly amplified when large / dense areas of print are combined with fine detail within the same color / screen combination.
See specified font and line widths under each print type.

SPOT COLORS

A spot color is used to print an area with a single PMS color, and Your Company can reproduce hundreds of colors using the Pantone Matching System (PMS). We can print a maximum of six (6) spot colors on a single disc. This includes a background color flood (donut) if requested. Minimum recommended line width is 0.18mm (.5 pt.) for lines
Minimum recommended font size is 4pt. We request a trap / spread of 0.18mm (.5 pt) be used

FOUR (4) COLOR PROCESS (CMYK)

This process uses four (4) primary colors (CMYK) to produce photographic style images on a disc.

Separation requirements are as follows:

- Film angles for all elliptical dot shapes should be 60 degrees apart as follows = Yellow 0 degrees, Magenta 75 degrees, Cyan 15 degrees, and Black 135 degrees. If using other dot shapes (not recommended) use the standard 30 degrees apart = Yellow 0 degrees, Magenta 75 degrees, Cyan 15 degrees, Black 75 degrees.
- 85 to 100 line screens should be used.
- A tonal range (density) of 15% to 85% is recommended.
- A color match print or printed sample is required on all four (4) color process jobs and recommended for spot color jobs. If a color proof is not available, Your Company may have one made at the customer's expense.
- An elliptical dot shape is desired and most commonly used.

Minimum recommended line width is 0.26mm (. 75pt.) for lines. Minimum recommended font size for four (4) color process is 6 pt bold.

BACKGROUND COLORS

For CD's using the Four (4) Color Process, the customer must specify if a white background (donut) is required. This is recommended to achieve a high quality image, as printing on the highly reflective surface of a compact disc will appear different to due the color proof being output on white paper; The white paper be representative of a white background donut. Print in the "Mirror Band" and/or in the transparent area between the stacking ring and the center hole may appear a different shade if a background donut is



not used. If a constant color shade is required in these areas, a background donut is highly recommended.

HALFTONE PRINTING

Continuous tone artwork such as photographs must be broken down into various size dots and colors before printing. All PMS (Pantone Matching System) colors are available for halftone printing, but as the dot size is reduced the color will appear lighter on the finished disc. Very fine dot sizes may not reproduce at all due to the mesh sizes used to prepare process screens.

- All art is required to be 85 to 100 lines per inch screen
- A tonal range (density) of 15% to 85%
- An elliptical dot shape is desired and most commonly used.
- With elliptical dot, film angles are 60 degrees apart.

Minimum recommended line width is 0.26mm (.75 pt.). Minimum recommended font size for half tone is 7 pt.