Screen, Digital and Offset Printing Guidelines

Film Preparation & Proofing

The guidelines that follow are intended to prevent unnecessary delays and additional costs to prepare files for our digital printing and film for our screen printing and offset printing processes. The quality of the printed product is dependent on the quality of the art file or mechanical and the printing film prepared from them. ***All art is subject to review to assure it can be reproduced as a quality product at the quoted price.***

GUIDELINES FOR PREPARING MECHANICAL OR ELECTRONIC ART:

Media:

Currently we are accepting the following media: Compact Discs, DVD's and files sent via e-mail.

We are also able to retrieve files located at your FTP site or at a public site such as "YouSendIt".

For optimum results we prefer that the digital and offset art is supplied to us on electronic media.

Software:

Application programs that we prefer are: Adobe Illustrator, Adobe InDesign, Adobe Photoshop, and QuarkXPress. These applications are cross-platform compatible.

File types we prefer are .ai, .pdf, .eps, .indd, .qxd. These file types may contain raster images, but they will preserve any vector art contained in the file.

Files types .jpeg, .tiff, .bmp, .psd, .png can be used, but are "raster image files" that are resolution dependent. These type files are typically used for four color process images.

We recommend that an Adobe PDF file accompany all art files. Adobe PDF files preserve the original formatting of the file which allows us a comparison to the application files sent as artwork.

Set-Up/Size:

Art should be scaled to the actual desired size. We can resize artwork, but prefer it to be at the desired size when received. Vector (Line) Art can be resized without loss of resolution. Raster (Pixel) Art will loose resolution if enlarged.

A composite of the product should be electronically supplied in one file, on one page. This will ensure the proper placement of crop marks and avoid additional set up time. Product templates can be made available for this purpose. Contact our Customer Service or Sales team for a copy of these files, or visit our web site at www.formflexproducts.com.

Substrate Color:

We request that you do not simulate the color of the substrate. If you want to simulate the substrate color for proofs, please be sure to remove any such colors before submission for printing to reduce additional charges or cause unnecessary delays in the production of your product.

Ink Colors:

Colors should be specified in the ink color you wish to print: Pantone and spot colors when running spot colors or CMYK for four color process. Art to be printed as white should be changed to a visible color against the background and labeled as "Printers White" in the color palette.

Fonts:

Text is acceptable if submitted as artwork. Fonts used to create the text should be included with the art files. It is preferred that all text be converted to "outlines" before being submitted as artwork if the font style is critical. If so, it is important the font information (including the foundry) is recorded in the file information in case of any text editing is necessary.

Images:

It is essential that you send **all** placed images whether linked or embedded regardless of what application program it was created in. Electronic styling from style palettes is not accepted.

Scans:

Scanned continuous tone gray scale or color images should have a minimum resolution of 300 ppi for all three processes. This is at final, 100% printing size, not enlarged. If image is scaled, the appropriate corresponding ppi should be used. When enlarging, the image loses resolution and quality. Line art (Bitmapped) should have a resolution of 1000 ppi. (The same principle applies to bitmaps when scaling images). Please save as tiff or eps files.

Solid Panels and Tints:

Art designed with both solid panels and tints in the same color may require separate screen press passes. This is due to the different screen mesh requirements for solids versus tints. Some large coverage four color process jobs such as boxes, which print on all parts of the box, may require splitting the hits for registration purposes and increases the number of passes through the press.

Type and Line Weight:

Minimum type size is 6 points. Type that does not bleed must be .0625" away from the die cut edge. The minimum line weight must be .65 points. This is at the final screen printing size, not reduced.

Bleeds, Mock Bleeds and Register Marks:

Allow .125" art extension beyond the trimmed edge for all bleeds. Bleeds should be restricted to .055 gauge or less. Over .055 gauge is susceptible to ink chipping on die cut edges. All art to be mock bled must be .0625" away from all cutting edges. All art must have crop marks, register marks, and be .125" beyond the bleed area.

Rivets:

Art must be .25" away from the rivet centers. Standard rivet heads are .3125" diameter.

Reverses:

Minimum type size is 12 points. Minimum line weight is 1.5 points. Type should be of medium or bold weight; light typefaces will not reverse. Reverses through two or more colors or reversing out of four color process colors is not accepted for screen printing. An additional ink hit may be required.

Hinge, Cut and Sonic Weld Areas:

Art cannot be screen printed through hot scored poly hinges. Ink may fracture and leave a residue on cold scores. Breaks for hinges differ with gauge.

- .023 - .055 Gauge allow .1875" Break (Centered on Score Line)
- .075 - .180 Gauge allow .3125" Break (Centered on Score Line)

Art must be .625" away from all edges being sonic welded. Art must be .0937" from the top, sides and bottom of the tab extension.

Artwork must meet art guidelines and all submitted art will be validated and approved before an order will be entered. All product brand names are trademarks or registered trademarks of their respective holders.

Separations & Screen Angles:
Halftones and tints for screen printing in one color must be prepared at 22.5º from horizontal to minimize the possibility of a moiré pattern appearing in the screened product.

Duotones:
If two screen printed tint colors overlap, the lightest color should be set at 52.5º, and the darkest at 22.5º.

Screen Ruling:
A screen ruling of 65 or 85 line with a **simple round dot is required when screen printing halftones and tints. This determination will be made by us upon review of final art submitted.** You will need to specify the screen angle, line screen and dot structure settings as listed above to whomever will be imaging your film. **The best digital and offset reproduction is achieved with 133 line screen or greater.**

4-Color Process:
For four color process screen printing, use 82.5º for cyan, 52.5º for magenta, 22.5º for black and 7.5º for yellow. (See figure 1) **It is essential that the screen angles, line screen and dot structure are changed at the imaging stage of production.** For proper reproduction, at least 2400 dpi is needed for output film resolution. For optimum results we prefer to provide four color process film separation service in-house or through a color separator of our choosing who is familiar with screen printing requirements.

- **A press proof is always recommended for all four color process screen printing.**

For those who choose to provide their own film, color separations may be made the same as any standard separation with the exception of 85 or 110 line screen and simple round dot. Films must be right reading emulsion side up positives, one piece per color with proper register and corner marks required.

Four color process screen printing is available on .035, .055 and .075 gauge white and natural poly. Any other poly color may be used but a panel of white link must be printed first behind the four color process inks. **Reversing out of four process colors is not accepted.** An additional hit of ink color may be required.

Conventional separation techniques and screen angles for offset printing films (your offset defaults) for reproduction on paper are acceptable.

Digital Resolutions available from Resolution from 360 x 720 to 720 x 1440

If artwork is inadmissible (i.e.incorrect resolution, rough art, wrong size, wrong screen angle), you will be given the option to resubmit artwork or charges required to make corrections. You will be notified.

Highlight and Shadow Range:
Halftone/Gradient films for screen printing should be made with a shortened tonal range of 15% instead of 0% (in highlight areas) to 85% instead of 100% (in shadow areas). All gradients will be screened at 65 line, the only exception being 4-color process. Example shown with 0˚ set from left side of horizontal.

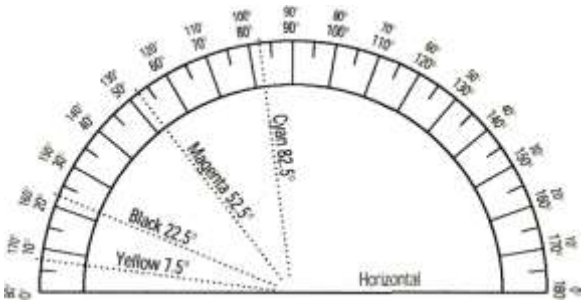

Figure 1

Screen Printing Ink Color Guidelines:
Polyethylene:
- .015 to .018 Gauge – 2 Color Maximum
- .019 to .030 Gauge – 3 Color Maximum
- .035 Gauge & up – 6 Color Maximum
- .023 Gauge – Minimum Gauge for Four Color Process
- Additional colors may be acceptable upon review of art.

Polypropylene:
- .015 to .019 – 2 color maximum
- .020 to .029 Gauge – 3 Color Maximum
- .030 Gauge & up – 6 Color Maximum
- .020 Gauge minimum for Four Color Process
- Additional colors may be acceptable upon review of art.

Up to six colors may be used, but no more than four colors may touch or overlap since there are curing limitations with UV inks. UV links are somewhat transparent. Light color ink may not cover a dark color ink or a dark color substrate well. An ink swatch can be provided for approval.

Digital Printing Ink Color Guidelines:
- .004 to 3.9375 – CMYK + White + Spot Varnish
- UV clear coat is available for added durability

Offset Printing Ink Color Guidelines:
- .015 to .035 – CMYK + White + UV Varnish

Additional PMS colors can be printed, but may require additional passes on the offset press. Call for verification.

Trapping:
We prefer to apply trapping to your screen printing files as our needs are much different than that of digital or offset printing. If you are going to submit film positives, a trap of 1 to 1.5 points should be applied. Different colors which touch each other must have adequate overlap (Trap) with lightest areas overlapping (Trapping) under the darkest areas to ensure good register. If you have questions, separate your file to a laser printer and fax them to your customer account specialist. Our prepress area will contact you with recommendations for your specific project.

Art for all Types of Dies (Cutting, Foil, Imprint):
Cutting dies must have .125" area between each metal die rule (or cut line), meaning any objects that are getting cut out, circles squares etc. must be .125" apart. All corners must have a radius of at least .0156". On foil or imprinting dies, type must be no smaller than 6 points. **Line weights must be at least 1 point size in width. This can change if foil stamping a large, solid area with it. Lines need to be at least 2 points apart.*

**These specifications are dependent on size and detail of artwork along with gauge and surface of substrate. All artwork is subject to review to ensure quality results.*

Pockets:
Pocket material will not adhere to ink. All art must be broken for the pocket seal. The art must be cut back .0625" to the inside dimension of the pocket and .25" from the inside dimension measured toward outside of the pocket.

Print-Image Register and Tolerance:
Screen Printing Tolerances are quite different than offset due to screen stretch and other variations.
- Color to Color: +/- .0312" (2.25 points)
- Color to Trim +/- .0625" (4.5 points)

Artwork must meet art guidelines and all submitted art will be validated and approved before an order will be entered. All product brand names are trademarks or registered trademarks of their respective holders.

TYPES OF PROOFS

(May require additional costs)

PDF Proof:
A scaled electronic file of the art laid out on a die template for verifying the positioning of artwork. This is an Adobe Acrobat PDF file that can be emailed, or in cases where the file is too large, downloaded using You Send It file transfer.

Ink Swatch Proof:
An actual color matched ink draw down on a swatch of the substrate selected for the job when a color match is critical.

Epson Proof:
A high resolution, scaled color inkjet print on heavy semi-matte paper with art and dielines. This proof's intended use is to show color separation, dieline and placement of the artwork and product. The colors on this proof may not match the actual job due to differences in CMYK and Solid Pantone Ink colors. This is only available when art is processed through our electronic Prepress department.

Fuji Proof (Offset Printed Products only)
A color accurate proof with a dot pattern structure very similar to the dot structure produced when printed. This is very representative to what will be produced on press.

Screen Proof:
An actual color printed sheet of the artwork screened on the color substrate selected for the job.

Digital Press Proof:
An actual color printed sheet of the artwork printed on the actual substrate selected for the job.

Offset Press Proof:
An actual color printed sheet of the artwork printed on the actual substrate selected for the job.

Pre-Production Proof:
An actual printed and complete product is produced.

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