VECTOR - SPOT COLOR PRINTING

Spot color/dry offset prints directly onto the mug shell in up to 6 ink colors. In many cases the art is spot color line art, but we also print in 4-color process. As you might imagine, printing on mugs is very different than printing on paper. Follow our detailed guidelines below to help assure great results!

- **Minimum Line Weight:** 1 point.
- **Minimum Type Size:** 7 point.
- **Minimum Drop-out (Reverse) Type Size:** 15 point. No fine lines or serifs. Bold face only.
- **Minimum Drop-out (Reverse) Line Weight:** 2 point.
- **Type must be converted to line art** or provide font files. Otherwise, Whirley will reset type with the closest font available.
- **Ink Colors:** 1 to 5 ink colors. Spot colors cannot blend or overprint. Colors cannot overprint to create other colors.
- **Screen Tints:** Min. 20% - Max. 85%. When using a range of tints of one color, make sure they are at least 20% apart. More subtle variations will not show up well.
- **Graduated Tints:** Prepare your art so tints fade to 20% (minimum) of the same color. Any areas with dots less than 5% will drop out on press creating a rough edge in the imprint.
- **Graduated Blends:** **PLEASE BE SURE YOU UNDERSTAND THESE LIMITATIONS BEFORE ADDING GRADUATED BLENDS TO YOUR ART.** Only two colors can blend on a single imprint. We will adjust your blend to prevent “drop offs” at the lightest ends of the two colors. Although the altered blend will be more subtle than the original, this step is required in order to provide the best quality imprint.
- **Dot Gain/Press Gain:** There is a 20% to 30% dot gain on press. We will adjust your art to compensate. The smallest dot we hold on our plate is 5% therefore, the lightest tint we will achieve on press is (approximately) 25%.
- **Transparencies and Effects:** **DO NOT use transparency effects or other filters when preparing your vector art for spot color printing.** Using these features in your art will require it to print in 4-color process.

IMPRINTS ON TAPERED PRODUCTS

- **Imprint Clarity:** Images on tapered products will blur near the top quarter and bottom third of the imprint area causing reversed lines, small type and spaces to fill in (see example at the right).

- **Keep all important information near the center** of the container between the top and bottom. This is particularly important regarding small type, thin lines, small spaces and logos, especially if they are reversed out of a solid colored background.

We will recommend appropriate changes to your art if there is a potential for blurring of important elements in your design. **For the best results don’t use small or fine reverse images in large areas of color.**

**Design proactively and avoid putting these elements in the “blur zones”: SMALL TYPE, REVERSED OUT TYPE, SCREEN TINTS, SMALL LOGOS, REVERSED OUT THIN LINES.**

- **REMEMBER!** Our dry offset printing presses can print up to a maximum of FIVE colors.
- When designing spot color art for cup colors other than white or pearl white, use white ink to outline art and fill dropouts. This will help your design stand out. Pantone® colors will look different on non-white cups.
- Avoid subtle variations in color or contrast, particularly if you’re using screen tints.
- When possible, use specific inks for light colors instead of screen tints, you’ll get a better quality (and more accurate) imprint.

QUESTIONS? Call: 1-800-825-5575  E-mail: artdepartment@whirleydrinkworks.com

General Art: ext. 1348  Process Print: ext. 1301  Web site: www.whirleydrinkworks.com
Mail to: 618 Fourth Ave.  Warren, PA 16365

2 of 8
4-COLOR ( FULL COLOR ) PROCESS PRINTING

Printing four color process art directly on to plastic drink containers is very different from conventional printing on paper. Please make sure you understand the limitations of this unique process. We cannot guarantee to reproduce your art exactly. **WE MUST ADJUST ALL ART TO MEET OUR SPECIFICATIONS.** There are additional fees for using four color process and minimum production runs are required.

- **Designing Art for Process Printing:** Because of technical limitations in printing on plastic mugs, please consider these factors when designing your art. Subtle contrasts in values and colors and very faint images embedded within the design will be lost due to dot gain on press. Fades, drop shadows and glows will print with “hard edges” instead of the soft gradient you expect. Use gradients sparingly and make sure they fade to a minimum of 20%. Any tints under 5% will drop out on press.

- **Artwork Electronic Files:** Every piece of art must be adjusted to meet our printing requirements. We must have original vector art and/or Layered Photoshop files. Send only high resolution files (min 300 DPI). Low resolution files will result in a poor imprint. Resaving low resolution originals as high resolution does not improve the quality of the image. The original image must be at 300 DPI or higher. **INCLUDE ALL SUPPORT FILES.**

- **Press Gain:** There is a 20% to 30% dot gain on press. The smallest dot we use on our printing plate is 5%. Therefore, the lightest tint we will achieve is 25%. **DO NOT FADE COLORS TO 0%.** If you are doing a fade or graduated blend, any tint under 5% will drop out. Wherever the 5% dot (tint) is on your art, a “hard” edge will appear, because it will actually print at 25% (minimum). We will adjust your art to avoid this problem whenever possible. In most cases that means filling in any light areas with a minimum 5% tint. We may also lighten the dark areas so that they don’t fill in on press.

- **Color Match:** Specific color matches are not possible since all colors are “built” using the four process colors. If you have created your art in RGB then convert your art to CMYK before sending. Skin tones are particularly difficult to match. If specific colors must be achieved, please prepare your art as spot color line art (up to five colors) rather than process print. Please be sure you understand the limited ability of this printing technique to match original art exactly.

- **Preliminary Proof:** We normally send approvals via e-mail and you will receive a PDF file for review. Although the PDF is a good representation of the final imprint, only a preproduction sample will show the true results.

---

**IMPRINTS ON TAPERED PRODUCTS**

- **Imprint Clarity:** Images on tapered products will blur near the top quarter and bottom third of the imprint area causing reversed lines, small type and spaces to fill in (see example at the right).

- **Keep all important information near the center** of the container between the top and bottom. This is particularly important regarding small type, thin lines, small spaces and logos, especially if they are reversed out of a solid colored background.

---

We will recommend appropriate changes to your art if there is a potential for blurring of important elements in your design. **For the best results don’t use small or fine reverse images in large areas of color.**

Design proactively and avoid putting these elements in the “blur zones”: SMALL TYPE, REVERSED OUT TYPE, SCREEN TINTS, SMALL LOGOS, REVERSED OUT THIN LINES.

---

**QUESTIONS? Call: 1-800-825-5575  E-mail: artdepartment@whirleydrinkworks.com**
PREPARING ART FOR WHIRLEY-DRINKWORKS!

PMS INK COLORS:

Our ink colors have been premixed by our ink supplier to be close to Pantone® equivalents. All ink colors will vary depending on the color of the plastic background and the density of the ink lay down. When matching ink and plastic component colors, we suggest using our suggested PMS ink matches listed below. We believe that it is better to vary slightly from a corporate color than to have mismatched ink and component colors.

CUSTOM Pantone® ink colors can be specified. CHOOSE PANTONE SOLID COATED COLORS ONLY. We can't reproduce the look of uncoated Pantone colors on plastic. For orders less than 2,500 there is an additional cost of $20.00 per color on both new orders and reorders. Exact matches are not guaranteed and Whirley’s policy is that reasonable color variations are not a cause for rejection or price adjustment.

OPAQUE INKS ON CLEAR & COLORED SUBSTRATES: We will use our stock “opaque” inks when your imprint is on a dark cup color (including Splatter) or on ice and clear products. Screen tints and halftones are not effective on dark substrates and should not be used. COLORS LOOK DIFFERENT ON NON-WHITE SUBSTRATES.

Lid/Handle Colors and Matching Inks:
Note: Plastic PMS (Pantone® Matching System) designations are approximate. Not all components are available in all colors. Please check with your Whirley-DrinkWorks! Sales Representative for details.

- BLACK
- WHITE
- BLUEBERRY - PMS 3135
- DARK BLUE - PMS 7687
- CARIBBEAN BLUE - 3155
- ELECTRON JADE - PMS 7722
- ELECTRON PURPLE - PMS 7679
- ELECTRON BURGUNDY - PMS 195
- FLUORESCENT GREEN - 354
- GRAPE - 2665
- GREEN - PMS 349
- GREEN APPLE - PMS 2272
- MAROON - PMS 201
- MAUVE - PMS 5015
- MINT GREEN - PMS 7482
- MEDIUM BLUE - PMS 301
- ORANGE - PMS 165
- ORANGE 811 - PMS 172
- PEARL BLUE - PMS 2925
- PEARL BROWN - PMS 7631
- PINK 806 - PMS 213
- RED - PMS 186
- RED 186 TINT - PMS 187
- SAPPHIRE - PMS 2748
- SUN YELLOW - PMS 396
- TANGERINE - PMS 166
- TEAL - PMS 320
- YELLOW SPARKLE - PMS 382
- VIPER GREEN - PMS 7489
- PHANTOM PURPLE - PMS 7670
- CALYPSO TEAL - PMS 3275
- GOLD RUSH - PMS 7752

Note: Please visit our website for a full list of available component colors per product.

LICENSED ART AND CORPORATE LOGOS:

Be certain to designate appropriate legal marks (©, ®, TM, SM, etc.). We work closely with many major corporations and licensed properties and must adhere to specifications relating to each. We will recommend appropriate changes to your art to meet requirements that we are aware of. You must provide appropriate art/logos for licensed characters and images. Please send appropriate release documentation when using artwork owned by others. In some instances (i.e. when co-branding your art) we may require a release stating “rights of use” (models, landmarks, property, etc.).

QUESTIONS? Call: 1-800-825-5575  E-mail: artdepartment@whirleydrinkworks.com

General Art: ext. 1348  Process Print: ext. 1301  Web site: www.whirleydrinkworks.com
Mail to: 618 Fourth Ave.  •  Warren, PA 16365
PRODUCTS WITH “FULL-BLEEDS”

On a number of our products we are able to create a “full-bleed” on the printable area. This means the art reaches to the top of the shell and “bleeds” off the bottom at the stack edge. When art is printed full-bleed and is a full wrap design, we also overlap a color at the seam. (Normally there is a gap at the seam of full wrap artwork.) Because of variances in gaps and overlaps, we call out the area on the electronic proof that you receive for approval. If you prefer to not have an overlap, we can adjust the art so there is a gap instead. On the other hand, products that do not have the full-bleed capability cannot be made to overlap. Because of variations in the manufacturing and printing processes, the overlap and gap may vary in width, usually from 1/8” to 1/4”.

FULL-BLEED PRODUCTS:
SC-122 (H), SC-162 (H), SC-202 (H), SC-24 (H), CM-16 (H), GM-16 (H), CM-20 (H), GM-20 (H), CM-24 (H), GM-24 (H), CM-32 (H), GM-32 (H), CS-32 (H), G-32, SLR-24 (H), GC-16 (H).

GAP PRODUCTS:
All other products printed in dry offset directly on to the mug with full wrap art will have a gap where the art starts and ends.

UPC CODES:
When placing UPC codes in your art, be sure that the lines run horizontally. Most print methods will have some distortion left to right so bar codes placed with lines positioned vertically may become unreadable. Minimum reduction of bar code size is 75%. Avoid truncating barcodes for best results. Use dark colors for best results.

CORRECT

INCOMPLETE

INCOMPLETE

(100% Horizontal)
(Truncated Horizontal)
(100% Vertical)

QUESTIONS? Call: 1-800-825-5575    E-mail: artdepartment@whirleydrinkworks.com

General Art: ext. 1348 • Process Print: ext. 1301 • Web site: www.whirleydrinkworks.com
Mail to: 618 Fourth Ave. • Warren, PA 16365