INFORMATION FOR DESIGNERS

ENAMELTEC produces its porcelain panels by screen-printing. But we are not your average screeners. We have very special situations that do not appear in any other art form.

Artwork can be supplied in two basic formats, camera ready hard copy and digital.

Camera Ready Hard Copy has some specific requirements.

With so much work being done on computers, there are fewer service bureaus with the ability to handle large pieces of art. High quality flat bed scanners are limited to 11" x 17" and the largest piece that a drum scanner can handle is 23" x 23". Larger art will necessitate other means of conversion at a higher cost. Please let us know right from the beginning. If supplying camera ready negs or final positive film there are specific criteria that need to be discussed with us first.

Hard Copy and Digital Art should also meet these considerations.
All art should be crisp and good contrast. Text should not be screened. All film/ruby/amber should be of high quality with clear backgrounds. Colour breaks should be clearly identified on separate layers if possible. Where possible original art, photos, slides and/or transparencies of high quality should accompany the job.

Shipping of Art.
All items sent to us should be protected as much as possible. Digital formatted files can be sent on CD, 1 or 2 GB JAZ disks, 100 MB Zip disks or 3.5" diskettes. You can also email a file to "pcomeau@pgbell.com " . Please specify all programs used and their release (eg. Adobe Photoshop CS5), include all fonts and related files along with a hard copy of what the file looks like.

Now, let's get down to details of how to create art that will be produced in porcelain enamel.

1. Lets start from the beginning and ask yourself some questions.
What is the nature of the graphics, are they going to be vector based or bit mapped images or a combination of both? What is the size of the panel and are the graphics going to cover all of the panel. We prefer images to be at 300 dpi final size. So be aware that a 300dpi bitmapped image, in colour, will run approximately

50 MB per square foot (eg. a panel 24" x 36" with full coverage will be 300 MB in size). Can my equipment can handle that size of a file. We can drop image resolution down to 150 dpi but you have to keep in mind that the quality of the image will drop as well. Is the art going to be 4 colour process or mechanical colours or a combination of both? We try to keep panel size to a maximum of 48" x 96". How will this affect the art? How will the art fit over multiple panels? Do I want to go to a slightly larger panel? Do I want to use metallic colours.

Project Creation

A) Computer Design.
With today's graphic design environment, virtually all of the projects we receive are in digital format, done on either a Macintosh or Windows platform.
There are a large variety of programs with which to create your concept and we can work with most of these. Our preferred programs, though, are Quark Express, Adobe Illustrator and Adobe Photoshop.

When supplying digital files that include scanned images, it is preferable, if you can supply the source material for us to match to, or paper prints that show what you want the finished product to resemble. (**Please note: Inkjet printers do NOT represent a true rendition of how a file will output from a Postscript film printer**)
As true with most screening processes, large areas of halftone colour are problematical. The minimal hiccup will appear to be a major blemish. Graduated screens will show banding.

The solution?
Add a little noise to compensate or use a texture instead. Please keep in mind that most programs other than Photoshop are unable to add noise. If you are unable to do so, we will, at a slight additional cost.
The preferred settings are to add 30% noise utilizing the two major colours. If you access to Photoshop you can utilize the Texture filter set to "Intensity 40, Contrast 50 and Grain - Regular". *(Call for a Photoshop solution!)*

When designing your project there are a number of criteria to keep in mind:
B) Choosing Colours.
First - What We Can Do:
We can accurately match just about any colour in the world, using any matching system that exists as long as you can supply a swatch. We can even do 22K gold and metallic colours!

Now - Our Limitations:
Our colours come from the earth, we use combinations of metal oxides to create

our broad spectrum of colours. Unfortunately, true magenta is not achievable, we substitute with reds so most pinks cannot be reproduced with 100% accuracy. Gold bearing oxides are used to create most colours in the purple range. If you are planning to use purple please let us know, it is a bit more expensive and more difficult to match. Fluorescent lightwaves are not picked up on film, as in offset printing, and we do not have special fluorescent oxides to compensate - so - sorry, we cannot printtrue fluorescent colours accurately.

C) Layout

Consider the panel itself as your blank canvas upon which to create. The background is one of your design colours. Keep in mind that some of our colours are more transparent than others. The general rule of thumb is to create a patch of white, called an underprinter, to fall under any light colour overprinting a darker colour. If you are unclear, it is best to supply one. We will remove it if need be. Call if you are unclear as to what constitutes an underprinter.

D) Mechanical colour

Each colour requires its own print layer. The exception is if no colours are within 1/4" of each other they can be combined on one printer. If you do this we must receive a colour mock-up identifying the colour breaks. Do not trap any of your work, we will take care of this at the film stage after the print order has been determined.

E) Other out of the norm considerations for mechanical work are:

1. Knockouts
All text smaller than 48 pt should print positive. Knocking out text/icons is not recommended - instead offer us a solid under printer with a separate layer for the text.

2. Linework
Point size can be as fine as 1/2 pt. but we recommend a minimum of 1 pt. A keyline around a photo should be no less than 1.5 pt.

3. Type
Point size can be as fine as 10 pt. - at this size the font must be sans serif. (Serif fonts would lose their tails.) Any font can be used when larger than 14 pt. Ask if you want, we will be happy to advise you!

incorrect   correct (on two layers)

4. Solid Colour Screens
When you want to use two colours and one is a percentage of the other (eg. 100% Pantone 285 and 40% Pantone 285) use caution! See section 1 for more information.

5. Flanged Panels
There is a 3/16" (76mm) radius on the edge of all flanged panels that can't be printed on. This translates into no bleed for images unless it is a mechanical colour that can be brushed on. It also means that the background colour will form a frame around all images. Flat panels don't have this restriction.

F) Halftones
A halftone is a halftone - except if it's ENAMELTEC. There is a choice, as shown below. Providing an original will produce the best results, but a digital file with a resolution of at least 300 dpi. will work fine.

1. Photo Halftone.
These can be recreated in any single or double colour and reproduced at 72 lpi - 150 lpi (lines per inch). Reproductions at 150 lpi resolution have an image size limitation of no larger than 31" x 43".

2. Fine Line Photo Halftones
These are available in black, sepia and a small range of colour, reproduced at 200 lpi. We utilize a contact print method and require original photos. There is also a restriction on pane size and type. Please contact us with your intentions so that we may advise you accordingly.

3. Gradations
Gradations are wonderful but there is a phenomena in the screen printing world that works like this. Any screen value of more than 50% has dot gain and less than50% has dot loss. This will mean a jump or step in your gradations around the 50%

range. You can also get around this through the use of noise or texture. But keep

in mind that when you add noise to a gradation that starts at 100% the lighter colour of noise will make the dark area appear grainy. It is much better if you start at 80% and you will find minimal visual difference in the gradation. Also note that halftones tend to disappear at approximately 10%.

G. Four Colour Process

As always, reproductions are most accurate when using the originals. Even if we have to work from a transparency we would like to have the original to compare to when printing.

Coloured photos, original paintings and pieces of art are recreated in four colour process (4CP). We replace magenta with a red that is hardly noticeable. If your image has a large amount of magenta in it we won't be able to match it so please try to avoid it where possible. Scanning is critical and best left to us. If the image has been scanned and manipulated to create something other then the original then supply it as an RGB file and we will adjust when converting to CMYK. We will supply a colour key for proofing which is a close approximation of the final reproduction. Remember we suggest that all pre-scanned images be supplied at 300 dpi resolution and include either the original or an approved colour copy. Due to the variances between monitors and printers we need to know what you are expecting. Also keep in mind that what your file reproduces on your screen and printer is not necessarily what the file will reproduce when outputting to film. If we are not supplied with something to go by, the cost to rerun film and new colour keys will be your responsibility.

1. Works of Art
If you plan to commission an artist to create an original for your project, please let them know about the transplanting of magenta with red. Also, it would be to your advantage to have them work on low tooth paper and not hard board, keeping in mind our two size limitations for scanning. 23" x 23" for a flexible original that can fit a drum scanner or 11" x 17" for a flatbed scanner. Artwork larger will have to be photographed and re produced as a transparency with a slight degradation in image quality.

Final word
Enameltec will accept most art formats from traditional art boards, computer files, slides, transparencies etc. If you plan to send art larger than 30" x 30" please call and we will try to convince you not to!

We will generate a colour key or Dupont digital print as a final proof for you to sign off on before production commences. If you have further questions or something mentioned here is unclear, please give us a call. 1-800-663-8543 (www.pgbell.com)