

# Print Ready?

Tips for getting good results with commercial printing purchases

Commercial printing uses very different processes than your local copy center or the digital printer attached to your computer. These tips will help assure that you get the result you expect. Please understand that **you alone are responsible for making your project “print ready,”** and once you submit your files for printing, no one else is going to check them. The print process is highly automated, and the only human eye that sees your input could be yours.

A retail commercial printer employs people to “pre-flight” projects before they go to press, and they charge accordingly. Paying for this service can double the cost. To achieve savings for my non-profit clients I submit projects directly to the production facility, eliminating the front office review. I’m a volunteer, so I can’t afford to “eat” the cost of a job that doesn’t meet your expectations. If that’s not acceptable, you must work with a full-service commercial printer or a graphic artist who knows how to create “print ready” artwork. It’s a skilled and sometimes frustrating job, and you pay accordingly.

## Creating Your Artwork – What could go wrong?

You can create your project using Microsoft Word, Microsoft Publisher, any of several Adobe programs, and many other programs. But you can’t trust that any of them will *save* your work in a form suitable for printing unless you know how to adjust the output settings. I’ll discuss Microsoft Word issues here because that’s what most of the other volunteers I work with use. Even if you use something else, the examples will help you understand what to do.

When Microsoft Word saves a document file, it does not save it as an image; it saves it as instructions to the computer and print device. Consequently, when the file is opened on a different computer, or even the same computer after settings change, it may have a different appearance. The computer may not have access to the same font library, or the width of margins may be different. These issues show up as



Figure 1. Expected appearance (MS Word screen shot).



Figure 2. Appearance after font substitution on another computer.

unattractive formatting, text boxes and illustrations that are displaced, text that overflows the page, and fonts that are aesthetically wrong.

Avoid these issues by using software that “prints” the document as a PDF file. Adobe Acrobat is the industry leader, but unless you are a professional, it’s too expensive. I recommend *CutePDF*, a freeware virtual printer available for download. Printing the PDF file is

better than simply saving the file in PDF format, or exporting it as PDF format because you can specify that the text fonts must be converted to outlines. Outlines are like little line drawings of each letter of text, so they look exactly like what you saw on your screen as you created your document. They are

vector drawings so they can be blown up without loss of sharpness. The printer does not need to have that font in its library once the text is saved as outlines. The downside? It can't be text edited – you have to go back and change the original MS Word document and then create a new PDF file.

When you *print* as PDF, you can also specify the resolution of the graphics and images (dots-per-inch) to prevent degradation. Sorry, it won't *improve* an image that was fuzzy originally. It just makes it as good as it can be for printing. Here are some examples of the issues you will avoid:



Figure 3 Clarity of original in MS Word.



Figure 4 Blurring after being "saved as" PDF file.

Figure 4 was digitally compressed to make it smaller and lost resolution as a result. It also has artifacts of compression (stray marks in what should be white areas.) In Figure 6, you see these effects most noticeably around names of the people. The original was an image downloaded from the web. Its resolution was 72 dpi which is what computer screens display. The "2002" date was added to it later and is sharper. Commercial printing uses 300 dots per inch -- more that four times as sharp as the computer screen.



Figure 5. Original 72 dpi image as seen in MS Word document.



Figure 6. Appearance after "save as" PDF-- note artifacts and blur around caption text.



Figure 7. This stray line wasn't visible in MS Word behind the image, but shows in PDF because transparency was not flattened.

## Printer Properties Settings

In MS Word, you can't dictate these settings when you save or export a PDF. You must create your PDF file by "printing" the document. Adobe Acrobat Pro, "CutePDF", and other PDF software install a virtual printer that creates files instead of paper and ink documents. There may be similar options with a Mac computer. Usually, when you choose File/Print after saving your document, you will be asked to select your printer and then review its settings on a series of pop-up screens. Familiarize yourself with the choices your PDF printer offers, including the "Advanced" options. You'll find the typical ones described below. (The tips that follow assume you have completed your design and are at the point of creating a PDF file to submit to a commercial printer.)

## Tips

1. **Choose CMYK color mode.** Computers and websites are designed to mix red, green, and blue light (RGB) to simulate millions of colors. Printers use four colors of ink (Cyan, Magenta, Yellow, and black). If your artwork is optimized for RGB, it won't look the same in CMYK.
2. **Eliminate Transparency.** Some artwork and photographs leave the white areas transparent. So anything that is behind the artwork on the layout shows through. Choose "flatten transparency."
3. **Add "Bleed" to dimensions.** If your finished product is to be letter size, 8.5 x 11 inches, you should make your artwork 1/8 inch larger on all four sides. So your artboard would be 8.75 x 11.5 inches. This allows the printer to trim the paper to size without leaving a line at the edges of your artwork. Even if your margins are all "white" with no color, leave bleed.
4. **Use 300 dpi.** Images in digital documents are composed of dots or pixels. Your computer screen is 72 dots per inch (dpi). Commercial high-quality print is at least 300 dpi or more. Something that looks OK on your computer may look fuzzy or pixelated in print.
5. **Save as "PDF" and Embed Fonts.** Computers don't necessarily save an actual image of your project in the digital file; they may just identify the font and save the raw text. So a different computer or printer may not have the same font and may substitute something else that's not satisfactory. When you save your work as a PDF, you can usually set a preference to "embed fonts" so that the fonts needed are in the file. Avoid sending MS Word files (doc, docx) because they don't necessarily look the same on another computer. If you are working with Adobe products, convert text to **outlines** before saving the PDF file.
6. **Inspect.** As a final check, open the PDF file you create with Adobe Acrobat Reader – it's a free download if you don't have it. Blow the screen up to 300% and carefully examine the entire document for flaws. You should be able to see problems that would show up in the printed version.
7. **Name File(s).** Each sheet should have its separate file - one file for the front, one for the back, and separate files for each page. The name should make clear which page and which side. So a six-page brochure would have p1, p2, p3, etc. in the name. A single sheet printed both sides would have two files: **mybrochure\_f.pdf**, and **mybrochure\_b.pdf**.
8. **Describe the Job.** A simple narrative description of the finished product will help the printer understand what you want. Here are examples:

The end product is a twelve-page, full-color brochure, measuring 8.5 x 11 inches (three 11x17 sheets folded and bound with staples.) [You would submit this as one print job]

The end product is a 12 page set 8.5 x 11 (six sheets), three holes punched but not collated or bound. *[You would submit this as six print jobs because you are assembling it.]*

## CutePDF Writer

*CutePDF* is a free *virtual* printer. The program looks like your other printers in the selection of printers you see when you click "print" in a program. But instead of making a paper copy, it constructs a standard PDF file. Like a hardware paper printer, you may configure the properties of the print process.

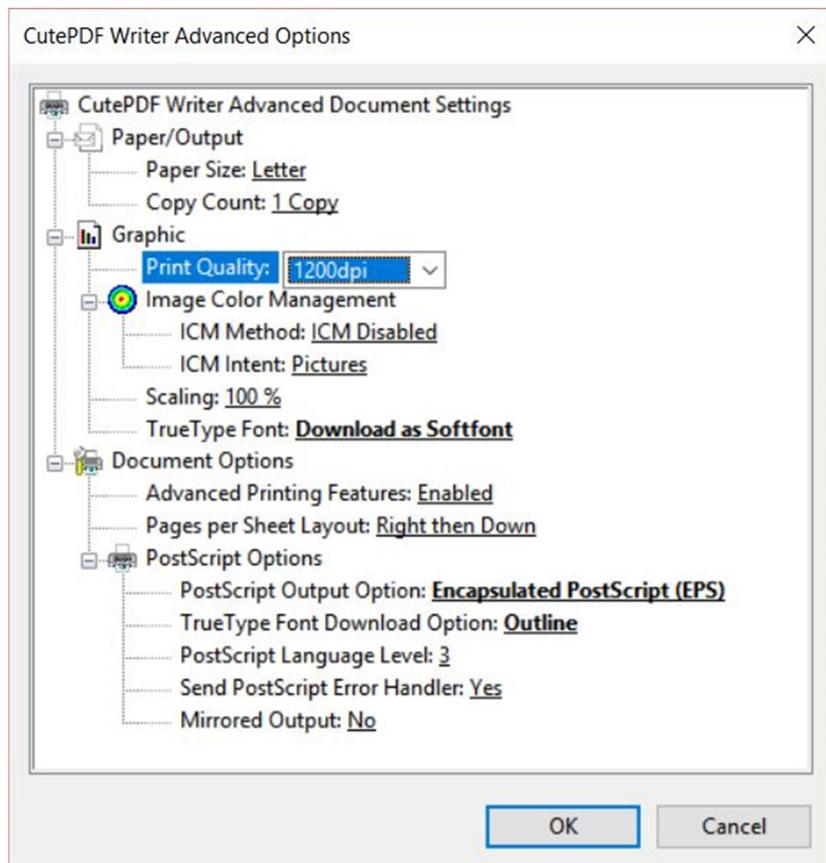
Since Microsoft Word treats it like a hardware printer, your PDF will look exactly like the document you'd get from a good quality color printer.

Here is how to download it to a PC or laptop:

1. Download two files. **Caution: The process will invite you to install free optional *recommended* software like search add-ins for your browser. You will probably want to **uncheck** the option if it's checked, and close the pop-up window that offers it.:**
  - a. Visit <http://www.cutepdf.com/download/CuteWriter.exe>
  - b. Visit <http://www.cutepdf.com/download/converter.exe>
2. Install the files.
3. Once these are installed open your word processor, open a document, and click print – look for “CutePDF Writer” among the printers listed.



4. Open a document and make a PDF, pausing to set the advanced print option as shown below.

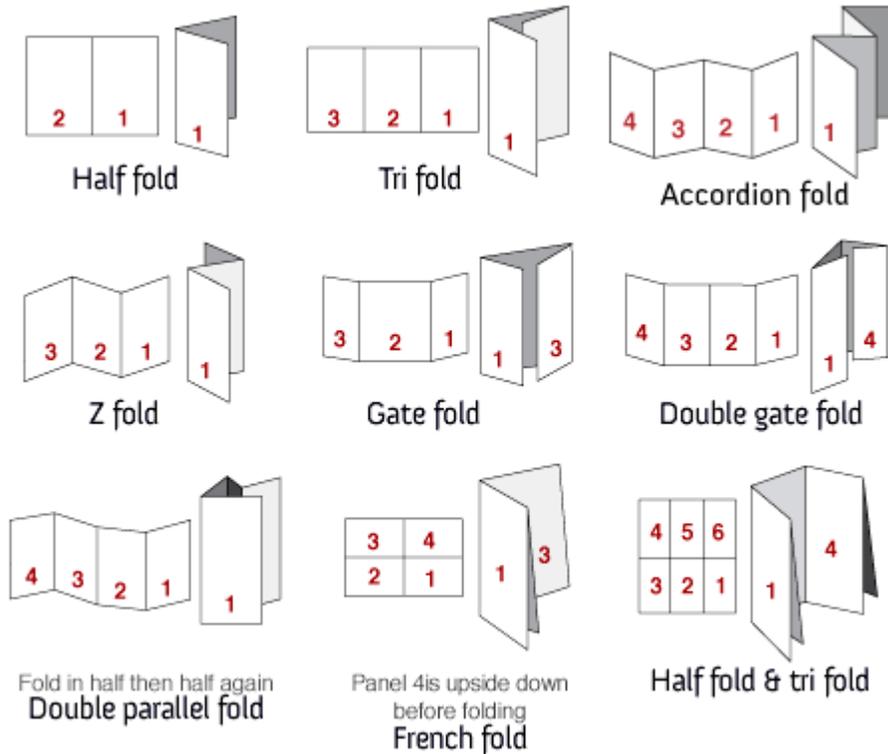


## Online Pre-flight Check

You should print a separate PDF file for each page. If the project is a single sheet printed on both sides that's two (2) pages and two files. You would add an "f" to the filename of the front and "b" to the filename of the back for clarity. Some software, like MS Publisher, has built-in preflight checking. But there is an affordable on-line service that will check and fix most of the common issues. It costs half a buck (\$0.50) per page. It's a bargain if you value your personal time. Check it out at [Con4rm.com](http://Con4rm.com).

## Folding

Commercial printers are geared to fold brochures and cards or score them for easy folding. It's a nominal \$10 to \$30 per order charge regardless of quantity. Here again, if you value your time, it's worth it. But you must specify what you want correctly. Here is an illustration of the most common folding options.



Use the "contact me" form on my website if you have questions or suggestions: [rbshreve.com](http://rbshreve.com). If you downloaded this PDF file, it was printed from an MS Word file using CutePDF.