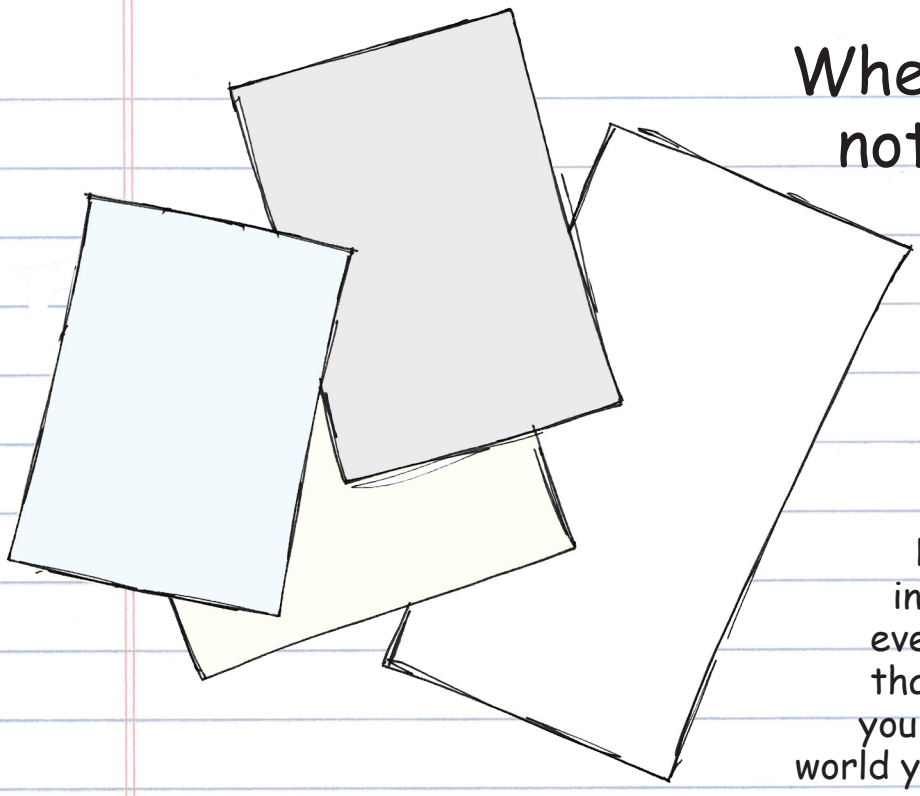


When is white paper, not white?

Depending on what your role is in the printing world, you may not even understand why one would ask that question. Then again, even if you are knee deep into the printing world you might also be wondering why one would ask that question.

With the increase in digital printing, there has been an increase in the types of paper we can print on. Everything from Bond to Coated stocks to specialty papers and each of those types of paper has a different white point.

Many of the papers being used today have OBAs (optical brightening agent) added to them. These OBAs are added to increase the overall "whiteness" of the paper but the OBAs can cause issues.

Patrick Herold from CHROMiX states, "Optical brighteners are additives that paper manufacturers put into paper in order to help a paper look "whiter." They are also called optical brightening agents (OBA), or sometimes "artificial whiteners."

In order to make paper appear brighter, it is common for most paper manufacturers to add certain chemicals to the paper which can take invisible ultraviolet light and cause it to re-emit in the blue spectrum - or fluoresce - at a point that is just barely within our ability to see. While our eyes see this as a brighter, blue-ish white - a light measuring instrument will only see this as a different form of blue. That is why printer profiles made with paper using a lot of optical brighteners can end up printing out images that have a yellow tint to them. The profile is trying to correct for what it sees as too much blue in the paper."

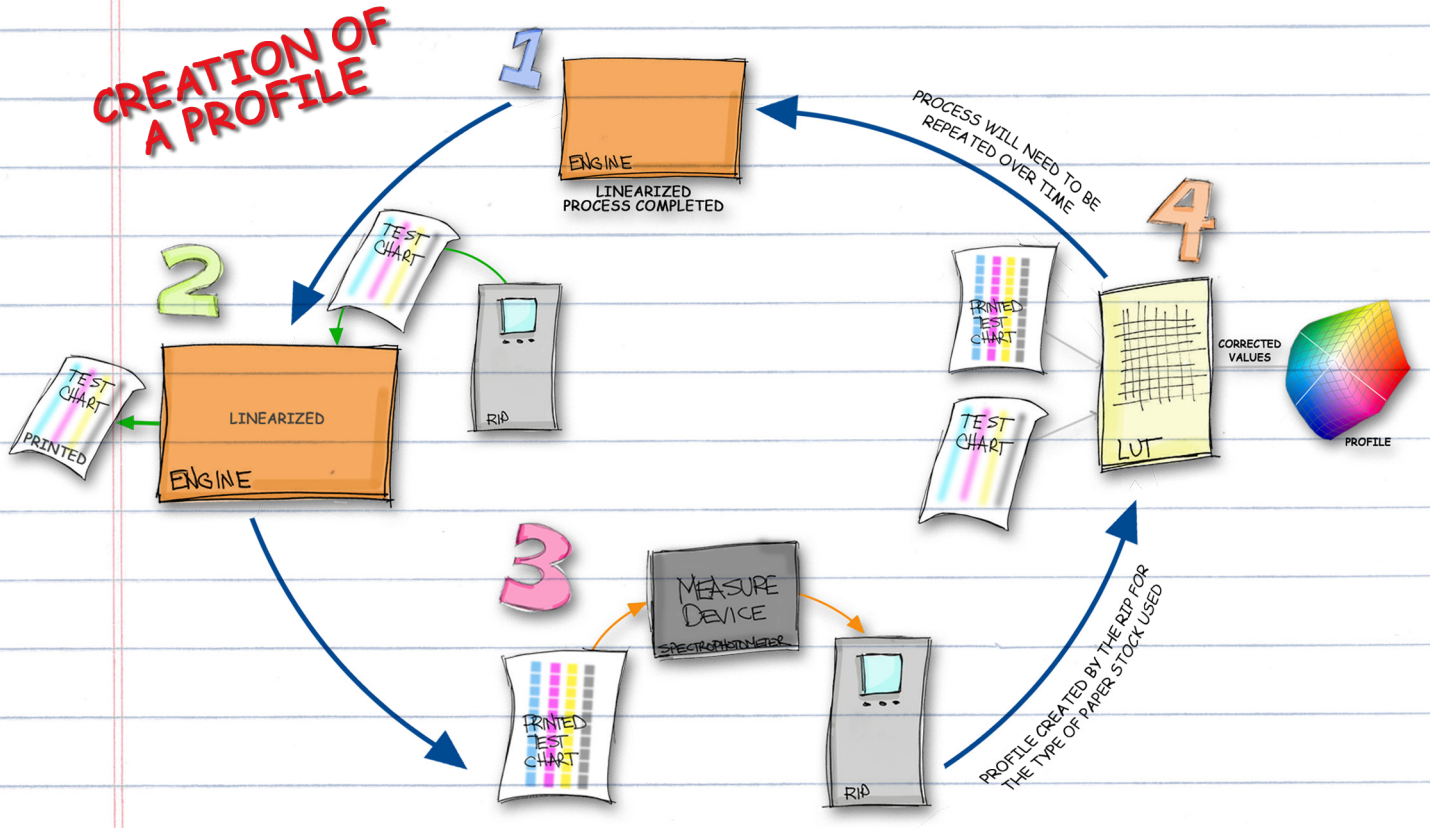
If you are in the printing business or maybe just a large print room of a church, school or business it is important to know and understand that not every paper type will have the same "white point" and when printing jobs that may need to be printed on different types of paper, the white point for each can mean the difference between the image matching or not matching on each type of paper.

For proof that different paper types are not the same whiteness, take a sheet of paper from each type you print onto, Bond (uncoated), Coated (Gloss Text), Cardstock and place them on top of each other.

You will notice that they do not match each other. If all you do is "file, print", your images will not match each other when printed on different types of paper.

So what do you do to make an image match from one type of paper to another? You create paper profiles for the types of paper you print on and when you use these profiles, the printer and rip will take into consideration that profile and "adjust" the toner to match the readings that were taken during the creation of the profile.

In basic terms, the profile will help to adjust the image to the paper's white point and thus make the image match from one paper type to another.



If you do not have a printer that uses a device called a Rip (raster image processor), you will need to speak to your local expert and even if you do have a rip, you may need the help of an expert to show you how to create the paper profiles.

The most common way to create these profiles is to use a software that will print specific test charts and then with the use of a device that can measure the chest chart, typically a Spectrophotometer, measure what the printer prints. By comparing what the known test chart should be to the printed test chart the software will create a profile. This profile will "tell" the printer what to print based on the measurements taken during the profile creation.

Using profiles created for each type of paper is one way to start using Color Management as a means to keep your printing accurate and repeatable.

A poster printed on different types of paper without profiling those paper types will cause the image color to shift towards the color of the paper.
Another way of saying it would be that the color of the paper will influence the image's appearance.

After profiling for the paper types, the poster image match each other in their color appearance because the printer has a correction point for the paper's white point.
The image will look the same on different types of paper because of the profile.

Images are simulated for effect

By day, Matthew Watkins is a Color Analyst in the Digital Printing world and at night or the weekends you can find him behind his drawing table, or sitting in front of his PC or Macbook Pro and even possibly behind either a Nikon DSLR or Canon HD video camera.
He has multiple industry certifications including but not limited to, Idealliance G7 Expert, EFI's Fiery Expert, Adobe certifications, some Microsoft Windows certifications and other things that say he actually knows something about something.
For the most part, he is a self proclaimed color nerd and loves nothing more than to learn all he can about the wonderful universe that is all things color.
He is a certified trainer and enjoys giving as much of his knowledge away as others will let him.
"Sharing is the best part of knowing something."
Married with four children and one wife (that continues to put up with him still to this day!).
He resides in the state of confusion and Illinois, some might say they are one in the same. On a hot summer day you may find him lounging in the side yard pool or in front of a TV if the Cubs are playing. Well, that is, if he has the day off.

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