CHOOSING THE
RIGHT PAPER
FOR YOUR PRINT PROJECT

a white paper

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Executive Summary

The right paper can turn an ordinary project extraordinary. But with so many varieties of paper to choose from, how can you decide where to start? In this white paper, we'll explore the various qualities that go into printing paper and how each can affect your decision. These include brightness, opacity, weight, grain, finish, and more. We'll also look at a few of the most common paper grades and list off some of their uses. In the end, we hope you'll walk away with a better understanding of paper and a clearer direction for specing it out on your next print project.

Brightness

A paper's brightness refers to its ability to reflect light, as measured with standard measuring equipment. You've probably seen brightness listed on the copier or printer paper you purchase for your office. Brightness can range from 0 to 100 and is a percentage of light the paper reflects. The higher the brightness, the clearer and more life-like images appear when printed on it.

Remember, brightness and color are not the same thing. Brightness is important because it affects readability. High brightness accentuates the contrasts between light and dark hues on graphic intense materials, while low brightness can create a blurring effect.

Brightness and whiteness are also not interchangeable. In fact, paper with a slight blue-white hue actually appears whiter than pure white paper, even if both have the same brightness level.

Opacity

Opacity is a measure of light's ability to pass through paper. The higher the opacity, the less light shines through. Opacity affects the visibility of images and text from one side of the page to the other. Greater opacity (or density) increases readability by minimizing the visibility of printing on the other side of the page.

If your project requires printing on both sides of the paper (such as on a brochure, newsletter, or two-sided sales sheet), make sure you choose a paper with a high enough opacity to do the job effectively.

Weight

You've probably heard paper referred to by its weight, such as 20 lb., 80 lb., or 110 lb. These weights refer to the weight of a ream of that given paper at its basic size. A common basic sheet size is 25"x38" for text paper. However, different papers come in different basic sheet sizes. A ream of 80 lb. cover, for example, is measured at 20" x 26" and weighs 80 pounds. Because the sheet size is smaller, the paper itself is thicker than its corresponding text stock.

While sizes vary from one stock to another, they are standard across the industry from one manufacturer to another, making it easier to compare one paper to another. If you're not sure what paper weight you need, always ask for samples.

Paper Weight Guide

Paper Type	Basic Size – 500 Sheets
Bond, Ledger	17" x 22"
Offset, Book, Text, Coated	25" x 38"
Cover	20" x 26"
Tag	24" x 36"
Index	25.5" x 30.5"

Source: http://www.paper-paper.com/weight.html

Grain

Like a piece of hardwood, a piece of paper has a grain: the direction in which most of its fibers lie. Grain short papers have a grain that runs parallel to the shorter side of the paper, while grain long papers have a grain that runs parallel to the longer side.

Just as wood cuts better with the grain, so, too, does paper. Paper also folds more easily with the grain than across it. Heavier papers, in particular, should be folded with the grain. They should also be scored before folding in order to prevent rough or cracked folds. Scoring involves adding a crease along the fold line (prior to folding) to make it easier to fold without damaging the page.

A paper's grain also affects other qualities. For example, paper is stiffer across the grain than it is with the grain, and it expands and contracts more across the grain, as well. If you have questions about how a paper's grain might affect your print piece, don't hesitate to ask.

Finish

Finish refers to a paper's surface texture. Coated papers, for example, have a smooth, uniform, nonporous surface that is highly receptive to ink, while uncoated papers are rougher and more absorbent of ink. This makes coated papers better for high-quality color work.

Coated papers get their texture from a thin layer of clay or other coating added after the paper is made. Inks dry slower on coated papers, and the surface is harder to write on with standard pencils and pens. Keep this in mind for printed items you plan to write on.

A paper's finish can affect the way images and text appear on the printed page. Paper with an overly rough, grainy, or textured surface should be avoided if you're planning to include a lot of detailed imagery.

Acidity

Have you ever noticed that some printed items begin to yellow and grow brittle over time, while others don't? The cause can be found in the paper's acidity. The more acidic a piece of paper is, the more prone it is to aging.

So what causes paper to become acidic? It's actually quite natural. The wood pulp used to make paper contains natural acids. To combat these acids, some papers are treated with a mild base as they're being produced. The base neutralizes the acids and gives the paper a pH level of 7 or more. (Anything below 7 is considered acidic.) Such paper is considered acid-free.

Acid-free paper is ideally suited for any items that must stand the test of time. These include archival documents, books, printed records, and more. So the next time you have an important document you need to reproduce, ask about having it printed on acid-free paper.

Coatings

In addition to the paper itself, many projects require varnishes and other special coatings to be applied after printing for added protection and durability.

Ultraviolet (UV) coating, for example, is a glossy finish applied to a print piece and cured quickly using ultraviolet light. In addition to its shiny appearance, this coating adds strength, durability, and scuff resistance to frequently handled print pieces such as business cards, catalogs, and direct mailers.

Aqueous coating is another common coating added to printed materials, including business cards, brochures, and sell sheets. This clear, protective finish improves the durability of your printed pieces. Water-based and environmentally friendly, it provides a glossy surface that resists fingerprints and smudges.

When choosing a varnish, sealant, or coating, it's important to keep in mind the type of paper you're applying it to. This is particularly true of uncoated paper because of its high absorbency rate.

Making the Grade

A paper's grade refers to its classification, based on the ingredients used in making it and on its intended use. Bond, text, and cover are a few common paper grades. Bond papers are commonly used in office printers and copying machines. Text papers are used for business literature. Cover papers are used for items such as manual covers. And bristol is common for presentation folders, invitations, and the like.

• *Bond* papers are commonly used for letters and business forms. They have surfaces which accept ink readily from a pen or typewriter and can be easily erased.

• *Text* papers are noted for their interesting textures and attractive colors. They enjoy frequent use for announcements, booklets, and brochures.

• *Offset* papers are considered the most economical printing papers. Offset papers may be used for directories, newsletters, books, direct mail pieces with only a few photographs, and other print products requiring average quality.

• *Cover* papers often complement other stocks in heavier weights and matching colors for use as covers on booklets and manuals. This isn't always the case, though. Some papers are made for cover purposes only. Cover papers provide dimensional stability, durability, and a uniform printing surface. They also have good scoring, folding, embossing, and die-cutting qualities.

• *Index* papers have two outstanding characteristics—stiffness and receptivity to writing ink. Index is commonly used whenever an inexpensive, stiff paper is required.

• *Tag* is a heavy utility sheet. Tag board is sometimes colored on one or both sides. Tag stock has good bending or folding qualities. Its surface is adaptable to printing, stamping, or writing.

• *Bristol* is one of the board grades, with a softer surface than index or tag, making it ideal for high-speed folding, embossing, or stamping. It is very receptive to ink and has good resilience.

Conclusion

Choosing the right paper means more than just picking a color, texture, or weight. It really starts with an understanding of your project's goals, specs, and design challenges, then selecting the paper that will best meet those needs. At times, it can seem daunting, especially if you have little or no background in printing. However, armed with the right information about common paper stocks and the characteristics to consider, the decision can feel a whole lot less intimidating (and even kind of fun).

If you have questions about paper or anything else related to your print project, please feel free to call us anytime. We're always here to help.