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MORE THAN JUST PAPER

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## ALL ABOUT PAPER

This publication was designed to help you understand more about the different types of paper available to you. With all the digital printers out in the marketplace today, paper mills have been constantly upgrading the finishes of their papers to enhance the look of the printed piece.

Our goal is that this publication will give you a more complete understanding of paper. At Anchor Paper we pride ourselves in our knowledge of fine papers and helping you specify the right paper for your next project. Please contact us.

### All About Paper

There are many types of paper and mills are constantly working to improve them. This publication will provide you with a better understanding of the physical make-up of today's paper. Explaining sizes, weights, finishes and more. Our PDF will make you a quick expert regarding paper.

### Grain Direction

First of all, when cutting paper for your special project, you have to determine if the paper is going to be folded or not. The reason for this is that papers have what is called a "grain direction". Papers are either grain long or grain short. On an 8.5 x 11 piece of paper, if the grain is going in the 8.5" direction it is short grain, if it goes the 11" direction then it is long grain. In most cases, especially when working with thicker paper stocks, you want to fold your paper with the grain as this will let you have a cleaner fold and reduce or eliminate cracking of the paper stock. When folding your paper, it is recommended that you fold using a bone folder, thin metal ruler, a manual paper scorer, or some other similar device to score the paper before folding.

### Paper Sizes

Paper comes in many sizes. Most people are familiar with what is called a basic "cut size" sheet. These are the papers that are commonly run through copiers, laser printers, inkjet printers, etc. The most popular size is 8.5 x 11. Other popular sizes are 8.5 x 14, 11 x 17 and, most recently, the various digital sizes such as 12 x 18 and 13 x 19. These sheets are generally converted from rolls of paper and packaged at the paper mill.

There are also larger sheets of paper that are cut down from rolls and these are called "parent size" sheets. Some of the popular sizes are 23 x 35, 25 x 38 and 26 x 40 (all sizes in this publication are listed in inches). There are many reasons why parent size sheets are used for printing. On long runs of printing, a large sheet is much more efficient for printing jobs. You can print multiple pages on a single sheet using larger printing presses.

Also, when printing ink on a sheet which extends to one or all edges of the sheet you need to have approximately ¼ to ½" extra paper on all the edges of the sheet. This is what is called a "bleed". The sheets are then trimmed down with the extra stock cut off. This is done so it is ensured that the ink goes all the way to all edges of the paper.



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For example, say you have a larger press you can print four 8.5x11 sheets on a parent size sheet of 17 x 22. If a bleed was required then a 17.5 x 22.5 sheet would be used giving you a ¼" edge to trim down for the bleed.

Another reason parent size sheets are useful is for making envelopes. Envelopes can be made in many various ways such as using roll stock or cut stock. The more traditional method is using cutstock such as parent size sheets. The paper is cut to the size the envelope die requires, then the paper is placed in the die, gets cut, and is folded and glued into an envelope. Almost all envelopes are manufactured by professional envelope converters who purchase their paper either directly from a paper mill or from a paper merchant.

Parent size sheets are also useful for making tabbed dividers, raffle tickets, pocket folders, door hangers, book covers and can be converted to just about any size required for your project.

## Printing on Paper

Papers today come in a wide variety of finishes, colors, sizes and weights. The uses are more demanding and create a need for a greater selection to choose from. Also, with the advent of newer printing technologies, digital equipment and even desktop inkjet and laser printers are pushing new standards on manufacturers requiring they produce compatible products that will provide optimum printing and binding properties.

Not all papers and their printing counterparts are created equal! Copiers and inkjet printers are more limited in some areas for printing on paper. These printers do not, as a rule, print well on rough or bumpy finishes of paper nor do they do well on heavier sheets as frequent jamming can occur.

Printing presses generally have the most options for printing on paper as they have controls that allow them to accept different thicknesses giving them a wider range of papers to print on.

If you plan on printing yourself, make sure that the equipment you will be using will print the paper you choose and provide the quality of print you desire. Also, be sure to check the size and thickness limitations of the printer to make sure the sheet you will be printing falls within those specifications.

When determining a printing method one of the main things to consider is the size of the job. Are you going to print 50 sheets or 5000? This will help you determine which process you should use (while keeping in mind the printability of the stock you choose). It is also desirable to test the paper first before making your final purchase or committing to a printing method. Below are some of the printing methods along with some advantages and disadvantages:

**Printing Presses** – They have a wide range of printing capabilities as they can handle a wide variety of paper thicknesses and finishes. On smaller runs of personalized printing it may not be as effective and has a higher cost. Printing presses are more efficient on longer runs.

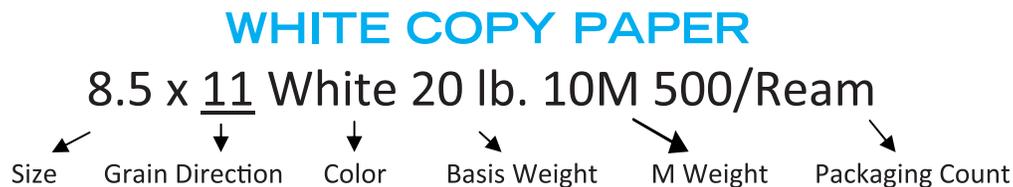
**Digital Copiers (Color or Black & White)** – There are many papers on the market specifically designed to produce very good results with full color printing. They can run a fairly wide range of paper thicknesses. Color quality can vary from copier to copier. They also need a relatively smooth stock surface as raised finishes tend to lead to incomplete images on the paper. Coated papers should be laser guaranteed because of heat and copy quality.

**Inkjet Printers** – Can handle a wide variety of weights and paper finishes. Coated papers and translucent papers should have special coatings on the surface for optimum results. They are relatively slow for printing larger jobs. You can produce beautiful full color work. Inkjet printers also have a fairly high cost for replacement cartridges.

Lastly, when doing a project that requires matching envelopes, be sure to check the availability of the envelope type, size and minimum order quantity.

## Paper Weights

For most people, paper weights can be very confusing. The easiest way to understand paper weights is by using the “sub” or “basis” weight and the “M” weight. The M weight is the weight of 1000 sheets of that particular paper. For example, standard copy paper is normally 8.5 x 11 20 lb 10M grain long. Most paper manufacturers underline a dimension to tell you what grain direction the paper is. Manufacturers may also label the paper “S” for short grain or “L” for long grain. The label below helps identify the various parts of what you will see on a standard paper label.



It is possible to determine the grain direction (especially on thicker sheets) when a label is not present. Take a piece of paper and fold it both ways so that you have creases running in both directions. One crease should be smoother than the other – the smoother crease should be the grain direction of the paper.

Knowing M weights can be very helpful when comparing different grades of paper. The paper with the greater M weight is heavier and most likely thicker. For example, compare 8.5 x 11 90 lb. 21.62M Index to 8.5 x 11 80# 28.77M Cover. The M weight of the 80# is greater so it is most likely the thicker of the sheets.



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One of the most confusing aspects of paper weights is called the Basis, Substance (Sub.) or the pound (#) specification. In dealing with paper, these terms mean basically the same thing. Paper manufacturers name the weights a little different sometimes. Most likely you have heard of the term "20 lb copy paper". The 20lb copy paper is the most widely used paper for copiers, fax machines and where printing needs a minimal quality paper for printing. It is also low in cost and performs well when printing on one side only. On the label previously shown you will notice Basis Weight. Many sheets will be what are called comparative weight papers and so the previous label could also have read "20/50 lb". Why would that be? It is because a 20 lb Bond sheet is the same weight and thickness as a 50 lb. Text / Offset sheet. The basis weights specified are based on the parent size sheet they were converted from.

For example, the 20# bond is based on a parent sheet that is 17 x 22 and the offset is based on a parent size sheet of 25 x 38.

500 sheets of the 17 x 22 bond weighs 20 lbs while 500 sheets of the 25 x 38 offset weighs 50 lbs.

The difference in weight is due to the size difference between the sheets. The basic size for Cover paper is 20 x 26.

The most common comparable weights are 20/50 = 10M, 24/60 = 12M, 28/70 = 13.78M, 32/80 = 16M. The M weights may vary slightly between manufacturers).

Another reason to understand M weights is because often times paper basis weights are the same. An 80# text sheet is much lighter and thinner than an 80# cover sheet. By comparing M weights and also by feeling the paper you will notice a substantial difference.

## COMPARATIVE BASIC WEIGHTS

Bond	Text	Cover	Bristol
20	50		-
24	60		-
28	70		-
32	80		-
40	100	55	67
	120	65	80
		80	100
		100	120

## Paper Finishes

Paper, as you know, comes in a wide variety of finishes. There are laid finishes, linen finishes, felt finishes, coated finishes plus many more. By choosing a certain finish you will also be determining how your piece will have to be printed as some printing equipment will not print well on textured paper surfaces.

It is important to note that some papers, especially darker colors, are made in a cover weight only and therefore envelopes may not be available. This is very important to keep in mind when trying to produce a matching project.

Some manufacturers offer the same color selection across several grades and this is handy for printing projects where you may want a different finish on different parts of the project (such as letterhead, envelopes, business cards and pocket folders).

### Some of the available finishes are:

**Felt Finish** – Has a bumpy finish which is most popular in text and cover weights

**Linen Finish** – Paper that has been embossed to have a linen cloth look

**Parchment Finish** – Has the look of handmade parchment paper. Very popular for wedding announcements or for old world looking documents.

**Translucent** – Has a see through appearance, great for overlays for wedding and other announcements. Should have a special coating for inkjet printing.

These are just some of the finishes, there are many others (such as gloss or metallic) but they number too high to list.

## Paper Selection

There are many reasons why certain papers have different characteristics. Here are some of the reasons why:

**Postage Rates** – sometimes lighter weights are needed so the postage can be kept to a minimum. Also, the weight and size can become a factor on items such as return postcards and RSVP's. You may want to contact the postal service for specifications.

**Printing one side** – lighter weight papers can be used to lower costs when only one side will be printed on (you may want to use higher weight if you are doing full color prints).

**Watermarks** – you may have noticed in many papers that when held up to the light, a watermark is visible. The watermark can be the logo of the manufacturer, the grade of the paper, etc. and portrays a classier sheet.

**Coated Papers** – these normally are gloss, dull, matte, etc. Magazine publishers and promotional literature are some of the primary uses.

**Acid Free** – very popular when you need an archival sheet that will last without deterioration. Acid free paper is required for museums and is very popular with scrap booking today.