Paper Types & Handling Tips

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Temperature and Humidity

Both temperature and humidity affect paper's performance in a printer. Not all printers operate in the same environmental ranges. Refer to your printer's Paper Specifications for the range that is correct for your printer.
The paper used for printing is most effective in a narrower range of temperature and humidity than for the printer.

Moisture and Paper Curl

Moisture causes paper curl. Paper curl is the major problem for most automated paper-handling mechanisms. Excessive paper curl can cause paper misfeeds and paper jams. This condition can affect the print quality and blur the print image. Nearly all paper has curl or at least a tendency to curl. Curl can occur after the paper passes through the printer's fuser where it is exposed to high temperatures. In most paper, curl results from unusually large, sudden, or uneven changes in moisture content. This problem is intensified with unprotected reams. Normally, if paper gains or loses small amounts of moisture evenly, it remains fairly flat; it should feed through the printer with little difficulty. However, if moisture changes occur, primarily to the edges of the paper, the paper usually develops curl. Also, the more moisture changes that occur, or the greater the amount of moisture change that occurs, the greater the amount of curl that is developed. Excessive curl can cause feed problems and poor stacking in the output stacker. Moisture sensitivity can also cause faded printing. Because of these moisture-related problems, better grades of xerographic paper are made with relatively low moisture content and are packaged in moisture-resistant wrappers.

Fusing

Fusing causes toner particles to adhere to the paper surface and to the individual fibers of the paper structure. This process uses heat to soften the toner; and pressure to press the softened toner into the paper.

Note: **The ingredients used in paper manufacture significantly affect the fusing, print quality, and resistance of printed characters to accidental or deliberate erasure. Differences in paper additives, especially sizing materials, can affect the adhesion of toner to the paper.**

Preprinted paper can interfere with optimum toner adhesion because toner does not bond efficiently to inked surfaces. Therefore, it is not recommended to print over the preprinted areas of preprinted paper because it can degrade fusing. The processes and printing inks used on xerographic paper are specifically designed to reduce the possibilities of poor toner adhesion. Check with your paper supplier for the availability of xerographic preprinted paper for your application.
Selecting a high-quality xerographic paper such as IBM Multi-System Paper improves the process of fusing the toner to the paper.

Edge Quality

Rolled edges (the edge of one or more sheets are rolled over the edges of other sheets in the ream) can cause misfeeds or cause more than one sheet to feed at a time, and paper jams can result. Rolled edges are typically caused by dull or improperly adjusted cutting equipment at the paper mill. Ragged edges can cause paper misfeeds and paper jams. Also, ragged edges tend to deposit excessive paper dust throughout the printer. This contamination can degrade print quality by causing streaks, spots, and voids.

Fiber Content

High-quality xerographic paper is made from 100 percent chemically pulped wood. Chemical wood-pulp fiber gives the greatest stability of all common paper-making fibers. The addition of special fibers, such as cotton, sometimes causes curl and can result in paper-feeding problems. The higher the cotton content, the more problems you can encounter. Inexpensive paper can contain mechanically pulped wood. This fiber does not have all the natural impurities removed, and can contaminate the printer and cause degraded print quality and unreliable printer performance.

Grain Direction

During the paper-making process, paper fibers are predominantly oriented in one direction, known as the grain direction of the paper. Grain-long paper is cut with its longer dimension parallel to the grain direction, and is the recommended choice. Grain-short paper is cut with its longer dimension perpendicular to the grain direction.

Paper is normally stiffer in the grain direction. It exhibits more stiffness when it is folded perpendicular to the grain. Because cut-sheet paper is cut grain long, your printer was designed to run grain-long paper. If you have an application that requires grain-short paper you may encounter degraded paper handling performance. It is recommended that you test samples of grain-short paper in your printer before purchasing large quantities.

The grain direction of nearly all xerographic and other business paper is shown on the label of each ream.

The three tests to determine the grain direction of a paper are:
Tear—Tear a sheet of paper lengthwise; repeat crosswise. Compare the two tears. Paper always tears straighter with the grain.

Fold—Fold a sheet of paper lengthwise; repeat crosswise. Compare the evenness of the two folds. Paper always folds smoothly with the grain. Cross-grain folds tend to be rough and crack.

Moisten—Moisten two adjacent edges of a sheet of paper. The grain long direction is perpendicular to the edge that becomes wavy.

The grain should generally be parallel to the long side of the sheet for best printer performance. These papers are called grain-long and can be twice as stiff in the long direction.

Electrical Conductivity

As paper runs through the printer, it receives an electrical charge. Paper that is too conductive yields poor image quality. Paper without some conductivity builds up excessive static and causes misfeeds and paper jams. Although most bond paper falls within an acceptable range of conductivity, xerographic paper is manufactured specifically for this characteristic and performs better than non-xerographic paper. Paper conductivity is related to moisture content; follow storage and operating recommendations to maintain image quality and paper handling performance.

Sizing

All paper that is intended for writing or printing must be sized. Sizing adds small amounts of special materials to the pulp to control the penetration of fluids, such as ink, in the finished paper. Without sizing, the paper behaves similarly to blotter paper, allowing ink to run, and resulting in blurred and fuzzy writing or printing. There are two sizing steps in the manufacture of printing and writing paper. First, sizing chemicals are blended into the pulp before it is formed into paper in the paper making process. This step is known as internal sizing. Second, sizing chemicals are added to the fully formed paper. This step is known as surface sizing.

The two types of internal-sizing are the acid-rosin process and the synthetic process (also known as the neutral or alkaline process). The alkaline process is sometimes used for paper that will be preserved in archives. Most of the paper made today, because of environmental considerations, uses the neutral or alkaline process. Incorrectly blended or excessive amounts of acid-rosin sizing can result in paper that deposits small amounts of rosin on various printer components. With long-term usage of this type of paper, rosin deposits can accumulate sufficiently to cause degraded print quality, or paper-handling problems, or both.

Incorrectly blended or excessive amounts of synthetic sizing can leave sizing that is not fully reacted on the surface of the finished paper. Sizing on the surface of the paper interferes with the correct bonding of the toner used by electrophotographic printers, and results in print that can easily smudge or that can be easily removed by abrasive forces.

If you use synthetically sized paper, test a few sample boxes for toner adhesion characteristics before you make a large purchase. To test this paper, print the same image on both the test paper and on a standard paper (of known and acceptable quality) under similar printing conditions. Make a simple comparison of abrasion resistance by scratching the toner images with your fingernail, a penknife, or a similar instrument.

Surface sizing of most printing and writing paper is done with paper-making starch, regardless of the type of internal sizing used.

Manufacturers of high-quality xerographic paper know the problems that both sizing processes can present for electrophotographic printing. Their paper is carefully controlled to minimize these problems.

Smoothness (Sheffield)

Xerographic paper is generally smoother than most business papers. The degree of smoothness directly affects print quality. If the paper is too rough (such as cockle- and laid-finish paper) halftone and solid images do not print well. If the paper is too smooth, it cannot feed correctly through the printer

Grades and Brightness of Paper

Paper grade refers to the brightness of a sheet of paper. It is a measure of the amount of light reflected by the paper, the more light it reflects, the higher the brightness.

Grade or brightness of paper is an aesthetic consideration only and does not effect print quality or printer performance. Brightness can enhance the contrast between paper and image, and improve readability.

Note: Brightness should not be confused with whiteness, which is the shade of the paper rather than the amount of reflected light.

Paper Contamination

Paper can be contaminated internally or externally. Internal contamination is due to waxes, chemicals, or adhesives. Wax contamination is typically the result of a coated or laminated ream cover which should not be used. Adhesive residue can be a problem with recycled papers.

For best performance, use only mill-cut and mill-sealed paper reams from a supplier whose quality assurance procedures provide for strict control of paper dust. External contamination can be caused by paper dust. Paper dust causes difficulties by accumulating in the printer where it degrades image quality, contaminates printer components, and can lead to a variety of difficult-to-diagnose problems. Paper dust results from sheeting and wrapping operations, and is more likely to be a problem with sheets trimmed to final size with a “guillotine” cutter. Paper itself also can be a contaminant in the printer. Paper that is poorly made, with fibers and chemicals insufficiently bonded to the paper's surface, can contaminate internal printer components with loose fibers (fuzz), causing premature developer failure. Loose material can also accumulate in roll fusing systems producing oil streaks.

Paper that is poorly manufactured, contains cotton fibers, or any rag content should not be used.

Acidity and Alkalinity

Acidity or alkalinity of paper is determined by the sizing used during the paper’s manufacture. Paper can range between high acidity to high alkalinity and is measured on a pH scale of 0 to 14 where pH 7 is neutral, 0–6 is acidic, and 8–14 is alkaline.

Paper with high acidity ages rapidly, and becomes yellow and brittle. Paper with high alkalinity can last long periods of time. The American Society for Testing and Materials (ASTM) has established standards of permanence for paper. Papers with a pH of 5.5 (ASTM III) or higher last a minimum of 50 years, paper with a pH of 8.0 (ASTM I) can last several hundred years.

Although there are no restrictions on the use of alkaline paper, care must be exercised to select paper that does not create an excessive dust contaminant problem such as can occur if excessive calcium carbonate is used during manufacture. High alkaline papers have difficult-to-control frictional properties which can result in poor feeding reliability and poor image fusing.

Paper Cut
Paper that is incorrectly or poorly cut can cause misfeeds and jams. All paper should be cut to size minimizing variation between sheets in width, length, and squareness.

Thickness (Caliper)
The thickness of paper depends on its weight and the amount of pressing (calendering) applied during its manufacture. Thinner paper is usually smoother than thicker paper, more pressing makes the paper thinner, smoother, shinier, and less stiff. Thicker paper, conversely, is stiffer, less smooth, and duller.

Thickness of paper is a significant consideration because:
. Too-thin paper can result in wrinkling, bunching-up, and jams.
. Too-thick paper can cause print quality and jamming problems because the stock is too stiff to bend around components within the printer.
. Non-uniform thickness within a sheet can cause print quality problems.
. Paper-tray capacity is altered depending on the thickness of the paper.

Recycled Paper
Some paper suppliers offer recycled xerographic paper. Recycled paper must conform to the fiber-content characteristics. In addition, recycled paper must be free of any contaminants added to the paper from its previous application. Some of these contaminants can interfere with print quality, feeding reliability, or toner adhesion. Additionally, these contaminants can build up on various paper-path and print-element components, and cause premature failure of these components.

Packaging by Supplier
Xerographic paper is usually wrapped at the paper mill in special moisture-resistant wrappers. Although these special wrappers look like heavy paper, they are specially processed to minimize moisture penetration to protect the package contents from unwanted moisture changes. One popular wrapper design incorporates a thin, moisture-barrier material sandwiched between two layers of paper.

Plain kraft paper wrappers or wax and oil-impregnated wrappers are not sufficient to adequately protect paper from undesirable moisture changes. Xerographic paper, including special-application materials such as preprinted forms, should be packaged by the supplier in ream quantities in appropriate moisture-barrier materials. Waxes and oils used in the fabrication of impregnated wrappers also can contaminate the paper inside the wrapper and cause jams, poor print quality, and contamination of the printer.

Non-Xerographic Papers
There are many other kinds of paper available. Not all of which may have xerographic paper characteristics. Some may work in an electrophotographic printer but will likely cause degraded performance with loss of printer availability and increased service costs.

Paper Types and Grades

There are many types and grades of paper available, not all of which may be available as xerographic paper. Paper types include, but are not limited, to:

. Offset paper
. Multipurpose paper
. Bond paper

Offset Paper

Offset paper, sometimes referred to as “book” paper, has high brightness and moisture content and is designed for use with offset printing processes where the image is transferred from a master plate to a rubber blanket and then to the paper. Offset paper has good surface strength and water resistance. It is graded by brightness on a scale of 1 to 3 where 1 is the brightest.

Offset paper is often used for letterheads when a high-quality premium bond is not required.

Because of its high moisture content, some offset paper can curl excessively with the potential for printer problems.

Multipurpose Paper

Multipurpose paper is designed to work in more than one application. Because of the necessary compromises in the paper’s design, it is not always satisfactory when used in an electrophotographic printer.

An exception is multipurpose (sometimes called dual-purpose paper) that has been developed for offset and electrophotographic printer use. This paper should be tested before extensive use.

Bond Paper

Bond paper is the type most used for writing, printing, and copying. Bond paper is defined as a “strong, superior stock of paper with a hard surface” used for letterheads and general office needs. Bond paper ranges in grade from premium, with high brightness that is made of rags or cotton fibers to less expensive grades of lower brightness. Bond paper represents the bulk of paper used for general purposes.

Some bond paper has a rough textured surface. When used in the electrophotographic printing process, it does not perform well because of poor toner bonding. This paper also has a higher coefficient of friction and greater stiffness than paper intended for xerographic use.

Sulfite Bond: Sulfite refers to the process used to make the wood pulp that is used in this paper. Although the sulfite process is infrequently used today, the term continues to be used. The kraft or sulfate process is in dominant use now. Sulfite bonds are classified as grade numbers 1, 4, and 5.

Premium Number 1 bond is the brightest and most expensive. It is watermarked and not often used.

No. 1 bond is similar to premium Number 1 bond, but it is slightly less bright. Premium Number 4 and Number 4 bonds are not watermarked and are less bright

than Number 1 bonds. Premium Number 4 is brighter than Number 4 bond. The majority of cut-sheet paper available today is one of these two grades.
Number 5 bond has relatively low brightness and is the least expensive.

Rag Bonds: Rag bonds are the “prestigious” papers favored by businesses for letterheads and are much more expensive than sulfite bonds. Rag bonds are made from a combination of cotton and wood fibers to achieve a pleasing appearance and strength. These papers are watermarked to specify their cotton content and are graded accordingly:
Number 1 bonds = 100% cotton fiber
Number 2 bonds = 50 to 75% cotton fiber
Number 3 bonds = (obsolete)
Number 4 bonds = 25% cotton fiber
Because rag bonds usually have rough surfaces, toner generally fuses poorly to them in the xerographic process. Also, they have a higher coefficient of friction and stiffness that can increase the frequency of paper jams. If rag bonds are preferred, select a rag bond that was developed for use in electrophotographic printers.

Prepunched Paper

Pre-punched paper must be smooth, flat and without damaged or curled edges. Check for ragged or interlocked edges around the pre-punched holes. These characteristics can cause the printer to feed more than one sheet at a time and can cause jams requiring operator intervention or a service call. Hole orientation may be critical in your printer; refer to your printer’s Paper Specifications for possible hole-exclusion zones.
Different printers accommodate significant variations from this criteria. If your requirements differ from this criteria, you should test the paper.

Edge-Reenforcement

Edge-reenforced papers have a plastic strip along the hole edge, this reenforces the holes, reducing the possibility of the holes tearing out. These papers reduce the capacity of a paper drawer and may cause paper feed and fusing degradation.

Adhesive Labels

Some printer’s can print self-sticking, adhesive-backed labels.

Heavyweight Stocks

Heavyweight stock includes index paper, cover stock, and bristols. These stocks can be troublesome for several reasons. Although the stock may be within the weight specifications for your printer, they can cause problems because many heavyweight stocks are cut grain-short. For most applications they should be cut grain-long and it should be free of edges that are stuck together because of the type of cutting frequently used.

Heavyweight stocks are not recommended for every printer. Refer to your printer’s Paper Specifications to verify that your printer is capable of handling these stocks.

Grain Direction 2

When ordering heavyweight paper, specify 100% grain long. Heavyweight stocks are commonly cut grain short, and are sometimes packaged in mixed (grain short and grain long) form. Because grain short paper is nearly twice as stiff in the grain short direction as in the grain long direction, 110-lb index stock will almost certainly be too stiff (in its direction of travel through the printer) for acceptable performance.

Short Direction Curl

Another difficulty with grain short stock is its propensity to exhibit short direction curl. This curl does not conform to the transport path, and may present a curved leading edge to machine parts resulting in poor paper handling performance. Grain long stock, on the other hand, exhibits a long direction curl that conforms more easily to the contour of the transport path, and may be beneficial for paper handling.

Edge Sticking

Heavyweight stocks are prone to edge sticking (sheet edges stick together), usually as a result of trimming difficulties, and can cause misfeeds. All four sides of heavyweight stock should be thoroughly fanned prior to loading to minimize the effects of edge sticking.

Index Paper

Index paper is heavier weight paper.

Colored Papers

Colored (tinted) xerographic papers are available in a wide range of shades. Typically, they do not differ from white versions of the same paper and manufacturer in terms of print quality or performance in the printers.

Parchment Papers

Parchment paper has an appearance and feel similar to genuine parchment. It has a rough, mottled surface that simulates the look of parchment. The surface finish of these papers may cause print quality degradation.

Vellum Stock

Vellum stock is a very smooth, translucent paper typically used in drafting and engineering activities. It is produced by the addition of organic resin in a solvent during the papers manufacture. Unless specifically developed for use in paper printers it can emit an unpleasant odor during the image fusing process. Vellum stock for use in printers should not contain high levels of plasticizers which can cause photoconductor spots and cause contamination problems.

Note: Vellum finish is a rough surface finish on the paper which may, or may not also be translucent. Vellum finish papers should be avoided for use in printers.

Non-tearing Papers

Non-tearing papers are actually a coated, polyester film that is waterproof, soil resistant, and extremely difficult to tear. This stock is particularly useful for printing documents that must be preserved, subject to harsh usage, or handled frequently. Non-tearing paper is not recommended for continuous long runs (greater than 1500 sheets) because it is essentially non-absorbent and allows fuser oil to remain on the sheet and be carried through the printer.

Note: This problem can be minimized by occasionally running a few sheets of xerographic paper through the printer.

Non-tearing paper may also increase the number of jams in the printer.

Transparencies

Transparency stock is used primarily to create images that can be used with projection equipment. Transparencies are made from polyester film that has been specially coated to allow toner to readily stick to it.

There are several types of transparency stock available for printer use; paper-backed, removable-stripe, duplicator white-striped, and clear. Refer to your printer's Paper Specifications for specific details in your printer.

When using transparencies, the following suggestions may improve performance.
. To reduce sticking, fan the transparencies before loading.
. Load the transparencies on top of a small stack of the same sized paper.
. If the transparencies are striped stock, be sure to load them according to the instructions given in the printer's Operator's Guide.
. If a jam should occur, do not resume printing until all parts of the jammed transparency have been removed, or severe printer damage can occur.

Non-recommended Papers and Stocks

Certain stocks are not recommended for use in printers because of their potential for contaminating the printer, causing poor printer performance, and resulting in possible service calls. It is recommended that these stocks be avoided.

Envelopes

Not all printers have the capability to print envelopes. Refer to your printer's publications to determine if your printer can print envelopes.

Duplicator Papers

Duplicator papers are very smooth, well-sized, and highly resistant to liquid penetration. They are designed for use in spirit (alcohol) or gelatin duplicators. Duplicator papers can cause paper handling problems in cut-sheet printers because they are thin, lack stiffness, and have a low coefficient of friction.

Mimeo Papers

Mimeo papers are tough, thick, and porous so that ink can be readily absorbed during the mimeograph process. Their extreme roughness can result in poor fusing in electrophotographic printers with roll fusing systems. In addition, chemicals on the paper can contaminate some printer parts.

Carbonless Papers

Carbonless papers allow the creation of multiple part forms. These papers can cause photoconductor problems if not specifically designed for use in electrophotographic printing applications.

Carbonless papers reproduce an image when chemical-containing capsules coated on one or both sides of the paper are broken from the pressure of a pen, typewriter, or impact printer. Most carbonless papers, unless specially developed for printer use, present a significant contamination problem, particularly if used in large quantities.

Coated

Coated stocks have binders, adhesives, and pigments applied to their surfaces on one or both sides. These binders consist of starch, rubber, plastic resins, or latex.

They are use to produce a paint-like finish, either dull or glossy.
Because of the variation in materials and the techniques used to apply them, it is impossible to predict how a coated stock will perform in a printer. Problems that can occur include:
. Blistering of the coating during the fusing process causing contamination or possible damage to the printer
. Pigment separation from the stock causing contamination of the fuser, belts, and transport mechanism causing misfeeds
. Failure of the toner to adhere to the stock
. High-static with result of sheets sticking together
. Possible unpleasant odors

Highly Conductive Paper

Highly conductive paper, such as aluminum foil backed, should **never** be used in a electrophotographic printer. Electric arcing can occur causing poor print quality and printer damage. Conductivity problems can also occur with preprinted forms that use conductive inks.

Paper with high moisture content and/or high salt content may be too conductive to hold a sufficient charge to allow for efficient ink transfer. The result can be low print density, poor solid area density, or image deletions.

Papers with Talc

Talc is sometimes used in the paper manufacturing process to control the effect of pitch in paper; unfortunately, these talcs are difficult to hold within the paper. Even small amounts of talc, 1% or less, can cause significant problems by reducing the friction between paper and the transport mechanism.
Symptoms of problems associated with talc include:
. Increasing rates of jams and misfeeds
. Background spots on the prints caused by loose talc
. Contamination of, and reduced life span of the print cartridge, photoconductor, or developer system

Papers with Wax, Stearate, or Plasticizers

Wax, stearate, and plasticizers in paper can cause paper-handling problems because of their friction-lowering effect on paper and the paper transport mechanism. These substances can also cause print quality problems due to spot formations on the photoconductors.
The usual cause of wax problems is wax-laminated ream wrappers; the wax in the wrapper transfers onto the paper. Stearates and plasticizers are found in a variety of stocks (some vellums, calendered stocks, and coated stocks).

Static Problems

Static problems can be caused by low moisture or low conductivity in paper. Static can prevent sheets from separating from one another, and cause feed problems in post-processing equipment.

Out-of-the-wrapper sheet conductivity should be sufficient to dissipate excessive static, but not so conductive as to affect image quality under humid conditions. Out-of-the-wrapper sheet moisture should not be so low as to contribute to excessive static, nor so high as to aggravate curl and image quality problems under humid conditions.

Solutions to static problems include:
. Ensure that antistatic devices in the printer and post-processing equipment are installed and operating properly.
. Increase the relative humidity in the post-processing area
. Condition the input paper by placing it in the machine area well before printing. Do not remove it from its wrappers during conditioning. Fan the printed sheets before post-processing.

Grain Direction and Handling Problems

Before beginning a job that involves post-processing, note any grain direction requirements of the post-processing equipment. The grain direction can change based on the cutting of sheets after they have been printed. Any time you change, by cutting, what was a vertical sheet into horizontal finished pieces, you change the grain direction.
Many types of post-processing equipment must have grain-long materials in order to operate properly. You may have to print your sheets with grain-short paper so that, after cutting operations, the pieces are presented as grain-long to the post-processing equipment.

Storing Paper

Proper storing of paper protects against paper damage. Store your paper in an environment where the temperature and humidity are similar to the environment or the printer room or area where the paper will be used.
If your paper-storage area has a noticeably different temperature than your printer room, **allow the paper to adjust to the printer-room environment before you open the paper cartons.** Stack the cartons at least 50 mm (2 in.) apart for uniform air circulation around each carton.

Avoid storing paper in an environment over 43°C (109°F). If the temperature difference between your storage area and your printer room is:
. Between 5°C and 10°C (41°F and 50°F), allow 6 to 10 hours for adjustment.
. More than 10°C (50°F), allow a minimum of 24 hours for adjustment.
If the printer is turned off overnight or for more than one shift, add only enough paper to the paper-supply drawers to print the jobs that are run before shutdown. Paper left in the paper-supply drawers when the printer is not running can collect moisture, which can cause print-quality problems and paper jams when the printer is restarted.

Paper size is affected by variations in temperature and humidity. Humidity has the greater effect on print quality and printer performance. Humidity extremes can cause permanent paper damage.

Using Paper/Stock from Storage

Correct paper and stock conditioning, and pre-loading preparation is essential for satisfactory printer performance.

Conditioning Paper

If paper is moved from a storage area to a location with a different temperature and humidity, the paper should be conditioned to the new location prior to its use.
The amount of time required for conditioning is determined by the amount of difference in temperature and humidity between the old and new locations. Also, the number of cartons to be conditioned affects the conditioning time; the greater the number of cartons, the longer the conditioning time.

Paper Pre-Loading Preparation

The following procedures describe how paper reams should be opened and the paper prepared for loading in the printer.

Opening the Reams

Paper reams should be opened carefully to avoid nicking, crimping, or otherwise damaging the sheets of paper.

A26C0259

1. Stack the reams of paper with the seam side up.

A26C0260

2. To open the reams, pull the label area on the wrapper down.

A26C0083

3. Open the wrapper along the length of the seam and fold back the wrapper.
4. With one hand, grasp either short side of the paper ream, ensuring that your thumbs are on the bottom side of the paper stack (the side away from the wrapper seam).

Note: This is an important technique. It helps to keep the correct paper orientation. When the paper is loaded into the printer, the paper is loaded with the curl side up, reducing the possibility of paper jams.

Fanning the Paper

Fanning the paper is important because it allows air to get between the sheets in the paper stack. This reduces the friction between sheets and reduces multiple sheet feeds and paper misfeeds.

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Operator Tip

Do not fan an entire ream of paper the first time you do this procedure. Each ream of paper weighs approximately 2 kilograms (5 pounds).

1. With both hands, gently form a horseshoe shape with the paper stack.
2. Carefully release your grip on one side of the stack, and let the sheets separate from one another.
3. Grasp the end of the paper stack and gently arch the paper while rocking it from left to right.
4. To allow more air to pass through the paper stack, rock the paper one more time.
5. Completely let go of one side of the paper stack to allow the paper to air and flatten out.
6. Check to ensure the that paper curl is facing the same direction.
7. To correct the curl, find where the paper stack splits into two different directions. At that point, divide the paper and re-stack it with the curl of each stack facing the same way.
8. The curl is now facing the same direction for the entire ream. Load the ream into the paper tray.

Determining Curl

Most paper intended for xerographic purposes is usually marked with an arrow indicating the preferred printing side for either simplex printing or first side duplex printing. Depending on your printer, or the specific tray in your printer, the paper could be loaded either up or down; refer to your printer's Operator's Guide for directions. If a paper ream is not marked for correct print-side orientation, determine the curl direction as follows:

1. Hold a one-half inch stack of paper by one of its short sides.
2. Let the paper hang with its long edges perpendicular to the horizontal.
3. Observe which way the paper tends to curl. Either the lower short edge or the two long edges will curl slightly toward center); this is the curl side.

Note: The curl side is opposite the preferred print side (the side identified by the arrow).

Conclusion

These are excerpts from a 98 page book produced IBM. I used portions that pertain to our use the most. In my reading the below short list is the basic components to look for when picking and loading paper:

1) Use long grain paper for Ltr landscape, Legal, & Ledger
2) Use short grain paper for Ltr portrait (Ideally, but not likely to happen)
3) Use paper that cover/wrapping does not have a waxy surface against the surface of the paper
4) Be sure to look at how the paper is to be loaded in the copier/printer so the correct side is printed on first. Sometimes this side is face up, other times this side is face down
5) Try to avoid cheap and most recycled paper. Some recycled paper is of pretty good quality

Remember the “conclusion” is just opinion and not gospel. Just my way of helping to make the paper choosing a little bit easier. There is a lot of information here and some does repeat itself using different wording, but hopefully it will help us to help our customers in choosing a good quality paper for their copier/printer.