

## FAQ's



Omniform, Inc  
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## FAQ's

**ACID-FREE PAPER** > Paper manufactured in a neutral or slightly alkaline pH environment to prevent the internal chemical deterioration of paper over time.

**ACTUAL WEIGHT** > The true weight of any volume of paper, which is used to determine both a paper's purchase price and shipping costs.

**ALKALINE PAPERMAKING** > Paper manufactured under alkaline conditions, using additives, caustic fillers like calcium carbonate and neutral size. The anti-aging properties in alkaline paper make it a logical choice for documents where permanence is essential.

**AQUEOUS COATING** > A water-based coating, applied after printing either in-line or off-press, to help prevent ink from rubbing off. Unlike UV coating or a varnish, aqueous coating will also accept ink jet printing.

**ARCHIVAL PAPER** > These are alkaline papers that will not deteriorate over time. National standards for permanence dictate that archival papers must be acid free and alkaline with a pH of 7.5 to 8.5, include 2% calcium carbonate as an alkaline reserve, and not contain groundwood or unbleached wood fiber.

**BACKING UP** > Printing the back or reverse side of a sheet that has already been printed on one side.

**BASIC SIZE** > The standard sheer size used to establish the basis weight of a ream (500 sheets) of a given paper grade. The basic size of text-weight papers, for instance, is 25" x 38" and the basic size of cover stock is 20" x 26".

**BASIS WEIGHT** > The weight in pounds of a ream (500 sheets) of a particular paper grade that has been cut to its basic size. Example: a ream of 25" x 38" text paper would weigh 70 lb. The basis weight of papers suitable for watermarks ranges from 16 lb. to 28 lb., with 24 lb. being the preferred weight.

**BINDING** > The fastening together of papers to create a book or brochure. The most common styles of binding are:

Case or edition binding: Commonly used for hardbound books, case binding brings folded sheets together into signatures, which are sewn together with thread and glued to a spine, with gauze extensions to hold together the end papers.

Mechanical binding: Stacked single sheets are punched with a hole along one edge and bound together with a plastic comb or spiral ring.

Perfect binding: A stack of single sheet papers is glued together along one edge and wrapped with a cover sheet.

Saddle stitched binding: Folded sheets or signatures of paper are gathered together, one inside the other, and placed over a "saddle," then stitched or stapled along the spine with wire.

Side stitched binding: Single or folded sheets of paper are stacked together and stapled at the edge.

**BLEED** > An image or printed color that extends to the trimmed edges of a page. Bleeding one or more edges usually increases the amount of paper needed and the cost of print production.

**BLIND EMBOSS** > An embossed (raised) letter or image presented without the use of ink or foil.



**BONDING STRENGTH** > The ability for paper fibers to bond to one another. The stronger the bonding, the less likely the fibers are to "pick" or come loose on press. Bonding strength not only affects runnability, it is essential for smooth scoring, folding and special techniques such as engraving and thermography.

**BRIGHTNESS** > The percentage of light in a narrow spectral range reflected from the surface of a sheet of paper. Brightness is not necessarily related to the whiteness of the sheet, but refers to the amount of light reflected back to the viewer. Bright sheets illuminate transparent printing inks and provide cleaner, crisper colors

**BRISTOL PAPER** > A heavyweight paper made to a caliper of .006" or higher. Thin plate weights in smooth, vellum and plate finishes, and Coronado in 100 lb. vellum.

**CALIPER** > A measure of paper thickness expressed in units of a thousandth of an inch. Caliper is an important indication of a sheet's uniformity, which is important for consistency on press and in the bindery.

**CASEBINDING** > The kind of binding used for hardcover books.

**COLORCURVE™ SYSTEM** > A color matching system based on light reflectance curves rather than on ink formulations. This system addresses the tendency for some colors to appear different on different surfaces, materials and lighting conditions.

**COLORFAST PAPERS** > Colored papers that will not run when wet or fade under bright light.

**COLOR SEPARATION** > The process of separating full-color artwork or transparencies into the four primary printing ink colors of magenta (red), cyan (blue), yellow and black by using various photographic/scanning methods. Today separations are typically made using electronic laser scanners.

**COLOR SUBSTITUTION** > A way to alter the look of an image. One ink is substituted for another, often in a four-color process printing. Keep in mind that color is substituted on the entire separation affecting every place it appears within the image.

**COLOR TRANSPOSITION** > Transposing color negatives (such as, swapping magenta and cyan) is an easy and inexpensive way to achieve intriguing effects with conventional processes. Be sure to preview how the transposed colors will look on press by color proofing the image on the chosen paper stock beforehand.

**COMPREHENSIVE (COMP)** > A full-size mockup of the proposed design, showing layouts of images and type, as well as use of color and paper.

**CONTINUOUS TONE** > Images that have not been screened and contain gradient tones from intense black to white, such as, a black and white photograph.

**CONTRAST** > The tonal gradation between highlights and shadows in an image. High contrast features extreme light and dark areas.

**COTTON PAPER** > Paper made with a minimum of 25% cotton fiber.

**COVER PAPER** > Generally heavier, stiffer paper that is ideal for the outside cover of annual reports, brochures, catalogs and booklets as well as for business cards and folders.

**CURL** > The curling that sometimes occurs along the edges of a sheet when the paper is exposed to extreme humidity changes or other physical stresses. This tendency is less likely in papers with recycled content because the paper fibers are shorter.

**CUSTOMARK** > Developed by Fox River in the 1950s, Customark is a patented off machine watermarking process that creates a unique translucent mark which becomes part of the paper. More economical than traditional dandy roll watermarks, Customark are suited to for small manufacturing runs.

**CUT-SIZE** > Writing and business papers that are cut to a finished size of 8 1/2" x 11", 8 1/2" x 14", or 11" x 17". Cut-size papers are usually packed in reams of 500 sheets and sold in office supply stores.



**DANDY ROLL** > A wire mesh cylinder on papermaking machines that makes watermarks or a laid or woven finish.

**DEBOSSING** > The opposite of embossing. Instead of a raised image, letters or images are depressed into a sheet with a die.

**DECKLE EDGE** > Feather-edged sheets that trace their origin back to early handmade papermaking when the pulp slurry seeped under the molding frame (deckle) causing the edges to feather.

**DENSITOMETER** > A printer's tool used to make sure that the ink color stays accurate and consistent throughout a print run.

**DENSITY** > The weight of a sheet of paper relative to its bulk. Compacting fibers create a dense paper.

**DIE-CUTTING** > Using a metal-edged die or laser, shapes are cut into paper. This may be for the purpose of creating a decorative pattern or for functional needs such as making a pocket folder.

**DOT COMPENSATION** > Coated and uncoated papers tend to absorb ink in different degrees. To adjust for these varying absorption levels, printers alter the size of the dots in halftones and four-color images to compensate for dot gain.

**DOT GAIN** > The tendency for the dots of halftones and four-color images to print larger than they are on the film or plate. Printers adjust for dot compensation based on the type of paper selected to make sure images don't look distorted.

**DPI (DOTS PER INCH)** > In lithography, the number of dots that fit horizontally and vertically into a one-inch measure. Generally, the higher the dpi, the sharper the printed image.

**DRY TRAP** > The process of applying a second layer of wet ink over a layer of dry ink that had been run previously in a separate pass through the press. Although more expensive, dry trapping provides a sharper image than wet trapping because the ink isn't diluted by the other layer of wet ink.

**DRYOGRAPHY** > Waterless offset lithography which facilitates the use of very fine line screens for high-resolution printing.

**DUMMY** > The unprinted mockup of the book or brochure made of paper stock that will be used. You can get them from a printer.

**DUOTINT** > A one-color halftone printed over a screen of a second color halftone.

**DUOTONE** > A two-color halftone of the same image created with two screens, two plates and two colors. Generally the full tonal range is printed in black and the middle range of tones are printed in the second color to create an effect that is deeper and richer than a one-color halftone.

**DUPLEX PAPERS** > Feature a different color on each side of the sheet, laminated together.

**DUST** > Loose flecks of fiber, filler and/or coating on the paper that sometimes sticks to the printing blanket and prevents ink from reaching the paper surface.

**ELECTRONIC PRINTING** > Photocopiers, ink jet and laser printers and other printing methods that create images using electrostatic charges or ink sprays rather than a printing plate.

**ELECTROPHOTOGRAPHY** > A printing process that uses principles of electricity and electrically charged particles to create images - such as, photocopiers and laser printers.

**ELEMENTAL CHLORINE FREE (ECF)** > ECF papers are made exclusively with pulp that uses chlorine dioxide, but not elemental chlorine gas, rather than elemental chlorine gas as a bleaching agent. This virtually eliminates the discharge of detectable dioxins in the effluent of pulp manufacturing facilities.

**EMBOSSING** > The use of pressure and a metal die to create a raised letter or image on paper.

**ENGRAVING** > Developed by goldsmiths in the 15th century to transfer metal etchings onto parchment, requires hand tooling or photochemically etching a design into a metal die. The die is covered with an opaque ink and wiped clean, leaving ink only in the "cut-in" design. Paper is then pressed between the etched die and a mirror image counter die, transferring ink onto the sheet and creating an elegant raised impression.

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**FELT FINISH** > Highly tactile and soft textured, felt finish papers are ideal for special techniques such as embossing and foil stamping.

**FELT SIDE** > The top side of the paper that comes in contact with the felt blanket or dandy roll in the papermaking process. The bottom side is called the wire side because it comes in contact with the forming wires. The felt side of the paper is slightly softer and smoother in texture, and printers may adjust ink densities to compensate for the side to side difference. Paper is normally packed and shipped felt side up.

**FIBER** > The cellulose fiber, typically from cotton or wood, that is the main ingredient of paper. Specialty papers may contain synthetic fibers such as rayon or nylon.

**FIBER-ADDED PAPER** > Fiber additives such as wood chips, colored cotton fibers and colored rayon fibers used to enhance the visual appearance of a sheet.

**FINISH** > The surface characteristic of a sheet created by either on-machine or off-machine papermaking processes. Popular text and cover finishes include smooth, vellum, felt, laid and linen.

**FINISHING** > The trimming, folding and binding of printed sheets into final form for use.

**FLUORESCENT INKS** > Printing inks that emit and reflect light. Generally, they are brighter and more opaque than traditional inks, but they are not color fast, so they will fade in bright light over time. Their metallic content will also affect dot gain and trapping.

**FOIL STAMP** > Foils made of metal or other materials available in various colors, typically combined with embossing or debossing. The foil, made of a metal or other materials available in various colors, is carried on a plastic sheet and transferred through a stamping process onto paper.

**FOLDING** > Paper can be folded into a variety of styles to create books, brochures and pamphlets. Folding stresses the paper fibers and can result in cracking. Cover weight and bristol papers should be scored to create a smooth, straight fold.

**FORM** > The imposition pages of a book or brochure that are printed on the same sheet of paper as it passes through the press. Once folded and trimmed, a form becomes a "signature".

**FORMATION** > The dispersion of fibers in a sheet of paper. The more uniform and tightly bound the fibers, the better the sheet will print and look.

**FOUR-COLOR PROCESS** > A printing method that involves separating full-color images into four different halftones by using color filters of the opposite color – such as, a red filter to capture a cyan halftone, blue to capture yellow, green to capture magenta. A four-color image is reproduced by printing each halftone in one of four ink colors - magenta, cyan, yellow and black. The optical blending of these colored dots recreates a continuous tone image.

**GATEFOLD** > Two or more parallel folds on a sheet with the end flaps folding inward.

**GHOSTING** > A screening technique that entails scanning an image full strength, then screening it back to reduce the dot size.

**GRADE** > A type or class of paper with the same composition and characteristics. Grade refers to general paper categories such as writing, text and cover as well as specific company brands.

**GRAIN** > The direction in which most fibers lie in a sheet of paper. As the pulp slurry moves forward on the papermaking machine's forming wire, the fibers tend to align themselves in the direction of movement. Binding books parallel to the grain allows for a smoother fold than working across the grain. Grain direction of sheetfed papers is usually indicated by underlining the number, such as, 23" x 35". On a web press, the grain direction should run along the length of the paper web.

**GRAIN LONG** > Grain running lengthwise along a sheet of paper.

**GRAIN SHORT** > Grain running widthwise along a sheet of paper.

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**GRAVURE** > An intaglio, or recessed, method of printing that uses recessed images etched onto a flat or cylindrical plate which moves through an ink pool. A blade scrapes excess ink off the plate, leaving ink only in the recessed areas. A second cylinder presses the paper against the plate so that it picks up ink from the wells. Gravure is ideally suited for multimillion copy runs because the presses can run at extremely high speeds, and the intaglio plates are more durable.

**GRIPPERS** > A row of clips holding the sheet of paper in place as it speeds through the printing press.

**GRIPPER EDGE** > The leading edge of paper that moves through a printing press or folding machine. A 3/8" allowance in the paper must be made for the gripper edge.

**GUILLOTINE** > A French guillotine-style cutting machine that trims stacks of paper to size with a chopping downward movement.

**HALFTONE** > The reproduction of continuous tone artwork, such as a photograph, by using dots to simulate the tones between light and dark. A halftone is made by scanning an image through a line screen to convert the picture into dots.

**HICKEY** > Stray spots of ink or irregularities in ink coverage on a printed page usually caused by paper or pressroom dust, dirt or picking of the printing blanket.

**IMPOSITION** > The laying out of type pages in a press form so that they will be in the correct order after the printed sheet is folded. Imposition planning can help reduce paper waste and make-ready time. The most common imposition approaches are sheetwise, work-and-back, work-and-tumble, and work-and-turn. See specific name for definitions.

**IMPRESSION CYLINDER** > The press cylinder that holds the paper while an inked image from the blanket is pressed upon it.

**INGREDIENTS OF PAPER** > Paper is composed of cellulose fibers such as from wood or cotton and additives, such as fillers, dyes and sizing.

**INK** > Printing inks are made up of pigment, pigment carrier and additives formulated to reduce smudging, picking and other printing problems associated with ink. The choice of ink depends on the type of paper and printing process.

**INK ABSORPTION** > A paper's capacity to accept or absorb ink.

**INK HOLDOUT** > The way the ink pigment sits on the surface of the paper. Strong ink holdout results in a sharp, bright image.

**INTAGLIO PRINTING** > Printing method also called Gravure (see specific definition).

**JOG** > Shaking a stack of papers by machine or hand to align the stack and get rid of any dust particles.

**LAI D FINISH** > Laid finish papers feature a subtle linear pattern called "laid lines." These lines are created by a dandy roll with wires running parallel to its axis.

**LASER COMPATIBLE** > Papers engineered with special properties that assure smooth and consistent performance on laser equipment.

**LASER DIE-CUTTING** > Technically not a die-cut, laser die-cutting is an extension of the photographic process. A metal template made from black-and-white artwork performs the role of a film negative. Wherever there is a hole in the template, a laser beam passes through and vaporizes the exposed area of the paper. Extremely precise, lasers enable the creation of amazingly intricate patterns with ease.

**LETTERPRESS** > A relief printing method using cast metal type and raised images made on plates. Raised areas are inked and pressed against paper to transfer the text and images.

**LIKE-SIDED** > Paper that has the same appearance and characteristics on both sides.

**LINEN FINISH** > A finished paper that has an overall embossed pattern on the surface resembling the look and feel of linen cloth, and one manufactured with engraved embossing rolls.



**LINES PER INCH (LPI)** > The fineness of a halftone screen is measured by the number of lines per inch. The more lines per inch, the more detailed the printed image will be.

**LITHO** > Industry jargon for lithography or offset lithography.

**LITHOGRAPHY** > The most common printed method in use today, lithography is based on the principle that oil and water don't mix. The image to be reproduced is created on a printing plate with greasy material that repels water. The plates are run wet so that oil-based inks adhere to the greasy parts of the plate, which are transferred to a blanket and pressed onto paper.

**M WEIGHT** > The weight in pounds of 1,000 sheets of paper. On the label of a ream of paper, the M weight (for the Roman number M, meaning 1,000) typically appears after the paper dimensions.

**MACHINE FINISH** > Finish or texture pressed into the paper while it is being formed on the papermaking machine.

**MAKE-READY** > Hanging plates, adjusting blankets, setting registrations, balancing ink colors and other press preparations prior to a print run.

**MAKING OR MANUFACTURING ORDER** > The specification of a special weight, color or size of paper not available as a standard stocking item.

**MATCH COLOR** > A custom-blended ink that matches the specified color in a color system, such as PANTONE MATCHING SYSTEM®, Colorcurve™ and Toyo™. More exacting than four-color process in achieving a specific color and shade.

**MECHANICAL DIE-CUTTING** > Uses sharp steel rules formed into the desired shape and set into a wooden die. Mounted to a letterpress, these rules are designed to cut, score, crease or perforate when pressed against paper and a flat counter. Standard dies are readily available for pocket folders and other common uses.

**MECHANICAL BINDING** > Stacked single sheets of paper that have been hole-punched and secured with a spiral wire or plastic comb.

**MERCHANT** > The paper distributor for paper mills and manufacturers.

**METAMERISM** > The tendency of color to appear different under different light sources such as fluorescent or natural sunlight.

**MILL** > The manufacturing facility where paper is made.

**MOIRE** > In four-color process printing, a moire pattern is created when four screens of colored dots are not properly aligned with each other, thus causing an undesirable, blurry effect.

**NOTCHED BINDING** > Sometimes used to strengthen perfect binding, notches are made in the binding edge and filled with adhesive to hold the pages together.

**OFFSET** > An indirect printing process, usually referring to offset lithography. The term offset comes from the fact that ink is transferred to paper from a blanket that carries an impression from the printing plate.

**OFFSET PAPERS** > Papers developed for offset printing.

**OPACITY** > The opaqueness of a sheet of paper. Opacity is not always determined by thickness or weight of a sheet' but by the amount and type of fibers and fillers used to minimize show through to the other side.

**PALLET** > A wooden platform with a slatted bottom used to hold and ship stacked cartons of paper.

**PANTONE MATCHING SYSTEM®** > Based on a color swatchbook system that gives printers recipes for how to mix inks to match the colors shown, Pantone is the most widely used ink color matching system in America.

**PAPER** > A matted web of cellulose fibers formed into a dry sheet.

**PAPER CONSULTANT** > A specification representative from a paper mill or merchant who can offer expert advice on how to choose and use a paper for a specific job.



**PAPERMAKING** > Invented in China by T'sai Lun some 2,000 years ago, papermaking still follows the same basic procedures. Today wood chips are cooked with chemicals to release cellulose fibers and to dissolve lignin, then washed to remove impurities. Most printing papers are then bleached to lighten the color of the pulp. Pigment, sizing and fillers are added, along with large quantities of water. The resulting slurry, which is 99% water, is cascaded onto the continuously moving forming fabric of the Fourdrinier paper machine. Side-to-side shaking distributes the slurry, forming a tangled web of fiber as the water drains off. A wire mesh roller, called a dandy roll, moves over the surface to modulate the turbulence and smooth the top side of the paper. A felt blanket absorbs more water from the paper and sends the sheet on through a channel of hot metal drums that dry and press the paper at the same time to give it a more even sided finish. At this point, the paper is fully dry and ready for off-machine processes such as coating, embossed finishes and supercalendering.

**PARCHMENT** > To simulate the look of ancient parchment, which was made from animal skin, both text and cover versions are made with a variegated surface, translucent colors and rigid feel.

Parchment is often used for diplomas, certificates and contracts.

**PERFECT BINDING** > Single sheet papers are stacked and glued together along one edge and wrapped with a cover.

**PERFECTING PRESS** > A press that prints both sides of a sheet at the same time.

**PETROLEUM-BASED INKS** > Inks that use petroleum as the vehicle for carrying the pigment. Oil-based inks are giving way to vegetable-based inks, which are kinder to the environment.

**PICK OUT** > A problem on press caused by paper with weak bonding strength or poor sizing. As the ink hits the paper, it picks off some of the fibers and transfers them onto the printing blanket, creating "hickeys" (printing blemishes) on subsequent sheets.

**PICK RESISTANT** > Paper with good bonding strength that keeps fibers in place as the sheet goes through the press.

**PICKING** > The problem of ink picking off paper fibers during printing. This may be an indication of a paper with low bonding strength or the use of an ink with too much tack for the paper it is printed on.

**PIGMENT** > An ingredient added to pulp to increase the brightness and opacity of white paper. Pigment dyes are also used in some colored grades to create deep colors.

**PLATE** > Short for printing plate, which is the thin metal sheet that carries the printing image.

**PLATE FINISH** > A term describing a smooth, hard finished paper. Plate is a popular choice for business cards, invitations, announcements and baronial panel cards.

**POST-CONSUMER RECYCLED PAPER** > Recycled paper made from waste paper materials recovered after use by consumers.

**PPI** > Pages per inch or the number of duplex printed sheets in a one-inch stack of paper.

**PRECISION SHEETING** > The conversion of paper rolls into finished sheet sizes in a single operation.

**PRESS PROOF** > A printing test of the actual job before the final production run. Press proofs are generally printed on the paper stock that will be used in order to see how the images will appear on the sheet.

**PRINT QUALITY** > The quality of the finished printed piece, which is affected by the paper, ink press and skill of the press operators.

**PRINTABILITY** > The overall performance of the paper on press.

**PRINTING** > The transfer of ink onto paper or other materials to reproduce words and images.

**PRIVATE WATERMARK** > A watermark that has been specially designed and manufactured for a business, institution or individual. A symbol of distinction and prestige, private watermarks also offer protection against forgeries since the corporate logo becomes a translucent mark in the paper itself.

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**PROCESS COLORS** > For four-color process printing, magenta (process red), cyan (process blue), yellow and black inks are used.

**PT.** > The abbreviation of point, a measurement of the thickness of paper.

**PULP** > A slurry of cellulose fibers and water which is the basic ingredient for paper.

**QUADRATONE** > A black-and-white image printed with four screens and four colors. The colors are often made up of multiple blacks or greys to strengthen the intensity of light and dark areas.

**RAG PAPER** > Paper that contains at least 25% cotton fiber.

**REAM WEIGHT** > The actual weight in pounds of a ream (500 sheets) of paper.

**RECOVERED PAPER** > Used papers that have been recovered from the solid waste stream in order to recycle them into fresh papers.

**RECYCLABLE** > Materials suitable for recycling.

**RECYCLED CONTENT PAPER** > Paper that contains some recycled fibers.

**REFRACTIVENESS** > A measure of the amount of light deflected off a sheet of paper. Highly refractive papers enhance the brightness and clarity of images.

**REGISTRATION** > Aligning two or more halftones exactly so that the resulting image is sharp and clear.

**RELATIVE HUMIDITY BALANCE** > Balancing the moisture content in the paper with the humidity and temperature in the pressroom. Paper with too much humidity will expand, causing wrinkling and registration problems during printing. Paper with too little moisture may not absorb inks evenly.

**RELIEF** > Letterpress, flexography and rubber stamps are all examples of relief printing. Type and images sit above the surface of the printing plate. The relief portion is inked, and paper is pressed against it to reproduce everything that sits above the surface.

**RESILIENCE** > A paper's ability to return to its original form after being stretched, bent or compressed during the printing and bindery process.

**ROSETTE** > The dot cluster pattern created by four-color process printing. Because the dots are angled and overlap each other, they form a rosette pattern.

**ROSIN** > A natural resin from pine trees, used to size acidic paper.

**RUNNABILITY** > The ease with which a paper moves through a printing press. This is primarily determined by the paper's strength, tear resistance, dimensional stability, bonding strength and water resistance.

**SADDLE-STITCHED BINDING** > Folded sheets or signatures of paper are gathered together, one inside the other, and placed over a "saddle," then stitched or stapled along the spine with wire.

**SCORING** > The process of pressing a groove into the paper to allow it to fold more easily and keep the sheet from cracking when folded. The score should run parallel to the paper grain and be folded with the scored side on the outside. Thick papers require wider scores.

**SCREEN** > In offset lithography, a screen is a glass or film with cross-ruled opaque lines or vignetted dots used to reproduce continuous tone artwork such as photographs. To create a halftone, an image is shot through the mesh screen to break it into tiny dots. The closer the line screen, the smaller the dots and the more dots per inch and, hence, the finer and crisper the printed image. Less absorbent papers reduce the spread of ink dots and, therefore, a finer line screen can be used.

**SCROLLS** > Long sheets of paper, papyrus or parchment that can be rolled for storage.

**SELF COVER** > A booklet covered with the same paper that is used for the inside text pages.

**SHADE** > The hue and depth of a particular color within the same color family - such as, the many shades of red.

**SHEET-FED PRESS** > A press that prints single cut sheets of paper, rather than a continuous roll or web of paper. Because sheetfed presses print one page at a time, they are better suited for shorter runs.



**SHEETWISE** > Also called work-and-back, this is a method of printing different pages - or two different forms - on the front and back sides of a large sheet of paper.

**SHEFFIELD** > A test to measure the smoothness of paper by measuring the rate of air flow over the surface of the sheet.

**SHOW THROUGH** > The condition where printing on one side of paper can be seen from the other side when viewed through light. The more opaque a sheet, the less the show through.

**SIGNATURE** > The term used for a large printed sheet or form after it has been folded and trimmed down to page size.

**SILK SCREEN** > Also known as screen printing, this printing method forces ink through a porous screen, such as nylon, directly onto the paper or other material. An emulsion or stencil is used to block out the non-printing areas of the screen so that only type or image appears.

**SIZING** > The property of paper that relates to its resistance to water, other liquids or vapors. Sizing ingredients are added to pulp before it is formed into paper or applied to the surface of the paper after it has dried. Sizing serves as a glue to keep the paper fibers tightly woven and in place so the sheet won't pick on press.

**SMOOTH FINISH** > Text and cover grades that are highly calendered are called smooth finish papers. A smooth finish creates a hard, uniform surface that provides strong ink holdout and crisp dot resolution.

**SMOOTHNESS** > The surface uniformity of paper. Sheets that are flat and even provide better ink dot formation and sharper images.

**SOFTWOOD PULP** > Pulp made from coniferous trees such as pine and fir. Typically paper is made from a blend of softwood and hardwood pulp. Softwoods provide long fibers for strength, and hardwoods have shorter fibers that contribute to smoothness and bulk.

**SPECIFYING PAPER** > The process of choosing the right paper for a specific printing job. Designers and printers typically base this on individual design, printing, handling and budget requirements.

**STENCIL** > A sheet of plastic, cardboard, metal or paper in which a desired letter or design has been cut out so that ink or paint applied to the sheet will reproduce on the surface beneath.

**STOCHASTIC** > A recently introduced method for creating halftones, stochastic screening uses frequency modulation (FM) to generate randomly placed dots. Holding registration on press is harder with stochastic screens, but the resulting color is often richer.

**STOCK** > Paper that will be printed.

**STOCK ITEM** > Paper that is manufactured and kept in inventory.

**SUPERCALENDER** > A stack of alternating steel and fiber covered rolls at the end of the paper machine that are used to increase a sheet's gloss and smoothness.

**SWATCHBOOK** > A booklet containing paper samples and specifications for each grade of paper.

**TACK** > The stickiness of the printer's ink. Printing inks need to have internal cohesion to sit firmly on the surface of the paper. Too much tack will pull the paper apart.

**TEAR STRENGTH** > A measure of how likely a paper will continue to tear once started. Tear strength will differ with and against the grain.

**TENSILE STRENGTH** > A measure of how likely a paper is to break when pulled at opposite ends. This is very important when running through high-speed web presses.

**TEXT PAPER** > Text papers are defined as fine, high quality uncoated papers. Typically, they are made in various colors, with numerous textures and a variety of surface finishes. Text papers are made from high-grade bleached wood pulp, cotton fibers or alternative non-wood fiber. Recycled sheets include high quality recycled waste paper and post-consumer waste pulp, in addition to bleached wood pulp, cotton fibers or alternative non-wood fiber.



**THERMOGRAPHY** > A process that produces a dimensional effect similar to engraving without the use of expensive dies. Images are given a raised appearance by dusting a fine resinous powder (matte, gloss or semigloss) over slow-drying ink, then applying heat to melt and fuse the resin onto the ink. Any offset ink color, or even a clear resin, will work, and the image area can be any size.

**THICKNESS** > Also known as caliper, this is the thickness of a single sheet of paper, as measured in thousandths of an inch. Thickness defines the bulkiness of a sheet.

**TINT** > A very light variation of a color, created by adding white to the shade.

**TITANIUM DIOXIDE** > A metal compound used as a white pigment in papermaking to achieve exceptional opacity.

**TOOTH** > The surface roughness of paper that allows it to take up ink.

**TOUCHPLATE** > A fifth plate of ink used to bolster a single color in four-color process printing.

**TOYO™** > A color matching system.

**TRAPPING** > Printing ink over previously printed ink.

**TRIM SIZE** > The final size of the printed piece after it has been cut to specification.

**TRIMMING** > Cutting sheets after the job has been printed to the specified size of the finished piece. After binding the printed pages, the top, bottom and outer edge of the booklet are often trimmed with a guillotine blade to even out the pages.

**TRITONE** > A black-and-white image printed with three screens and three colors, such as a black and two greys, to heighten contrast between light and dark areas.

**TWIN-WIRE MACHINE** > A papermaking machine with two continuous forming wires rather than one. This is one method that paper manufacturers use to create paper with less side-to-side variation.

**TWO-SIDEDNESS** > The tendency of some papers to have slightly different printing characteristics from side to side.

**UNCOATED PAPER** > Paper that has been treated with starch, or at most a very light pigment formula to make its surface compatible with printing inks.

**UV COATING** > A very glossy, slick coating applied to the printed paper surface and dried on press with ultraviolet (UV) light. UV coating can cause slight variations in match colors, so consult an ink manufacturer or printer for best results.

**UV INK** > An ink specially formulated to dry quickly with ultraviolet light while still on press. Fast UV drying eliminates the need to wait for the first side to dry before printing the second side.

**VARNISH** > A protective coating, either clear or slightly tinted, added to the surface of a printed sheet. Varnish, dull or gloss, may be added to the entire sheet or just to certain spots, such as over halftones.

**VEGETABLE-BASED INK** > An ink using vegetable oil instead of petroleum solvents as the vehicle for carrying pigments. Vegetable ink colors tend to be more vibrant than petroleum-based inks, but are slower drying.

**VELLUM FINISH** > Uncoated paper that has been lightly calendered to create a uniform yet luxuriously tactile surface.

**VIRGIN FIBER** > Fiber that has never been used before in the manufacture of paper or other products.

**WATERLESS PRINTING** > A printing process that runs on offset lithography presses without the use of water. The non-image areas of the plate are coated with silicone so that ink can run off into shallow wells in the plate. Waterless printing supports finer dots and finely detailed images. A relatively new process, it is more expensive than traditional lithography.

**WATERMARK** > A watermark design is etched onto a special plate in positive or negative form and attached to a cylinder called a dandy roll. As the wet pulp is being formed into paper, the dandy roll displaces the fibers slightly, causing the faint watermark design to appear on the paper.



**WEB PAPER** > Designed for web presses, this paper comes in a roll rather than sheets and is folded and cut on press after it has been printed.

**WEIGHT** > The tonnage or poundage of a quantity of paper. Paper weight may be expressed as basis weight, ream weight, M weight or grammage.

**WET END** > The start of the papermaking process, where the pulp slurry is poured from the headbox onto the forming wire and wound through presses to remove water from the sheet.

**WET TRAP** > Printing a layer of wet ink over or adjacent to a previous layer of wet ink.

**WHITENESS** > A measure of the amount of light reflected from a sheet of paper. Paper that reflects more blue than red or yellow will have a cool, blue tinge and appear to be a brighter white than a warm tinged sheet.

**WIRE SIDE** > The bottom side of the paper that comes in contact with the forming wire of the paper-making machine. The top side of the paper is called the felt side. There can be a slight texture difference between the wire and felt sides.

**WORK-AND-BACK** > The method of printing each sheet first on one side with one form, then on the other side with another form. This is also known as sheetwise.

**WORK-AND-TUMBLE** > The method of printing a sheet with the same pages on the front and back side. After the first run, the sheet is tumbled bottom to top and printed on the back side. When cut and folded, the sheet yields two or more finished pieces.

**WORK-AND-TURN** > The method of turning the sheet side-to-side after the first run so the same material can be printed on the back.

**WOVE FINISH** > Originally made with a finely woven wire screen to eliminate rib lines, today a wove surface is imparted using wet felts. Wove papers are valued for their clothlike texture and smooth, even-sided finish.

**WRITING GRADES** > Papers that are ideal for business letterhead and personal stationery.

**XEROGRAPHY** > The printing process used by photocopiers.

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## Answers to your Frequently-Asked Questions

### Why does the printing industry use "M" for "thousand" when the computer industry uses "K"?

"M" is the Roman designation for the "thousand" unit, such as seen in dates of publication in old books, or on public buildings. It was adopted as a shorthand by the papermaking trade in conjunction with the weight of a thousand sheets of paper, and the usage carried over to the forms industry.

### Why did I receive 11,000 forms when I only ordered 10,000?

This is another convention of the printing industry that has its origins in antiquity. Knowing that a certain amount of spoilage would occur during the printing process, especially when multiple steps were required to complete the printed piece, printers had to start with more than the required final number of items in order to ensure they could deliver at least the number ordered. Any extras were delivered with the order as the extras were of no use to the printer, and they were customarily paid for. Later the convention was expanded so that an order today is considered complete if the delivered quantity is plus-or-minus 10% of the ordered quantity. In the case of this question a delivered amount between 9,000 and 11,000 forms is considered a completed order by printing industry standards. An overrun of some amount is considered so routine, sometimes it actually costs more to specify only the exact amount ordered be delivered?

## FAQ's



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## FAQ's

### **Why does the price of each thousand forms decline as the order quantity increases?**

A form's price includes two components, fixed costs and running costs. Fixed costs are those required getting the job ready for production, and are not dependent on the length of the press run. These costs typically include composition, plates, setup and make-ready time. The total of those costs is divided by the number of thousand forms ordered, and therefore the cost per thousand forms produced declines as the order quantity increases. Running costs are those incurred as the press runs to print the job, and include paper, ink and press time. They are the same whether 1,000 or 1,000,000 forms are printed. The sum of the fixed costs and the running costs of a job therefore decreases the higher the order quantity.