

Glossary

Absorbency - Ability of paper to absorb or take in liquids.

Accordion fold - Parallel folds opening like an accordion.

Acid paper - Paper using clay as the predominant filler and an acidic rosin-aluminum mixture as the primary internal sizing agent.

Acid-free paper - A paper having no acidity and no residual acid-producing chemicals. Acid-free papers may also be slightly alkaline to resist the harmful effects of an acidic environment and provide greater longevity.

Acidity - Degree of acid found in a given paper measured by the pH factor. pH is measured from 0-14, with 7 representing neutral between acid and alkaline. From 0-6 is considered acid, from 8-14 alkaline.

Against the grain - Perpendicular to the grain direction. Folding or feeding paper at right angles to the grain direction.

Alkaline paper - Paper using calcium carbonate as the filler and a synthetic material, compatible with the alkaline process, as a sizing agent. This process increases the longevity, bulk brightness, opacity and printing characteristics of the paper without added cost.

Allocation - (1) A designated number of tons to be manufactured for a region and/or customer. (2) A reservation of paper/board from inventory to fill a customer order.

Antique finish - A description of a rough, natural surface finish for book and cover papers.

Ash - The mineral residue left after burning a sample of paper to determine the percentage of filler it contains.

Backbone - The back-edge of a bound book connecting the two covers; also called spine.

Backing up - Printing the reverse side of a sheet already printed on one side.

Baggy Roll (Wrinkles) - Baggy roll refers to a non-uniform drawing web, where certain slack areas of the web are not under as much tension as the remaining areas.

Banding (strapping) - Steel, plastic, fiber or other bands used to secure or protect rolls, sheets, loads, etc.

Base stock - Paper that will be further processed, such as coating or laminating.

Basic size - Specific, standard sheet size from which the basis weight of a given grade is determined.

Basis weight - The weight in pounds of a ream (500 sheets of paper cut to a given standard size for a particular grade). Example: 500 sheets 25 x 38 of 80 lb. coated book paper weigh eighty pounds.

Beater colored - A method of dyeing paper stock by adding coloring to the pulp in the beater.

Beater sized - The process of adding a size to the furnish before the paper is formed.

Binders - Materials that cause fibers to bond.

Black liquor - The residual lignin-containing chemical in the digester after the wood chip has been pulped.

Blade Cut - A blade cut is a straight cut (or near cut) running in a straight line, parallel to the direction of web travel on coated papers.

Blanket - In offset-lithography, a rubber- or polymer-surfaced sheet clamped around the cylinder of the press to receive ink from the plate, which transfers the image from plate to paper.

Blanks - Heavyweight paperboard stocks that range from 15 points to 48 points in thickness. They can be coated or uncoated, and in colors.

Bleaching - Pulp fibers are generally bleached to produce white fibers for papermaking. Other reasons are: to increase the chemical stability and permanence of wood fibers by chemical purification; and to obtain clean, sanitary fibers as required for food packaging papers.

Bleed - Refers to the printed image extending beyond the trim edge of the sheet.

Bleed-through - When printing on one side of a sheet of paper shows through to the other side.

Blistering - Separation of the paper's coating from the body stock, which appears in the form of eruptions. Caused when paper in process of manufacturing is dried too quickly.

Body - Refers to the physical characteristics of inks, such as viscosity and consistency (Example: an ink with too much body is stiff).

Bonding strength - Cohesiveness of fibers within paper. Paper with good bonding strength will not pick during the printing process.

Book paper - A general term to define a class or group of papers having common physical characteristics generally suitable for graphic arts. Coated and uncoated papers with a basic size of 25 x 38.

Break - Total rupture of a web of paper during the manufacturing or printing process, resulting in a tear from edge to edge. Breaks in mill rolls are spliced together and marked with flags to call the attention of press operators to potential difficulties.

Brightness - Light-reflecting property of paper in comparison with a standard reference. Paper brightness affects the legibility and contrast of printing.

Bristol board - A printing substrate usually with a caliper thickness of .006 and up - (90 lb 24" x 36" - 500 sheets and up). Types of bristols include printing, vellum, postcard, tag and file folder.

Bristols - Above-average quality heavy-grade papers. They were originally made from rags in Bristol, England.

Brittleness - Property of paper causing it to break while bending.

Broke - Machine trim or damaged paper that is returned to a re-pulping unit within the paper producing mill.

Bronzing - Printing with a sizing ink, then applying bronze powder onto the wet ink to produce a metallic luster.

Bulk - Thickness of a sheet of paper. High bulk paper lacks compactness. Low bulk paper is compact.

Bursting strength - A measurement of the strength of paper to withhold pressure.

Butt roll - The end of parent rolls. It is sometimes produced to make-up the difference in trim when minimum trim cannot be achieved.

Calendar Cut - Calendar cuts have a glazed edge and are straight, sharp cuts, running for a relatively short distance at an angle to the direction of the web travel.

Calendar Scale/Dryer Scale - Foreign material not strongly attached and randomly distributed on the surface of the web appearing as shiny spots. This can cause non-uniform ink absorbency or lead to picking.

Calender - A process on the paper machine where the paper is squeezed between metal cylinders to compact the fibers. This makes the paper smoother and imparts some gloss.

Calender dyed - Same as calender colored. Paper or paperboard that has been colored or stained at the calender stack. Color, transferred from the calender rolls to the paper, may be on one or both sides of the sheet.

Calender rolls - A set or stack of horizontal cast iron rolls at the end of the paper machine. The web of paper is passed between the rolls to increase the smoothness and gloss of the surface.

Caliper - The thickness of a sheet measured under specific conditions. It is usually expressed in thousandths of an inch (points or mils).

Caliper is affected by paper moisture content and the pressure applied to the wet presses and calenders. Caliper is particularly important when printed materials need to be folded, inserted, and mailed using automatic handling equipment. Variations in caliper across the sheet will cause problems such as loose edges, baggy areas and misregister.

Case - In bookbinding, the covers of a hardbound book.

Cast coated paper - Paper or board that is coated by allowing the coating to harden while in contact with a chromium-polished surface. This results in a patent leather-like gloss. Cast coated papers are the glossiest of all coated papers.

Cellulose (fiber) - The chief component of the cell walls or woody structure of plants; the fibrous material remaining after the non-fibrous components of wood have been removed by pulping and bleaching operations, used in making paper.

Chuck - Blocks inserted at the end of cores to support rolls of paper on the roll stand. If the core size received is too large, a chuck can be used as an adapter.

Clay - A fine-grained mineral material used as a filler in papermaking or as coating pigments.

Coated paper - Paper with a surface coating imparting a smooth finish. Coated paper finishes have a higher opacity and better ink holdout than uncoated papers.

Coating - An emulsion, varnish or lacquer applied over a printed surface to protect it.

Coating Lump - A discolored, shiny, hard and brittle spot in the web.

Coating Streaks or Score - Foreign objects get under the coater blade and scrapes wet coating. If severe enough, it will become a blade cut.

Cockle - A puckered condition of a sheet resulting from non-uniform drying and shrinking.

Cord - Unit of measurement of pulpwood defined as a pile containing 128 cubic feet of wood, stacked eight feet long, four feet wide and four feet high.

Core - Shaft in center of a roll around which the web of paper is wound. Resides inside diameter of roll. Cores can be either metal or cardboard, returnable or disposable. They also come in many different inside diameters and wall thickness.

Corona treatment level - The electric charge on the coating that allows writing on it.

Corrugations (Rope or Chain Marks) - Diagonal ridges and furrows running parallel to the machine direction and of a relatively constant nature.

Cover papers - Strong, heavy papers suitable for covers of publications such as brochures, booklets or catalogs. They're available in various colors.

Crepe Wrinkle - An accordion-type wrinkle.

Cross direction (CD) - Direction or dimension at right angle to the flow through a papermaking machine; the direction across the grain. Paper is weaker and more sensitive to changes in relative humidity in the cross direction than the grain direction.

Crystallization - A condition of a dried ink film, which repels another ink printed on top of it.

Curl - Waviness, roll or curvature that can sometimes occur at the edge of the sheet due to differences in structure or coatings from one side to the other, or to absorption of moisture on an offset press.

Cut-size - Refers to business or writing papers that have been cut to dimensions of 8-1/2 x 11 and 8-1/2 x 14 or 11 x 17.

Dandy roll -

(1) A plain roll situated above the wet web of the paper to provide a smoothing action to the top surface of the paper as it passes under the roll.

(2) A watermarking dandy roll is a roll of skeletal structure, sheathed in a wire cloth that has designs, letters or figures affixed to it. As the wet paper web passes under the turning watermarking dandy, the designs are impressed into the paper and a permanent watermark is left in the sheet.

De-inked paper stock - Essentially, recycled paper. Ink has been removed by mechanical and chemical means to produce clean fibers.

Deckle - Often used interchangeably with trim, referring to the salable width of the web on the paper machine.

Deckle edge - The untrimmed feather edge of paper formed on the wire where the pulp flows against the deckle straps.

Defective Mill Splice - Web break at the mill splice usually denotes some defect in the splice or marked change in web tension or draw.

Defective Slitter Edge - A rough, irregular roll edge as compared to a smooth cut and may have torn edges and excessive slitter dust.

Delamination - The separation of the layers of a sheet of paper.

Delignification - The process of removing lignin from wood to leave only cellulose fibers.

Densitometer - A sensitive photoelectric instrument that measures the density of photographic images or of colors. Used in quality control to accurately determine the consistency of color throughout the run.

Density - The specific gravity or weight of paper per unit volume. Directly related to the paper's absorbency, stiffness, opacity, and resiliency. It is calculated from basis weight and caliper.

Diameter - Measurement of the widest point across the end of the roll.

Digester - Pressure vessels in which wood chips are cooked to separate fibers from each other and to remove detrimental particles.

Digital Color Printing - A printing process that allows color printing directly from electronic images without the need for film or color separations.

Dimensional stability - Characteristic of paper to retain its dimensions in all directions under the stress of production and adverse changes in humidity or moisture content.

Dirt - Dirt in paper consists of any imbedded foreign matter or specks that contrast in color to the remainder of the sheet.

Doctor-blade -

(1) Mechanism used during manufacture to clean the surface of the paper (excess pulp and size) while on the paper machine roll.

(2) In gravure printing, used to wipe away the excess ink in the non-printing areas of the plate.

Double-coated - A sheet that has been coated twice on the same side.

Driers - A series of large, cylindrical steam heated rolls that dry the paper webs to the final moisture content.

Dry finish - Term indicating that paper or paperboard is calendered without use of water. Also, paper with unglazed, rough finish obtained by the dry finish process.

Dry-end - The section on the machine where the driers, cutters, slitters and reels are located.

Dunnage bags - Protective, inflatable bag used in shipping to protect product from transit damage due to shifting and rough handling.

Duplexed - When paper is printed on both sides of the sheet.

Elmendorf test - A test to determine a paper's resistance to tearing.

Embossing - Impressing an image in relief to achieve a raised surface; either over printing or on blank paper.

English finish - A smooth-finished, machine made and calendered book paper. It is soft, dull and pliable. Normally used for letterpress printed magazines.

Engraving - A general term applied to any printing plate produced by an etching or cutting process.

Equivalent weights - System of comparing papers of different basic sheet sizes and basis weights. Example: 90 lb (25-1/2 x 30-1/2 - 500) is equivalent to 100 lb (24 x 36 -500) Tag.

Erasability - Characteristic of paper that assures a clean erasure. Achieved by excessive pulp refining resulting in firmly bonded fibers and a hard surface.

Feathering - The tendency of liquid ink to spread along the paper fibers so that the image produced does not have sharp, clean edges.

Feeder - The section of a press that separates the sheets and feeds them in position for printing.

Felt - Woven, endless belt made of wool, cotton, or synthetic materials used to transport the paper web on paper as it progresses through the paper machine.

Felt side - The top-side of the sheet in the paper manufacturing process.

Fiber Cut - A fiber cut is a short, straight cut located on the edge of the web, caused by a fiber imbedded in the web of paper.

Filler - Minerals, such as clay and other white pigments added to the pulp furnish in the beater to increase opacity and smoothness of the paper, improve ink receptivity and enhance sheet formation. However, too much filler can decrease the strength of paper and result in dusting.

Finish - The most important physical property of paper. It describes surface contour and characteristics measurable by smoothness, gloss, absorbency and print quality. With regards to bristols, there are three uncoated finishes (wove, vellum and high bulk) and three coated finishes (matte, dull and gloss).

Finish Variation - Marked changes in surface smoothness or gloss within a roll or between rolls. This may cause variation in register and/or printing quality.

Flexographic Printing - A printing process using a rubber or plastic plate with a raised image area. The plate is mounted to a rotary cylinder. When the cylinder is inked, it prints the image onto paper through light pressure.

Fluorescent paper - Paper that has been manufactured with the addition of fluorescent dyes, which give the brilliance that appears brighter when viewed in natural daylight. Brightness measuring numbers are in the mid-90's.

Fold endurance - This test measures the number of times a strip of paper can be bent, creased and folded before rupture. Folding strength is important in many printing applications such as books, maps, pamphlets and manuals.

Folio - Paper that measures 17 x 22 (374 square inches) and larger.

Formation - This property describes the degree of uniformity of the fiber distribution in a sheet of paper. Levelness and smoothness are dependent upon the paper's uniform formation. Paper that is poorly formed will affect caliper, opacity and strength properties.

Four-color process - Primary process ink colors: magenta (red), cyan (blue), yellow and black.

Fourdrinier - Forming section of the paper machine, where a pulp slurry is formed into a mat of paper. This section contains the head box where the slurry is forced out onto a moving plastic wire through which water drains. The wire is supported by rolls and flat foil boxes, which aid in de-watering the slurry into a fiber mat.

Free sheet - Paper that contains no groundwood.

Furnish - The combination of materials and chemicals that go into making the pulp stock mixture such as pulps, dyes, additives and other chemicals. The mixture is fed into the paper machine at the wet end of the machine. Also referred to as Stock Furnish.

Fuzz - Loose fibers or lint on the surface of uncoated papers.

Gloss - A paper's shine or luster which reflects angular light

Grain - Direction in which most of the fibers lie in a finished sheet of paper. Fibers flow parallel to the direction in which the paper travels on the paper machine during manufacture.

Grain long - Term used to designate that the grain of the paper is parallel to the longest measurement of a sheet of paper. The fibers are aligned parallel to the length of the sheet.

Grain short - Perpendicular to grain long. Grain of paper runs at right angles to the longest dimension of the sheet. Fiber alignment parallels the sheet's shortest dimension.

Grammage - Metric system term for expressing the basis weight of paper.

Green liquor - The intermediate chemicals generated in the kraft recovery system. This liquor contains the regenerated sodium sulfide.

Gripper edge - The leading edge of paper as it passes through a printing press.

Grippers - Metal fingers in a sheet-fed press that hold the paper in place as it travels through the press.

Groundwood pulp - A mechanically prepared coarse wood pulp used in newsprint and other low cost book grades where it contributes bulk, opacity, and compressibility. Groundwood pulp is economical since all the wood is used; however, it contains impurities that can cause discoloration and weakening of the paper.

Guillotine - Device that is used to cut or trim stacks of paper to the desired size. Three types exist – manually operated, electrically powered cutters and automatic spacing cutters.

HairCut - A hair cut is a short, smooth curved cut, having no definite length or direction which is caused by animal hair, or some synthetic fiber getting into the web.

Halftone - In printing, a reproduction of an image of varying tone values, attained by printing dots of various sizes.

Hardwood - Wood from trees having short fibers. These fibers are used in papermaking to obtain good formation, smoothness and opacity and a good print surface.

Headers - Paper discs applied to the ends of rolls for protection.

Hickeys - In offset printing, spots in the printed sheet caused by extraneous material, such as dirt and paper particles.

Holdout - Term refers to the ability of a sheet to resist penetration by liquid substances such as ink.

Hole (Slime or Other) - A hole in the paper web can come from various causes: the most common being slime, stock lumps, coating splashes and wire holes.

Hydration - Any process of altering cellulose fibers to increase their ability to absorb water.

Hygroscopic - Ability to absorb water vapor from the surrounding atmosphere.

Impression - In printing, the pressure of the blanket or plate contacting the paper.

Index bristols - Manufactured on Fourdrinier machines from chemical wood pulp. Index bristols are characterized by strength, ruggedness, and erasability.

Ink Drying - The time frame required to change the inks liquid vehicle to a solid substrate that binds the pigment firmly to the printing surface.

Ink Holdout - A paper's ability to hold printing or writing inks on its surface instead of absorbing the inks.

Integrated mill - A paper mill that manufactures enough pulp to supply its own papermaking needs.

Inter-trim - Two or more orders combined to trim the machine.

Internal bonding strength - Determines how strongly the coating is fused to the body stock. Caused by long periods of hydration, paper with high internal bonding strength resists picking during the printing process.

Jordan - A refining machine consisting of a conical rotor and housing between which the fiber slurry is passed. Its effect is to shorten the fibers and improve sheet formation.

Jumbo roll - Roll size that does not require off-machine rewinding. Generally these rolls measure 17 1/2" and larger in width.

Junior cartons - Any sheet measuring less than 374 square inches. Usually ream wrapped and packed in cartons.

Kraft process - The predominant method used for converting a wood chip into wood pulp. It produces a strong pulp needed for high-speed paper machines, presses and converting equipment.

Laminated - Paper that is developed by fusing one or more layers of paper together to the desired thickness and quality.

Lignin - One of the major components of wood. This is the "glue" that binds cellulose fibers together to give a tree its rigidity. This material is hydrophobic, or "water-hating," rendering the fiber too rigid for most papermaking applications. Hence, the need to separate and remove this wood component from cellulose fibers.

Load on end - Rolls loaded so that end or flat portion of rolls is resting on conveyance floor.

Load on side (rolling position) - Rolls loaded so that side or rounded portion is resting on conveyance floor.

M weight - The weight of one thousand sheets of a grade in its basic size .

Machine clothing - Paper machine felts and wire are often referred to as "clothing."

Machine coated - Paper coated one or two sides on the papermaking machine.

Machine trim - Refers to the width allowed across the paper machine. Always a min and max allowed depending on basis weight and grade. Each machine has a specific number of cuts/slitters.

Makeready - All work done to set up a press for printing.

Matte finish - Coated papers with little or no gloss, ranging from 0-20 on the gloss scale.

Moisture content - Refers to the amount of moisture found in a sheet of paper. Average amount ranges from 4-7%. This figure varies from sheet to sheet since paper will emit or absorb moisture according to the condition of the surrounding atmosphere. It is affected by both the drying conditions when made and the relative humidity environment in which it is used. The amount of water in a sheet of paper affects basis weight, printability, physical strength, and runnability. Moisture loss is realized in the form of shrinkage, which begins at the edges of paper and moves across the grain causing the sheet to tighten, wrinkle and curl.

Mottle - A random non-uniformity in the visual density, color or gloss of a printed area; also known as orange peel, back-trap mottle, wet-trap mottle, pigment flocculation, striations, etc.

Narrow roll - Small width rolls, usually below 17 1/2", which require off-machine rewinding. Can vary by grade, mill and machine.

Net weight - The weight after the deduction of tare weight or waste weight.

Nip - Point where two rolls on the paper machine come in contact. It is the action of the two rollers coming together simultaneously against both sides of the paper that calenders and supercalenders the paper.

Nominal weight - The basis weight of the paper at which the paper is billed.

Off-machine coating - Process of coating paper with a coater not part of the paper machine. It can be in the same or in a separate facility.

Offset Paper - Paper that is sized (see Sizing) and contains the quality characteristics needed in order to print on offset presses. Offset presses print by transferring ink from the printing plate onto a rubber blanket and then to the paper.

Opacity - A property of paper that minimizes the show-through of printing from the opposite side or the adjacent sheet. Opacity is greatly influenced by basis weight, brightness, type of fiber and filler.

Pallet - Construction usually made of light wood on which paper or other materials are packed for shipment. They are used to facilitate the movement of paper in storage or transit by means of motorized lift trucks.

Paper Grade - Papers manufactured to fit within a group or type of papers. Each grade of paper uses basically the same fiber, color, additive and chemical composition.

Paper Merchant - A business that operates as the intermediary between paper manufacturers and users. The merchants usually warehouse the products and then distribute to the purchaser.

Paper Stock - A mix of pulp fibers, water, additives, chemicals and dyes that will be pumped onto the paper machine to form paper.

Picking - Fibers in the paper that tend to pull away from the surface during the printing process. This occurs when the tack or pull of the ink is greater than the surface strength of the paper.

Pigment - The solid particles in inks rendering body, color or opacity.

Piling - In reference to printing, transfer of mineral pigment from paper to offset blankets – building up of ink on rollers or on the printing surfaces of plates and blankets.

Pinholes - Tiny holes or imperfections on the surface of the paper caused by the presence of foreign matter on the paper surface during manufacture.

Point - Equal to one thousandth of an inch in the measure. Utilized when the thickness of paper is considered.

Poor Fold Strength - Poor fold strength refers to the inability of a web paper to withstand folding and is evident when the web cracks or ruptures when folded. Could be termed "cracking" at the fold or "split backs".

Porosity - The degree of compactness of the fibers of the paper. It is an indication of the openness of paper, as measured by resistance to the passage of air through the sheet.

Post-consumer waste - That fraction of the waste stream that has passed through the hands of an end-user. Example: one-time used paper bags, newspapers, office papers.

Pre-consumer waste - That fraction of the waste stream that is disposed of during conversion to the end-use product. Example: envelope clippings, corrugated box plant die clippings, printing press waste.

Press section - Section of the paper machine just after the Fourdrinier. It takes the wet formed pulp mat and squeezes it under high pressure in the nip between two mechanical rolls to further remove water.

Process printing - Printing from two or more halftone plates to produce various colors and shades.

Rag paper - Historically, paper made with rag pulp. Today it is usually referred to as cotton fiber paper. It may be made from cotton cuttings (rags), linters or other waste cotton. End uses are principally high grade bond, ledger and writing, and papers required for permanent record purposes.

Ream - Five hundred sheets of printing paper.

Recovery boiler - Process in the kraft recovery system that burns spent cooking liquor to regenerate sodium sulfide. Additionally, the dissolved wood components in the black liquor are burned to generate steam and electricity for the rest of the mill.

Reel - The roll on which the finished paper product is wound at the end of the paper machine.

Refining - This process disrupts the cell wall of the fiber creating fibrils (split ends) in order to improve the inter-fiber bonds in a sheet of paper.

Remnant rolls - Leftovers from a previous manufacturing run. Example: overruns, trim rolls. May also be referred to as "surplus."

Resin - Like lignin, resin is a small, undesirable component of wood, which for the most part is removed by adding deresinating agents to the cooking process.

Rewinder - Equipment used to slit a large width roll into a smaller width. It takes reels from the paper machine, unwinds the web, slits it and then rewinds the web onto small fiberboard cores. This allows the mill to make a multitude of roll widths and diameters to meet specific customer orders.

Roll - Paper wound around a core or shaft to form a continuous roll or web of paper. Rolls are made by slitting and rewinding a paper machine reel and are available in many widths and diameters.

Roll hardness tester - Used to determine the relative uniformity of bulk across a web.

Roll set curl - The curve in paper caused by winding around a roll or core.

Rolls per bundle - Several rolls banded to each other and wrapped as one. Mainly applies to narrow rolls.

Rosin size - The soap solution obtained by cooking rosin with caustic soda or soda ash. It is added to the pulp furnish in the beater to render the paper or board water-resistant.

Runnability - A paper's capability to be transported trouble-free from the roll stand or feeder of a printing press or converting machine to the delivery Runner boards (used to prevent rolls/skids from shifting in transit.)

Scoring - In reference to paper conversion, creasing by mechanical means to facilitate folding while guarding against cracking of paper and board. Scoring is essential when heavyweight papers are to be folded across the grain.

Secondary fiber - A term used for wastepaper, also referred to as paper stock.

Self-trim - An order that trims the machine by itself.

Set log - A number of rolls cut simultaneously from the same reel.

Set-off - Transferring or smearing of ink from freshly printed sheets of paper to another surface (also called offset).

Shade Variation - Non-conformance of paper to established standards of hue, brightness, and saturation.

Sheets - A term which may be applied to a single sheet, a grade of paper or description of the paper. Example: coated, offset, etc.

Shives - Undercooked, thus incompletely saturated, wood particles that are removed from the pulp prior to the manufacture of paper. Sometimes shives will appear in finished paper.

Show-through - Printing that is seen by looking through a sheet of paper that is not adequately opacified.

Side roll - The same as a butt roll except this is a salable size and usually cut with a specific outlet in mind.

Size - Any material added or applied to paper to affect its ink or water absorbency. Starch, alginates and glue are used in surface sizing. Transparent white ink can be printed as a size to minimize linting, increase ink hold-out, dry ink previously printed, or overcome chalking. Sizing agents are added at the size press section of the paper machine, usually located between two drier sections.

Sizing - Part of the papermaking process where materials (starch, wax, rosin, glue, etc.) are added to the stock furnish before it is put on the paper machine, or to the surface of the paper while on the paper machine to enhance certain characteristics. Sizing can improve paper's resistance to liquids and enhance its finish smoothness and surface characteristics.

Skid - A platform upon which a pile of cut paper sheets is stored and/or shipped.

Skip Dot - The area where printing does not take place (also called snow rotogravure process).

Slime spots - Imperfections in the paper surface caused by growth of micro-organisms in the water at the wet end of the paper machine. Occasionally they make their way to the wire or paper. Although they are sterilized during the drying process, they may leave undesirable spots in the paper.

Slitting - Cutting printed sheets or webs into smaller sheets or webs.

Slurry - A water suspension of fibers. Also, the suspension of pigment and adhesive used to coat papers.

Smoothness - Describes or rates the flatness and evenness of a sheet's surface.

Soda pulp - Pulp made by cooking wood chips with caustic soda. It is short-fibered and used in printing and litho papers principally as a filler to give smoothness, bulk, opacity and uniform formation.

Softwood - Wood from trees having long fibers. Softwood fibers are used in papermaking to impart strength to a sheet of paper and are also noted for their exceptional absorbency.

Solid Bleached Sulfate (SBS) - Paperboard comprised of fully bleached virgin kraft pulp (sulfate process) fiber. Bleached refers to the fact that it is bleached to an appealing high brightness. Sulfate refers to the chemical process used in preparing the pulp.

Spacer strips - Strips of lumber inserted under rolls loaded on end to facilitate their removal with fork trucks.

Splice - (butted joint) - Formed by trimming the ends of two webs of paper, placing them end-to-end and pasting a strip over and under to make a continuous web without overlapping. Used for heavier weight papers and board.

Splice - (overlapping) - Formed by overlapping webs and joining with a strip of double-faced adhesive tape. Used for lighter-weight grades of paper.

Staggard Winding - Frequent or abrupt off-sets on the end of the roll.

Stiffness - The ability of paper or paperboard to resist an applied bending force and to support its own weight while being handled. A sheet that is too limp can cause feeding and transport problems in copiers and printers. An adequate degree of stiffness is important to avoid distortion of the paper due to the pull of ink during offset printing. Stiffness is critical to many converting operations for forms and envelope grades.

Stock -

(1) Paper to be printed or converted.

(2) A product not made to order and stored in a warehouse or distribution center.

Strike-through - The penetration of ink through paper.

Stub roll - Usually refers to a small-diameter roll or a roll with only a small amount of paper remaining on the roll.

Stuck Web - Occurs when water, glue, or some other tacky material gets in between layers of a roll, causing them to adhere to each other.

Substance Weight - Same as basis weight, but mainly used with bond and business papers. Substance weight is often expressed as "sub."

Sulfate pulp - Predominant fiber used by the paper industry. It is obtained by cooking wood chips with the chemicals sodium sulfate and sodium hydroxide. The sodium sulfate is converted to sodium sulfide in the process.

Sulfite pulp - Fiber made by cooking wood chips in a solution of calcium bisulfite and sulfurous acid. This process has waned in popularity due to its harsh impact on pulp strength.

Supercalender - Alternating rolls of highly polished steel and compressed cotton in a stack. During the process the paper is subjected to the heated steel rolls and "ironed" by the compressed cotton rolls. It imparts a high gloss finish to the paper. Supercalender stacks are not an inherent part of the paper machine, whereas the calender rolls are.

Surface Fuzz - Fibers projecting from the surface of a sheet of paper.

Tack - The cohesive property between ink particles. The pulling power of ink against an adjacent surface.

Tare weight - The weight of the container and/or wrapper deducted from the gross weight to determine the net weight of the contents. On skids, tare weight is the weight of the wooden pallet and wrapper. On rolls, it is the weight of the core, plug, and wrapper.

Tear - This test measures the amount of energy required to tear a sheet of paper. Tear strength can be an important performance factor to a printer or converter of bags, maps, books or envelopes.

Telescoped Rolls - Roll edge alignment "runs out" starting at the core as the roll rotates. Roll may also telescope during handling leaving roll ends concave and convex.

Tensile strength - Relates to the stress and strain to which paper is subjected in its many end use applications. It is defined as the maximum force required to break a paper strip of a given width under prescribed laboratory conditions. The degree and quality of fiber bonding and the type of fibers used are the most important factors affecting tensile strength.

Titanium dioxide - Chemical substance used as loading for coating material to increase the whiteness and brightness of a sheet and contribute toward its opacity.

Tolerance - Permissible degree of variation from a pre-set standard.

Ton - A unit of weight equal to 2,000 pounds.

Top - In reference to paper, designates the felt side of a sheet. The top of a sheet is the side not against the wire during manufacture. In paperboard, the top is the side that exhibits the best quality.

Transparent ink - Ink which permits previous printing to show through, permitting the two colors to blend and produce a third.

Trapping of inks - Printing ink property making it possible to superimpose one color on another.

Trim - The process of combining various roll sizes that have a common grade, caliper core size, diameter, and wind direction to constitute an acceptable percent of the maximum salable width of a reel of paper from a paper machine.

Turnover - A cracked edge or a slight tear in the edge of the web which is folded over during slitting, winding, or printing.

Unbleached - Pulp that has been cooked but not bleached.

Unknown - A web break the cause of which cannot be identified.

Upcharge - Charge over and above the base price.

UV - Ultraviolet radiation method of drying process color inks on high-speed multicolor offset presses

Varnish - A thin protective coating applied like an ink on a printing press.

Vehicle - The fluid component of a printing ink acting as a carrier for the pigment.

Vellum paper -

(1) Paper finish that exhibits a toothy surface similar to eggshell or antique and is relatively absorbent for fast ink penetration.

(2) A high-grade paper made to resemble parchments originally made from calf's skin. (3) Social and personal stationery is often called vellum.

Virgin stock - Pulp obtained from wood, cotton or another cellulose source and not previously used in the papermaking process.

Wash-up - Process of cleaning the rollers, plates, blankets and sometimes the fountain of a press.

Water finish - Resembles the machine-glazed finish. Obtained by moistening the web with a fine spray of water or steam as it passes through the calender stacks of the paper machine. Moisture applied in this manner softens the web of paper, permitting it to be calendered to a glossy finish. Water finish is applied to tag and paperboard.

Watermark - In papermaking, the name or design produced by the raised pattern of the dandy roll on the paper machine.

Wax pick - A test to determine the surface strength of paper or board. This test evaluates surface bonding strength and relates to the tendency for tacky inks to pick fibers or particles from paper surface.

Web - A continuous sheet of paper on a paper machine in roll form.

Wet end - Beginning of the paper machine where the headbox, moving wire and press section are located. At this point the paper is still a suspension of fiber and water.

Wet strength papers - Once wet, ordinary papers lose most of their original dry strength properties. Wet strength papers possess properties that resist disintegration and rupture when saturated with water. Papers are usually classified wet strength when they retain 15% or more of their dry-tensile strength. Superior quality wet strength papers may retain as much as 50% or more of their dry strength following immersing in water.

White liquor - The cooking chemicals applied to the digester – sodium hydroxide and sodium sulfide.

Whiteness - Whiteness of pulp and paper is generally indicated by its brightness, which is the reflectance of a wavelength of blue light. So-called white papers have a definite hue. Most are made with a blue white tint.

Wire mark - On the bottom or wire side of the paper, these are impressed traces of the machine wire.

Wire side - The side of the sheet next to the wire during manufacture; opposite from the felt side.

With the grain - Relating to a direction parallel to the grain of paper.

Wood chip - The coin-sized piece of wood which is cooked in the digester. It is processed in the woodyard. Logs are debarked and cut into these small pieces in the chipper to make the wood chip.

Wood-free - Paper grades that do not contain mechanically-pulped fibers.

Woodyard - The area in a mill where logs are stored, debarked, and chipped. Most modern woodyards process tree length logs. A satellite woodyard refers to a remotely located inventory point for cut timber.

Wove paper - Paper having a uniform unlined surface and a soft, smooth finish.