



Plus Printing, Art and Typographical Terms

A

Abrasion - The damage caused by the scuffing of friction of a part against other parts, its package, or of a package against an external object including other packages.

Abrasion Resistance - Ability to withstand the effects of repeated rubbing, scuffing and scratching.

Absorbent Material - Material capable of absorption of liquids, such as blotting paper, paper towels, paper napkins, etc.

Absorbent - In paper, the property which causes it to take up liquids or vapors in contact with it. In optics, the partial suppression of light through a transparent or translucent material.

Acceptable Quality Level (AQL) - The maximum percentage or proportion of variant (or defective) units in a lot or batch that, for the purposes of acceptance sampling, can be considered satisfactory as a process average.

Acceptance Sampling - Sampling inspection in which decisions are made to accept or not accept product or service; also, the methodology that deals with procedures by which decisions to accept or not-accept are based on the results of the inspection of samples.

Acceptance Sampling Plan - A specific plan that states the sample size or sizes to be used, and the associated acceptance and non-acceptance criteria.

Accordion Fold - In folding, a term used for two or more parallel folds which open like an accordion.

Acetate - An overlay or strike sheet made with cellulose acetate plastic.

Adhesion - The process of generating a bond between contiguous surfaces.

Adhesive - (1) Any material used to adhere one surface to another. (2) A general term including: cement, glue, mucilage, paste, thermoplastic adhesives, etc. The term Adhesive may be modified by adjectives which describe: (a) its physical state, e.g., liquid adhesive, tape adhesive, resin adhesive, dextrin adhesive, (c) the material bonded together, e.g., paper adhesive, can-label adhesive (d) the condition of use.

Adhesive Bleed - Exudation, or ooze, especially from pressure-sensitive label material. It is the result of cold flow, excessive roll winding tension, excessive heat or improper converting procedures.

Adjustable Die - Made in a fashion so as to allow various size and shapes to be cut with a single die.
Against the Grain -Folding or feeding paper at right angles the grain of the paper.

Alignment - In an automatic identification system, the relative position and orientation of a scanner to the symbol.

Alterations - Any change to a die after the die has been made to a pattern or print to alter the original specifications.

ANSI - The American National Standards Institute, formerly United States of America Standards Institute (USASI). A non-government organization responsible for the development of voluntary industry standards.

Aqueous Adhesive - An adhesive in which water is the vehicle or solvent.

Ascender - That part of the letter which rises above the main body, as in "b".

Artwork, Camera Ready - Final drawings or stats in high-contrast black and white, used to reproduce the image with all blemishes and imperfections removed.

Automatic Bottom - A bottom on a folding carton that has been scored and glued so that it folds flat. This type of carton will automatically close the bottom when the carton is opened for filling.

Automatic Bottom Carton - A pre-glued folding carton bottom construction having multiple folded flaps which position themselves to form a composite bottom panel when the carton is erected.

B

Back Disk or Tape - An extra copy of information stored on a disk or tape. If the original disk or tape becomes damaged, the information is still available on the backup copy.

Back Ground - The spaces ("quiet zones" and area) surrounding a printed symbol in a bar code.

Back Printing - Printing on the back of a bag or label.

Back Up or Backing Up - Printing the reverse side of a sheet already printed on one side. Placing paper tape or thin metal strips under the creasing or scoring rule in the die to raise the crease rule to desired height.

Bad Break - In composition, the setting of a hyphenated line as the first line of a page. Also, starting a page with a "window".

Bar Code - (1) An identification symbol. The symbol value is encoded in a sequence of high contrast, rectangular bars and spaces. The relative widths of these bars and spaces contains the information. Identification is by visual or electronic means. (2) The act of placing the symbol by either manual or mechanical methods.

Bar Code Character - A single group of bars and spaces which represent an individual number, letter, punctuation mark or other symbol.

Bar Code Density - The number of data characters which can be represented in linear unit of measure. Bar code density is often expressed in characters per inch.

Bar Code Label - A label which carries a bar code symbol and may be affixed to a product or container.

Bar Code Reader - A device used to read a bar code symbol.

Bar Rolling-Hoop - Steel drum hoop made of an I-bar instead of the expanded-type rolling hoop normally furnished. I-bar hoops afford extra protection of drums and facilitate rolling. Hoops are held in place on the drum by means of cleats or beading at sides of each hoop.

Bar Width - The thickness of a bar measured from the edge closest to the symbol start character to the trailing edge of the same bar.

Bar Width Reduction - Reduction of the nominal bar width dimension on film masters or printing plates to compensate for errors that are inherent in some printing processes.

Barrier Material - A material designed to withstand, to a specified degree, the penetration of water, oils, water vapor or certain gases, as desired. May serve to exclude or retain such elements without or within a package.

Barrier Material (Grease) - Material which resists the penetration of grease or oils; used for wrapping metal parts coated with soft corrosion-preventive compounds and for the prevention of seepage of fats or oils from foods. Sometimes called a greaseproof barrier.

Barrier Material (Water Resistance) - Material capable of maintaining a low water vapor transmission rate when exposed to a range of air temperatures and relative humidity.

Barrier Material (Water) - Material which resists the entrance of liquid water; used as a protective interior wrapper, temporary tarpaulin, case liner, etc.

Basis Weight - The weight of paperboard measured in lbs./1000 square feet.

Beers Tray - A folding tray of paperboard having glued corners. The tray is folded flat during manufacturing for economy of shipping and storage space. Each corner has on the sidewall, on which a glue lap is adhered, a diagonal score that allows the sides of the tray to fold inward into a collapsed position.

Bellows - The gussets or tucks in the sides of a bag.

Bellows Corner - A corner of a carton where side walls join end walls, consisting of an uncut, folded, connecting panel.

Bending Chip - Is uncoated, brown kraft recycled paperboard.

Bevel - The sloping edge of a container or part.

Beveled Edge - The edge of an embossed or debossed area made to a specific angle to the paper plane. These beveled edges range from 30 to 80 degrees from the paper and image planes.

Black Printer - In color reproduction, the black plate made to give proper emphasis to neutral tones and detail.

Black-and-White - Originals or reproduction, in single color, as distinguished from multi-color.

Blank - Any die cut, scored and corner cut section of boxboard in the flat to be formed into a rigid box or part thereof. Also, a folding carton after cutting and scoring but before folding and gluing.

Blank Embossing - Embossing without previous printing.

Blanket - In offset-lithography, a rubber-surfaced fabric which is clamped around the cylinder and transfers the image from plate to paper.

Bleached Paper - Any type of paper, kraft, sulphite, glassine, etc., made from bleached (white) pulp. Paper grades made from a mixture of bleached to an intermediate stage are called semi-bleached.

Bleached Pulp - Any type of pulp whitened by oxidizing treatment, usually with a hypochlorite or hydrogen peroxide solution, or by reducing treatment such as with sulphur dioxide or sulphites.

Bleed - If the printed image extends to the trim edge of the sheet or page.

Blind Emboss/Deboss - Raising or lowering the image without color or foil. Reshaping the paper fiber produces the image.

Blister Packaging - A type of packaging where a PVC or other clear packaging material is heated up and then vacuumed formed over a mold and immediately die-cut into whatever trim shape is required. The blister pack is then put over the product and adhered to a cardstock.

Block Die - Series of blocks of wood that are cut to exact sizes to conform to a pattern. The rule is inserted between these blocks and are held firm within a metal frame with wedges or quoins.

Blocking - (1) An undesired adhesion between touching layers of material, such as might occur under moderate pressure and/or temperature during storage or use. (2) A method of interior packaging which builds up irregularly shaped articles to make them regular in shape in order to protect projections from damage and to reinforce weak parts. (3) Material used in packing and loading to maintain objects in a fixed position during transit by bracing them against each other or against the sides of the contain; such as blocks, wood strips, plastic or steel straps.

Blowup - An enlargement.

Blueline - In offset-lithography, a photo print made from stripped-up negatives or positives and used as a proof to check position of image elements.

Board - A heavy weight, thick sheet of paper or other fiber substance usually of a thickness of .006 inch or over.

Body Type - A type used for the main part or text of a printed piece, as distinguished from the headings.

Bold-Face Type - A name given to type that is heavier than the text type with which it is used.

Bond - (1) Grade of printing paper used where strength, durability and permanence are essential requirements. (2) The attachment at an interface by an adhesive.

Bond Strength - A measure of the strength of a bond between two adherents.

Border - Opposite of panel. Referred to as a line to be printed, stamped, embossed, or debossed. It is open inside its perimeter rather than solid.

Bottom Fill - Filling machines that employ this method have valves or stems that reach the bottom of the container being filled. Such devices permit the liquid to flow submerged under the specified maximum liquid level and prevent turbulence, air incorporation and foam from forming while the container is being filled with product.

Boxboard - Paperboard of sufficient caliper and test to be used in the manufacture of paperboard boxes.

Break for Color - In artwork and composition, to separate the parts to be printed in different colors.

Bridger Small - Areas left uncut in a jig or laser die for purpose of holding the die together.

Brightness - In photography, light reflected by the copy. In paper, the reflectance or brilliance of the paper. Often confused with whiteness.

Bursting Strength - Resistance of paper to rupture under pressure, as indicated in pounds per square inch on a Mullen or "pop" tester.

Bursting Test - A test made to determine the bursting strength of a flat specimen of material. The well-known versions are the Mullen test and the Cady test.

C

CAD (Computer Aided Design) - The process of using a computer to generate a design or shape, i.e. a die layout. The computer information can be used with a plotter laser, sample maker or counter cutter.

CAD/CAM (Computer Aided Design/Computer Assisted Manufacturing) - A term used for manufacturing equipment that by the use of computer and software programs can create programs to design layouts for dies and carry out the machining tasks to create the specific designs as originally programmed.

Calender - A group or "stack" of rollers through which sheet material is passed, under controlled conditions of heat, pressure and/or time, in order to give the material thickness, coating or surface finish.

Calender Finish - The finish which is obtained by passing a material through calender rolls.

Caliper - The thickness of paper, usually expressed in thousandths of an inch. It is commonly referred to as "points".

CAM (Computer Assisted Manufacturing) - The use of computer-driven equipment, such as a plotter, laser or sample maker, to produce finished mylars, die boards, samples or counters.

Cardboard - Term erroneously used by some as a synonym for paperboard. Not a recognized term in container materials but it continues to be used to denote a stiff, moderately thick paperboard and as a generic term characteristic of folding carton board chipboard, corrugated board and fibreboard.

Carton - Folding boxes generally made from box-board, for merchandising consumer quantities of products (e.g., shelf packages or prime packages). In domestic commerce, the term carton is generally recognized as the acceptable designation for folding paperboard boxes never for a shipping container -although in maritime and export usage the term carton refers to a corrugated or solid fibre shipping container. (The term carton conveys several meanings to different people, particularly when incorrectly used to designate a shipping container. Unless it is properly qualified, the term carton, standing alone, can lead to misunderstandings).

Carton Board - A paperboard used for folding cartons and made from furnish designed to give enough bend to stock so that it can be folded without cracking along score lines.

Cartoning Machine - A packaging machine which feeds and forms a paperboard carton, loads a product into the carton and closes the carton by tucking or gluing.

Cellophane - Transparent film made of regenerated cellulose. Cellophane is inherently greaseproof and by suitable coating may be made moisture-resistant and heat sealable.

Center Bevel Rule - A steel rule blade where the cutting edge is centered in the middle of the thickness of the die blade.

Centerline - The vertical axis around which character elements are located for letters, numerals, or symbols.

Centipose - One-hundredth of a poise. A measure of viscosity, conveniently and approximately defined as the viscosity of water at room temperature.

Certificate of Compliance - A document signed by an authorized party affirming that the supplier of a product or service has met the requirements of the relevant specifications, contract or regulation.

Chase - A metal frame which holds dies together under pressure.

Chipboard (Chip) - A low quality non-test paperboard made of waste paper for use where specified strength or quality is not necessary. May be bending or non-bending, used for corrugated pads or as dividers, or as filler in thicker paperboards. Also used in the manufacture of spiral wound cans.

Chiseled - A shape put into embossed or debossed images resembling a roof or V shape.

Chromalin - A color proof sheet that is created by using special colored powders on sensitized paper so that the copy and the balance of colors from the color separations can be studied and corrected, if necessary, prior to the actual press run. A patented process by DuPont.

Clay Coated - A one-side coated paperboard (white) with good fold and scoring quality. Coating provides satisfactory printing surface, a smooth flexible sheet for good bend at score line. Surfaces vary from eggshell to glossy.

Clay Coated Kraft Back - Is a recycled paperboard with the uncoated, board side (plys) made from corrugated waste.

Clay Coated Lite Back - Is a recycled paperboard with the uncoated, board side (plys) made from unprinted news and computer paper waste.

Clay Coated News Back - Is a recycled paperboard with the uncoated, board side (plys) made from newspaper waste.

Coating - A layer or covering of a substance which has been deposited while in fluid form, and hardened, united with or adhered to the surface of a material or product. Distinct from a layer, ply or sheet which has been laminated to a base stock.

Cohesion - The tendency of a mass to hold together.

Cold Color - In printing, a color which is on the bluish side.

Cold-Setting Adhesive - An adhesive which sets at temperature below 86 degrees F, generally at room temperature.

Color Control - The measures taken in all of the steps involved in the production of a printed material to insure matching as well as uniformity of color of result.

Color Process Plate - Halftone printing plates or intaglio cylinders for two or more colors, made from negatives or positives which have been color-separated by photographic method.

Color Register - Having design elements fit each other through various press operations, such as printing, embossing, foil stamping, folding, or die cutting.

Color Separation - Photographic separation of color artwork into its primary color components through the use of filters - red, green and blue. Images are printed with inks of the complementary color - yellow (blue filter), magenta (green filter), and cyan (red filter).

Colorfastness - Ability of a pigment in inks, dyes, stains, coatings and plastics to retain its original hue, chroma and value under conditions of storage and use. Generally refers to action by light, but when modified the term may refer to other agents, e.g., colorfastness to alkali, to acid, to ultraviolet light, etc.

Combination Run - Running two or more different molds on the various heads of one machine producing different containers simultaneously. Combination runs are frequent in the production of beverage bottles where short runs are necessary.

Computerized Composition - Unjustified type is produced on a keyboard and subsequently run through a computer which makes line-end, hyphenation and other typographical decisions. Sometimes, a computer-produced second tape is then used as input for phototypesetting for line casting equipment.

Condensed Type - A narrow or slender type face.

Contact Print - A photographic print made from a negative or positive in contact with sensitized paper, film or printing plate.

Contact Screen - A photographically-made halftone screen on film having a dot structure of graded density, used in vacuum contact with the photographic film.

Continuous Tone - A photographic image which has not been screened and contains gradient tones from black to white.

Contrast - The tonal gradation between highlights and shadows in an original or reproduction.

Converter - A processor who fabricates one form of material into a more advanced form.

Copy - Any furnished material (typewritten manuscript, pictures, artwork, etc.) to be used in the production of printing.

Copy Preparation - In photomechanical processes, directions as to desired size and other details for illustrations and the arrangement into proper position of various parts of the page to be photographed for reproduction. In typesetting, checking manuscript copy to insure a minimum of changes after type is set.

Copyfitting - In composition, to determine the amount of manuscript copy that can fit into a given area for a specified size and style of type.

Corner Bellows - A corner of a carton where side walls join end walls, consisting of an uncut, folded, connecting panel.

Counter - A pre-made steel or plastic plate or piece of board with the individual carton scores milled in it.

Crazing - Fine cracks which may extend in a network on or under the surface of, or throughout, a film layer or adhesive or on surfaces of glazed materials such as glass, plastics, and painted or enameled surfaces.

Creasing - Line or mark made by folding any pliable material, hence a similar mark, however produced. To form a crease in a sheet of any material, usually for the purpose of providing a bending line.

Creasing Rules - The rules that crease the sheet. They may be of varying widths to best suit the thickness of the stock being creased.

Crop - To eliminate portions of the image, usually on a photograph or plate, indicated on the original by "crop marks".

Cross Direction (CD) - In papermaking, the side to side direction of the paper machine or the paper made on it.

Cross Marks - Register marks for accurate positioning of images in step-and-repeat, double or multicolor printing, also in superimposing overlays onto a base or on each other.

Coated Unbleached Kraft (CUK) - Is milled from unbleached virgin wood fiber which gives the sheet a brown kraft appearance all the way through.

CounterCast Engravers Board - A 24-ply layered board for blind embossing make ready base.

CounterCast Epoxy Glass Board - Extremely hard product specifically designed for crisp, clean stamping application and for long running jobs.

CounterCast Greyboard - Makeready board used when pouring a counter.

CounterCast Mold Skin - Covers embossing makeready to prevent wrinkling of stock during embossing.

CounterCast Phenolic Board - A very hard makeready board mounted on the platen of the press for extra sharp detail when flat stamping.

CounterCast Polyurethane Sheet - Used as flat stamping counter for large coverage application. An excellent makeready board for holograms.

CounterCast Powder & Liquid - A powder and liquid mixture used for molding male embossing counters or combination counters in perfect registration to the metal die.

CounterCast Release Film - Used to cover the male embossing counter while forming, it will stop the powder and liquid mixture from adhering to the engraving while setting up.

CounterCast Thermomat - A board mounted to phenolic board for shallow combo or embossing dies.

Cover Board - A board used to cover embossing counter which aids the counter to conform to an exact match of the female die.

Cover Film - Used to cover the finished male counter during the press run. It protects the counter from wear and softens edges to prevent cutting the stock.

Cure - To treat a material by the application of time, heat, pressure, catalysts, chemical agents, or combinations thereof, to impart desired physical characteristics for a specific use.

Curing Temperature - The temperature to which an adhesive or an assembly is subjected to cure the adhesive. The temperature attained by the adhesive in the process of curing it may differ from the temperature of the atmosphere surrounding the assembly.

Curing Time - In adhesion, the period of time during which an assembly is subjected to heat, or pressure, or both, to cure the adhesive.

Curl - A roll or curve of the edge of a sheet of material. Curl may be intentional.

Cut Crease - A machine used in production of folding cartons. It uses steel rule dies with sharp knives to cut through the board; dull knives to crease board along fold lines.

Cut Nicks - A cut nick also referred to as a score nick is a thin ground slice in a cutting blade which causes a hang up of the material being die-cut. It is useful when you want to temporarily connect various cavities of a die to be ripped apart at a later time.

Cut-Score - In die cutting, a sharp-edged knife, usually several thousandths of an inch lower than the cutting rules in a die, made to cut part way into the paperboard for folding purposes. Cutting knives or rule that cut only partially through the stock for purposes of bending. Used when creases are not desired or in conjunction with reverse cut scores to produce an opener detail.

Cutting & Creasing Press -Machine for cutting and creasing or scoring boxboard blanks.

D

Deboss - Depressing (in a blanking die) a portion or portions of the cap below the ordinary surface level, usually to form lettering or decoration. Sometimes the background, rather than the lettering itself, is debossed, leaving the letters at the original level of the cap, thus giving the appearance of embossing; otherwise the lettering itself is pressed down, giving the appearance of engraving.

Deckle - In papermaking, the width of the wet sheet as it comes off the wire of the paper machine.

Defect - A departure of a quality characteristic from its intended level or state that occurs when a severity sufficient to cause an associated product or service not to satisfy intended normal, or reasonably foreseeable, usage requirements.

Delamination - Separation, splitting of layers caused by lack of adhesive, inadequate adhesion or by mechanical disruption.

Delayed Offset - Development of ink transfer from any part of a printed area to an adjacent surface subsequent to the initial contact. Term used in flexographic printing.

Densitometer - In photography, a sensitive photoelectric instrument, which measures the density of photographic images, or of colors. In printing, a reflection densitometer is used to measure the density of color to determine whether it is consistent throughout the run.

Density - In printing, the measure of the relative blackening of photographic images. In paperboard, the ratio of paperboard weight to volume, most often referred to as basis weight/caliper.

Descender - That part of the letter which extends below the main body, as in "p".

Design Review - The formal review of an existing or proposed design for the purpose of detection and remedy of design deficiencies which could affect fitness-for-use and environmental aspects of the product, process or service, and/or for identification of potential improvements of performance, safety and economic aspects.

Detector - A device which converts light into electrical signals.

Die - A wooden form with cutting and creasing rule for shaping, cutting or stamping carton blanks.

Die Board - Used as the carrier for steel rule in cutting dies, usually hardwood plywood.

Die, Combination - A female die used to emboss and hot stamp simultaneously. It has a cutting rule to aid in a clean cut of the foil around the image area.

Die, Counter - A male counterpart molded from the original female dies used to press the paper into the die to emboss or Deboss. It is usually made of epoxy, fiberglass, or other resins (precast counter).

Die-Cutting - Piercing the paper or other substrate with a knife-edge steel blade. These can be straight single cuts, or slots for the insertion of other items, or they can be holes cut to any shape or size.

Die, Duplicate - In embossing dies, molded duplicates made from the original die. These can be made of various materials but are usually bakelite or metal compositions. Used to cut costs when making multiple dies.

Die, Embossing - The female die hand-sculpted, machine-tooled, or photo-etched. Used to emboss or reshape the paper under heat and pressure.

Die, Foil-Embossing - Same as combination die.

Die-Making - The process of carving, machining, or hand finishing images or shapes into a metal die. These dies are three-dimensionally tooled as opposed to an engraving. The embossing dies are female (recessed) and are used as a mold for reshaping paper or other substrate.

Die Mark - Identifying mark which is incorporated in a die and impressed into a material, product or part.

Die-Mount Tape - For mounting dies to a heated chase.

Die Sheet - An accurate imprint made from the package manufacturer's dies for use by the package designer to enable him to secure accuracy of color register and design register in his artwork. Die sheets vary between manufacturers, due to their accuracy of making dies. In general the die sheet shows the exact location of cutting and scoring rules, and is made by inking the dies and proofing them on a sheet of parchment or other semi-non-shrinking surface. In effect, the die sheet is the functional design of the package, within the confines of which the package designer; must fit his artwork.

Die Side - The view looking down on the sharp edges of the knife, also called the "inside view" in paperboard cartons.

Die, Stamping - A photo-etched or machined die used to flat stamp foil to paper or other substrate.

Die, Steel Rule - A cutting die used on letterpresses to pierce or cut out paper. Generally made type high (.918") with 1/32" thick steel blades, or rules, cut and bent to specific patterns and mounted in a wooden base. The steel has knife-like cutting edges.

Digitizer - Computer equipment used to input graphic information into a CAD system.

Direct Screen - In color separation, a halftone negative made by direct exposure on an enlarger or by contact through a halftone screen.

Domed Makeready - A makeready technique used to force air away from the center of the image area using small circles and gradually larger ones on top.

Domed - A shape put into embossed or debossed images resembling a semi-circle or half-moon.

Dot - The individual element of a halftone.

Dot Spread - In printing, a defect in which dots print larger than they should.

Double Dot Halftone - In lithography, two halftone negatives combined into one printing plate, having greater tonal range than a conventional halftone. One negative reproduces the highlights and shadows; the other reproduces middletones. This should not be confused with duotones, or printing with two black plates.

Draw-Down - In inkmaking, a term used to describe ink chemist's method of roughly determining color shade. A small glob of ink is placed on paper and drawn down with the edge of a putty knife to get a thin film of ink.

Drop-Out - Portions of originals that do not reproduce, especially colored lines or background areas, often on purpose.

Dummy - A preliminary layout showing the position of illustrations and text as they are to appear in final reproduction. A set of blank pages made up in advance to show the size, shape, form and general style of a piece of printing.

Duotone - In photomechanics, a term for a two-color halftone reproduction from a one-color photograph.

Duplicating Film - A special color film used for making duplicates of color transparencies to size, so they can be stripped together and color separated as a unit.

E

Em - In composition, the square of a type body. So named because the letter "m" in early fonts was usually cast on a square body.

Emboss - Raising the image above paper level.

En - One-half the width of an em.

Engrave - To mark, print, or incise letters or designs onto a surface, usually paper, with a photo-etched and hand-finished die. The die, or engraving, is usually metal, although it can be stone, wood, or other material. Engravings are one level and shallow to carry ink in the recessed areas of the die before transferring the ink to the paper.

Extended Type - A type whose width is greater than normal.

F

"F" Stops - Fixed sizes for setting lens apertures.

Face - The printing surface of a piece of type.

Felt Side - Is the top and the printing side of the paperboard and has a smoother, denser formation.

Filter - In color separation photography, a colored piece of gelatin used over or between the lens.

Flat - In offset-lithography, the assembled composite of negative or positives ready for platemaking. Also, a picture that is lacking in contrast.

Flip Sheet - Marker sheet used to locate the image and perform spot makeready.

Flush Left or Right - In composition, type set to line up at the left or right. This page is flush left and right.

Flush Paragraph - A paragraph with no indentation.

Fog - In photography, density in the non-image areas.

Foil - General term for hot stamping material, consisting of a film carrier (usually polyester) coated with a release agent, a color (lacquer) coat or metallized aluminum and an adhesive coat, in that order.

Foil Embossing - Raising the image and applying foil at the same time with one press run, as with a combination, foil embossing die.

Foils, Dusted - Foils utilizing a bronze powder on the carrier. Easily applied, but easily rubbed off without an over-coating. Limited colors available.

Foils, Flat Pigment - Opaque foils of intense color, resembling flat paint. Foils, Gloss - Transparent foils glossy in appearance.

Foils, Gloss Pigment - Opaque foils of intense color, resembling glossy enamel paint.

Foils, Holographic - Foil which has holographic images embossed into it, allowing the viewer to view the stamped holographic image in 3-D without special glasses.

Foils, Metallic - Metallized aluminum foils available in many colors and either shiny (mirror) or satin in their finish. The most widely used foils are gold and silver.

Foils, Patterned - Foils manufactured with specific patterns rather than one color. These range from wood grains, marbles, or multi-colors to the newer 3-D holographic patterns or images. Wide variety of designs available.

Foils, Pearlescent - Similar to gloss foils, having a translucent pearl color. Choice of colors limited.

Foils, Tint or Pastel - Flat or dull translucent stamping foil. Can be applied in varying degrees of color density by changing the press temperature when stamping. Choice of colors available is limited. Can be used with embossing.

Folio - The page number.

Font - In composition, the complete assortment of type of one size and face.

Format - The size, style, type page, margins, printing requirements, etc. of a printed piece.

Fourdrinier - A type of paperboard making machine on which the web is formed by depositing pulp furnish on a moving endless wire screen. The screen shakes as it travels, thus causing the pulp fibers to criss-cross and mat. Water is removed by gravity and suction. Caliper or basis weight of the paperboard is determined by the consistency and rate of feed of the furnish and the length and travel of the screen.

G

Generation - Each succeeding stage in reproduction from the original copy.

Gloss - In papermaking, the property of a surface that causes it to reflect light and is responsible for its luster.

Glue Joint - Area where an adhesive joins two parts of a carton.

Grain - In papermaking, the direction in which most fibers lie which corresponds with the direction the paper is made on the paper machine.

Gray Scale - A strip of standard gray tones ranging from white to black, places at the side of original copy during photography to measure tonal range and contrast obtained.

Grinder - Used to sculpt dies. Primarily air-powered but sometimes electrical.

Gripper Edge - The edge of the sheet to be embossed or stamped which is pushed or pulled against a predetermined stop on the press. For registering purposes, the same designed edge is used during all press applications on the sheet.

H

Halftone - Various size dots of ink, barely distinguishable to the human eye, which create the illusion of shades or tones.

Halftone Photography - The process of converting photographs into halftone dots for printing.

Hard Copy - In phototypesetting, typewritten copy on ordinary paper produced simultaneously with magnetic or paper tape on mast keyboard.

Hardwood - Oak and Ash, are shorter and thinner fibers which produce a smooth surface on the paperboard.

Highlight - The lightest or whitest parts in a photograph represented in halftone reproduction by the smallest dots or the absence of all dots.

Hologram - A three-dimensional picture that is made on a photo sensitive glass plate using a laser as the light source. From this plate a shim is made and the image is stamped into a metallic foil.

Hot Stamping - Applying foil with the use of heat, pressure and dwell to various substrates, such as paper, plastic, wood and leather.

I

Image Area - Any element of design to be printed, stamped, or embossed.

Impression - In printing, the pressure of the type, plate or blanket as it comes in contact with the paper. Same is true for diecutting.

J

Justify - In composition, to space out lines uniformly to the correct length.

K

Kerning - In typesetting, adjusting the spacing between two characters closer, so that part of their letter shapes overhang.

Keyline - In artwork, an outline drawing on finished art to indicate the exact shape, position and size for such elements as halftones, line sketches, etc.

Kiss Cut - In diecutting, to cut through only the top layer or layers of pressure sensitive material and leave the backing stock uncut.

Knife to Knife - In diemaking, used to define over all dimension.

Kraft Paper - A high strength paper (SUS Solid Unbleached Sulphate and SBS -Solid Bleached Sulphate) made of sulphate fiber pulp. It is produced from an alkaline process of pulp manufacture and is made on a fourdrinier paper machine from virgin fibers.

L

Laser Die-Making - Using a numerically controlled laser to cut the slots in plywood for a steel rule die. The rule is inserted in the conventional manner.

Layout - The drawing or sketch of a proposed printed or die cut piece. In platemaking, a sheet indicating the settings for the step-and-repeat machine. The process in which the parts to be die-cut are planned on the dieboard. A print or drawing from which a die is made.

Lead - In composition, a thin strip of metal used for spacing between lines of type.

Leaders - In composition, rows of dashes or dots used to guide the eye across the page. Used in tabular work, programs, tables of contents, etc.

Letterspacing - The placing of additional space between each letter of a work.

Light or Color Fastness - The ability of foil products to resist fading when exposed to light.

Line Art - Copy to be reproduced consisting of solid colored images.

Line Copy - Any copy suitable for reproduction without using a halftone screen.

M

Makeready - The process of setting up a press to hot stamp and/or emboss, print, fold, or die-cut.

Mask - In color separation photography, an intermediate photographic negative or positive used on color correction. In offset-lithography, opaque material used to protect open or selected areas of a printing plate during exposure.

Matrix - A mold in which type is cast in linecasting machines. In stereotyping, the paper mold or mat made from a type form.

Matte Finish - Dull paper without gloss or luster.

Measure - In composition, the width of type, usually expressed in picas.

Mechanical - Used mostly in offset, a term for a camera ready pasteup of artwork. It includes type, line art, etc. all on one piece of artboard.

Middletones - The tonal range between highlights and shadows of a photograph or reproduction.

Mitering - Cutting triangular pieces from set-up paper box blanks that have been scored for ended boxes, so that the side and bottom flanges can be bonded without interference. Usually done on a mitering machine.

Mitering Machine - Machine for cutting triangular piece from "ended" set-up paper box blank, so that side and bottom flanges will bend without interference.

Module - A minimum size unit, which may be taken in multiples to make compatible dimensions. Thus the dimensions of the consumer packages can be made to fit exactly the shipping case, and the shipping case fit pallet loads which load into trailers without loss of cube. Geometrical averages, such as the "square root of two" rule, may be used to create modules.

Moiré - In color process printing, the undesirable screen pattern caused by incorrect screen angles of halftones.

Moisture Content - The percentage of water in a finished material such as film, paper, wood, etc., expressed as percent of original weight of the test sample.

Moisture-Resisting Adhesive - An adhesive which forms a bond that will retain its bond strength when in contact with water or when in a high-humidity atmosphere.

Monomer - A relatively simple chemical which can react to form a polymer.

Mottle - The spotty or uneven appearance of printing. Most pronounced in solid areas.

Multi-Level - Raising and/or lowering an image two or more levels. Example: A company name raised as a second level or higher level on a panel than the first level.

Multiple Sampling - Sampling inspection in which, after each sample is inspected, the decision is made to accept a lot; not to accept it; or to take another sample to reach the decision.

N

NANO - Prefix denoting one thousand millionth, as in nanosecond, one thousand millionth of a second.

NBS - National Bureau of Standards.

Negative - In photography, film containing an image in which the values of the original are reversed so that the dark areas appear light and vice versa. (See Positive)

Nicks - Small relief in cut edge of rule to interrupt cut. Used to hold blanks together after die cutting.

Non-Image Area - Background area, as opposed to image area. The carrier, paper, or substrate on which the image is printed or stamped.

Notch - To cut away small portions of an area of packaging material, usually at the corners, to provide for lock seaming.

O

O.D. - Outside dimensions of a container, package, or part. In metal drums it is the diameter over the rolling hoops.
Offset Ink - A term used to describe a lithographic ink because most lithographic inks are printed by an offset process.

Offset Lithography - A lithographic reproduction process in which the ink is transferred from the printing plate to a rubber blanket and subsequently to the sheet.

Offset Press - A printing machine which transfers impressions from flat plate to rubber cylinder, thence to paper or other substance.

Offset Printing (Lithography) - A process of fine printing using the principle of water and oil not mixing. The process uses an etched thin, flexible metal plate that fits to a curved cylinder. The inked image is transferred, or offset, from this plate to a revolving rubber covered cylinder, which in turn transfers the image to the paperboard.

Opacity - That property of paper which minimizes the "show through" of printing from the back side or the next sheet.

Opaque - In offset-lithography, to paint out areas on a negative not wanted on the plate. In paper, the property which makes it less transparent.

Open End - The end through which a collapsible tube is filled with the material which it is to contain.

Opening Force (cartons) - The physical force (grams) to open or erect from a knock-down position to an open position.

Orange Peel - Uneven surface somewhat resembling an orange peel.

Orientation - The movement of manipulation of an object consistently into a controlled position in space.

Overlay - In artwork, a transparent covering over copy where color breaks, instructions or corrections are marked. Also, transparent or translucent prints which, when placed one on the other, form a composite picture. In die cutting, a transparent sheet showing the outline of the cutting and creasing rule.

Overprinting - Double printing, printing over an area that already has been printed.

Overprint Varnish - Broadly, transparent coatings applied by sprayer, by roller coating, or by printing methods for the purpose of beautification or protection of printed surfaces. This includes spirit varnishes and lacquers. Overprinted varnishes usually take on a yellowish color upon aging of the package to which they are applied.

Overrun - In printing, copies printed in excess of the specified quantity.

Oxidation - The metal coat in the foil is etched away (on natural leathers or paper) when there is acidity or high humidity in the air.

P

Pack - To bale or bundle.

Package - One unit of a product, uniformly processed, wrapped or sealed in a sheath or container.

Packaging - Packaging is the enclosure of products, items or packages in a wrap, pouch, bag, box, cup, tray, can, tube, bottle or other container form to perform one or more of the following major functions:

Containment for handling, transportation and use.

Preservation and protection of contents for required shelf and use life and sometimes protection of the external environment from any hazards of contact with the contents.

Identification of contents, quantity, quality and manufacturer -usually by means of printing, decoration, labeling, package shape or transparency. Usually the design and decoration must facilitate selection and motivate sales, and increasingly they must meet government requirements including ingredients listing, nutritive value and the like.

Facilitate dispensing and use, including ease of opening, reclosure (if required), portioning, application, unit-of-use, multipacks, safety second use or re-use and working features such as are found in aerosol sprays, cook-in-bag, "memory packs" and especially provision for instructions or directions. If the device or container performs one or more of these functions, it is considered a package. Packaging is also the development and production of packages (filling, closing, labeling), by trained professionals or operators employing methods and equipment designed for specific product lines and types of packages. Some 30 different categories of packaging machines are employed, for example, fillers, counters, cappers, labelers, wrapping equipment, cartoners, case loaders and sealers, as well as a wide range of support equipment for package making, inspection, monitoring, handling and the like. Increasingly, packaging machinery is designed and integrated to provide a complete system.

Pallet - A low, portable platform of wood, plastic, metal, fibreboard or combinations thereof, to facilitate handling, storage and transportation of materials as a unit.

Palletized Load - A regular pile of a commodity on a pallet for ease in handling by mechanical equipment. The pile may be loose or it may be fastened to the pallet by means of cordage, metal strapping, wires, adhesive, shrink-wrap, stretch wrap or other device.

Panchromatic - Photographic film sensitive to all visible colors.

Panel - Solid area to be printed, stamped, embossed or debossed as opposed to a border. Can be any shape.

Pantograph - A precise tracing machine used for engraving dies. Uses an oversized template or pattern made from camera ready art or film to reproduce the image into the metal.

Paper, Coated - Paper which has a clay filler applied to it for a harder or shinier finish. These papers reflect foil well, but crack more readily when embossed.

Paper, Uncoated - Paper which is better for embossing because its softer finish has less tendency to wrinkle or crack. Foils will appear less glossy on these stocks. Uncoated, textured sheets may sometimes be very difficult to smooth out when foil stamped.

Paper Level - Reference point for all embossing or debossing.

Paperboard - The distinction between paperboard and paper is not sharp but broadly speaking, paperboard is heavier in basis weight, thicker and more rigid than paper. In general, all sheets 12 point (0.012 inch) or more in thickness are classified as paperboard. There are a number of exceptions based upon traditional nomenclature. For example, blotting paper, felts, and drawing paper in excess of 12 points are classified as paper, while corrugated medium, chipboard, and linerboard less than 12 points is classified as paperboard. Paperboard is made from a variety of furnishes on a number of types of machines, principally cylinder and Fourdrinier. The broad classes are: (1) container board, which is used for corrugated cartons, (2) box board, which is further divided into (a) folding box board (b) special food board (c) set-up boxboard, and all other special types such as automobile board, building board, tube board, etc.

Parallel Processing - The processing of pixel data in such a way that a group of pixels are analyzed at one time rather than one pixel at a time.

Partition - A set of corrugated or solid fibreboard pieces slotted so they interlock when assembled to form a number of cells into which articles may be placed for shipment.

Perforated Scores - Score made by cutting rule that is relieved at regular intervals to achieve a cut/score.

Perforating Rule - A cutting rule that produces perforations, or glue adherence.

Perforations - Intermittent cuts in paper to facilitate folding, tearing and glue adherence.

Permeability - Property of a film or container which permits the diffusion of gases and liquids through an essentially continuous film or container material.

P.E.T. (Polyester pH) - A number used for expressing the acidity or alkalinity of solution. A value of 7 is neutral in a scale ranging 0 to 14. Solutions of a lower value are considered acid while those higher are alkaline.

PH - A number used for expressing the acidity or alkalinity of solution. A value of 7 is neutral in a scale ranging 0 to 14. solutions of lower value are considered acid while those higher are alkaline.

Phenolic - Generic name for phenol-formaldehyde thermosetting plastic (molded or casted).

Photo-Mechanical - Sometimes referred to as chemical milling. Image is exposed with a light-sensitive emulsion on film positive or negative, then acid-etched to a specific depth and angle. Depending upon the die function, the image is etched into an embossing die and the non-image area is etched away on a stamping die.

Pica - Printer's unit of measurement used principally in measuring lines. On pica equals approximately 1/6 of an inch.

Picking - The lifting of the paper surface during printing. It occurs when pulling force (tack) of the ink is greater than the surface strength of the paper.

Pigment - In printing inks, the fine solid particles used to give color, body or opacity.

Piling - In printing, the building up or caking of ink on rollers, plates or blankets; will not transfer readily. Also, the accumulation of paper coating on the blanket of an offset press.

Pinholing - Small holes in a coating film about the size of a pinpoint.

Pin-Register - For aligning the die and counter to each other when mounting them on press. Two common holes are drilled through the die and counter diagonally from each other in the non-image area. Plastic dowel pins are inserted into these two holes to hold the two pieces in perfect positioning to each other until mounted on platen. Pins are then removed prior to running.

Plain - Having no features other than those considered basic for the item described. Uncoated, undecorated, etc.

Plasticizer Migration - When foil is stamped on PVC or other plastic products, the plasticizer migrates from the foil area to the surface of the plastic piece. The results are that the metallic foil will fade.

Plate - A flat piece of metal, rubber or other material, etched, engraved, embossed or otherwise processed with a design to be used as a transfer medium. The plate may also be curved or cylindrical for use on a printing press. A printing plate.

Platen - (1) The flat mounting plates of a press to which the entire printing assembly is fastened. (2) A flat plate or a roller which brings the paper in contact with the ink or other devices as on a typewriter, compression testing machine, etc.

Platen Press - That style of printing which gives the impression from a flat surface, as distinct from the type which produces the impression by; means of a curved or cylindrical surface. In the packaging field, presses of this type are often used for the die cutting of inserts, pads, and folding carton or set-up paper box blanks.

Platform - In the set-up paper box industry, a form attached to the inside of the base, stayed or otherwise set up, covered, to fill space not occupied by commodities.

Plotter - A machine used to draw graphic information from a CAD system onto materials such as paper, mylar or die board.

Ply - One of the component webs in a laminated paper or board. Thus: a 30/30/30 waterproof paper may consist of two plies of 30-lb. Kraft paper bound together with 30 pounds of asphalt per ream.

Pneumatic - Of, pertaining to, or using air/gas or gas; specifically, moved or worked by pressure of air. Also, being adapted for holding compressed air. Inflated with air.

Pocket Envelope - An envelope style having its opening and flap formed normally on the side with the lesser dimension. Seam(s) are parallel to the longer dimension.

Point - Printer's unit of measurement, used principally for designating type sizes. There are 12 points to a pica; approximately 72 points to an inch.

Polyester - A general purpose film with consistently good handling properties, dimensional stability, long shelf life and superior strength.

Polyester Film - Thermoplastic film of high strength, transparency, abrasion resistance, toughness, wide temperature resistance and moderate permeability. Generally used in sections 0.0005 or less and laminated to less expensive materials for body, sealability, or other desired properties.

Polyethylene (PE) - A synthetic resin of high molecular weight resulting from the polymerization of ethylene gas under pressure. Its natural appearance is milky white and wax-like and it has good flexibility even under extreme cold conditions. Excellent resistance to acids, alkalies and inorganic chemicals and has no known solvents at room temperatures. Greatest application is in packaging. Low moisture permeability. Contains no plasticizer. There are three general classifications: Low Density, Medium Density and High Density.

Low Density - Flexible, tough, low-melting, virtually transparent in film gauges. Largest volume use is film: also used as a barrier, heat-sealable coating on paper, other films and foil and in molded containers, e.g., squeeze bottles.

Medium Density - Slightly stiffer and higher melting than low-density. Widely used in film.

High Density - Stiff, translucent, tough material mostly used in blow-molded and injection-molded containers.

Polyethylene Film - By far the largest volume transparent flexible packaging material because of a combination of transparency, toughness, heat-sealability, low water vapor transmission rate, resistance to low temperatures and aging, and low cost. Available with a wide variety of specific properties to meet individual market needs.

Polyethylene Terephthalate (PET) - A versatile thermoplastic polyester, it is used in beverage bottles and in food trays designed for microwave and conventional ovens. PET is a pure and regulated material meeting FDA food-contact requirements, hence its wide use in packaging meat and for boil-in-bag applications.

Polymer - A compound formed by the linking of simple and identical molecules having functional groups that permit their combination to proceed to higher molecular weights under suitable.

Polypropylene - Has crystal clarity, high gloss, low specific gravity, high tensile strength, excellent durability and flex crack resistance over a wide temperature range, excellent moisture-barrier properties and resistance to oil and greases.

Porosity - The property of paper that allows the permeation of air, an important factor in ink penetration.

Positive - In photography, film containing an image in which the dark and light values are the same as the original. The reverse of negative.

Prebreaking - A prefold accomplished on a folding carton manufacturer's folding and gluing machine on a score which is subsequently returned to a flat position.

Preform - In plastics, a compressed table or biscuit of plastic composition used for efficiency in handling and accuracy in weighing materials. Also an injection molded parison which is blow molded by a second step into a plastic bottle.

Pre-Press-Proofs - Proofs are made by photographic techniques to eliminate the expense of making press proofs.

Press Proof - A short press run for approval by the client prior to the actual production run. It uses the specified paper, inks, dies, etc. for the pressman to "run to" or match in the actual run.

Pressure-Sensitive Adhesive Tape - A type of tape that is coated with an adhesive which adheres under pressure and does not require moistening, heat, or solvent for activation.

Pressure-Sensitive Vinyl - For use in the pour-counter combo stamp process. The excess plastic is peeled away with the vinyl.

Primer - First coat of finishing material in many finishing systems. Prime coats are usually formulated to give certain properties to the finishing system such as improved adhesion, corrosion resistance, opacity, etc.

Print - To transfer written matter or design to an object, usually by means of a stamp, die or printing press, with ink as the medium. To Imprint.

Print Quality - The measure of compliance of a bar code symbol to the requirements of dimensional tolerance, edge roughness, spots, voids, reflectance, PCS, quiet zone and encodation.

Printed Side - The view of the finished part so the printing is legible, also called "right reading".

Process Printing - The printing from a series of two or more halftone plates to produce intermediate colors and shades. In four-color process: cyan, magenta, yellow and black.

Program - A sequence of instructions to be executed by the computer or robot controller to control a machine or process.

Progressive Proofs - Proofs made from the separate plates in color process work, showing the sequence of printing and the result after each additional color has been applied.

Proof - A test print from a plate, usually very accurate. In die cutting, a test cut from the die.

Prototype - First in a series of development.

P.S.I. - Pounds per square inch, gauge pressure, rather than absolute pressure. Used in stating air pressure, bursting strength of paper, etc.

Pulp - The mixture of wood fibres obtained by chemical cooking or mechanical treatment of wood consisting of cellulose with varying amounts of other materials found in wood such as hemi-celluloses, fine or ray cell fibres, lignin, and other substances. Basically the material from which paper, cellophane, and cellulose plastics are made.

Purge - To flush a jar, bottle, can, bag, or vial with a gas, such as nitrogen, to remove another undesired gas prior to filling.

Q

Quality - Measure a quantitative measure of the features and characteristics of a product or service.

Quality Program - The documented plans for implementing the quality system.

Quality System - The collective plans, activities and events that are provided to ensure that a product, process, or service will satisfy given need.

R

Random Sampling - As commonly used in acceptance sampling, the process of selecting sample units in such a manner that all combinations of units under consideration have an equal chance of being selected as the sample.

Recyclable - Packaging materials that may be processed for reuse by a series of changes or treatments, but not necessarily for their original use.

Reducer - Volatile liquid added to a coating to reduce its viscosity. A thinner.

Reflectance - The ratio of the amount of light of a specified wavelength or series of wavelengths reflected from a test surface to the amount of light reflected from a barium oxide or magnesium oxide standard under similar illumination conditions.

Reflection Copy - In photography, illustrative copy that is viewed and must be photographed by light reflected from its surface. Examples are photographs, dye-transfer prints, etc.

Register - In printing, fitting of two or more printing images on the same paper in exact alignment with each other.

Register Marks - Crosses or other devices applied to original copy prior to photography. Used for positioning negatives in register, or for register of two or more colors in process printing.

Registration - In overwrapping operation, the placing of the design in proper relation to the package faces.

Reject - A material or part which has been rejected for its intended purpose because of defects or imperfections.

Relative Humidity - Water vapor in the air.

Reliability - The ability of an item to perform a required function under stated conditions for a stated period of time.

Repeatability - Closeness of agreement of repeated position movements, under the same conditions to the same location.

Reproduction Proof - In composition, the proof of type form for purpose of photographic reproduction.

Reverses - Openings in the image where the background or paper show through the printed or foiled areas. Can be either type or design elements.

Reverse Out Type - Printed to give the impression that the type has been "cut out" of the background color, i.e. the absence of ink so that the color of the stock shows through.

Reverse Printing - Printing on a transparent film so that the printing will be on the inside of the package and be observed through the film. Permits a higher gloss package because no printing is on the outside, but usually places the printing in contact with the contents. Should not be used for food packages unless sandwiched inside two plies. Back printing is a more accurate term.

Reverse Tuck - The tuck of a tuck-end carton in which the end flaps are extensions of the opposite panels. This type of design permits greater economy of the material from which the carton is die-cut by providing less scrap.

Reverse Tuck-End Carton - A tube style of carton with a tuck end panel for closing, extending off the front of the carton and the other tuck end panel extending off the back of the carton.

Rotogravure - The process of printing with a thin, quick-drying ink from a cylindrical surface having an etched design. The opposite of letter-press printing, in that the design areas are recessed into the plate instead of being in relief.

Roughness - A lack of smoothness to the paperboard surface. SBS is smoothest, SUS is next and recycled is the roughest. (See Smoothness.)

Rule, Creasing - For scoring or creasing with round edge.

Rule, Cutting - For cutting, with sharp edge.

Rule, Perforating - To make perforated cuts.

Run Around - In composition, the term describing a type area set in measures that are adjusted to fit around a picture or another element of the design.

S

Sample Maker - A computer-driven machine which can cut and crease sample designs. These machines can often be used as a plotter to produce a mylar drawing from the same data.

Samples - A hand made box or paperboard piece, a box or paperboard pieces produced from a cutting die by hand or by a proofer machine.

SBS Board - A solid bleached sulphate material, or bending board, which has a clear, white appearance. It is used extensively in the food and pharmaceutical industries.

Scaling - Determining the proper size of an image to be reduced or enlarged.

Scanner - An electronic device used in making of color separations.

Scorching/Heat Tent - Changing the paper color in the embossed or debossed area by using excessive heat, which creates a two-tones effect, with the image being the darker tone.

Score - To impress or indent a mark with a rule in the paper to make folding easier. An impression or crease to facilitate folding. To crease material and break down fiber so that material can be folded.

Score Crack - A break in the outer board surface of a folding carton over a folded or unfolded score.

Scoring - Sharply creasing a material to facilitate folding. It should be made the same direction as the grain of the paper when ease of folding is of prime concern. For greater strength, a score can be made perpendicular to the paper grain.

Scoring Rule - Steel blade that leaves an impression in blank without cutting, usually a fold line. Screen Angles - In color reproduction, the angle to which the halftone screen is placed with relation to one another to avoid the formation of an undesirable moiré pattern. A set of angles often used are black 45, magenta 75, yellow 90 and cyan 105.

Screened Print - In photography, a print made from a halftone negative.

Sculpted Embossing - Raising and/or lowering an image with sculptural realism with any of a variety of shapes, angles and edges, as opposed to flat levels. Examples: A sculpted image of a person's face, a bird's feathers, muscle definition of an athlete.

Seal-End Carton - A carton which is glued along the depth dimension by the manufacturer. Its top and bottom flaps are folded over the open end and glued after it is filled with the product.

Sealing Tape - A tape, usually cloth, paper, film, etc., coated with either gum or pressure-sensitive adhesive, used for sealing packages and containers.

Self Cover - A cover of the same paper as inside test pages.

Serif - The short cross-lines at the ends of the main strokes of many letters in some type faces.

Set-Up - Make ready.

Set-Up Box - A stiff paperboard box in three dimensional construction, generally over-wrapped with printed paper or covering material and delivered "set up" ready to use, as distinguished from a folding carton or shipping container of corrugated or solid fiber which is delivered in flat form.

Shadow - The darkest parts in a photograph, represented in a halftone by the largest dots.

Sharpen - To decrease in strength, as when halftone dots become smaller; opposite of "thicken" or dot spread.

Sheet - A piece of any material that is very thin in relation to its length and breadth, as a sheet of metal, plastic, textile, paper, etc.

Sheeter - A cutting machine that cuts a continuous web or rolls of paperboard, paper or film into rectangular sheets of uniform lengths.

Shelf Life - The length of time that a container, or a material in a container, will remain in a saleable or acceptable condition under specified conditions of storage.

Shore Lock Flap - A tuck-in carton flap having slits which engage a shaped edge of the inside dust flap, thus effectively locking the carton.

Shrink Wrap - A wrap made with plastic film that shrinks when heated, thus producing a tight, neat fit.

Side-Guide - On press, a side-to-side positioning guide perpendicular to, and used in conjunction with, the gripper stop to assure registration during the various press operations.

Side Trim - Metal Trimmed from the edges of the foil web. Also applies to raw materials for folding cartons.

Single Level - Raising or lowering an image one flat level from paper level.

Sizing - The treatment of paper which gives it resistance to the penetration of liquids, particularly water, or vapors.

Skin Packaging - A packaging process whereby a product is covered by a closely fitting transparent film. The article is usually placed on a porous, rigid backing sheet, heated film is draped over and vacuum is applied to draw the film tightly over the article.

Skiving - Cutting off a thin layer. Removing a portion of thickness of board or sheeting. One purpose of skiving is to obtain a continuous sheet of uniform thickness when two edges are joined by lapping, as in a leather belt by tapering the thickness of the joined parts.

Sleeve - A tubular form made of various materials, usually open at both ends, made in various shapes, which is slipped over or in an item. A tubular carton with open ends.

Slit - To cut a roll of stock to specified widths. Either rotary or stationary knives or blades are used with mechanical unwinding and rewinding devices. Also applied to sheet material, as boxboard.

Slitter - A machine to cut flat sheets or roll stock in required dimensions utilizing adjustable disk knives or blades mounted on shafts. It can make single or multiple cuts at one pass.

Slot - A long, narrow aperture cut into a surface. A cut made in a fiberboard sheet and having any length and a normal width of one eighth inch. A line cut into or through a sheet with no stock removed, as on slotted tags, collar cards, etc.

Slug - In composition, a one-piece line of type. Also, a strip of metal, usually 6 points, used for spacing between lines.

Small Caps - An alphabet of small capital letters available in most roman type faces approximately the size of the lower case letters. Used in combination with larger capital letters.

Smoothness - The property of a paperboard surface related to its degree of uniform evenness. (See Roughness)

Snaplock Bottom - A particular bottom style of folding carton consisting of four flaps, each having a cut away area. Each flap is hinged off one of the four sidewalls of the carton and folded in toward the center where overlapping areas of the flaps lock together to form an economical carton bottom.

Soft Dot - In photography, a dot is called "soft" when the halation or fringe around the dot is excessive and almost equals the area of the dot itself. Conversely, when the fringe is so slight as to be barely noticeable and the dot is very sharp, it is called "hard".

Softwood Pine - Are longer and wider than hardwood fibers and produce a strong/stiff paperboard sheet with high fold and tear strength. The more softwood used, the stronger the sheet.

Solid Bleached Sulphate (SBS) - Is milled from bleached virgin wood fiber which gives the sheet a clean, white appearance all the way through.

Solvent - The medium, usually liquid, used to dissolve a substance to convert it to a liquid and place it in solution. Frequently implies an organic solvent. The term is also used to mean the vehicle in which a finely divided material is dispersed. Also, a thinner for certain adhesives, paints, inks, etc.

Specification - A written statement containing detailed description and enumeration of particulars which set forth the requirements for acceptability.

Spoilage - Material spoiled in process of manufacture; waste caused by mistakes; errors in judgment, or faulty processing; deterioration of food by microbiological action.

Spot Varnish - Varnish that has been selectively applied while the sheet or web being printed is on the press. Accomplished by using a printing plate as the applicator, it is considered a "color" by printers.

Squeeze Out - Excess adhesive extruded from the glue line when pressure is applied to the surface being joined, i.e., the faying surface.

Stamping (hot press) - The process of stamping with metal leaf upon properly prepared leather, paper or other material with hot metal type or dies.

Standard - A written statement by a private or quasi-public organization establishing conditions or practices which those who are members of the organization have agreed to abide by, or comply with voluntarily. However, if adopted by government agencies, the standard is given the force of law.

Star Wheel - A circular device with portions of its edge cut out in a regular manner that gives the approximate appearance of a star, mounted on a vertical axis on a transfer mechanism or a conveyor in a manner so that objects or packages are momentarily held in the pockets of the wheel and are thereby indexed or positioned for proper timing with respect to the next succeeding operation, or are spaced uniformly to prevent crowding on a conveyor.

Step and Repeat - Same image precisely repeated one or more times horizontally and/or vertically to predetermined distances. These distances from one image to another are referred to as "centers" when measured from a point on one image to the same point on an adjacent image.

Stet - A proofreader's mark, written in the margin, signifying that copy marked for correction should remain as it was.

Stiffness - The ability of paperboard to resist binding.

Stock Carton - A carton which is manufactured in advance of sale, usually in large quantities and sold in smaller quantities from the manufacturer's stock.

Stock Paper - Or other material to be printing.

Straight Tuck - The tucks of a tuck-end carton in which the end flaps are extensions of the same panels.

Straight Tuck-End Carton - A tube style of carton with both tuck-end panels for closing extending off the same face panel.

Stretch Wrap - A type of package which is formed by the act of stretching an extensible film around the product and holding the film under tension by means of a heat seal or frictional device.

Strike Sheet - An accurate imprint made from the package manufacturer's dies for use by the package designer to enable him to secure accuracy of color register and design register in his art work.

Strip Gluing - A system which transfers glue by means of a transfer wheel or nozzle onto a surface in a continuous strip of controlled width.

Stripping - Trimming off excess material which remains after a processing operation. Example: Removal of excess board after die cutting cartons, or blank of a set-up paper box.

Style - Basic design or pattern of a container. Possible construction within any broad class of containers, such as styles of wood box, styles of paper bags.

Substrate - A base material upon the surface of which an adhesive-containing substance is spread for any purpose, such as bonding or coating.

T

Tack - In adhesives, commonly regarded as the stickiness. The amount of tack is estimated as the pull-resistance when attempting to separate the adherends while the adhesive still exhibits viscous or plastic flow, the separation being effected without failure or deformation occurring in the adherend surroundings.

Tear Tape - A strong tape, glued to the interior horizontal circumstance of a corrugated box or fiber can with one end protruding, to be pulled to tear open the container; or any tape built into a paperboard container in a manner that will tear out a continuous strip from the wall without the aid of a knife. Widely used on wraps for cigarettes, cough drops, cartons, chewing gum, strip bandages, and the like. Also used on sacks.

Template - A gauge, pattern or mold, sometimes a thin plate or board, used as guide to forming a piece being made. Also called an overlay. In machine vision systems, the word is used to indicate a prototype model that can be used directly to match image characteristics for object recognition or inspection.

Template Matching - The technique of comparing the image of a test object with that of a standard on a pixel-by-pixel basis for inspection or recognition purposes.

Tensile Properties - Properties determined by recording the stress-strain curve of a sample as it is being pulled in tension on a tensile testing machine.

Tensile Strength of Paper - Relative ability of paper or board to resist breaking under tension. The test for tensile strength is performed on cut strips of paper in a standard tensile testing machine. Values are obtained in both machine and cross machine directions and are generally recorded as pounds per inch of width of the paper required to cause breaking of the strip.

Test (tensile) - A test to determine the resistance to rupture by tension. Applied to metals, plastics, wood, paper and other materials. Usually reported in force per unit cross sectional area or force per unit width.

Testing - A means of determining the capability of an item to meet specified requirements by subjecting the item to a set of physical, chemical, environmental, or operating actions and conditions.

Thermoforming - A process of forming thermoplastic sheet which consists of heating the sheet and forcing it into or over a mold by vacuum or mechanical or air pressure. Used to produce blisters, skin packs and thin-wall containers or components. The term is an overall designation for vacuum forming, pressure forming and combinations of these.

Three-Dimensional Line Drawing - Techniques of perspective projection are employed to project three-dimensional objects onto a two-dimensional display surface, as on a computer screen.

Three-Dimensional Package - A package that has a pre-third dimension as opposed to a package of two dimensions, the third dimension of which is irregularly determined by the contents.

Tints - Various even tone areas, strengths, of a solid color.

Tissue Overlay - A thin, translucent paper placed over artwork for protection; used to indicate color break and corrections.

Tolerance - Permissible maximum deviation from specified dimensions or qualities or specifications.

Tracing - An exact or interpretive drawing scratched with a pointed steel stylus onto clear acetate. Used in sculpting dies when transferred to the metal.

Tracking - Continuous position control response to a continuously changing input.

Trade Name - A name or term which is owned by registration of copyright and identifies the product or service of a particular company.

Trade Term - Any word or phrase used within a trade or industry, generally having a meaning which is more specific than, or even at variance with, the common or dictionary meaning, e.g., many terms in this glossary.

Transfer Adhesive Tape - A pressure sensitive adhesive on a silicone coated tape. When placed in contact with a substrate, the adhesive is transferred from the tape.

Translation - Movement of a body so that all axis remain parallel to what they were, i.e. without rotation.

Translucent - Permitting passage of light but diffusing it so that objects cannot be seen clearly.

Transparent - Transmitting rays of light so that objects can be seen through the material.

Transparent Copy - In photography, illustrative copy such as color transparency or color negative through which light must pass in order for it to be seen.

Transparent Ink - A printing ink which does not conceal the color beneath. Transparent ink allows the undercolors to show through. Process inks are transparent so that they will blend to form other colors.

Trapping - The ability of an already printed ink film to accept a succeeding or overprinted ink film.

Trim - (1) Scrap taken from around box blank. (2) Paper or cloth used to strengthen or form decorative covering for the edges of base, lid or extension edges on set-up paper or paperboard boxes.

Trim Marks - In printing, marks placed on the copy to indicate the edge of the paper.

Trim Size - (1) The maximum width that can efficiently be produced on paper, paperboard or paper converting machine, minus allowance for trimming off deckle or uneven edges. (2) The size of something after trimming.

Tube Style Carton - A carton consisting of two or more panels that are folded completely around to make a tube. To close the tube there will be on both ends either tuck flaps, seal and flaps or other type flaps and locks.
Tuck - The end portions of the top or bottom flaps of a folding paper box (carton) which are inserted inside the container to hold the end (top or bottom) flaps in place. Various types of cuts and shapes of tuck ends have been developed to hold the flaps, the most common being a pair of notches at the fold which engage the side flaps and hold the end flaps in place.

Tuck-End Carton - A carton which is glued along the depth dimension by its manufacturer. The extended top and bottom flaps are tucked in and held in place by friction or locked in position.

Two-Dimensional Line Drawing - A method of computer display on a screen that represents line drawings of a flat image, or a two-axes graph without suggesting depth.

Type Gauge - In composition, a printer's tool calibrated in pica used for type measurement.

U

Ultraviolet - Region of the electromagnetic spectrum adjacent to the visible portion of the spectrum, but with wavelengths between .01 and 0.4 microns.

Unbleached Paper (also unbleached board) - Any type of paper or board made from unbleached pulp. Depending on the natural character of the pulp, plain, unbleached paper varies from a very light "café au lait" brown for sulphate stock, to the fairly dark brown hues characteristic of unbleached kraft pulp. Unbleached paper can be colored to make any of the darker hues.

Up - In printing, two-up, three-up, etc. refers to imposition of material to be printed on a larger size sheet to take advantage of full press capacity.

UPC (Universal Product Code) - Is a 10-digit, all-numeric code which uniquely identifies products. The first 5 digits, called the manufacturer identification number, identify each manufacturer or organization controlling the label of the product. The second 5 digits, called the item code, identify individual items within those companies and are assigned by the manufacturer or organization controlling the label of the product.

UPC Bar - The dark rectangular areas within a UPC symbol, which are made up of a contiguous sequence of dark modules.

UPC Bar-Width Reduction - The uniform reduction in the width of each bar of a UPC film master.

UPC Character Encoding - The combinations of dark and light modules which form bars and spaces that represent numbers in a UPC symbol.

UPC Character Machine-Readable - The combination of 2 dark bars and 2 light spaces within the 7 modules of a character which a scanner interprets as a number.

UPC Film Master - A negative or positive image of a UPC symbol that allows reproduction of that symbol.

UPC Magnification Factor - The ratio of the symbol width within the corner marks to the nominal width within the corner marks. A magnification factor less than 1.00 will result in a symbol smaller than a nominal-size symbol; a magnification factor greater than 1.00 will result in a symbol larger than a nominal-size symbol.

UPC Manufacturer Identification Number - The 5-digit number assigned by Distribution Codes, Inc. to identify the firm responsible for manufacturing or controlling the label of a certain product.

UPC Master Emulsion Side - The image-bearing side of a film master.

UPC Module - The basic building block for encoding a UPC symbol. A module will be dark or light. Each machine-readable character of a UPC symbol is composed of 7 modules.

UPC Module Check Character - A calculated number encoded in a UPC symbol which is used by scanners for error detection.

UPC Number System Character - A number encoded in a UPC symbol which is used to identify different number systems. The human-readable version of the number system character is incorporated in the symbol and located in the left-hand light margin area.

UPC Positive, Film Master - A film master whose bars are dark and whose spaces are light or clear.

UPC Print Gain - The increase of bar width from film master through plate-making to final printed symbol caused, in part, by spreading of the ink image.

UPC Space - The light areas between bars of a UPC symbol.

UPC Truncation - The process of decreasing the height of the bars of a UPC symbol which results in the reduction of the aspect ratio of that symbol from the aspect ratio of the nominal-size version of that symbol.

UPC Universal Product Code Symbol - A machine-readable representation of the Universal Product Code as well as other compatible codes. It is in the form of a series of parallel light and dark bars of different widths. OCR-B numeric font appears beneath the symbol to provide the human-readable version of the UPC or other compatible codes.

UPC Zero-Suppression Symbol - The version of the UPC symbol which encodes 6 characters rather than 10. This is achieved by encoding the symbol in a special way that leaves out some zeros that can occur in the code.

UV Inks - Printing inks which consist of a polymeric vehicle which is polymerized in the presence of ultraviolet radiation.

UV Resistance - The ability of any material to withstand extended exposure to sunlight without degradation, hardening, or excessive discoloration.

V

Varnish - A liquid preparation which, when spread upon a surface, dries forming a hard, lustrous coating. Used to protect the material coated, to enhance appearance, or to perform specific functions, such as; provide a prime coat to improve adhesion of inks and other coatings, increase harness or elasticity, etc. Usually composed of solutions of natural or synthetic resins in oils or volatile solvents.

Varnish (finishing) - A transparent protective coat over a printed surface, which may impart a desired characteristic appearance.

Varnish (overprint) - Broadly, transparent coatings applied by sprayer, by roller coating, or by printing methods for the purpose of beautification or protection of printed surfaces. This includes spirit varnishes and lacquers. Specifically, varnishes applied to the printed surface by ordinary printing methods. They must be pale in color, hard drying, scuff-resistant and glossy, both on the unprinted paper and the printed areas. Overprinted varnishes frequently take on a yellowing color upon aging of the package to which they are applied.

Vector - A quantity which has magnitude and direction; a structure which allows location by means of a single subscript or index.

Veneer - (1) Thin sheets of wood produced on a rotary lathe or by slicing or sawing. (2) One of the sheets in a plywood construction.

Veneer Gauge - The gauge of veneer is expressed as the number of thickness to the inch; for example, 10-ga veneer is 1/10 inch thick.

Verification - Activity providing qualitative assurance that a fabrication, assembly or packaging function was successfully completed.

Verifier - A device that makes measurements of the bars, spaces, quiet zones and optical characteristics of a symbol to determine if the symbol meets the requirements of a specification or standard.

Vignette - An illustration in which the background fades gradually away until it blends into the unprinted paper.

Virgin Kraft - A fiber furnish containing not less than 80 percent sulphate pulpwood that has been produced by the kraft (sulphate process).

Virgin Material - A material or liquid that has not been subjected to use or processing other than that required for its original manufacture.

Viscosity - That property of a material by virtue of which it tends to resist deformation or flow.

Visible - Light that can be seen by the eye. Having wavelengths between 0.4 and 0.75 microns.

Vision - The process of understanding the environment based upon sensing the light level of reflectance of objects. This sensory capability, involving the image of an object or scene, is the basis for machine vision systems used in the packaging field.

Volatile - Easily passing from a liquid into a gaseous state. Subject to rapid evaporation. Having a high vapor pressure at room temperature.

Volume - A measurement of three dimensional space in terms of cubic units. Volume of a rectangular cube is equal to length x width x depth.

W

Wand Scanner - A hand held scanning device used as a contact bar code or OCR reader.

Warm Color - In printing, a color which is on the reddish side.

Waste - (1) The loss of materials occurring in the process of manufacture. (2) Material trimmed and salvaged in a processing operation. (3) Material that has become obsolete by use.

Wet Strength - In adhesives, the strength of an adhesive joint determined immediately after removal from a liquid in which it has been immersed under, specified conditions of time, temperature and pressure. The term is commonly used alone to designate strength after immersion in water. In the latex adhesives, the term is also used to describe the joint strength when the adherents are tested with the adhesive still in the wet state.

Widow - In composition, a single word in a line by itself, ending a paragraph; frowned upon in good typography.

Width - One of the dimensions of an object, usually the second largest dimension. (2) In stating the dimensions of a container, the general rule is to give the length, then width of the opening, followed by height or depth. Thus width is the short dimension of the opening, if rectangular.

Window - The cut-out area on the face of a container, usually covered with a transparent film, for the purpose of rendering contents visible. Windows are sometimes mesh covered.

Window Carton - An opaque carton with a die-cut opening usually covered by a transparent film to permit partial visibility of contents.

Windowing - A technique for reducing data processing requirements by electronically defining only a small portion of the image to be analyzed. All other parts of the image are ignored.

Wire Side - In papermaking, the side of a sheet next to the wire and opposite the felt or top side.

With the Grain - Folding or feeding paper parallel to the grain of the paper.

Work Station - A manufacturing unit consisting of one robot or one human operator and the machine tools, conveyors and other equipment with which the robot or human operator interacts.

X

Y

Z

Zero Point - The origin of a coordinate system.

Zipper Rule - A steel rule blade which has a zipper design in the cutting edge thus creating a zipper in the paperboard.