

COMPREHENSIVE GLOSSARY OF TERMS

The Comprehensive Glossary contains all of the terms and definitions found in the individual subject glossaries that follow. This format was devised to facilitate your use of the glossaries.

"A" SHELL

The outermost shell on a lipstick swivel mechanism.

ABRASION

The rubbing and wearing away by friction of one surface by another.

ACCELERATED AGING

A process whereby the deterioration encountered in natural aging may be accelerated and reproduced in the laboratory by heat.

ACCEPTANCE QUALITY LEVEL

(AQL) The quality level which for the purpose of sampling inspection, is the limit of a satisfactory process average.

ACL – APPLIED COLOR LETTERING

Colored lettering or design of ceramic nature permanently fused onto glass bottle surface.

ACL LUG

A small protrusion or small depressed cavity in base of bottle to act as a guide in positioning the bottle in the decorating machine for application of ACL.

ACLAR®

Allied Signal, Inc.'s registered trade name for high barrier films made from PCTFE (poly-chlorotrifluoroethylene) resins.

ACRYLONITRILE

A plastic material used in conjunction with styrene and butadiene yielding good gas barrier properties, chemical resistance, taste and odor retention properties.

ACTUATOR

The finger button that, when depressed, opens the aerosol or mechanical pump dispenser valve mechanism and allows for dispensing of the product.

ACTUATOR INSERT

The plastic insert in the actuator of a spray pump with an orifice through which the product is dispensed.

ADHESION

The ability of a material to stick to the surface to which it is applied.

AEROSOL

A pressurized container permitting controlled dispensing of a product at the touch of a button.

AESTHETIC FILL

Filling to a specific level in a clear package where the fill level is visible.

AESTHETICS

The visual response to the physical appearance of an object.

AIR ENTRAPMENT

The process of capturing boundary air between web wraps during the winding process.

AIRLESS DISPENSERS

An integrated pump system especially suitable for products that are sensitive to environmental influences. Ideal for viscous lotions, creams, gels, treatment products and the like.

ALIGNMENT

Making the axis of all rolls in the machine parallel to one reference roll.

AMPULE

A glass container filled with medication and closed with a rubber stopper.

ANALOG COLOR PROOF

Off-press color proof made from separation film.

ANDA

Amended New Drug Application (filed with the Food and Drug Administration).

ANNEALING

A controlled temperature method of gradually cooling glass containers in ovens or lehrs to relieve structural stresses and to make less brittle.

ANODIZING

Electrolytic process for forming an oxide coating on aluminum for corrosion and wear resistance.

ANTIOXIDANT

A chemical, which when added to a substance, minimizes the effects of oxidation.

ANTISTATIC AGENT

A chemical substance that can be applied to the surface of a plastic bottle, or incorporated in the plastic from which the bottle is to be made. Its function is to render the surface of the plastic article less susceptible to accumulation of electrostatic charges which attract and hold fine dust on the surface of the bottle.

APPLICATION TORQUE

The twisting force used to apply a closure to a finished bottle. The amount of torque varies with the size of the closure.

ASEPTIC

Sterile.

ASPERITY

The roughness of the film surface, usually expressed in microns (one micron is one millionth of a meter) or micro inches (one micro inch is one millionth of an inch).

ASTM

The American Society for Testing and Materials, a society dedicated to the development and maintenance of standardized test procedures and standard specifications.

BACKING PLATE

In injection molding, a support for cavity blocks, guide pins and bushings.

BAGGY EDGES

Webs with longer film length on each edge than in the middle of any span.

BALANCED RUNNER SYSTEM

Flow passages within the injection mold which create equal flow distances from central sprue to each cavity.

BALL TIP

The pigmented epoxy ball decoration at the tip of a hair brush bristle.

BARCODE

A way of labeling or coding a product that allows a clear description of the contents and limits dosage mistakes. Barcodes can only be read by scanners.

BARREL

The body of a deodorant stock container.

BARRIER

Protection from deterioration or ingress of moisture through package material.

BARRIER COAT

A surface coating used to improve permeation resistance and protect the container from scuffing.

BASEBOX

The standard measurement for tin plate in the can industry. This is the equivalent of 112 sheets 14 by 20 inches in size.

BASIS WEIGHT

The weight in pounds of a ream (500) sheets of paper cut to a given standard size for that grade; e.g. 500 sheets 25 x 38 lb. coated book paper.

BELLOWS

A flexible, sometimes valved air chamber which as part of an airless pump system can be contracted and expanded to dispense product.

BINGO CARD

A large calendar blister card designed for ease in handling to prompt compliance, high visibility, and user friendliness. Normally in a monthly supply. Commonly used by in-patient facilities.

BLANK

The mold parts used in all glass container machines for preliminary formation of glass in preparation for completion of the glass containers in the finish mold where the bottles are blown. The blank forms the parison, hence the parison itself is at times referred to as the blank.

BLEACHED PAPER

A type of paper which goes through a whitening process.

BLEED

An extra amount of printed image which extends beyond the trim edge of the sheet or page.

BLIND EMBOSSING

A design which is stamped without metallic leaf or ink, giving a bas-relief effect.

BLISTER PACK

A unit-dose package commonly constructed from a formed cavity containing one or more individual doses.

BLOCKING

The ability of two sheets of film to cohere or stick together.

BLOOM

Bloom is the result of ingredients coming out of "solution" in the component and migrating to the surface of the component. Can be seen on the surface of glass as a white scale after the glass has been aged in humidity.

BLOW AND BLOW

Expression used to identify the production principle of the IS machine making narrow neck containers. Glass is blown into the blank mold and later blown into the finish mold.

BLOW MOLDING

The process of extruding a hollow tube, called a parison, downward between two halves of a mold. As the mold closes, the bottom of the parison is pinched off and air is injected into the top forcing the material outwards to the walls of the mold.

BLOW PRESSURE

The pressure required to form the parison into the shape of the mold cavity, in a blow molding operation.

BLUNT THREAD START

A detail of thread design in which the start of the thread has been squared off; i.e., there is no gradual thread lead-in.

BLUSHING

A surface whitening or discoloration apparent in plastic materials. It is the result of physically induced (e.g., by impact) phase separation of the (1) ingredients in the plastic molding compound or (2) the molecular orientation of the plastic.

BODY

The principal part of a container, usually the largest piece containing the sides. In collapsible tubes, the body (or wall) is the cylindrical portion below the shoulder extending to the bottom of crimped end. In bottles, the body is the main portion of the bottle without the neck.

BOTTOM PLATE (GLASS)

The part of the mold equipment that forms the bottom of the bottle.

BOTTOM PLATE (PLASTIC)

That part of the mold which contains the heel (base radius) radius and the "push-up" of the container to be formed.

BOUNDARY AIR

Atmospheric air that stays on the film web surface until it is displaced, either mechanically or by vacuum pump.

BOWED ROLL

A roll that has a curved axis. The roll covering is flexible and stretches during one-half of a revolution and compresses during the other half. This type of roll is more difficult to turn than a straight roll, because energy is required to compress or stretch the covering during each revolution. The energy to turn the roll must be supplied by the film web when the bowed roll is not driven by another means.

BRITTLENESS

A property of a material that when it breaks suddenly under an applied load, there is less than a 5% yield of the material with little or no bending or stretch.

BULB

The rubber or plastic squeezable component of a dropper or atomizer.

BUSHING

A cylindrical lining for an opening used to limit the size of the opening, resist abrasion or serve as a guide (e.g., the threaded insert in the vial of a metal mascara case).

BUTTRESS THREAD

A design of thread profile (cross-section) which takes the form of a right triangle or slight modification of that form. It is usually positioned so that the right angle is at the bottom of the thread cross-section and adjacent to the neck of the bottle finish. The horizontal leg of the right triangle is the bearing surface for a matching cap thread.

BUTTERFLY HINGE

Flexible (i.e., living) hinge used in joining the cover to the main body of a flip top dispensing closure (e.g., Seaquist dispensing closures). Superior hinge for impact resistance.

CAD / CAM

Computer assisted design / computer assisted makeup or manufacturing.

CALENDAR

A group of "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.

CALENDAR BLISTER

A blister package designed to facilitate a patient's memory by incorporating the day/time that each dose is to be taken into the package design.

CALIPER VARIATION

Thickness variation from point-to-point in the web. These variations may be oriented so that the thicker areas form machine-direction (MD) bands in the wound roll. Lanes of thicker web are often called transverse-direction (TD) gauge or standing gauge bands, because they are observed to stay generally at the same axial area while the roll is being wound. The thickness variation may also be oriented transversely across the web and form lanes. Thicker lanes in this direction often are called MD gauge variations because of the alternating thickness that is observed in the axial direction as the web is wound on a roll.

CAM

The rotating part which moves along a spiral track in a lipstick mechanism that propels and retracts the mounting cup through the A shell.

CAP INSERT

The threaded inner part of a two piece cap.

CAPACITY

The amount of space within a container for a given amount of product.

CAPSULE

Solid dose medication filled into gelatin halves and pushed together; easy to swallow.

CARBOY

A largeware container used principally for acids and chemicals.

CAROTTE

Sprue of plastic that is left on the neck of a tube after molding. This is usually trimmed off in the finishing operation.

CARRIER

The filling cup in a swivel or push-up package.

CAVITY

The hollow part of a mold which forms the outer shape of an object when material is introduced.

CELLOPHANE

Regenerated cellulose film.

CELLULOSIC

The term name for cellulose esterified with other thermoplastic materials such as cellulose acetate, cellulose acetate butyrate, cellulose propionate and ethyl cellulose.

CHALKING

In printing, term which refers to improper

drying of ink. Pigment dusts off because the vehicle has been absorbed too rapidly.

CHAMFER

A beveled edge.

CHARLOTTE

Side flap(s) attached to the cover member of a hinged covered carton.

CHECK

A very fine closed crack in glass caused by localized heat shock.

CHICKEN TRACKS, SNAILS TRAILS, ETC.

Wrinkles that are seen in a winding roll or that develop after the roll is doffed. These wrinkles are usually caused by non-uniform web tensions and entrapped boundary air. When the entrapped boundary air escapes, the wrinkles orient themselves along the lines of forces produced by the non-uniform tensions in that area of the roll.

CHIPBOARD

A low quality non-test paperboard made of waste paper for use where specific strength or quality is not necessary.

CHOKED NECK

A narrowed or constricted opening in the neck of a bottle.

CLASP

Mechanism which holds together that two halves of a compact.

CLOSURE

A sealing or covering device affixed to or on a container for the purpose of retaining the contents and preventing contamination.

COEXTRUSION

The extrusion of two materials simultaneously from a single die in such a way that the two separate materials fuse together to form a single structure.

COINING

The flat part on a twisted wire (mascara applicator) which is used to aid brush retention usually in conjunction with hot insertion into the plastic stem.

COLD CRACKING

Development of flaws due to low temperature exposure.

COLD FLOW

(See CREEP).

COLLAPSE

Contraction of the walls of a container.

COLLET

A metal band, collar, ferrule or flange.

COMPATIBILITY

The ability of a container or material to resist chemical degradation or physical change caused by the product, or to chemically change or physically degrade the product container.

COMPLIANCE

Adhering to a prescribed regimen. Taking one's medication properly.

COMPRESSION MOLDING

The process of molding materials under direct pressure and high temperature.

CONCENTRICITY

The characteristic of circles or circular cylindrical surfaces of different radii having a common center.

CONDUCTOR

A material that can carry electrical current and/or transmit heat energy by conduction to another surface.

CONSTANT TENSION

The film tension does not change in the span between the last roll of the winder stand and the windup roll as the roll builds from core to full roll when winding in this mode. When thin, stretchable webs are wound in this mode, excessive radial pressure often builds as the roll diameter increases, to the point where the core compression strength is overcome and the core fails towards the axis.

CONSTANT TORQUE

The film tension reduces in the span between the last roll of the winder stand and the windup roll as the roll diameter builds when winding in this mode. This mode is sometimes called constant current winding when the winder chuck is driven by a separate electric motor, because the motor drive amperage remains the same as the roll diameter builds from core to full roll. Sometimes the outside wraps become loose and telescope before the required footage is wound on the roll when winding in this mode.

CONSUMER PACKAGING

Those packages generally concerned with small units in large numbers, often decorated in an attractive manner.

CONTACT ROLL

Referred to as a lay-on roll in certain configurations. This roll is usually used during winding to limit the amount of boundary air that is entrapped in the roll. This roll is also used to tighten the wraps on the roll. The roll may be stationary in the machine frame while the winding roll pivots away to accommodate roll buildup, or it may pivot into the winding roll when the winding roll axis is stationary.

CONTAINERBOARD

The paperboard components from which corrugated and solid fiberboard are manufactured.

CONTINUOUS THREAD ("C-T")

An uninterrupted protruding helix on the neck of a bottle to hold a screw type closure.

COPOLYMER

A material whose chemical structure is made up of long chains of two differently structured chemical units (monomers) which repeat a more or less regular pattern in the chain.

COPYRIGHT

To protect the "right to copy" for the author of literary, musical, artistic or dramatic works. The copyright endures for the author's lifetime plus 50 years.

CORE STRENGTH

The capability of the core to withstand the radial pressure of the film wraps that are wound under tension.

CORONA TREATMENT

Pre-decorating treatment for inert plastics, primarily polyolefins, to make them more receptive to inks, adhesives and decorative coatings by subjecting their surface to corona discharge. The corona discharge oxidizes the film, forming polar groups on vulnerable sites, increasing the surface energy and making the film receptive to inks, etc.

CORRUGATED

Having a series of corrugations alternating as ridges and furrows. Having a ribbed effect.

COUNTERBALANCE PRESSURE

Fluid pressure applied to actuators used to offset the gravity force acting on a dancer roll, nip roll, or contact roll.

COVER CAP/DUST CAP/HOOD/SHROUD

Plastic cap used to protect a dispenser from accidental actuation and contamination. Also used to protect the point of a lip-eye pencil or lipstick.

CPSC

Consumer Product Safety Commission. The Federal agency responsible for implementing the Poison Prevention Packaging Act of 1970.

CR

Child Resistant, indicates that a package will pass a test protocol administered by the U.S. Consumer Product Safety Commission.

CRAZING

An undesirable defect in plastic articles characterized by distinct surface cracks or minute frost-like internal cracks, resulting from stresses within the article that exceed the tensile strength of the plastic. Such stresses may result from molding shrinkage, or machining, flexing, impact shocks, temperature changes, or the action of chemicals and solvents.

CREASES

Film web fold-over wrinkles ironed into the web, permanent web defects that usually render the web reject for production.

CREEP

The dimensional change with time of a material under load, following the initial instantaneous elastic deformation. "Creep" at room temperature is sometimes called "Cold Flow."

CROZE

A groove near the end of barrel staves into which the head of the barrel fits.

CT FINISH

Continuous thread finish - an interrupted protruding helix on the neck of a container to accommodate a screw-type closure.

CULL

The remove defective or damaged parts or articles from the Production line.

CURE

To change the molecular structure and properties of a plastic or resin by chemical reaction usually accomplished by the action of either heat or a catalyst or both, with or without pressure.

CUSHIONING

The protection from physical damage afforded to an item by placing about its outer surfaces material that have been designed to absorb the shock or reactions caused by external forces.

CUT-OFF

(See PINCH-OFF).

CYCLE

The complete, repeating sequence of operations in a process. In molding, the cycle time is the period of elapsed time between a certain point in one cycle and the same point in the next.

CYCLE TIME

The elapsed time for one complete operation or series of operations in any process.

DEBOSSING

Depressing a portion or portions of an item below the ordinary surface level, usually to form lettering or decoration. Sometimes the background rather than the lettering itself leaving the letters at the original level.

DELIVERY RATE/SHOT SIZE/DOSAGE

Amount of product dispensed in one actuation. Output per stroke (ml. or grams/second) for continuous dispensing systems.

DENSITY

Weight per unit of volume of a substance, expressed in grams per cubic centimeter, pounds per cubic foot, etc.

DENSITOMETER

In printing, a reflection densitometer is used to measure and control the density of color inks on the substrate.

DEPTH OF INSERTION

The distance between the rim of a metal overshell and the skirt of a threaded insert in a two piece closure.

DESICCANT

Highly hygroscopic substance used to absorb moisture in bottles, vials and blisters.

DEW POINT

The temperature at which air or vapor gases become saturated with vapor, causing the vapor to deposit as a liquid. The temperature at which 100% relative humidity is reached.

DIAL-PACK

Commonly used for oral contraceptives, this type of package utilizes a calendar design such that a dial must be turned each day to remove a tablet.

DIE

Any tool or arrangement of tools designed to cut, shape or otherwise form materials to a desired configuration.

DIE CUT

Any operation in which a form that incorporates sharp cutting edges is pressed into a substrate to cut out a desired shape.

DIFFUSION

A spreading out or equalized dispersion of a material, force or condition into the surrounding medium.

DIGITAL PRINTING

Printing by plateless imaging systems that are images by digital data from prepress systems.

DIMENSIONAL STABILITY

The ability of a material to maintain its shape under given processing or use conditions.

DIP TUBE

Open ended flexible plastic tube that attaches to the tank of a pump and extends into the product creating a means for the product to be dispensed through the pump.

DISTRIBUTION PACKAGING

The integrated package and product handling from the factory to the point of sale.

DOSAGE

Prescribed amount of medication to be taken.

DOTS PER INCH (DPI)

A measure of the resolution of a screen image or printed page. Spots per inch (SPI) is a more appropriate term.

DOUBLE GOB

A special operation of IS machine in which two gobbs of glass are blown simultaneously into containers in a double cavity-type mold.

DRAIN BACK

A conical shaped inside dimension of a neck finish that extends downward from the land area to form an orifice whereby product returns into the bottle.

DUNNAGE

Any blocking, lining, racks, standards, strapping, tie-downs, stakes, or similar bracing or support used to hold a load in position for the purpose of preventing loss of or damage to the load.

DUROMETER

An instrument used for measuring the hardness of a material.

DYNE LEVEL

A measure of surface energy. The dyne level

will indicate whether a material's surface will be receptive to forming a chemical bond with an adhesive, coating or ink.

"E" DIMENSION

The measurement of the diameter across the root of the threads on a bottle finish.

ELASTOMER

A material that has high elongation properties. Most packaging elastomers are synthetic polymers except for natural rubber.

ELECTRONIC PRINTING

Any technology that reproduces pages without the use of traditional ink, water or chemistry.

ELECTROPLATING

The deposition of a thin layer or coating of metal on an object by passing an electric current through an aqueous solution of salt containing ions of the element being deposited. The material being plated constitutes the cathode. The anode is often composed of the metal being deposited; ideally, it dissolves as the process proceeds.

ELONGATION

The difference in length expressed as a percentage of the original length when a material is subjected to a pull force (stretched).

EMBOSSING

The creation of a design on a surface by causing letters, figures, patterns, etc. to be raised above the natural surface.

EMULSION

A non-separating dispersion of fine particles in a liquid.

ENAMEL

A class of coatings that contains a specially prepared vehicle, instead of raw oil. Term usually applied to coatings which dry with a high gloss finish.

END CAP

Metal or plastic sleeve type cap used to protect a pencil point as in eye and lip pencils.

ENGRAVING

A process of impressing, cutting or etching a configuration into a plate.

ENVELOPE

A container of flexible material having only two faces and joined at three edges to form an enclosure.

ENVIRONMENTAL STRESS CRACKING

The susceptibility of a molded plastic item to crack or craze under the influence of certain chemicals, stress or other agents.

EPOXY

Plastics based on resins made by the reaction of epoxides or oxiranes with other materials such as amines, alcohols, phenols, carboxylic acids, acid anhydrides and unsaturated compounds.

ETCH

To treat a material with an acid, leaving parts of the material which remain in relief to form the desired design.

ETHYLENE VINYL ACETATE

A soft flexible plastic material derived from low density polyethylene and vinyl acetate.

EXPIRATION DATE

The date until a pharmaceutical product is safe to be consumed.

EXTRUSION

The compacting of a plastic material and forcing of it through an orifice in more or less continuous fashion.

EXTRUSION BLOW MOLDING

A process for forming hollow narrow-mouthed bottles and similar hollow shapes. A cylindrical tube (the parison) is extruded and, while still in a hot pliable form, clamped between two mold cavity halves and then inflated to conform to the mold surfaces.

EXUDATION

The migration of an ingredient in a material or product to the surface.

FATIGUE

A condition of stress created by repeating flexing or impact force upon a material.

FEA FINISH

European equivalent of GCMI finish.

FERROUS METAL

Metals and alloys containing an appreciable quantity of iron.

FERRULE

Metal or plastic sleeve used to join two components together.

FFS

Form Fill Seal.

FIBRE-TEAR

In a glued paper assembly, the tear of fiber as opposed to the separation of adhesives when the assembly is pulled apart. If the adhesive is weak, unit separation will occur at the paper adhesive interface rather than the paper fiber.

FIBERBOARD

Fiber sheets which have been produced or laminated to a thickness which provides a degree of stiffness. A generic name applied to products made of fiberboard.

FILL LEVEL

Distance as measured down from the open end of a container to the surface of the material filled into the container.

FILL POINT

The level to which a container must be filled to furnish a designated quantity of the contents.

FILM

The unsupported, basically organic, non-fibrous, thin, flexible material of a thickness not exceeding 0.010 inch.

FIN

A seam on the top surface or down the side at the parting line on the finish of a glass or plastic container.

FIN SEAL

Type of seal resulting from sealing together the contiguous edge-areas of two sheets, usually by heat, resulting in a fin-like protuberance.

FINISH

That portion of the neck of a glass or plastic container which carries the threads, lugs or friction fit members to which the closure is applied, and includes the sealing surface and sealing bead; generally, the whole portion above the transfer or pry-off bead. (The term finish in connection with glass containers is a holdover from earlier days before glass blowing became an automatic, mechanized operation. The neck of a container was the last part to be formed, hence the name finish.)

FIRKIN

A small wooden cask, usually used for butter.

FISH EYES

Undissolved particles in coating composition. Also, air bubbles or voids in glass containers.

FITMENT

A device used as a part of a closure assembly to accomplish a certain purpose such as a dropper, sprinkler, powder shaker, etc.

FLAGGING

Refers to the lifting of the corners or edges of a label.

FLAME RESISTANT

Material which is capable of burning when in contact with flame, but not continuing to burn when the flame is removed.

FLAME RETARDANT

A chemical used in treating a material so that it will not support combustion.

FLAME TREATING

A method of rendering inert thermoplastic objects receptive to inks, lacquers, paints, adhesives, etc. in which the object is bathed in an open flame to promote oxidation of the surface of the article.

FLASH

Excess plastic material that is squeezed out between the mold parts during molding.

FLEXIBILITY

The property of a material which will permit its being bent or twisted without breaking.

FLEXOGRAPHY

A method of printing which offers the specific advantage that the surface being printed does not need to be precisely positioned and rigidly supported.

FLEXOR

The flexible plastic inner part of a foam applicator which supports the foam and serves as the basis for attachment to a handle or ferrule.

FLINT

A term used to describe a glass color which is perfectly clear and transparent.

FLIP TOP/SNAP TOP DISPENSING CLOSURE

A two piece closure system where both pieces are typically attached by a living hinge. One half provides the threads for attachment to a bottle, tube or jar and an orifice for dispensing the product while the other half provides the closure mechanism, usually a pintel that snaps audibly into the orifice.

FLOW LINES

Any visible mark on a molded part which indicates the direction that the liquefied resin passes through in the cavity or the die.

FLOW MARKS

Often similar to flow lines, these marks are slight imperfections to the surface of a molded

part that are results of the passage of liquefied plastic through the mold cavity. Often exhibits a wavy surface appearance.

FLUORINATION

A surface treatment for polyethylene that is used to improve the barrier properties against non-polar materials or solvent.

FOIL

An unsupported thin metal membrane less than 0.006 inch in thickness. Above 0.006 inch thickness, the thin metal is called a sheet.

FRONT END SYSTEM

In electronic publishing, the work station or groups containing the applications to software for preparing pages of type and graphics.

FOURDRINIER

The name applied to an entire modern paper making machine.

GAIN

In printing, the increase in dot size inherent in the transfer of ink to a substrate. Flexography in particular has significant gain from the designed dot size. Gain can cause process colors to be inconsistent and can fill in universal product codes and make them unreliable.

GALVANIZE

To coat iron or steel with zinc, either by electroplating or hot dipping.

GAS PERMEABILITY

The ability of a gas or other volatile substance to penetrate a material. Materials that will allow significant passage of gases are said to be permeable, while materials that resist or stop the passage of gases are said to offer gas barrier properties.

GATE

In injection and transfer molding, the orifice through which melted plastic enters the mold cavity. All plastic items manufactured by these processes will exhibit a mark from the gate somewhere on the part.

GCFI

Glass Container Manufacturers Institute.

GEL CAP

A gelatin-coated capsule which is easier to swallow, and tamper evident.

GENERIC

RX or OTC drugs which are no longer protected by a patent.

GLASS

Four types of glass are specified by the U.S. Pharmacopeia on the basis of chemical durability tests. Type 1, 2 and 3 are intended for packaging parenteral preparations and Type NP for non-parenteral products.

Type 1. Containers normally made of borosilicate glass having a highly resistant composition. The specification test, called the Powdered Glass Test, is applied to glass as such in crushed or powdered form.

Type 2. Containers made of commercial soda-lime glass which may have been treated on the inside surface at a high temperature to obtain a great improvement in chemical resistance. The usual treatment dealcalized the glass surface to a significant depth producing a chemical resistance similar to that of Type 1, and is known as sulphur treatment.

Type 3. Untreated glass containers made of commercial soda-lime glass average or somewhat above average chemical resistance. The specification places a limit on the amount of alkaline material extracted in the Powdered Glass Test. This limit is, of course, much higher than that set for Type 1 ware.

Type NP. Untreated glass containers made of ordinary soda-lime glass. The specification places a limit on the amount of alkaline material extracted in the Powdered Glass Test. The limit is higher than that set for Type 3 ware.

GLASS SURFACE TREATMENT

Pristine glass has a very high coefficient of friction: Glass containers are surface coated by the glass manufacturer to provide lubricity, so that containers can pass readily on conveying systems and will not cling to and scratch one another on contact.

GLASSINE PAPER

A smooth, dense, translucent paper made from highly beaten chemical pulps. It has very low porosity including resistance to grease, air and vapor transmission. When waxed, lacquered or laminated it is practically impervious to moisture vapor.

GLOSS

The amount of surface sheen or reflectance of a substrate.

GMP

Good Manufacturing Practices (as established by the FDA).

GOB

The controlled globule or mass of molten glass fed into the mold.

GODET

Metal pan, i.e., pressed powder.

G.P.I.

Glass Packaging Institute, an organization composed of most glass container producers to establish industry policies and standards (formerly G.C.M.I.).

GRAPHICS

The design or decoration of the exterior surfaces of a package.

GRAVURE PRINTING

A method of printing that uses cells etched or engraved into the surface of a metal cylinder to meter and correctly pattern the ink. Gravure printing presses used in packaging are predominantly roll fed.

GREASEPROOF PAPER

Highly beaten pulp, usually sulfite, formed into a translucent sheet with very low porosity. Glassine type without super calendaring.

GWP

Gift With Purchase.

"H" DIMENSION

(1) on a threaded bottle neck (finish), the measurement from the top of the finish to the point where diameter "T" extended parallel to the centerline intersects the shoulder or bead.
(2) the inside height of the closure, measured from the bottom of the closure in a line tangent to the threads of the closure and terminating at the inside top of the closure with liner removed.

HARDNESS

The resistance of a material to compression and indentation.

HARDWOOD

A term applied to deciduous trees, which drop their leaves in the autumn months.

HAZARDOUS MATERIALS

Materials which present a certain amount of danger to the person or environment.

HAZE

A cloudy or foggy appearance in a normally transparent plastic.

HEAD SPACE

The volume of empty space between the fill level of a container and the overflow capacity of the container.

HEAD STYLE (TUBE)

General definition of a neck finish, i.e., M5, M6.

HEAT TRANSFER LABEL

A label applied to a container by transferring the label, preprinted on a substrate, to the container surface.

HDPE

High Density Polyethylene.

HEEL

The lower portion of a glass or plastic container starting with the bearing surface of the bottom and including a small portion of the lower wall.

HEELTAP

Heavy glass on one side of the bottom of a glass bottle.

HELICAL

Pertaining to or having the appearance of a screw.

HERMETIC SEAL

A seal that will exclude air and will be gas tight at normal temperatures and atmospheric pressures.

HIPS

High Impact Polystyrene made up of crystal polystyrene and rubber, usually butadiene rubber.

HMO

Health Maintenance Organization.

HOLDOUT

In printing, a property of coated paper with low ink absorption which allows the ink to set on the surface with high gloss.

HOOP STRESS

The circumferential stress in a cylinder due to internal pressure.

HOT STAMPING

Engraving operation for marking plastics in which roll leaf is stamped with heated metal dies onto the surface of the plastics. Ink compounds can also be used. By means of felt rolls, ink is applied to type and by means of heat and pressure, type is impressed into the material, leaving the marking compounds in the indentation.

HUD

Hospital Unit Dose packages intended for use by in-patient hospital pharmacies.

"I" DIMENSION

A specified minimum dimension inside the bottle neck that will allow sufficient clearance for filler tubes to enter the bottle neck.

INDEX

Position in an arrangement.

INDA

Investigational New Drug Application.

INDUSTRIAL PACKAGING

Usually made up of large heavy units with no attempt to make them appealing to the eye.

INJECTION BLOW MOLDING

A two stage process where a preform or parison is injection molded. The bottle finish is formed at this time. The preform is then transferred to blow mold where the bottle takes its final shape.

INJECTION MOLDING

A process whereby molten material is forced through a gate, under conditions of heat and pressure, into a closed mold cavity.

IoPP

The Institute of Packaging Professionals

INSTITUTIONAL PACKAGING

Items which are destined for a particular segment of society such as Medical Doctors, Veterinarians, Beauty Operators or Mechanics. Attention is primarily given to protection of the item.

INTERRUPTED THREAD

The threaded portion of the finish of a container which has gaps or interruptions. Usually found at the parting line.

KRAFT

A chemical wood pulp made by the sulphate process, or paper or paperboard made from such pulp. It is brown in color and is the strongest pulp product made from wood. (Kraft is the German word for strong).

"L" DIMENSION

Measured from the top of the finish to the point where diameter "E" extended parallel to centerline intersects the bead (for example, SP-410 and SP-415 finishes).

"L" STYLE THREAD

A type of thread contour (cross-section) roughly trapezoidal in outline. The outermost part is radiused. This is a "general purpose" thread contour designed for use with either metal or plastic closures.

LABEL CLAIM

The declared contents of a package expressed in fluid ounce and milliliters for volume claims and avoirdupois ounce and grams for net weight claims.

LABEL PANEL

A flat place on a container where a label may be glued.

LABEL SEAL

A pressure sensitive label which is used to close a package such as the plastic film wrap on a soap bar or the label used to cover the openings on a shaker talc sifter fitment.

LAMINATE

(1) A product made by the bonding together of two or more layers of material or materials.
(2) To unite layers of materials by extrusion or with adhesives.

LARGEWARE

A name given containers manufactured on machines especially designed for ware of over one gallon capacity.

LEACHING

The removal of a component of the package by the product is referred to as leaching. A dye from the container dissolving in a product is an example of leaching. A leached material becomes a product contaminant.

LEHR

An oven used to anneal glass in order to reduce internal stress that would result from too rapid cooling.

LETTERSET

A printing process involving flexible plates with raised images.

LEXAN

Polycarbonate resin, G.E. Plastics.

LIDDING STOCK

Material used to seal a blister to prevent or minimize moisture/gas permeation.

LINERBOARD

Paperboard used for the flat facings in corrugated fibreboard; the outer plies of solid fibreboard.

LITHOGRAPHY

A printing process involving stones or plates made of flexible sheets of metal whose printing surfaces are partly water repellent and partly ink repellent.

LIVING HINGE

Integral hinge made of flexible plastic.

LDPE

Low Density Polyethylene.

LLDPE

Linear Low Density Polyethylene.

LOT NUMBER

A number that is assigned to a production batch so that all of a product's components can be traced.

LUG

Extensions around the circumference of a lid which are crimped down to hold the lid securely in place against the body of a container.

LUG CLOSURE

A screw-type closure where the thread is interrupted rather than continuous. The closure is effected by a short camming action. One advantage is that application is very fast, since the closure needs only a few degrees of rotation. In contrast, a normal continuous thread closure might require 360 degrees or more rotation to effect a seal.

"M" STYLE THREAD

A type of buttress thread for use with plastic closures. The profile of the thread is roughly a right triangle. One of the two legs that form the right angle is part of the vertical wall of the neck (finish); the other is the horizontal bearing surface against which the closure threads engage.

MAG 75 (FLEXPAQ)

48 gauge polyester/aluminum 0.0005"/48 gauge polyester/LLDPE 75 used in the manufacture of packettes.

MACHINABILITY TEST

A test done to review the performance of blister components to optimize actual production runs, and find the best machine settings for individual materials.

METALIZING

Applying a thin coating of metal to a non-metallic surface. May be done by chemical deposition or by exposing the surface to vaporized metal in a vacuum chamber.

MIGRATION

(See BLEED).

MIL

A unit of measurement equivalent to 0.001 inch.

MILITARY PACKAGING

A highly specialized type of packaging in which all elements have been worked out in the most intricate detail.

**MILITARY STANDARD 105E
SINGLE SAMPLING PLAN**

Internationally accepted random sampling.

MINIMUM WALL

A term that designates the minimum thickness of the wall of a container.

MOIRE

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

MOLD (PLASTIC)

(v.) To shape plastic parts or finished articles by heat and pressure. (n.) The cavity into which the plastic composition is placed and from which it takes form.

MOLDS (GLASS)

A set of iron forms that are fastened on a bottle machine to provide a means of shaping a glass container.

MONOGRAPH

Standards issued by the USP.

MONOPRENE

Thermoplastic elastomer from Monarch Rubber Company.

MOTTLE

A speckled or spotted appearance on the surface of a package, generally undesired.

MOUNTING CUP

Cap to an aerosol can in which the dispensing valve is seated and crimped thereto for eventual crimping to can body.

MULLEN TEST

Pressure in pounds per square inch required to force a rubber diaphragm through a rounded hole against a paper specimen firmly clamped around the edge of a hole.

MYLAR®

The registered trade name of Dupont's polyester film.

NBR

Nitrile-butadiene rubber. Used as material in manufacture of sponges.

NDA

New Drug Application (must be submitted to the FDA for approval to manufacture and market the drug).

NECK

The part of the container where the bottle cross-section decreases to form the finish.

NECK BEAD

(See TRANSFER BEAD).

NECK INSERT

Part of the mold assembly which forms the neck and finish. Sometimes called the "neck ring."

NECK RING

That part of the mold equipment which forms the finish of a bottle.

NECK SIZE (TUBE)

The # refers to the number of 64ths of an inch in the opening of the tube neck, i.e., a #16 neck size refers to a 16/64" (1/4") opening. The number is sometimes preceded by a letter, M = metric series; S = U.S. standard series.

NEWSBOARD

A relatively cheap type of board made on a cylinder machine from waste paper stock.

NEWTONIAN

A term applied to a liquid or viscous suspension in which a deforming force produces a proportionate displacement of the liquid.

NISSHA LABEL

Pre-printed polyester film which is transferred to a substrate under heat and pressure.

NITRILE

Polymers with outstanding barrier properties. Generally the constituents are greater than 60% acrylonitrile along with other co-monomers.

NITROCELLULOSE

Any ester of nitric acid and cellulose used extensively as a constituent of synthetic lacquers.

NJPEC

New Jersey Packaging Executives Club.

NONCOMPLIANCE

Not taking one's medication properly.

NONPOLAR

Having no concentrations of electrical charge on a molecular scale, thus, incapable of significant dielectric loss.

NON-RETICULATED FOAM

Closed cell foam.

NOTCH SENSITIVITY

The extent to which the sensitivity of a material to fracture is increased by the presence of a surface inhomogeneity such as a notch, a sudden change of section, a crack or a scratch.

NOTCHED

Refers to the end of a pump dip tube which is V-cut to prevent the dip tube from sealing off on the container bottom.

NYLON

A strong plastic which can be used as a film with high oil and gas resistance, or as a filament in strapping tapes, with high impact resistance.

OFFSET PRINTING (OFFSET LITHOGRAPHY)

The process where the ink is transferred from the plate to a blanket and from the blanket to the material to be printed. Commonly called offset.

OFFSETTING

The transfer of printing inks or coatings from the decorated surface of one sheet to the back of another sheet.

OLEFINS

Plastics based on resins made by the polymerization of olefins or copolymerization of olefins with other unsaturated compounds, the olefins being the greatest amount by weight.

OPAL

An opaque, white glass used to make jars and bottles.

OPAQUE

Descriptive of a material or substance which will not transmit light.

OPD

Original Pack Dispensing. A Pharmaceutical product that is dispensed to the patient in the manufacturer's original package (i.e., not re-packaged by a pharmacist or anyone else).

OPHTHALMIC/NASAL TIP

Pointy tip of a tube used for dispensing small amounts of product.

ORANGE PEEL

Uneven surface (of a bottle) somewhat resembling an orange peel.

OTC

Over The Counter Drugs — available without a prescription.

OUTERSHELL

Outer casing on a two piece jar.

OVERFLOW CAPACITY

The capacity of the container to the top of the finish or to the point of overflow.

OVERLAY

In artwork, a transparent covering over the copy where color break is wanted.

OVERSHELL

Metal, usually aluminum, outer casing on a two piece closure.

"P" STYLE THREAD

A type of buttress thread for use with plastic closures. The profile of the thread is roughly a right triangle. One of the two legs that form the right angle is part of the vertical wall of the neck (finish); the other is horizontal bearing surface, against which the closure threads engage.

PANELING

Distortion (side wall collapse) of a container occurring during aging or storage, caused by the development of a reduced pressure inside the bottle.

PAPERBOARD

In general, all paper sheets having a thickness of 12 points (0.012 inch) or greater are classified as paperboard.

PARCHMENT

A grease-proof sulphite paper with a parchment finish used primarily in the manufacture of greeting cards.

PARISON

(a) A partially formed glass shape that will be blown into a glass container; (b) the extruded hot plastic tube that will be placed in a mold to be inflated into a bottle or other hollow form.

PARTING LINE

A thin ridge of material on the outer surface of a molded item indicating the juncture of individual parts of the mold.

PATENTS

Legal protection of an invention lasting no more than 17 years, granting the inventor sole rights to manufacture, use or sell a particular invention, process, etc.

PERMEABILITY

The property of a film which permits gases and liquids to diffuse through an essentially continuous film barrier.

PERMEATION

The extent to which a gas or water vapor passes through a plastic film or container.

PET

A polyester made from the combination of ethylene glycol and terephthalic acid resulting in a good gas and water barrier.

PETE

An extrudable form of polyethylene terephthalate (PET).

PETG

A form of polyethylene terephthalate which has been copolymerized with glycol.

PHENOLIC

The generic name for phenol formaldehyde.

PHYSICIAN SAMPLE

(See TRIAL SIZE).

PINCH-OFF

A raised edge around the cavity in the mold, which seals off the part and separates the excess material as the mold closes around the parison in the extrusion blow molding operation.

PINHOLE

A very small hole in a plastic bottle.

PINTEL

Stopper integrated with a closure to form a corkage seal.

PISTON

A cylinder that moves in a cylindrical vessel which displaces or is displaced by a volume of fluid.

PISTON FILLER

A filling machine in which the product is metered by drawing it into a cylinder of a set volume and then ejecting a measured amount into a container.

PITCH

The distance measured between the centers of two adjacent threads of a closure on a bottle, jar or tube.

PITTING

Depressions in a metal surface caused by corrosion, and also refers to pin holes in metallized surfaces and foil stamping.

PLASTIC FLOW

(See CREEP).

PLASTIC MEMORY

The tendency of plastics to return to their original molded form.

PLASTICIZER

A material added during the manufacturing process to increase flexibility.

PLASTICS

Any one of the high polymeric substances scapable of flowing and being molded, under heat and pressure.

PLATEN

A flat plate that exerts or receives pressure.

PLUG

A fitment that is pressed into a bottle neck opening to close off or reduce the passage.

POLLUTION

The environmental contamination with man-made waste.

POLYCARBONATE

Polymers derived from the direct reaction between aromatic and aliphatic dihydroxy compounds with phosgene or the ester exchange reaction with appropriate phosgene derived precursors.

POLYPROPYLENE

A plastic or resin prepared by the polymerization of propylene as the sole monomer.

POLYSTYRENE

A thermoplastic material derived from the polymerization of styrene.

POLYVINYL CHLORIDE

A resin prepared through the polymerization of vinyl chloride alone.

POLYVINYL ACETATE

A resin prepared through the polymerization of vinyl acetate alone.

POPPET

Component of a mechanical pump which closes off the stem of the pump.

POSTSCRIPT

A computer description language that allows a programmer to create complex pages using a series of commands.

POUCHES/SACHETS

A flexible material (usually paper, foil, PE, PET or a multi-laminate) used to package medication.

POUR-OUT FINISH

A bottle finish having uniform undercut lips as a dealing surface. Designed to facilitate pouring without dripping.

PRESS AND BLOW

Expression used to identify the production principle of the Miller machine or IS machine used in making wide mouth containers. A plunger presses glass into the blank mold, and the partially formed blank is later blown into the finish mold.

PRIMARY PACKAGE

The unit container which is actually in contact with the contents.

PROCESS COLORS

In printing, the subtractive primaries; yellow, magenta, and cyan, plus black in four color process printing.

PROGRAMMING

The extrusion of a parison which differs in thickness in the length direction in order to equalize wall thickness of the blown container.

PROTOTYPE MOLD

A simplified mold construction often made from a light casting alloy or from epoxy resin in order to obtain information for the final mold or part design.

PULL TAB

A projection of small area from a label, usually pressure sensitive, to assist in the removal of the label from the part, i.e., powder sifter fitment, purity seal.

PURCHASE LENGTH

Refers to tube length specification for purposes of purchasing from the vendor.

PURITY SEAL

An extra seal comprising a sheet that is resistant to water vapor or vapor from some specific chemical, and adhered to the top end of a container below the regular cover or closure.

PUSH UP

The contour of the bottom of the plastic container designed in such a manner as to allow an even bearing surface on the outside edge and prevent the bottle from rocking.

PVC

Polyvinyl Chloride. Commonly used for blister packaging of solid and liquid dose products.

PVDC

Polyvinylidene Chloride. Waterborn emulsion that is coated onto PVC or PVC/PE to enhance MVTR and O₂ TR transmission.

RAMP

A small depressed cavity (detent) in the base of the bottle to act as guide in positioning the bottle in the descorating machine for application of decoration.

REAM

The unit of quantitative measure used in the marketing of paper, but not paperboard. Usually 500 sheets.

REAMING

A method used to trim and size plastic bottle finishes. A special rotating cutting tool trims the sealing surface smooth and simultaneously reams (bores) the bottle opening to a desired size (also called coring).

RECYCLE

The ability to capture, reprocess and reuse primary material used in the production of an item.

REFLECTION COPY

In photography, illustrative copy that is viewed and must be photographed by light reflected from its surface. Examples are photographs, drawings, etc.

REGISTRATION

A condition of correct alignment of one part or operation with another part or operation.

REGRIND

The material from a processor's production which is reused in the manufacture of molded items.

RELIEF PRINTING

A printing method that uses a plate on which the image is formed by those portions of the plate that are raised above (stand out in relief) to the main plate surface. Flexography, letterpress and letterset are relief printing processes.

RELIEVED AREA

An area that is predesigned into a package for easier openings.

REMOVAL TORQUE

The amount of rotational force required to remove a closure from a container.

RESONANCE

A spring-mass relationship in which the output is greater than the input. All masses have a specific frequency or frequencies at which resonance will occur. Resonance can be induced by transport vibrations and is a common cause of damage.

RETICULATED FOAM

Open cell foam.

RHEOLOGY

The study of fluid flow (viscosity) characteristics.

ROCKER

A plastic bottle with a bulged or deformed bottom, causing rocking of the bottle in the upright position.

ROLL-ON BALL SOCKET

That part of a roll-on package into which the roll ball snaps.

ROTATIONAL MOLDING

A method of shaping seamless plastic containers in which a charge of plastic is placed into a metal mold, which is then sealed. The mold is rotated around several axis while external heat is used to melt the contained plastic, which then flows to evenly coat the entire inside of the mold. The mold is cooled while still rotating and then opened to release the part.

RUNNER

In injection molding, one of the passages that takes plastic melt from the injection point (sprue) and distributes it to the various cavities in a multicavity mold.

RX

Drugs that require a doctor's prescription for legal dispensation.

"S" DIMENSION

The vertical distance (height) measured from the top of the land area to the very most upper part of the start of the thread finish.

SA66

3M trade name for pulp/aluminum foil/mylar cap liner material.

SADDLE FINISH

A molding defect which occurs during the Lehr process (cooling of the material). The top of the neck finish will actually have two high points approximately 180° opposite each other, and two low points approximately 180° opposite each other.

SANTOPRENE

Polypropylene alloy based elastomer, Advanced Elastomer Systems.

SARAN

Polyvinylidene chloride film, Dow USA.

SCAN - A - WEB

In web-printing, a rotating mirror arrangement where speed can be varied to match speed of press so image on paper can be examined during printing.

SCANNER

An electronic device used in making color and tone-corrected separations of images.

SCLAIR

Linear polyethylene resins, DuPont Canada Inc.

SCUFF

To rub or abrade.

SEALING BEAD

A bead of material which is molded onto the top of the land area completely around the top of the neck finish in order to further enhance the sealing capabilities of the component.

SEALING LAND

The top surface of a container finish to which a cap liner or gasket engages and compresses to effect a seal.

SEPARATION

Photographing of artwork with the use of filters to separate the individual colors. The filters consist of red, yellow, blue, and black.

SF

Senior Friendly; easier for older people to handle and open.

SHORT SHOT

The result of an insufficient amount of plastic materials being charged to the mold.

SHOW-THROUGH

In printing, the undesirable condition in which the printing on the reverse side of a sheet can be seen through the sheet under normal lighting conditions.

SHRINK MARK

An imperfection, a depression in the surface of a molded bottle where it has retracted from the mold.

SIFTER TOP

Perforated top on a container or fitment designed to dispense contents.

SILK SCREEN PRINTING

A printing process widely used on plastic bottles and other articles, employing as a stencil a taut woven fabric secured in a frame, the fabric being coated in selected areas with a masking material that is not penetrated by the ink being used. The stencil fabric is commonly called a "silk screen" even though silk is rarely used today. Nylon is most often used, and screens of copper, stainless steel and many other materials are suitable. The screen is placed above the part to be decorated, and a flexible squeegee forces ink through the openings in the screen onto the surface of the article. Multicolor work requires multiple screens and impressions.

SINK MARK

A shallow depression on the surface of an injection molded part due to collapse of the surface as the molten plastic material cools and contracts.

SKIRT

The wall of a closure below the functional threads.

SKIVING

Cutting off a thin layer. Removing a portion of thickness of board or sheeting.

SKU

Stock Keeping Unit.

SLIP CAP

Cover cap used on pencils to protect the tip against breakage and contamination.

SNDA

Supplemental Drug Application.

SOFTWOOD

Wood which is obtained from coniferous trees such as pine.

SOLDER

A low melting point metal alloy used to bond other metals. Usually composed of lead and tin in varying proportions.

SOLID DOSE

Non-liquid dosages such as tablets, capsules, caplets, etc.

SPECIFIC GRAVITY

The ratio of weight of a body to the weight of an equal volume of water at the same specified temperature.

SPIN WELD

A technique of joining two plastic parts through the use of frictional heat generated by spinning the parts to be joined.

S.P.I.

Society of the Plastic Industry.

SPIRAL WOUND TUBE

Tubular packages made by spirally winding paper or foil-lined paper. Used as an insert and barrier material in shaker talc containers.

SPLIT SCREEN PRINTING

A screen with a divider strip to separate colors in order to do multicolor silk screen labeling in a single operation.

SPRINKLER FINISH

A restricted orifice molded into the finish of a glass bottle.

SPRUE

In injection molding, the passage that brings molten plastic from the end of the extruder to the passage or passages that will distribute the plastic to the mold cavities. In a single cavity mold, the sprue would lead directly to the gate. In a multicavity mold, the sprue would join the runner system.

STABILITY TESTING

The process used to confirm the efficacy of individual medicines for a set time within a given package under elevated humidity and temperature conditions.

STEP CUT

Refers to the end of a pump dip tube which is stepped to prevent the dip tube from sealing off on the container bottom.

STORAGE LIFE

The period of time during which a product can be stored under specified temperature conditions and remain suitable for use. Storage life is sometimes called shelf life.

STRESS CRACK

A fissure or separation that develops in a material under an applied load or stress.

STRESS CRACKING

The development of cracks which are frequently accelerated by the environment to which the plastic is exposed.

STRIATION

Lines that can appear on the surface of glass or plastic components resulting from uneven cooling of the part in the mold. Can also result from a chemical attack on the component.

STRIP PACK

A package used to protect solid dose pharmaceutical products, and to provide relatively inexpensive protection for individual dosages.

SUPER CALENDAR

In papermaking, a calendar stack, separate from the papermaking machine, with alternate metal and resilient rolls, used to produce a high finish on the paper.

SURFACE TREATING

Any method of treating a plastic so as to alter the surface and render it receptive to inks, lacquers and adhesives, such as chemical, flame or electronic treating.

"T" DIMENSION

The outside diameter of the threaded portion of a container finish.

TAMPER EVIDENT

One or more safety features used to indicate that a package is not in the original condition as it was when shipped from the manufacturer or packager.

TAPPI

The Technical Association of the Paper and Pulp Industry.

TEAR STRENGTH

The resistance of a material to tearing as determined by accepted test methods.

TEAR STRIP

A narrow ribbon of film, cord, etc., usually incorporated mechanically in the wrapper or overwrap during the wrapping operation to facilitate opening of the package.

THERIMAGE

Registered trademark of Dennison Manufacturing Company for their heat transfer label process.

THERMOFORMING

A method of forming plastics in which a plastic sheet material is heated to a point where it is soft and pliable. The sheet is then formed to the desired shape using vacuum, pressure and mechanical assists or any combination of these.

THERMOPLASTIC

Those plastic materials which are not cross linked during the molding operation. They are capable of being remolded.

THERMOSET

Those plastic materials which are cross-linked

during the molding operation. They are NOT capable of being remolded.

TINPLATE

Sheet steel, usually of special formula and temper, coated on both sides with a controlled thickness of pure tin. The tin acts to protect the steel and reduce the possibility of corrosion.

TOLERANCE

Minimum/maximum range of measurement.

TOTTLE

Tube-bottle (pinch bottom tube).

TORQUE

Force in a circular motion as applied to closure on a container, either to attach or remove the closure.

TORQUE REQUIREMENT

The minimum degree of closure tightness to achieve a projected yearly maximum weight loss of 2%.

TRADE MARKS

The principal function of a trade mark is to indicate the origin of goods. Registration of a trade remains in effect for 20 years.

TRANSFER BEAD

A projecting bead or ring on the outer surface of some glass containers, usually just below the finish, to provide a surface of engagement for the jaws of handling devices during manufacture.

TRANSMISSION

Quantity of moisture and/or gas passing through the packaging film or foil over a specific period of time.

TRANSPARENT COPY

In photography, illustrating copy, such as a color transparency or positive film through which light must pass in order for it to be seen or reproduced.

TRAPPING

In printing, the ability to print a wet ink film over a previously printed ink. Dry trapping is printing wet ink over dry ink. Wet trapping is printing over wet ink. In prepress, refers to how much overprinting colors overlap to eliminate white line between colors in printing.

TRIAL SIZE

Sample of a drug given to the patient by a doctor in a blister, strip pack or small bottle for patient to try medication, free of charge. Also known as physician sample.

TRIMMED LENGTH

Refers to the tube length of a sealed tube after the seal area is trimmed. The corporate spec. allows the trimmed length to be $\pm 0.060''$ (1.5mm) of the nominal tube length.

TRUNCATE

To shorten or cut off.

TUBE CRIMPING AREA

The uncoated portion of the tube located at the open end of the tube. The corporate tube spec. is $9\text{mm} \pm 1.2\text{mm}$ of uncoated length.

TUBE DIAMETER

Determined by measuring the outside diameter of the tube just below the shoulder where tube is most rigid and can be accurately measured with a caliper.

TUBE LENGTH

Determined by measuring the distance from the outer edge of the tube shoulder to the end of the open end of the tube.

TYVEK®

The registered trade name of Dupont polyethylene film used as a breathable or as lidstock that is difficult to tear.

ULTRA SONIC WELDING

A technique of joining materials through the application of vibrating mechanical pressure at ultrasonic frequencies.

UNDERCUT

In plastic molding, a shape that cannot be directly removed from the mold without the need to incorporate mold parts that need to be moved out of the way to release the part. Undercuts significantly increase tooling costs.

UNIT CAVITY

A mold with only one cavity, usually a pilot for the production set of molds.

UNIT-DOSE

The prescribed amount of each dosage in a package.

UNIT-OF-USE

The exact amount of a drug's treatment pre-packaging by the manufacturer or pharmacist in standardized amounts.

UPC (UNIVERSAL PRODUCT CODE)

A 10-digit number which uniquely identifies products. The first 5 digits identifies the manufacturer and the second 5 digits identifies the item.

UREA PLASTICS

Resins made through the condensation of urea and aldehydes.

URETHANE

A type of isocyanate plastic generally elastomeric in form and available as foams, solid plastics and coatings.

USP

United States Pharmacopoeia (a non-governmental, non-profit, scientific body that establishes drug standards in the United States).

U.V. CURING

A process which uses UV light wavelengths instead of heat to cause the cross linking of an ink or coating.

UV STABILIZER (ULTRAVIOLET)

Any chemical compound which, when admixed with a thermoplastic resin, selectively absorbs UV rays and minimizes chemical and/or physical changes that may be caused.

VACUUM FORMING

A forming process in which a heated sheet of plastic is molded by causing it to flow by reducing air pressure on one side of the sheet.

VALVE

A device which regulates the flow of material through an opening.

VENT HOLE

Hole in the tank of a mechanical pump dispenser which allows the pump to "vent," i.e., pump air into the package to displace the material being dispensed from the package. If the pump does not vent, a vacuum will be created in the package causing the pump to stop functioning and may also result in deformation (wall pull-in) of the container.

VELOX

A photographic paper print made from a screen negative.

VIAL

Glass or plastic container filled with product.

VIGNETTE

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

VISCOSITY

That property of material by virtue of which it tends to resist deformation of flow.

WARPAGE

Dimensional distortion in a unit after molding.

WASHBOARD

A wavy condition of horizontal lines in the body of the bottle.

WELD LINES

A visible line created on the surface of a molded part caused by two flowing streams of plastic joining with the cavity as the cavity is filled.

WET STRENGTH

A measure of the physical strength properties of paper when saturated with water.

WIP

Work In Progress.

WIPER

Fitment in the top of a wand type package (i.e., mascara) which wipes the product applicator upon removal from the package.

WOPE

White opaque polyethylene. Used in manufacture of packettes.

WORK AND TURN

To print one side of a sheet of paper, turn it over from left to right and print the second side using the same gripper and plate.

WVTR

Water Vapor Transmission Rate; the amount of moisture that is transmitted through packaging film or foil over a set period of time.

WYSIWYG

In electronic publishing, an acronym for What You See Is What You Get, i.e., the composite page viewed electronically is what the printer will output.

YIELD POINT

That point beyond which the stresses applied to a material will cause permanent deformation.

YUKALON

High nitrile content, acrylonitrile rubber.

▶ PRINTING TERMS

ANALOG COLOR PROOF

Off-press color proof made from separation film.

BASIS WEIGHT

The weight in pounds of a ream (500) sheets of paper cut to a given standard size for that grade; e.g. 500 sheets 25 x 38 lb. coated book paper weight 80 pounds.

BLEED

An extra amount of printed image which extends beyond the trim edge of the sheet or page.

BLIND EMBOSSING

A design which is stamped without metallic leaf or ink, giving a bas-relief effect.

CAD / CAM

Computer assisted design/computer assisted makeup or manufacturing.

CHALKING

In printing, term which refers to improper drying of ink. Pigment dusts off because the vehicle has been absorbed too rapidly.

DENSITOMETER

In printing, a reflection densitometer is used to measure and control the density of color inks on the substrate.

DIGITAL PRINTING

Printing by plateless imaging systems that are images by digital data from prepress systems.

DOTS PER INCH (DPI)

A measure of the resolution of a screen image or printed page. Spots per inch (SPI) is a more appropriate term.

ELECTRONIC PRINTING

Any technology that reproduces pages without the use of traditional ink, water or chemistry.

FRONT END SYSTEM

In electronic publishing, the work station or groups containing the applications to software for preparing pages of type and graphics.

HOLDOUT

In printing, a property of coated paper with low ink absorption which allows the ink to set on the surface with high gloss.

LAMINATION

A plastic film bonded by heat and pressure to a printed sheet for protection or appearance.

MOIRE

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

MULLEN

A machine for testing the bursting strength of paper.

OFFSET

The process on using an intermediate cylinder to transfer an image from image center to the substrate.

OVERLAY

In artwork, a transparent covering over the copy where color break is wanted.

POSTSCRIPT

A computer description language that allows a programmer to create complex pages using a series of commands.

PROCESS COLORS

In printing, the subtractive primaries: yellow, magenta, and cyan, plus black in four color process printing.

REFLECTION COPY

In photography, illustrative copy that is viewed and must be photographed by light reflected from its surface. Examples are photographs, drawings, etc.

SCAN - A - WEB

In web-printing, a rotating mirror arrangement where speed can be varied to match speed of press so image on paper can be examined during printing.

SCANNER

An electronic device used in making color and tone-corrected separations of images.

SHOW-THROUGH

In printing, the undesirable condition in which the printing on the reverse side of a sheet can be seen through the sheet under normal lighting conditions.

SUPER CALENDAR

In papermaking, a calendar stack, separate from the papermaking machine, with alternate metal and resilient rolls, used to produce a high finish on the paper.

TRANSPARENT COPY

In photography, illustrating copy, such as a color transparency or positive film through which light must pass in order for it to be seen or reproduced.

TRAPPING

In printing, the ability to print a wet ink film over a previously printed ink. Dry trapping is printing wet ink over dry ink. Wet trapping is printing over wet ink. In prepress, refers to how much overprinting colors overlap to eliminate a white line between colors in printing.

VELOX

A photographic paper print made from a screen negative.

VIGNETTE

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

WORK AND TURN

To print one side of a sheet of paper, turn it over from left to right and print the second side using the same gripper and plate.

WYSIWYG

In electronic publishing, an acronym for What You See Is What You Get, i.e., the composite page viewed electronically is what the printer will output.



ACID ETCHING

Glassware is immersed in an acid bath to create a smooth, frosted effect on the glass surface.

ACL - APPLIED COLOR LETTERING

Colored lettering or design of ceramic nature permanently fused onto glass bottle surface.

ACL LUG

A small protrusion or small depressed cavity in a base of bottle to act as a guide in positioning the bottle in the decorating machine for application of ACL.

ANNEALING

A controlled temperature method of gradually cooling glass containers in ovens or lehrs to relieve structural stresses and to make less brittle.

ANTIOXIDANT

A chemical substance that can be added to a plastic resin to minimize or prevent the effects of oxygen attack on the plastic (e.g. yellowing or degradation).

ANTISTATIC AGENT

A chemical substance that can be applied to the surface of a plastic bottle, or incorporated in the plastic from which the bottle is to be made. Its function is to render the surface of the plastic article less susceptible to accumulation of electrostatic charges which attract and hold fine dust on the surface of the bottle.

BLANK

The mold parts used in all glass container machines for preliminary formation of glass in preparation for completion of the glass containers in the finish mold where the bottles are blown. The blank forms the parison, hence the parison itself is at times referred to as the blank.

BLOOM

A surface film resulting from attack by the atmosphere or from deposition of smoke or other vapor.

BLOW AND BLOW

Expression used to identify the production principle of the IS machine making narrow neck

containers. Glass is blown into the blank mold and later blown into the finish mold.

BLOW MOLDING

A method of fabrication in which a warm plastic parison (hollow tube) is placed between the two halves of a mold (cavity) and forced to assume the shape of that mold cavity by the use of air pressure.

BLUSHING

A surface whitening or discoloration of bottle. It is the result of physically induced (e.g. by impact) or chemically induced phase separation of the (1) ingredients in the plastic compound or (2) the molecular orientation of the plastic.

BOTTOM PLATE (GLASS)

The part of the mold equipment that forms the bottom of the bottle.

BOTTOM PLATE (PLASTIC)

That part of the mold which contains the heel (base radius) radius and the "push-up" of the container to be formed.

BUTTRESS THREAD

A design of thread profile (cross-section) which takes the form of a right triangle or slight modification of that form. It is usually positioned so that the right angle is at the bottom of the thread cross-section and adjacent to the neck of the bottle finish. The horizontal leg of the right triangle is the bearing surface for a matching cap thread.

CARBOY

A largeware container used principally for acids and chemicals.

CAPACITY

The amount of space inside a container provided for a given amount of product.

CERAMIC DECALS

Silk-screened ceramic inks are printed in registration on a paper carrier. The ceramic ink is then transferred to the glass or ceramic ware in a single pass. The ware is then fired in a lehr at 1100-1200° F, fusing the ceramic decal to the glassware.

CERAMIC SPRAYING

Ceramic paints are sprayed onto the surface of the glassware. The ware is then fired in a lehr at 1100-1200°F fusing the ceramic spray to the glassware.

CHECK

A very fine closed crack in glass caused by localized heat shock.

CLOSURE

A term used to describe a metal or molded cap which effects a primary seal when properly applied to a container.

COLLAPSE

Contraction of the walls of a container.

COPOLYMER

A material whose chemical structure is made up of long chains of two differently structured chemical units (monomers) which repeat a more or less regular pattern in the chain.

CT FINISH

Continuous thread finish — an interrupted protruding helix on the neck of a container to accommodate a screw-type closure.

CYCLE

The complete, repeating sequence of operations in a process. In molding, the cycle time is the period of elapsed time between a certain point in one cycle and the same point in the next.

DECO-GLAZE® COATING

A proprietary process for clear, transparent, or opaque coating of glass. The coating is in compliance with CONEG Model legislation. Graphic options available include: Heat transfer labels with matte or gloss lacquers, or silk screening.

DENSITY

Weight per unit of volume of a substance, expressed in grams per cubic centimeter, pounds per cubic foot, etc.

DIE

Any tool or arrangement of tools designed to cut, shape or otherwise form materials to a desired configuration.

DOUBLE GOB

A special operation of IS machine in which two gobbs of glass are blown simultaneously into containers in a double cavity-type mold.

EXTRUSION

The compacting of a plastic material and

forcing of it through an orifice in more or less continuous fashion.

FILL POINT

The level to which a container must be filled to furnish a designated quantity of the contents.

FINISH (GLASS)

The glass surrounding the opening of a bottle. So called because when glass is hand blown, it is the last part formed.

FINISH (PLASTIC)

The plastic forming the opening of a bottle shaped to accommodate a specific closure.

FITMENT

A device used as a part of a closure assembly to accomplish a certain purpose such as a dropper, sprinkler, powder shaker, etc.

FLAME TREATING

A method of rendering inert thermoplastic objects receptive to inks, lacquers, paints, adhesives, etc. in which the object is bathed in an open flame to promote oxidation of the surface of the article.

FLASH

Extra plastic attached to a molding along the parting line; it must be removed before the part can be considered finished.

FLINT

A term used to describe a glass color which is perfectly clear and transparent.

G.P.I.

Glass Packaging Institute, an organization composed of most glass container producers to establish industry policies and standards (formerly G.C.M.I.).

GLASS

Four types of glass are specified by the U.S. Pharmacopoeia on the basis of chemical durability tests. Type 1, 2, and 3 are intended for packaging parenteral preparations and Type NP for non-parenteral products.

TYPE 1. Containers normally made of borosilicate glass having a highly resistant composition. The specification test, called the Powdered Glass Test, is applied to glass as such in crushed or powdered form.

TYPE 2. Containers made of commercial soda-lime glass which may have been treated on the inside surface at a high temperature to obtain a great improvement in chemical resistance. The usual treatment dealcalized the glass surface to a significant depth producing a chemical

resistance similar to that of Type 1, and is known as sulphur treatment.

TYPE 3. Untreated glass containers made of commercial soda-lime glass of average or somewhat above average chemical resistance. The specification places a limit on the amount of alkaline material extracted in the Powdered Glass Test. This limit is, of course, much higher than that set for Type 1 ware.

TYPE NP. Untreated glass containers made of ordinary soda-lime glass. The specification places a limit on the amount of alkaline material extracted in the Powdered Glass Test. The limit is higher than that set for Type 3 ware.

HEAD SPACE

The space between the level of the contents in the neck of a bottle and the closure. It is intended to furnish space for expansion of product due to heat or other action after packing.

HEAT TRANSFER LABEL

A label applied to a container by transferring the label, preprinted on a substrate, to the container surface.

HI-LITE® PROCESS

A process utilizing hot-stamp foils which create the raised gold or silver effect on glass, metal, phenolic or urea substrates.

HOT STAMPING

Engraving operation for marking plastics in which roll leaf is stamped with heated metal dies onto the surface of the plastics. Ink compounds can also be used. By means of felt rolls, ink is applied to type and by means of heat and pressure, type is impressed into the material, leaving the marking compounds in the indentation.

IN-MOLD LABELING

This is a sophisticated and fairly new decorating method for injection-molded objects which utilizes polyester labels with a heat-activated release coat. During the mold-close cycle, with the combination of high-injection pressure and heat, the label adheres to the part surface in a heat-seal fashion. Nissha labels offer a combination of colors with mirror metallics.

INJECTION BLOW MOLDING

A two stage process where a preform or parison is injection molded. The bottle finish is formed at this time. The preform is then transferred to blow mold where the bottle takes its final shape.

LARGEWARE

A name given containers manufactured on

machines especially designed for ware of over one gallon capacity.

MOLD (PLASTIC)

(*v.*) To shape plastic parts or finished articles by heat and pressure. (*n.*) The cavity into which the plastic composition is placed and from which it takes form.

MOLDS (GLASS)

A set of iron forms that are fastened on a bottle machine to provide a means of shaping a glass container.

NECK

The part of the container where the bottle cross-section decreases to form the finish.

NECK INSERT

Part of the mold assembly which forms the neck and finish. Sometimes called the "neck ring."

NECK RING

That part of the mold equipment which forms the finish of a bottle.

OFFSET (PRINTING)

A printing technique in which ink is transferred from a reservoir to a printing plate, from the inked printing plate the image is printed on a cylindrical rubber roll (blanket) and then to the object to be printed.

OPAL

An opaque, white glass used to make jars and bottles.

PAD PRINTING

Ideal for 3-dimensional, contoured objects, pad printing is an indirect-printing process. High-pigmentation ink with added tack is deposited on an etched-metal plate (cliche), where it fills the etched portions and is cleared from the non-etched portions of the plate by a "doctor blade." The remaining ink is then picked up from the etched portion of the plate by a soft-silicone pad which subsequently descends and releases the ink from the silicone pad to the ware being printed. Multicolors are done one at a time. Rotary-pad printing is used for very large volume requirements.

PARISON (GLASS)

A shaped tubular cylinder of molten glass from which a bottle is blown. Also called a "blank" or a "gob."

PARISON (PLASTIC)

The hollow plastic tube from which a container is blow molded.

PRESS AND BLOW

Expression used to identify the production principle of the Miller machine or IS machine with "62 Process" used in making wide mouth containers. A plunger presses glass into the blank mold, and the partially formed blank is later blown into the finish mold.

PROGRAMMING

The extrusion of a parison which differs in thickness in the length direction in order to equalize wall thickness of the blown container.

PROTOTYPE MOLD

A simplified mold construction often made from a light casting alloy or from epoxy resin in order to obtain information for the final mold or part design.

PUSH UP

The contour of the bottom of the plastic container designed in such a manner as to allow as even bearing surface on the outside edge and prevent the bottle from rocking.

RAISED GOLD/PALLADIUM DECORATING

Used to create a raised, precious-metal effect on glass or ceramic ware. A clear ceramic flux is applied and fired in a lehr. The gold or palladium is then screened exactly over the flux and then fired in a lehr.

RAMP

A small depressed cavity (detent) in the base of the bottle to act as a guide in positioning the bottle in the decorating machine for application of decoration.

REAMING

A method used to trim and size plastic bottle finishes. A special rotating cutting tool trims the sealing surface smooth and simultaneously reams (bores) the bottle opening to a desired size (also called coring).

SILK SCREEN PRINTING

This printing method in its basic form, involves laying a pattern of an insoluble material, in outline on a finely woven fabric, so that when ink is drawn across it, it is able to pass through the screen in the desired areas only.

S.P.I.

Society of the Plastic Industry.

SPLIT SCREEN PRINTING

A screen with a divider strip to separate colors in order to do multicolor silk screen labeling in a single operation.

SPRAY FROSTING

Ceramic paints formulated to look like acid etching are sprayed on the surface of the glassware and then fired in lehr.

SUBLIMATION

A type of heat transfer that uses dye instead of ink to apply a message or code to a molded part, such as a computer keyboard. A chemical reaction occurs when heat and pressure are applied. The dye is vaporized and penetrates into the substrate (sublimed). It actually dyes the substrate to .002" - .004" deep.

SURFACE TREATING

Any method of treating a plastic so as to alter the surface and render it receptive to inks, lacquers and adhesives, such as chemical, flame or electronic treating.

STORAGE LIFE

The period of time during which a product can be stored under specified temperature conditions and remain suitable for use. Storage life is sometimes called shelf life.

THERIMAGE

Registered trademark of Dennison Manufacturing Company for their heat transfer label process.

TORQUE

Force in circular motion as applied to closure on a container, either to attach or remove the closure.

WAX RELEASE LABELS

A heat transfer labeling process that is an economical way to add color and graphic excitement to large volumes of plastic packaging. The plastic surface of the package to be decorated is preflamed, if required, and then exposed to a label printed on specially treated material. The finished package is then post-flamed to permanently bond the label to the plastic.

PHARMACEUTICAL PACKAGING TERMS

ACLAR®

Allied Signal, Inc.'s registered trade name for high barrier films made from PCTFE (polychlorotrifluoroethylene) resins.

AMPULE

A glass container filled with medication and closed with a rubber stopper.

ANDA

Amended New Drug Application (filled with the Food and Drug Administration).

ASEPTIC

Sterile.

BARCODE

A way of labeling or coding a product that allows a clear description of the contents and limits dosage mistakes. Barcodes can only be read by scanners.

BARRIER

Protection from deterioration or ingress of moisture through package material.

BINGO CARD

A large calendar blister card designed for ease in handling to prompt compliance, high visibility, and user friendliness. Normally in a monthly supply. Commonly used by in-patient facilities.

BLISTER CARD

A blister pack sealed into a fold-over card.

BLISTER PACK

A unit-dose package commonly constructed from a formed cavity containing one or more individual doses.

BOTTLES

Glass or plastic container used to package solid or liquid pharmaceutical products.

CALENDAR BLISTER

A blister package designed to facilitate a patient's memory by incorporating the day/time that each dose is to be taken into the package design.

CAPSULE

Solid dose medication filled into gelatin halves and pushed together, easy to swallow.

COMPLIANCE

Adhering to a prescribed regimen. Taking one's medication properly.

CPSC

Consumer Product Safety Commission. The Federal agency responsible for implementing the Poison Prevention Packaging Act of 1970.

CR

Child Resistant, indicates that a package will pass a test protocol administered by the U.S. Consumer Product Safety Commission.

DESICCANT

Highly hygroscopic substance used to absorb moisture in bottles, vials and blisters.

DIAL-PACK

Commonly used for oral contraceptives, this type of package utilizes a calendar design such that a dial must be turned each day to remove a tablet.

DOSAGE

Prescribed amount of medication to be taken.

EXPIRATION DATE

The date until a pharmaceutical product is safe to be consumed.

FFS

Form fill seal.

FOIL

Thin gauge aluminum, typically 20-25 micron, used as a push-through lidstock available as hard tempered and soft. Can be primed on two sides in multicolor.

GEL CAP

A gelatin-coated capsule which is easier to swallow, and tamper evident.

GENERIC

RX or OTC drugs which are no longer protected by a patent.

GMP

Good Manufacturing Practices (as established by the FDA).

HMO

Health Maintenance Organization.

HUD

Hospital Unit Dose packages intended for use by in-patient hospital pharmacies.

INDA

Investigational New Drug Application.

LIDDING STOCK

Material used to seal a blister to prevent or minimize moisture/gas permeation.

LOT NUMBER

A number that is assigned to a production batch so that all of a product's components can be traced.

MACHINABILITY TEST

A test done to review the performance of blister components to optimize actual production runs, and find the best machine settings for individual materials.

MONOGRAPH

Standards issued by the USP.

MVTR

Moisture Vapor Transmission Rate; the amount of moisture that is transmitted through packaging film or foil over a set period of time.

MYLAR®

The registered trade name of Dupont's polyester film.

NDA

New Drug Application (must be submitted to the FDA for approval to manufacture and market the drug).

NONCOMPLIANCE

Not taking one's medication properly.

OPD

Original Pack Dispensing. A Pharmaceutical product that is dispensed to the patient in the manufacturer's original package (i.e., not re-packaged by a pharmacist or anyone else).

OTC

Over the Counter Drugs – available without a prescription.

PHYSICIAN SAMPLE

(See TRIAL SIZE).

POLYPROPYLENE

A monolayer blister film used for pharmaceu-

tical packaging. Use of this film may require machine or tooling modifications.

POUCHES/SACHETS

A flexible material (usually paper, foil, PE, PET or a multi-laminate) used to package medication.

PVC

Polyvinyl Chloride. Commonly used for blister packaging of solid and liquid dose products.

PVDC

Polyvinylidene Chloride. Waterborn emulsion that is coated onto PVC or PVC/PE to enhance MVTR and O₂ TR transmission.

RELIEVED AREA

An area that is predesigned into a package for easier openings.

RX

Drugs that require a doctor's prescription for legal dispensation.

SF

Senior Friendly; easier for older people to handle and open.

SNDA

Supplemental Drug Application.

SOLID DOSE

Non-liquid dosages such as tablets, capsules, caplets, etc.

STABILITY TESTING

The process used to confirm the efficacy of individual medicines for a set time within a given package under elevated humidity and temperature conditions.

STRIP PACK

A package used to protect solid dose pharmaceutical products, and to provide relatively inexpensive protection for individual dosages.

TAMPER EVIDENT

One or more safety features used to indicate that a package is not in the original condition as it was when shipped from the manufacturer or packager.

TOLERANCE

Minimum/maximum range of measurement.

TRANSMISSION

Quantity of moisture and/or gas passing through the packaging film or foil over a specific period of time.

TRIAL SIZE

Sample of a drug given to the patient by a doctor in a blister, strip pack or small bottle for patient to try medication, free of charge. Also known as physician sample.

TYVEK®

The registered trade name of Dupont polyethylene film used as a breathable or as lidstock that is difficult to tear.

UNIT-DOSE

The prescribed amount of each dosage in a package.

UNIT-OF-USE

The exact amount of a drug's treatment pre-packaging by the manufacturer or pharmacist in standardized amounts.

USP

United States Pharmacopoeia (a non-governmental, non-profit, scientific body that establishes drug standards in the United States).

VIAL

Glass or plastic container filled with medication.



"A" SHELL

The outermost shell on a lipstick swivel mechanism.

ACCELERATED AGING

A process whereby the deterioration encountered in natural aging may be accelerated and reproduced in the laboratory by heat.

ACTUATOR

The finger button that, when depressed, opens the aerosol or mechanical pump dispenser valve mechanism and allows for dispensing of the product.

ACTUATOR INSERT

The plastic insert in the actuator of a spray pump with an orifice through which the product is dispensed.

ADHESION

The ability of a material to stick to the surface to which it is applied.

AESTHETIC FILL

Filling to a specific level in a clear package where the fill level is visible.

ANNEAL

To make soft and thereby workable by subjecting to high temperatures and controlled cooling. Used to relieve structural stresses and to make less brittle, as in metals and glass; to remove strains in glass by slow cooling at elevated temperatures. (Annealing temperature for glass is about 1000° F.) See LEHR.

ANODIZING

Electrolytic process for forming an oxide coating on aluminum for corrosion and wear resistance.

BALL TIP

The pigmented epoxy ball decoration at the tip of a hair brush bristle.

BARREL

The body of a deodorant stock container.

BARRIER COAT

A surface coating used to improve permeation resistance and protect the container from scuffing.

BLEACHED PAPER

A type of paper which goes through a whitening process.

BLEED

To give up color when in contact with water, solvent or a product; undesired movement of certain materials in a plastic (e.g. plasticizer in vinyl) to the surface of the material or into an adjacent material.

BLOOM

Bloom is the result of ingredients coming out of "solution" in the component and migrating to the surface of the component. Can be seen on the surface of glass as a white scale after the glass has been aged in humidity.

BLOW PRESSURE

The pressure required to form the parison into the shape of the mold cavity, in a blow molding operation.

BLUNT THREAD START

A detail of thread design in which the start of the thread has been squared off; i.e., there is no gradual thread lead-in.

BLUSHING

A surface whitening or discoloration apparent in plastic materials. It is the result of physically induced (e.g., by impact) phase separation of the (1) ingredients in the plastic molding compound or (2) the molecular orientation of the plastic.

BODY

The principal part of a container, usually the largest piece containing the sides. In collapsible tubes, the body (or wall) is the cylindrical portion below the shoulder extending to the bottom of crimped end. In bottles, the body is the main portion of the bottle without the neck.

BRITTLENESS

A property of a material that when it breaks suddenly under an applied load, there is less than a 5% yield of the material with little or no bending or stretch.

BULB

The rubber or plastic squeezable component of a dropper or atomizer.

BUSHING

A cylindrical lining for an opening used to limit the size of the opening, resist abrasion or serve as a guide (e.g., the threaded insert in the vial of a metal mascara case).

BUTTRESS THREAD

(See M-STYLE THREAD).

BUTTERFLY HINGE

Flexible (i.e., living) hinge used in joining the cover to the main body of a flip top dispensing closure (e.g., Seaquist dispensing closures). Superior hinge for impact resistance.

CALENDAR

A group of "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.

CAM

The rotating part which moves along a spiral track in a lipstick mechanism that propels and retracts the mounting cup through the A shell.

CAP INSERT

The threaded inner part of a two piece cap.

CAPACITY

The brimful volumetric capacity of a container usually expressed in cc. or ml. (See OVERFLOW CAPACITY).

CAROTTE

Sprue of plastic that is left on the neck of a tube after molding. This is usually trimmed off in the finishing operation.

CARRIER

The filling cup in a swivel or push-up package.

CAVITY

The female component of a mold that forms the outside of an object when plastic or glass is introduced into the mold.

CELLOPHANE

Regenerated cellulose film.

CHAMFER

A beveled edge.

CHECK

Hairline cracks visible on the surface of plastic materials. (See CRAZING).

CHOKED NECK

A narrowed or constricted opening in the neck of a bottle.

CLASP

Mechanism which holds together the two halves of a compact.

COEXTRUSION

The extrusion of two materials simultaneously from a single die in such a way that the two separate materials fuse together to form a single structure.

COLD FLOW

(See CREEP).

COLLET

A metal band, collar, ferrule or flange.

COINING

The flat part on a twisted wire (mascara applicator) which is used to aid brush retention usually in conjunction with hot insertion into the plastic stem.

COMPATIBILITY

The ability of a container or material to resist chemical degradation or physical change caused by the product, or to chemically change or physically degrade the product container.

CONCENTRICITY

The characteristic of circles or circular cylindrical surfaces of different radii having a common center.

CONTINUOUS THREAD ("C-T")

An uninterrupted protruding helix on the neck of a bottle to hold a screw type closure.

CORONA TREATMENT

Pre-decorating treatment for inert plastics, primarily polyolefins, to make them more receptive to inks, adhesives and decorative coatings by subjecting their surface to corona discharge. The corona discharge oxidizes the film, forming polar groups on vulnerable sites, increasing the surface energy and making the film receptive to inks, etc.

COVER CAP/DUST CAP/HOOD/SHROUD

Plastic cap used to protect a dispenser from accidental actuation and contamination. Also used to protect the point of a lip-eye pencil or lipstick.

CRAZING

An undesirable defect in plastic articles characterized by distinct surface cracks or minute frost-like internal cracks, resulting from stresses within the article that exceed the tensile strength of the plastic. Such stresses may result from molding shrinkage, or machining, flexing, impact shocks, temperature changes, or the action of chemicals and solvents.

CREEP

The dimensional change with time of a material under load, following the initial instantaneous elastic deformation. "Creep" at room temperature is sometimes called "Cold Flow."

CULL

The removal of defective or damaged parts or articles from the Production line.

CURE

To change the molecular structure and properties of a plastic or resin by chemical reaction usually accomplished by the action of either heat or a catalyst or both, with or without pressure.

CUT-OFF

(See PINCH-OFF).

DEBOSS(ED), (ING)

Depressed design or lettering on the surface of a bottle.

DELIVERY RATE/SHOT SIZE/DOSAGE

Amount of product dispensed in one actuation. Output per stroke (ml. or grams/second) for continuous dispensing systems.

DENSITY

The weight of a given volume of material usually expressed as grams per cubic cm.

DEPTH OF INSERTION

The distance between the rim of a metal overshell and the skirt of a threaded insert in a two piece closure.

DIE CUT

Any operation in which a form that incorporates sharp cutting edges is pressed into a substrate to cut out a desired shape.

DIMENSIONAL STABILITY

The ability of a material to maintain its shape under given processing or use conditions.

DIP TUBE

Open ended flexible plastic tube that attaches to the tank of a pump and extends into the

product creating a means for the product to be dispensed through the pump.

DRAIN BACK

A conical shaped inside dimension of a neck finish that extends downward from the land area to form an orifice whereby product returns into the bottle.

DUROMETER

An instrument used for measuring the hardness of a material.

DYNE LEVEL

A measure of surface energy. The dyne level will indicate whether a material's surface will be receptive to forming a chemical bond with an adhesive, coating or ink.

"E" DIMENSION

On a threaded bottle neck (finish), the measurement across the root of the threads.

ELASTOMETER

A material that has high elongation properties. Most packaging elastomers are synthetic polymers except for natural rubber.

ELECTROPLATING

The deposition of a thin layer or coating of metal on an object by passing an electric current through an aqueous solution of salt containing ions of the element being deposited, i.d., Cu⁺⁺. The material being plated constitutes the cathode. The anode is often composed of the metal being deposited; ideally, it dissolves as the process proceeds.

ELONGATION

The difference in length expressed as a percentage of the original length when a material is subjected to pull force (stretched).

EMBOSS(ED), (ING)

Raised design or lettering on the surface of a container.

END CAP

Metal or plastic sleeve type cap used to protect a pencil point as in eye and lip pencils.

ENVIRONMENTAL STRESS CRACKING

The susceptibility of a plastic part to crack or craze under the influence of certain chemicals, stress or other agents.

EXTRUSION BLOW MOLDING

A process for forming hollow narrow-mouthed bottles and similar hollow shapes. A cylindrical tube (the parison) is extruded and, while still in

a hot pliable form, clamped between two mold cavity halves and then inflated to conform to the mold surfaces.

FEA FINISH

European equivalent of GCMI finish.

FERRULE

Metal or plastic sleeve used to join two components together.

FILL LEVEL

Distance as measured down from the open end of a container to the surface of the material filled into the container.

FIN

A seam on the top surface or down the side at the parting line on the finish of a glass or plastic container.

FINISH

That portion of the neck of a glass or plastic container which carries the threads, lugs, or friction fit members to which the closure is applied, and includes the sealing surface and sealing bead; generally, the whole portion above the transfer or pry-off bead. (The term finish in connection with glass containers is a holdover from earlier days before glass blowing became an automatic, mechanized operation. The neck of a container was the last part to be formed, hence the name finish.)

FISH EYES

Undissolved particles in coating composition. Also, air bubbles or voids in glass containers.

FITMENT

A device used to accomplish a certain purpose, such as an orifice reducer, dropper, sprinkler, powder shaker, etc.

FLAGGING

Refers to the lifting of the corners or edges of a label.

FLAME TREAT

Exposing a material to a gas flame to increase the polarity of the surface. Pre-decorating procedure for PE and PP tubes and bottles. Flame treating generally causes some shrinkage of the bottle resulting in a decrease in the capacity of the bottle from the original mold.

FLASH

Excess plastic material that is squeezed out between the mold parts during molding.

FLEXIBILITY

The property of a material which will permit its being bent or twisted without breaking.

FLEXOR

The flexible plastic inner part of a foam applicator which supports the foam and serves as the basis for attachment to a handle or ferrule.

FLIP TOP/SNAP TOP DISPENSING CLOSURE

A two piece closure system where both pieces are typically attached by a living hinge. One half provides the threads for attachment to a bottle, tube or jar and an orifice for dispensing the product while the other half provides the closure mechanism, usually a pintel that snaps audibly into the orifice.

FLOW LINES

Any visible mark on a molded part which indicates the direction that the liquefied resin passes through in the cavity or the die.

FLOW MARKS

Often similar to flow lines, these marks are slight imperfections to the surface of a molded part that are results of the passage of liquefied plastic through the mold cavity. Often exhibits a wavy surface appearance.

FLUORINATION

A surface treatment for polyethylene that is used to improve the barrier properties against nonpolar materials or solvent.

GCMI

Glass Container Manufacturers Institute.

GAIN

In printing, the increase in dot size inherent in the transfer of ink to a substrate. Flexography in particular has significant gain from the designed dot size. Gain can cause process colors to be inconsistent and can fill in universal product codes and make them unreliable.

GAS PERMEABILITY

The ability of a gas or other volatile substance to penetrate a material. Materials that will allow significant passage of gases are said to be permeable, while materials that resist or stop the passage of gases are said to offer gas barrier properties.

GATE

In injection and transfer molding, the orifice through which melted plastic enters the mold cavity. All plastic items manufactured by these processes will exhibit a mark from the gate somewhere on the part.

GLASS SURFACE TREATMENT

Pristine glass has a very high coefficient of friction: Glass containers are surface coated by the glass manufacturer to provide lubricity, so that containers can pass readily on conveying systems and will not cling to and scratch one another on contact.

GLASSINE PAPER

A smooth, dense, translucent paper made from highly beaten chemical pulps. It has very low porosity including resistance to grease, air, and vapor transmission. When waxed, lacquered, or laminated it is practically impervious to moisture vapor.

GLOSS

The amount of surface sheen or reflectance of a substrate.

GODET

Metal pan, i.e., pressed powder.

GRAVURE PRINTING

A method of printing that uses cells etched or engraved into the surface of a metal cylinder to meter and correctly pattern the ink. Gravure printing presses used in packaging are predominantly roll fed.

GREASEPROOF PAPER

Highly beaten pulp, usually sulfite, formed into a translucent sheet with very low porosity. Glassine type without super calendaring.

GWP

Gift With Purchase.

"H" DIMENSION

(1) On a threaded bottle neck (finish), the measurement from the top of the finish to the point where diameter "T" extended parallel to the centerline intersects the shoulder or bead. (2) The inside height of the closure, measured from the bottom of the closure in a line tangent to the threads of the closure and terminating at the inside top of the closure with liner removed.

HARDNESS

The resistance of a material to compression and indentation.

HAZE

A cloudy or foggy appearance in a normally transparent plastic.

HEAD SPACE

The volume of empty space between the fill level of a container and the overflow capacity of the container.

HEAD STYLE (TUBE)

General definition of a neck finish, i.e., M5, M6.

HEEL

The part of a bottle between the bottom bearing surface and the side wall.

HEELTAP

Heavy glass on one side of the bottom of a glass bottle.

HELICAL

Pertaining to or having the appearance of a screw.

HERMETIC SEAL

A seal that will exclude air and will be gas tight at normal temperatures and atmospheric pressures.

HOT-STAMPING

Transfer of a foil to a substrate under heat and pressure.

"I" DIMENSION

A specified minimum dimension inside the bottle neck that will allow sufficient clearance for filler tubes to enter the bottle neck.

INDEX

Position in an arrangement.

INJECTION MOLDING

A molding process in which, under pressure, melted or liquefied plastic is forced from a cylinder into a cooled mold cavity to form a desired shape.

INJECTION BLOW MOLDING

A blow molding process in which the parison to be blown is formed by injection molding.

INTERRUPTED THREAD

Thread on (neck) finish of bottles in which the thread has gaps or discontinuities, the gaps being at the parting line of the mold.

KRAFT

A chemical wood pulp made by the sulphate process, or paper or paperboard made from such pulp. It is brown in color and is the strongest pulp product made from wood. (Kraft is the German word for strong.)

"L" DIMENSION

Measured from the top of the finish to the point where diameter "E" extended parallel to centerline intersects the bead (for example, SP-410 and SP-415 finishes).

"L" STYLE THREAD

A type of thread contour (cross-section) roughly trapezoidal in outline. The outermost part is radiused. This is a "general purpose" thread contour designed for use with either metal or plastic closures.

LLDPE

Linear Low Density Polyethylene.

LABEL CLAIM

The declared contents of a package expressed in fluid ounce and milliliters for volume claims and avoirdupois ounce and grams for net weight claims.

LABEL SEAL

A pressure sensitive label which is used to close a package such as the plastic film wrap on a soap bar or the label used to cover the openings on a shaker talc sifter fitment.

LEACHING

The removal of a component of the package by the product is referred to as leaching. A dye from the container dissolving in a product is an example of leaching. A leached material becomes a product contaminant.

LEHR

An oven used to anneal glass in order to reduce internal stress that would result from too rapid cooling.

LEXAN

Polycarbonate resin, G.E. Plastics.

LIVING HINGE

Integral hinge made of flexible plastic.

LUG CLOSURE

A screw-type closure where the thread is interrupted rather than continuous. The closure is effected by a short camming action. One advantage is that application is very fast, since the closure needs only a few degrees of rotation. In contrast, a normal continuous thread closure might require 360 degrees or more of rotation to effect a seal.

"M" STYLE THREAD

A type of buttress thread for use with plastic closures. The profile of the thread is roughly a right triangle. One of the two legs that form the right angle is part of the vertical wall of the neck (finish); the other is the horizontal bearing surface against which the closure threads engage.

MAG 75 (FLEXPAQ)

48 gauge polyester/aluminum 0.0005"/48 gauge polyester/LLDPE 75 used in the manufacture of packettes.

METALIZING

Applying a thin coating of metal to a non-metallic surface. May be done by chemical deposition or by exposing the surface to vaporized metal in a vacuum chamber.

MIGRATION

(See BLEED).

MIL

A unit of thickness measurement being .001 inch.

MILITARY STANDARD 105E**SINGLE SAMPLING PLAN**

Internationally accepted random sampling.

MINIMUM WALL

A term that designates the minimum thickness of the wall of a container.

MONOPRENE

Thermoplastic elastomer from Monarch Rubber Company.

MOTTLE

A speckled or spotted appearance on the surface of a package, generally undesired.

MOUNTING CUP

Cap to an aerosol can in which the dispensing valve is seated and crimped thereto for eventual crimping to can body.

MYLAR

Polyester film, DuPont Co.

NBR

Nitrile-butadiene rubber. Used as material in manufacture of sponges.

NECK BEAD

(See TRANSFER BEAD).

NECK FINISH

(See FINISH).

NECK RING

That part of a mold which makes the glass finish. Indicated by a mark or line circling the container under the bead.

NECK SIZE (TUBE)

The # refers to the number of 64ths of an inch in the opening of the tube neck, i.e., a #16

neck size refers to a 16/64" (1/4") opening. The number is sometimes preceded by a letter, M = metric series; S = U.S. standard series.

NISSHA LABEL

Pre-printed polyester film which is transferred to a substrate under heat and pressure.

NON-RETICULATED FOAM

Closed cell foam.

NOTCHED

Refers to the end of a pump dip tube which is V-cut to prevent the dip tube from sealing off on the container bottom.

OFFSET PRINTING

A process of indirect printing in which an impression of type or a design on a flat plate is printed on a rubber-blanketed cylinder from which it is impressed, i.e., offset upon the surface to be decorated.

OPAQUE

Descriptive of a material or substance which will not transmit light.

OPHTHALMIC/NASAL TIP

Pointy tip of a tube used for dispensing small amounts of product.

ORANGE PEEL

Uneven surface (of a bottle) somewhat resembling an orange peel.

OUTERSHELL

Outer casing on a two piece jar.

OVERFLOW CAPACITY

The capacity of the container to the top of the finish or to the point of overflow.

OVERSHELL

Metal, usually aluminum, outer casing on a two piece closure.

"P" STYLE THREAD

A type of buttress thread for use with plastic closures. The profile of the thread is roughly a right triangle. One of the two legs that form the right angle is part of the vertical wall of the neck (finish); the other is horizontal bearing surface, against which the closure threads engage.

PANELING

Distortion (side wall collapse) of a container occurring during aging or storage, caused by the development of a reduced pressure inside the bottle.

PARISON

(a) A partially formed glass shape that will be blown into a glass container; (b) the extruded hot plastic tube that will be placed in a mold to be inflated into a bottle or other hollow form.

PARTING LINE

Mark on a bottle where halves of mold meet in closing.

PERMEATION

The extent to which a gas or water vapor passes through a plastic film or container.

PINCH-OFF

A raised edge around the cavity in the mold, which seals off the part and separates the excess material as the mold closes around the parison in the extrusion blow molding operation.

PINHOLE

A very small hole in a plastic bottle.

PINTEL

Stopper integrated with a closure to form a corkage seal.

PISTON

A cylinder that moves in a cylindrical vessel which displaces or is displaced by a volume of fluid.

PISTON FILLER

A filling machine in which the product is metered by drawing it into a cylinder of a set volume and then ejecting a measured amount into a container.

PITCH

The distance measured between the centers of two adjacent threads of a closure or a bottle, jar or tube.

PITTING

Depressions in a metal surface caused by corrosion, and also refers to pin holes in metallized surfaces and foil stamping.

PLASTIC MEMORY

The tendency of plastics to return to their original molded form.

PLASTIC FLOW

(See CREEP).

PLASTICIZER

A material added during the manufacturing process to increase flexibility.

PLATEN

A flat plate that exerts or receives pressure.

PLUG

A fitment that is pressed into a bottle neck opening to close off or reduce the passage.

POPPET

Component of a mechanical pump which closes off the stem of the pump.

POUR-OUT FINISH

A bottle finish having uniform undercut lips as a dealing surface. Designed to facilitate pouring without dripping.

PRIMARY PACKAGE

The first wrap or containment of a product.

PULL TAB

A projection of small area from a label, usually pressure sensitive, to assist in the removal of the label from the part, i.e., powder sifter fitment, purity seal.

PURCHASE LENGTH

Refers to tube length specification for purposes of purchasing from the vendor.

PURITY SEAL

An extra seal comprising a sheet that is resistant to water vapor or vapor from some specific chemical, and adhered to the top end of a container below the regular cover or closure.

PUSH-UP

The recessed area on the bottom of a bottle designed to allow an even bearing surface on the outside edge and prevent the bottle from rocking.

RAMP

Orienting deboss in the bottom of jars and bottles for use in decorating.

REAMING

A post-operation used to size the inside of a bottle finish.

REGISTRATION

A condition of correct alignment of one part or operation with another part or operation.

REGRIND

A thermoplastic from a processor's own production which, having been processed by molding, extrusion, etc., is then reground or pelletized.

RELIEF PRINTING

A printing method that uses a plate on which

the image is formed by those portions of the plate that are raised above (stand out in relief) to the main plate surface. Flexography, letterpress and letterset are relief printing processes.

REMOVAL TORQUE

The rotational force required to remove a threaded closure.

RESONANCE

A spring-mass relationship in which the output is greater than the input. All masses have a specific frequency or frequencies at which resonance will occur. Resonance can be induced by transport vibrations and is a common cause of damage.

RETICULATED FOAM

Open cell foam.

RHEOLOGY

The study of fluid flow (viscosity) characteristics.

ROCKER

A plastic bottle with a bulged or deformed bottom, causing rocking of the bottle in the upright position.

ROLL-ON BALL SOCKET

That part of a roll-on package into which the roll ball snaps.

ROTATIONAL MOLDING

A method of shaping seamless plastic containers in which a change of plastic is placed into a metal mold, which is then sealed. The mold is rotated around several axis while external heat is used to melt the contained plastic, which then flows to evenly coat the entire inside of the mold. The mold is cooled while still rotating and then opened to release the part.

RUNNER

In injection molding, one of the passages that take plastic melt from the injection point (sprue) and distribute it to the various cavities in a multicavity mold.

"S" DIMENSION

The vertical distance (height) measured from the top of the land area to the very most upper part of the start of the thread finish.

SA66

3M trade name for pulp/aluminum foil/Mylar cap liner material.

SADDLE FINISH

A molding defect which occurs during the Lehr process (cooling of the material). The top of the neck finish will actually have two high points approximately 180° directly opposite each other, and two low points approximately 180° opposite each other.

SANTOPRENE

Polypropylene alloy based elastomer, Advanced Elastomer Systems.

SARAN

Polyvinylidene chloride film, Dow USA.

SCLAIR

Linear polyethylene resins, DuPont Canada Inc.

SCUFF

To rub or abrade.

SEALING BEAD

A bead of material which is molded onto the top of the land area completely around the top of the neck finish in order to further enhance the sealing capabilities of the component.

SEALING LAND

The top surface of a container finish to which a cap liner or gasket engages and compresses to effect a seal.

SHRINK MARK

An imperfection, a depression in the surface of a molded bottle where it has retracted from the mold.

SIFTER TOP

Perforated top on a container or fitment designed to dispense contents.

SILK SCREEN PRINTING

A printing process widely used on plastics bottles and other articles, employing as a stencil a taut woven fabric secured in a frame, the fabric being coated in selected areas with a masking material that is not penetrated by the ink being used. The stencil fabric is commonly called a "silk screen" even though silk is rarely used today. Nylon is most often used, and screens of copper, stainless steel, and many other materials are suitable. The screen is placed above the part to be decorated, and a flexible squeegee forces ink through the openings in the screen onto the surface of the article. Multicolor work requires multiple screens and impressions.

SINK MARK

A shallow depression on the surface of an injection molded part due to collapse of the surface

as the molten plastic material cools and contracts.

SKIRT

The wall of a closure below the functional threads.

SKIVING

Cutting off a thin layer. Removing a portion of thickness of board or sheeting.

SKU

Stock Keeping Unit.

SLIP CAP

Cover cap used on pencils to protect the tip against breakage and contamination.

SPIRAL WOUND TUBE

Tubular packages made by spirally winding paper or foil-lined paper. Used as an insert and barrier material in shaker talc containers.

SPRINKLER FINISH

A restricted orifice molded into the finish of a glass bottle.

SPRUE

In injection molding, the passage that brings molten plastic from the end of the extruder to the passage or passages that will distribute the plastic to the mold cavities. In a single cavity mold, the sprue would lead directly to the gate. In a multicavity mold, the sprue would join the runner system.

STEP CUT

Refers to the end of a pump dip tube which is stepped to prevent the dip tube from sealing off on the container bottom.

STRESS CRACK

A fissure or separation that develops in a material under an applied load or stress.

STRIATION

Lines that can appear on the surface of glass or plastic components resulting from uneven cooling of the part in the mold. Can also result from a chemical attack on the component.

"T" DIMENSION

The outside diameter of the thread helix on a bottle finish.

TEAR STRIP

A narrow ribbon of film, cord, etc., usually incorporated mechanically in the wrapper or overwrap during the wrapping operation to facilitate opening of the package.

THERMOFORMING

A method of forming plastics in which a plastic sheet material is heated to a point where it is soft and pliable. The sheet is then formed to the desired shape using vacuum, pressure and mechanical assists or any combination of these.

TINPLATE

Sheet steel, usually of special formula and temper, coated on both sides with a controlled thickness of pure tin. The tin acts to protect the steel and reduce the possibility of corrosion.

TOTTLE

Tube-bottle (pinch bottom tube).

TORQUE

Twisting force as in tightening a cap onto a bottle.

TORQUE REQUIREMENT

The minimum degree of closure tightness to achieve a projected yearly maximum weight loss of 2%.

TRANSFER BEAD

A projecting bead or ring on the outer surface of some glass containers, usually just below the finish, to provide a surface of engagement for the jaws of handling devices during manufacture.

TRIMMED LENGTH

Refers to the tube length of a sealed tube after the seal area is trimmed. The corporate spec. allows the trimmed length to be ± 0.060 " (1.5mm) of the nominal tube length.

TRUNCATE

To shorten or cut off.

TUBE DIAMETER

Determined by measuring the outside diameter of the tube just below the shoulder where tube is most rigid and can be accurately measured with a caliper.

TUBE LENGTH

Determined by measuring the distance from the outer edge of the tube shoulder to the end of the open end of the tube.

TUBE CRIMPING AREA

The uncoated portion of the tube located at the open end of the tube. The corporate tube spec. is 9mm \pm 1.2mm of uncoated length.

U.V. CURING

A process which uses UV light wavelengths

instead of heat to cause the cross linking of an ink or coating.

U.V. INHIBITOR

A chemical which is added to a plastic resin which absorbs UV light and helps prevent damage to and prolongs the life of the plastic. Tinuvin compounds (hindered amine light stabilizers from Ciba-Geigy) are an example. (See UV STABILIZER).

U.V. STABILIZER (ULTRAVIOLET)

Any chemical compound which, when admixed with a thermoplastic resin, selectively absorbs UV rays and minimizes chemical and/or physical changes that may be caused. (See UV INHIBITOR).

ULTRASONIC SEALING

A film sealing method in which sealing is accomplished through the application of vibrating mechanical pressure at ultrasonic frequencies (20 to 40 KC). The vibrating pressures at the film interface develops enough localized heat to melt and fuse the plastic surfaces effecting the seal.

UNDERCUT

In plastic molding, a shape that cannot be directly removed from the mold without the need to incorporate mold parts that need to be moved out of the way to release the part. Undercuts significantly increase tooling costs.

UNIT CAVITY

A mold with only one cavity, usually a pilot for the production set of molds.

UPC (UNIVERSAL PRODUCT CODE)

A 10-digit number which uniquely identifies products. The first 5 digits identifies the manufacturer and the second 5 digits identifies the item.

VALVE

A device which regulates the flow of material through an opening.

VENT HOLE

Hole in the tank of a mechanical pump dispenser which allows the pump to "vent," i.e., pump air into the package to displace the material being dispensed from the package. If the pump does not vent, a vacuum will be created in the package causing the pump to stop functioning and may also result in deformation (wall pull-in) of the container.

VIAL

Extrusion molded glass or plastic tube which can be cut to any length desired.

WARPAGE

Dimensional distortion in a unit after molding.

WASHBOARD

A wavy condition of horizontal lines in the body of the bottle.

WELD LINES

A visible line created on the surface of a molded part caused by two flowing streams of plastic joining with the cavity as the cavity is filled.

WELD MARK

A mark on a molded part made by the meeting of two flow fronts during the molding operation.

WIP

Work In Progress.

WIPER

Fitment in the top of a wand type package (i.e., mascara) which wipes the product applicator upon removal from the package.

WOPE

White opaque polyethylene. Used in manufacture of packettes.

YIELD POINT

That point beyond which the stresses applied to a material will cause permanent deformation.

YUKALON

High nitrile content, acrylonitrile rubber.