Packing Glossary

** Press Ctrl. + F to search a term

14-B White Rubber

Light colored compound of vulcanized SBR synthetic rubber.

20 PVDCP

A SANCAP Liner Technology product. Saran, clay coated board. 20 PVDCP is a construction of clay coated board and Saran coating (PVDC). Color: White. Suggested product uses include after shave lotion, cold cream, cologne, cough syrup, hand soap, poison ivy lotion, hair shampoo, tincture of iodine, concentrated coffee, corn oil, fruit extract, syrup, vinegar, glass wax and radiator compound.

A.C.L. (Applied Ceramic Labeling)

Applied color lettering. Colored lettering or design of a ceramic nature fused onto bottles. Employs screen printing to transfer glass frit (powdered glass colorant) to the surface of a bottle or glass container. The design is fired, heated in a lehr, and becomes permanently fused.

A.Q.L. (Acceptable Quality Level)

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

ABS

Acrylonitrile-butadiene styrene (ABS). Tough, hard, rigid, opaque plastic easily fabricated by injection molding, extrusion and thermoforming. More costly than general purpose and impact grades of polystyrene. Of limited use in packaging.

Accelerated Test

Laboratory performance test of a container or coating to evaluate its performance in a shorter time interval than that required under actual service conditions. Example: Performing chemical-resistance tests at elevated temperatures.

Acrylic

Thermoplastic materials, such as Lucite and Plexiglas, made by polymerization of monomeric esters of acrylic acids.

Additive

A material such as a hardener, softener, preservative, slip agent, etc., added to a base material in order to achieve a specific result.

Adhesive Bleed

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

Aerosol

Describes any container which consists of (1) a gas-tight, pressure resistant container, (2) a valve (3) a desired product, and (4) a self-contained propellent which forces the product from the container when the valve is opened. Products dispensed from aerosol packages include true aerosols, “wet” sprays (coarse particles), foams, pastes, syrups and powders.

Aerosol Components

Extruded aluminum containers, plastic coated bottles, closures and overcaps. Aerosol bottles and containers are available in various sizes, shoulder configurations, diameters, and neck finishes. Decorating options are available.

Aerosol Propellents

Liquefied or compressed gases that are packed with a product in a pressure-propulsion container in order to provide sufficient pressure to propel the product through a valve to give the form of discharge desired.

A-Flute

A piece of corrugation with a height of 3/16 inch excluding the facing, generally spaced about 33 to 39 flutes per foot.

Aging

The physical and/or chemical change of a material with respect to time, under defined environmental conditions, leading to improvement or deterioration of properties.

AlphaSeal

A Unipac product. A range of one piece lining materials with a substrate choice of either unbleached virgin pulpwood or folding box board. Both conform to the stringent requirements of food approval bodies in a majority of countries. Can be used to line plastic and metal closures. The functionality of the AlphaSeal liner depends on the facing material applied to the pulpwood or box board substrate. Choices for facing material include polyester, PVDC, Saran, aluminum/foil/polyester, SA-66, univinyl, or aluminum foil. Depending on facing material selected, the AlphaSeal provides a general purpose sealing of bottles containing wet or dry products, solvents, weak acids and alkalines, and can provide a gas barrier.

Amber

A brown color of glass that absorbs nearly all radiation with wavelengths shorter than 450mm. Amber glass offers excellent protection from ultraviolet radiation. This is critical for products such as beer and certain drugs.

Ampul

Also ampoule, ampule, ampoul. A relatively small container made from a glass or plastic tube, the end of which is drawn into a stem and closed by fusion after filling. The bottom may be flat, convex or drawn out as required. Opening is achieved by breaking the stem.

Animal Healthcare Products

Glass and injection molded plastic items, such as open-tip syringes, nasal inoculation syringes and bolus dispensing guns, are available in USDA/FDA compliant and approved resins.

Anneal

A controlled heating and cooling process designed to relieve internal stresses introduced in a glass container during and immediately after glass container formation.

Annealing Point

The specific temperature in which internal stresses built up during glass container formation are substantially relieved in 15 minutes.

Antioxidant

A chemical substance that can be added to plastic resin to minimize or prevent the effects of oxygen attack on the plastic (e.g., yellowing or degradation). Chemical attacks by oxygen may render a plastic brittle or cause it to lose desired mechanical properties.

Anti-Skid Corrugated

Corrugated board with embossed or chemically-treated surface, to increase coefficient of friction, so containers made from the treated board will produce a more stable pallet or unit load.

Anti-Static Agent

A chemical substance applied to the surface of a plastic article or incorporated in the plastic from which the article is made. The anti-static agent renders the surface of the plastic article less susceptible to the accumulation of electrostatic charges which attract and hold fine dirt or dust on the surface of the plastic article.

Applicator Cap

A container closure designed so that it may be used to apply the contents of the container, such as oil and grease spouts or daubers.

Applicator Rod

Short glass or plastic rod 2 mm to 4 mm in diameter used in conjunction with an applicator cap. The end which enters the cap is cut square. The other end may have a variety of glazed finishes.

Applied Ceramic Labeling (ACL)

The process of screen-printing decoration onto a glass container with a vitreous enamel paint which is then baked.

Aromatherapy Packaging

Items used to package aromatherapy products, including glass and aluminum bottles, vials, perfume samplers and candle holders.

Aseptic Packaging

A technique for creating a shelf-stable container by placing a commercially sterile product into a commercially sterile container. The process involves sterilizing a product and its intended container (usually separately) and then bringing them together within a sterile environment for filling and sealing. The sealed container is designed to maintain a sterile product until the seal is broken. In addition, when packaged aseptically, the product does not require refrigeration until the package seal is broken. Used for drink boxes, wine (bag-in-box), tomato products and soy milk.

Assembly

A wide variety of assembly services such as collating, filling, gluing, labeling, bagging, shrink wrapping, bag sealing, blister sealing, display assembly, package assembly, inspection, and bulk mail preparation are available. Some companies follow strict anti-contamination procedures to ensure a clean pack.

Atomizers

Various styles of atomizers and purse sprayers are available, including metal, aluminum, molded glass, plastic, and pastel enamel.

Autoclavable

Products produced from resins that can withstand 250 degrees for 45 minutes.

Autoclave

A pressure vessel into which steam or other vapor can be introduced at a suitably high temperature to sterilize packages or other objects placed therein. Similar pressure vessels used for sterilizing food products packed in glass jars or cans are normally called retorts.

Average Wall Thickness

A number obtained by adding the thickest wall section measurement of a container to the thinnest wall section and dividing by two. It does not describe the distribution of plastic material in a container.

Avoirdupois Weight

System of weights used in Great Britain and U.S. for the measure of goods other than gems, precious metals and drugs. Designated by “oz” or “oz av” and “lb” or “lb av”. Sometimes, when a container is meant to hold a specific product such as honey or talcum powder, the bottle capacity is stated in auvoirdupois ounces rather than in fluid ounces. For example, a typical 1 lb. honey bottle holds 11 to 12 fluid ounces.

Back Off

Loosening of cap; can be caused by improper cap application torque, improper mating of the cap to the container, or improper liner facing and/or backing.

Backing Liner

The compressible paper material, usually pulp or newsboard, to which the liner is attached or adhered. This compressible paper material compensates for any irregularities on the sealing surface. Also provides additional strength, or water resistance, or better appearance.

Baffle Mark

A bottom defect. A seam occurring between the baffle and the blank mold.

Bail

Wire handle for carrying purposes, with or without grip, fastened to ears that are riveted or welded to opposite sides of a container.

Banding

Banding is used to unitize a product for shipment. Steel, plastic and cord banding is available along with seals and buckle and strapping tools.

Bar Code

An identification symbol where the value is encoded in a sequence of high contrast, rectangular bars and spaces. The relative widths of thes bars and spaces contain the information. Identification is by visual or electronic means.

Barex

Barex is a polymer composed primarily of acrylonitrile, with methylacrylate and butadiene as comonomers. It offers excellent gas barrier properties, good impact and chemical reistance. Barex containers are used for many agricultrial chemicals. Barex is a registered trademark of BP Chemical Inc.

Barrier Material

Term used to prescribe one of two classes of specialized packaging materials that provide environmental protection to the package contents: (1) gas-, moisture-, or light-proof materials that control or eliminate the amount of these environmental constituents that pass into or out of a package; (2) a porous material possessing a structure that prevents the passage of microorganisms that might contaminate the contents of a package.

Barrier, additive

A barrier that is blended into the resin before pelletization to reduce ingression of oxygen, carbon dioxide loss and ultra-violet exposure.

Barrier, coated

A sprayed lining applied in a secondary, post-molding process to protect the product contained within against oxygen entry or loss of carbon dioxide.

Barrier, multilayer

Barriers sandwiched in and among layers of virgin HDPE/PP or PET.

Baseline Performance

Baseline performance is the benchmark against which future measurements can be compared over time.

Baskets, Dipping

Steel, HDPE and P/P baskets for washing, storing and autoclaving laboratory ware.

Baskets, Jewelry

P/P and P/E baskets to insert in wide mouth jars for cleaning jewelry.

Batch

A properly proportioned mix of raw materials melted to produce glass.

Bead

A narrow, round projection above or below the surface.

Bent Finish

A finish defect. A finish which has a bent or crooked appearance. Also called “crooked finish”.

Bent Neck

A neck defect. A neck where the finish is tilted to one side, preventing filling of the bottle.

B-Flute

A piece of corrugation with a height of 3/32 inch excluding the facing, generally spaced about 47 to 53 flutes per foot.

Biobased

A product determined to be a commercial or industrial product other than food or feed that is composed, in whole or in significant part, of biological products or renewable domestic agricultural materials (including plant, animal, and marine materials) or forestry materials.

Bioburden

The relative number of actual or suspected microorganisms of whatever type found on a specific article at a specific time. May also apply to the level of microorganisms found in a specific area during a procedure such as air sampling.

Biodegradable

The degradation of material from naturally occurring microorganisms, such as bacteria, fungi or algae over a period of time.

Bird Swing

An edge or side defect. A string of glass extending across the inside of the bottle.

Black Spots

A general defect. Small black specks in the glass.

Blake

A particular style of straight sided oblong bottle used primarily by pharmaceutical concerns. Also called space saver and wide mouth packer.

Blank Mold

The metal mold in which the parison is formed.

Blank Seam

An edge or side defect. A seam which is relatively large, extending from the shoulder to the bottom of the container. Also called “mold seam”.

Blanks

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

Bleached Pulp

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

Bleed

Printing that goes beyond the edge of the sheet before trimming. Artwork and background colors can extend into the bleed area and after trimming, the bleed ensures that no unprinted edges occur in the final trimmed document.

Blister Packaging

A product is secured between a preformed (usually transparent plastic) dome or “bubble” and a paperboard surface or “carrier”. Attachment may be by stapling, heat-sealing, gluing, etc.

Blister Packs

A form of packaging and displaying merchandise in which the merchandise is sealed into a transparent molded plastic blister shaped to accommodate the merchandise with a foil or cardboard backing.

Blisters

A general defect. Relatively large bubbles in the glass.

Blow and Blow Process

A method of glass container manufacturing of narrow finish containers in which the parison is formed by compressed air.

Blow Fill Seal

Technology where a container is formed, filled, and sealed in a continuous process without human intervention, in a sterile enclosed area inside a machine. It is widely considered to be the superior form of aseptic processing.

Blow Molding

A method of fabrication in which a warm glass or 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.

Blow Pin

Part of the tooling used to form hollow objects or containers by the blow molding process. It is a tubular tool through which air pressure is introduced into the parison to create the air pressure necessary to form the parison into the shape of the mold. On some blow molding systems, it is a part of, or an extension of, the core pin.

Blown Glass

Containers manufactured from molten glass that are formed by air pressure, in molds, similar in fashion to plastic molding. The finished containers are ejected or extracted from the mold, then annealed (heated and cooled) to temper the glass.

Blushing

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

Board

A heavy weight thick sheet of paper or other fibre substance (from 0.012 to 0.030 inches and up). Variations: cardboard (non-specific term), chip-board, fibreboard, paperboard, containerboard, boxboard, tagboard.

Borosilicate Glass

A high silicate glass with at least 5% boron oxide.

Boston Round

A style of bottle characterized by a round cylindrical shape with a short curved shoulder. Typically used by the drug and chemical industries.

Bottom Plate

The part of the mold which contains the heel (base) radius and the “push up” of the container to be formed.

Broken Finish

A finish defect. A finish which has cracks or actual pieces of glass broken out of it.

Broken Ware

A general defect. Ware which is cracked or broken into pieces.

Broker, Customs

Brokers licensed to help facilitate the importing and exporting of goods.

Brown Silite

A SANCAP Liner Technology product. An oleoresinous coated brown Kraft paper. Brown Silite is a dark brown paper coated with a multicoat resinous coating. Color: Brown. Suggested product uses include maple syrup, auto polish, floor wax, industrial oil, insecticide, linseed oil, motor oil, paint, paint remover, shoe polish, stencil ink, varnish and turpentine.

Bruise Check

An edge or side defect. Fine and shallow check which appears on the side or edge of the ware.

Brush Marks

A general defect. Fine vertical laps in the side or neck of a container.

Brushes

Cosmetic, manicure, dental, jewelry cleaning, medical applicator, nail polish plug, bath scrub, wood handle, acid, and twisted wire brushes.

Bubble Pack

A type of cushioning material that is made by trapping air between two layers of plastic material and using the “bubbles” to protect products inside their shipping containers. See blister packaging.

Bulged Finish

A finish defect. A finish which is blown out of shape.

Bung

A plug used to close a barrel or drum bung hole. Called a plug when referring to a steel drum closure.

Burn Line

A dark streak of material in a plastic bottle resulting from decomposed material dislodged from the extruder and incorporated in the bottle.

Butter Chipboard

Butter chipboard is a pigmented chipboard which is smooth on both sides. It is used as a backing material to which facings are laminated in the manufacture of duplex liners. Butterchipboard can be laminated to aluminum foil, heat seal constructions and coated with a release coating. Thickness and color is available as specified.

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. The thread sides terminate abruptly in threading, gradually tapering down to the neck finish. The buttress thread is designed to withstand maximum force in one direction only.

C.R.C. (Child Resistant Closure)

There are several types that have been developed for products that constitute a hazard to small children. Basic principles of CRC's are (1) press-turn, (2) squeeze-turn and (3) combination lock and hidden key.

C.T. Finish (Continuous Thread Finish)

An uninterrupted protruding helix on the neck of a container to accommodate a screw type closure. Designed primarily to seal container finishes with the GPI finish number designations in the 400 series.

Cap Seat

The ledge inside the mouth of a bottle, such as a milk bottle, to receive a plug closure.

Cap, child resistant

A safety closure designed to reduce risk of children accessing dangerous drugs or chemicals. Required by legislation to be used with certain products.

Cap, crown

Beverage bottles are frequently closed with crown beverage caps. These are shallow metal caps that are crimped into locking position around the head of the bottle.

Cap, dispensing

A closure offering a means through which the product may be more easily and conveniently accessed. Includes such features as pour spouts, triggers, sprayers, pumps, sifters and measuring attachments.

Cap, lug

A cap closure for glass containers in which impressions in the side of the cap provide a grip when the cap is give a quarter turn, as compared to the full turn necessary with a screw cap.

Cap, screw

A cylindrical closure having a thread on the internal surface of the cylinder capable of engaging a comparable external thread on the finish or neck of a container, such as a glass bottle or collapsible tube.

Cap, snap-on

A type of closure for rigid containers. The sealing action of a snap-on cap is effected by a gasket in the top of the cap that is held to the neck or spout of the container by means of a friction fit on a circumferential bead. Material of construction is either metal or semi-rigid plastic.

Cap, tamper evident/resistant

A closure which uses special features like break-away components that can't be re-attached or radio-frequency identification (RFID) tags to deter or provide evidence of tampering.

Cap, two-piece vacuum

Standard CT (continuous-thread) or DS (deep-screw) caps, equipped with a separate disk or lid that is lined with sealing for vacuum-packing processes.

Capacity

(1) The amount of space provided inside a container for a given amount of product. (2) The total amount of volume inside the container. The latter is more correctly called the overflow capacity.

Caps

A term used for metal or molded closures.

Carboy

A bottle or similar container made of glass, plastic, metal or clay, having a capacity of 3 to 13 gallons. Where the carboy is used for shipping purposes, it is usually designed to be encased in a rigid protective outer container for shipment, often with the use of cushioning materials prescribd by DOT specifications, particularly when the carboy contains dangerous liquids. Carboys are also used for local shipment of springwater, distilled water and drinking water where no protective container is used or only a simple outer container from which the carboy is removed for dispensing purposes.

Case

A nonspecific term for a shipping container. In domestic commerce, "case" usually refers to a box made from corrugated or solid fiberboard. In maritime or export usage, "case" refers to wooden or metal box.

Casing

A light-gauge (24-gauge or lighter) metal drum for packaging heavy viscous, semi-solid, or solid materials, such as asphalt, tar, wax, etc.

Cavity

In blow molding, the parts of the mold that combine to provide the container body shape.

CC

Cubic centimeter. A unit for measuring volume, where 1 cc = 0.0338 ounce.

CCP

Clay Coated Pulp (CCP). A backing material to which facings are laminated in the manufacture of duplex liners. CCP is pulpboard with a white clay coating on one side. The clay coating is used to prevent discoloration and the absorption of wax. Thickness is per specification.

CE-50

Solid extrusion blend of polyethylene and polyisobutylene.

Cellophane Tape Test

A quick but not precise method for examining the adherence of printing on plastic films. A piece of cellophane adhesive tape, or other pressure-sensitive tape, is adhered to a section of printing and then pulled off in one motion to see whether or not the ink will come off with it. The speed of the pulling is important.

Cellulose Band

A band made of hydrated cellulose film that is extruded in continuous tubing form. The cellulose tubing is then processed and printed in this form and cut into individual bands of predetermined lengths. When the Celon is applied to the finish of the container, it is allowed to air dry. During this air-drying period, it shrinks to form a skin-type film over the neck finish of the container.

Ceramic Labeling

A process of labeling glass containers with a label composed of colored glass that is fused to the container.

Cert. of Compliance

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

C-Flute

A piece of corrugation with a height of 9/64 inch excluding the facing, generally spaced about 39 to 45 flutes per foot.

Checked Bottom

A bottom defect. A small check that occurs on the rounded portion of the bottom near the contact surface.

Checked Finish

A finish defect. A finish which has a light, bright check in the threads or in the middle of the finish.

Checks Under Finish

A finish defect. Horizontal checks which occur on or near the parting line between the neck and the finish.

Chemical Durability

The resistance of glass to attack by solvents or product.

Chemical Resistance

Ability of a material to retain utility and appearance following contact with chemical agents. Chemical resistance properties include stain resistance, swelling resistance, moisture resistance, corrosion resistance, etc.

Child Resistant Cap

Also CRC. A closure that requires dissimilar motions which make removal by a child difficult and is compliant with the Code of Federal Regulations Title 16, Part 1700.

Chipboard

Part of the tooling used to form hollow objects or containers by the blow molding process. It is a tubular tool through which air pressure is introduced into the parison to create the air pressure necessary to form the parison into the shape of the mold.

Chipped Finish

A finish defect. A finish from which a small section is broken on the top or side.

Choked Neck

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

Clarity

Freedom of haze or cloudiness in a glass or plastic material.

Closure Plugs/Fitments

Any of various styles of plastic and metal closure plugs and fitments intended to reduce the size of a bottle neck finish for a more controlled dispensing of product. Plugs and fitments are available for a wide variety of end uses.

Closure, friction fit

An interference fit or friction fit requires some force to close and open, providing additional security. Paint cans often have a friction fit plug.

Closures

A devise used to seal off the opening of the bottle to prevent the loss of its contents. Including plastic, glass, rubber, metal, dispensing (hinged top, snip top, disc top, thread, snap-on, push/pull), conventional (ribbed, fluted, smooth), specialty (bleach, brush well, jigger, button seal, aerosol, perforated), linerless, lined, applicator, decorative, child resistant, tamper evident, heat seal, crimp-on, and counter cap closures.

Closures with Europa Threads

Closures with a specific thread configuration standard called Europa.

Closures, Aluminum

Anodized and solid aluminum decorative closures.

Closures, Applicator

Styles include straight brush, bent brush, dauber, wick, glass rod, nail polish and cosmetic applicator closures.

CMYK color model

This is a subtractive color model used in color printing. It refers to the four inks used in some color printing: cyan, magenta, yellow and key (black). Ink is typically applied in the order of the abbreviation.

Co-Extrusion

Extruding two or more layers of thermoplastic materials to form a combined film sheet or molded unit. Limited to plastics.

Coil, Pharmaceutical

The textile ball inserted into pharmaceutical bottles after filling with a solid product. Most commonly seen in aspirin, vitamin and other pill bottles. Cotton, polyester and rayon coil are available in various weights.

Collapse

Contraction of the walls of a container (e.g., upon cooling) leading to permanent deformation of the container.

Collapsible Core Mold

Mold action in the manufacture of closures. This technology utilizes a three part core. After the cavity is removed following the injection cycle, the center portion of the core (core wedge) retracts while the two outer core halves move radially inward. Once the closure thread is cleared, the stripper sleeve moves forward to eject the closure.

Collapsible Tube

Cylindrical container of thin, flexible metal with integral shoulder and neck, with a screw cap closure made of plastic. Collapsible tubes can also be made of paper, films, plastics, etc. They may have wax, resin or lacquer linings. Collapsible tubes are usually filled through the bottom and subsequently closed by multiple folding of the bottom, or crimped with a metal clip or sometimes welded tight.

Color Concentrate

A measured amount of dye or pigment incorporated into a predetermined amount of plastic. This pigmented or colored plastic is then mixed into larger quantities of plastic material used for molding. The “concentrate” is added to the bulk of plastic in measured quantity in order to produce a precise, predetermined color of the molded bottles.

Column Crush

A test performed on a small sample of corrugated which is a measure of the compression strength of that sample. Also referred to as edge crush and short column crush.

Compatibility

Ability of a container, whether lined or unlined, to resist degradation of or by the product contained.

Components

Components can be either input items or product items. Examples of components are labels, caps, containers, seals, cartons, cases, and the product such as liquids, pastes, pills, hardware, and powders.

Composite Can

A rigid container with the body made of fibreboard or fibreboard in combination with other materials such as metal foils or plastics. One or both ends may be made of metal, plastic or other materials.

Composition Cork

A backing material to which facings are laminated in the manufacture of duplex liners. It consists of cork particles (flakes and granules) bonded together with a thermosetting synthetic resin.

Compostable Plastic

Plastic that undergoes degradation by biological processes during composting to yield CO2, water, inorganic compounds, and biomass at a rate consistent with other known compostable materials and leave no visible, distinguishable or toxic residue.

Compound

The resin, along with modifiers, pigments, antioxidants, lubricants, etc., which are to be molded or blown into final form.

Compression Molding

A method of forming objects from plastics by placing the material in a confining mold cavity, then applying pressure, and usually heat.

Computer-aided design (CAD)

This term implies the use of a computer and drafting software such as AutoCAD™ to produce and store prints for layout, installation, machining, assembly, and fabrication.

Container glass

A type of glass for the production of glass containers, such as bottles, jars, drinkware, and bowls. Most container glass is soda-lime glass, produced by blowing and pressing techniques, while some laboratory glassware is made from borosilicate glass.

Containers, Shipping

Steel, plastic, composite and fiber drums, rigid and flexible industrial bulk containers, corrugated, paper, foam and plastic boxes, overpacks, insulated containers, dry ice storage chests, tubs, metal and fiber cans, plastic reshipper containers, steel and plastic pails and carboys.

Continuous Thread

An uninterrupted protruding helix on the neck of a container used to hold a screw-type closure. Continuous thread finishes have GPI finish designations in the 400 series.

Contract manufacturer

An outside company contracted to manufacture or package a product.

Convolute Can

A can with the body made of fibreboard formed by convolute winding of paper to build up the required thickness.

Cord

Defect in glass containers. A narrow, stringy band of glass of a composition different from the rest of the glass surrounding it.

Cork

A closure made of cork, or, by extension, any plug-type closure.

Cork Finish

A finish which is closed by means of a cork.

Corkage Check

A finish defect. A bright, light check which is not unusually deep and is located on the inside of the top of the finish.

Corrugated Board

A packaging material consisting of a central member (medium) which has been fluted on a corrugator and to which one or two flat sheets of paperboard have been glued to form single-faced corrugated board or double-faced (single wall) corrugated fibreboard. The combination of two mediums and three facings is called double wall and the combination of three mediums and four facings is called triple wall. Corrugated board is generally made in four flute sizes, designated A, B, C and E.

Cosmetic Liner

A SANCAP Liner Technology product. An aluminum foil / polyethylene / polyester liner bonded to pulpboard. The Cosmetic Liner is composed of aluminum foil laminated to polyester with white P/E and bonded to a specified solid pulpboard. Color: White. Suggested product uses include vegetable oils, lard, floor cleaner, greases and various chemicals, such as acetone, benzene, chloroform, ethyl acetate, 18% hydrochloric acid and xylene.

Crab Claw Seal

Named for its shape, it is a thin flexible protrusion molded into a closure which will compress against a bottle sealing surface during normal capping

operations. It prevents leakage and will seal a variety of bottles. The bottle land (the bottle's sealing surface) must be flat and free of defects because this sealing method requires compression to be effective.

Cratering

Small, thin or bare spots in an applied coating that have the appearance of pockmarks.

Crazing

Fine cracks which may extend in a network on or under the surface or through a layer of glass or plastic material.

Crimp Seal

(1) Applying a seal of aluminum or coated aluminum foil by crimping with a die, generally corrugated. (2) A method of heat-sealing thermoplastic coated papers or thermoplastic films with the pressure exerted by knurled wheels or bars having a corrugated surface. (3) A small flat metal piece that is crimped mechanically to parts of flat strap to maintain tension and connect them permanently.

Crizzled Finish

A finish defect. A finish which has a multitude of fine surface fractures across the top.

Crooked Finish

A finish defect. A finish which has a bent or crooked appearance. Also called "bent finish".

Crown Cap

This is a crimped closure. Flutes are pressed into the flaring skirt of a shallow metal disk, which holds an inner disk of resilient lining material that forms the actual seal.

Crown Finish

The neck finish on beer and beverage bottles sealed with a crown cap.

Cullet

Glass, from containers not approved by selectors, that has been crushed or broken and is added to the batch to be remelted and formed into new containers; or recycled broken glass that is used in the manufacture of new glass.

D.O.T.

Department of Transportation. United States governmental body that regulates the shipment of materials on public right of ways.

D.O.T. 12A

Overpack carton for glass or D.O.T. 2E plastics.

D.O.T. 12P

Overpack carton for D.O.T. plastics.

D.O.T. 17C

Steel drum from 5 gallon to 55 gallon in size, O/H, single trip.

D.O.T. 17E

Steel drum from 5 gallon to 55 gallon in size, T/H, single trip.

D.O.T. 17H

Steel drum from 5 gallon to 55 gallon in size, O/H, single trip.

D.O.T. 21P

Overpack carton for D.O.T. plastics.

D.O.T. 2E

P/E molded container not exceeding 5 quarts, T/H. Requires overpack.

D.O.T. 2S

P/E molded container 5 gallon to 55 gallon in size, T/H, requires overpack.

D.O.T. 2SL

P/E molded container 13.5 gallon to 55 gallon in size, T/H, requires overpack.

D.O.T. 2TL

P/E molded container 5 gallon to 14 gallon in size, T/H, requires overpack.

D.O.T. 2U

P/E molded container 1 gallon to 55 gallon in size, T/H, requires overpack.

D.O.T. 34

P/E molded container 2-1/2 gallon to 30 gallon in size, T/H, reusable.

D.O.T. 35

P/E molded container NE 7 gallon in size, O/H, non-reusable.

D.O.T. 37A

Steel drum 2 gallon to 55 gallon in size, O/H, single trip.

D.O.T. 37B

Steel drum 5 gallon to 55 gallon in size, T/H, single trip.

D.O.T. 37C

Steel drum 5 gallon in size, O/H, non-reusable.

D.O.T. 37D

Steel drum 5 gallon in size, T/H, non-reusable.

D.O.T. 37P

Steel drum w/poly liner 5 gallon to 15 gallon in size, non-reusable.

Daubers

Normally part of an applicator closure. Popular for cosmetic, household and pharmaceutical products. Usually fitted with sponges or cotton, wool or felt pads, like those provided with liquid shoe polish or bingo ink bottles.

Dealkalization

A process of surface modification applicable to glasses containing alkali ions, wherein a thin surface layer is created that has a lower concentration of alkali ions than is present in the underlying, bulk glass. This change in surface composition commonly alters the observed properties of the surface, most notably enhancing corrosion resistance.

Debossing

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

Deep Skirt

A cap having a deeper skirt (more “H”) and generally a heavier thread than the 400 finish series.

Deflashing

Any technique or method which removes excess material (flash) from a molded article, specifically from those places where parting lines of the mold may have caused the excess material to form.

Density

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

Depressed Thread

Thread on the finish of glass containers in which the thread is reduced in depth or “depressed” at the two points where the thread crosses the mold parting line.

Desiccants

Any of various materials used as drying agents during the packing process. Common desiccants include silica gel and calcium oxide.

Detergent

Surface-active material or combination of surfactants designed for removal of unwanted contamination from the surface of an article

Dimension “C”

The “C” dimension of a bottle is the opening control diameter (inside diameter) at the top of the neck finish.

Dimension “E”

The outside diameter of the neck. The difference between the “E” and “T” dimensions divided by two determines the thread depth.

Dimension “H”

BOTTLE “H” Dimension: The height of the neck finish. Measured from the top of the neck to the point where the diameter “T”, extended down, intersects the shoulder. The bottle finish “H” must be greater than closure “H” (corrected for the thickness of the compressed liner or other sealing elements). CLOSURE “H”: The “H” dimension is measured from the inside top of the closure vertically down to the bottom of the closure skirt. Effective “H” must take into consideration the liner, or other sealing element, if one is used. To determine effective “H”, liner thickness or other sealing

element under compression must be determined and subtracted from unlined “H”.

Dimension “I”

The minimum opening through the finish and neck expressed by measuring the inner diameter of the neck at its narrowest point. Specifications require a minimum “I” to allow sufficient clearance for filling tubes. Linerless closures, with a plug or land seal, and dispensing plugs and fitments require a controlled “I” dimension for proper fit.

Dimension “L”

L dimension is the minimum vertical dimension to the top of a concealed bead for closure thread clearance. It is measured from the top of the finish to the point where diameter “E” extended parallel to centerline intersects the bead.

Dimension “S”

Measured from the top of the finish to the top edge of the first thread. The “S” dimension is the key factor which determines the orientation of the closure to the bottle and the amount of thread engagement between the bottle and cap.

Dimension “T”

The outside diameter of the closure, including the thread. The tolerance range of the “T” dimension determines the mate between the bottle and the closure.

Dirty Finish

A finish defect. A finish which has a scaly appearance and which may even have black spots in it.

Dirty Neck

A neck defect. A neck which has a dirty or scaly appearance.

Dirty Ware

A general defect. Ware which has carbonaceous or dirty deposits on it.

Disc Top

Injected molded two piece dispensing closure. The one hand, one finger action closure has gained high consumer preference particularly on personal care and sun care products. Contrasting colors can be incorporated into the design by selecting different colors for the closure body and disc. Also called Press Top.

Discoloration

Any change from the original color. Discoloration is often caused by overheating, light exposure, irradiation, or chemical attack.

Dividers

A device, made of various materials, which separates the space within a container into two or more spaces, cells, compartments, or layers. Dividers may be plain, interlocking, scored, horizontal, vertical, or diagonal. The primary purpose of dividers is to separate the articles and/or to furnish cushioning.

Dome

A closure where the whole top surface is domed, starting at the shoulder. Doming adds to streamlining of package appearance and to the apparent height.

Down Finish

A finish defect. A finish which is incompletely filled.

Drag Marks

A general defect. A series of fine vertical laps near the shoulder or neck.

Drawn Container

A container made by the metal drawing process which consists of forcing a flat piece of metal into or over a die. This results in a container body with an integrated bottom end.

Drop Test

Any test method in which the article being tested is dropped in a specified manner for a specified number of times or until the article fails from impact.

Dropper Bottles

A specific bottle style, available in glass and plastic, intended to accommodate closures with dropper squeeze bulbs and pipettes.

Dropper Unit with Pipette

A closure with an attached squeeze bulb and dispensing pipette intended for the cosmetics, pharmaceutical, medical, laboratory, and health and personal care markets. Various options available to suit individual package requirements.

Drum/Pail Accessories

Flanges, plugs, caps, lids, fittings, clips, vents, seals, seal removal tools, gaskets, liners, drum trucks, drum overpacks, funnels, containment units, pumps, pour spouts, spigots, wrenches and valves.

Drums

Steel, stainless steel, polyethylene, composite, and fiber drums. Styles include open and closed head, tight head, round, square, bulk, lined and unlined, seamed and seamless, lock-ring, drums with agitator assemblies, overpack/salvage drums, and reconditioned drums.

Dry Blend

Refers to a molding compound containing all necessary ingredients mixed in a way that produces a dry, free flowing, particulate material. This term is commonly used in connection with polyvinyl chloride molding compound.

E Dimension

The outside diameter of neck on a threaded bottle neck (finish). The diameter of the neck (finish) is measured across the root of the threads.

E.V.A. (Ethylene-Vinyl Acetate)

Co-polymers from these two monomers retain many of the properties of polyethylene, but have considerably increased flexibility for their density. Elongation and impact resistance are also increased. Used for making film, coatings, and adhesives. The combination of high clarity, puncture resistance, impact strength, and low heat-seal temperature makew EVA desirable for flexible packaging.

Ear

(1) Ears are attached to metal pails to hold the bail or handle. (2) The name given to the finger grip of pressed glass between the shoulder and finish of a 1/2 gallon, gallon, or other glass jug to facilitate holding it.

Easy-Open End

A can end that is scored on the circumference and fitted with a gripping device (tab) for easy removal of end.

EBM

Extrusion blow molding. A parison is extruded into a mold cavity and then blown into a bottle.

E-Flute

A piece of corrugation with a height of 3/64 inch excluding the facing, generally spaced about 90 to 98 flutes per foot.

Elastomer

A substance having rubber-like or stretching qualities.

Emboss

Raised design or lettering on the surface of an object accomplished by pressure of dies, rollers, printing press, etc.

Environmental Stress Cracking (ESC)

The susceptibility of a thermoplastic article to cracking under the influence of certain chemicals and stress.

EPA (Environmental Protection Agency)

One function of the EPA is to regulate the labeling, packaging and registration of pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act. The EPA is the sole federal agency with the authority to regulate child-resistant packaging for pesticides. Since March 9, 1979, child-resistant packaging has been required for all residential use pesticides labeled with a human hazard signal word of danger or warning.

EPS (Expandable polystyrene)

A generic term for polystyrene and styrene copolymers, supplied as a compound with physical blowing agents and other additives which can be processed into low density foamed articles. A major end-use is cushioned packaging. Low molding pressures and economical tooling make EPS molding an inexpensive method of producing foam shapes.

ESCR

Environmental stress crack resistance. A measure of the susceptibility of a plastic bottle to crack or craze under the influence of certain chemicals, stresses, or other agents.

EsterFoil 50

Manufactured by Selig Sealing Products. EsterFoil 50 is a white, polyester coated aluminum foil liner which is widely used within the cosmetic industry. It provides extremely low moisture vapor transmission rates with high chemical resistance and is available on a variety of pulp grades.

Etch

(1) To treat a material with an acid, leaving the parts of the material which remain in relief to form the desired design. (2) To corrode the interior of a tin can sufficiently to be visible as an irregular instead of polished surface.

EVOH

Ethylene-vinyl alcohol copolymers. Plastics produced by combining the processability of ethylene polymers with the barrier properties obtained from vinyl and alcohol polymers. The result is a material offering excellent processability and superior barrier to gases, odors, fragrances, solvents, etc.

Extender

A substance, generally having some adhesive action, added to a product, such as an adhesive, ink, or paint, to reduce the amount of the primary resin required per unit area.

Extruded Film

Film produced by extrusion of molten resin through a die.

Extrusion

A method of shaping a plastic material by forcing it, with the application of heat and pressure, through an orifice in a continuous fashion.

Extrusion Blow Molding

A method of fabrication in which a hollow plastic tube (parison) is forced into the shape of the mold cavity by internal air pressure. Post finishing of the product is required.

Extrusion coating

The coating of a molten web of synthetic resin on to a substrate material. It is a versatile coating technique used for the economic application of various plastics, notably polyethylene, onto paperboard, corrugated fiberboard, paper, aluminum foils, cellulose or plastic films.

F-217

Manufactured by Tri-Seal, a Tekni-Plex Company. A three-ply coextruded material. Foamed low density polyethylene core between two solid layers of low density polyethylene. (.040 thickness) Density 23-27 lbs./cu. ft. Many variants of F-217 are available. Application: General purpose. Used to seal cosmetics, liquors, drugs, foods and other products.

F-217-3

Manufactured by Tri-Seal, a Tekni-Plex Company. Coextrusion of low-density polyethylene / foamed polyethylene / low-density polyethylene. Has greater density than F-217.

FDA

Food & Drug Administration. This agency governs what items may be used in foods, drugs and cosmetics. It regulates the labeling of foods, drugs, cosmetics and devices under both FPLA (Fair Packaging and Labeling Act, 1966) and FFDCA (Federal Food, Drug & Cosmetic Act).

Feasibility studies

Experimental studies on a process or equipment to access what results are achievable and/or what will be required to produce a desired result.

Feltboard

Feltboard is a backing material to which facings are laminated in the manufacture of duplex liners. This backing is similar to pulpboard except that it is made of more highly refined fibers. It has no recognized advantage over pulpboard, other than perhaps in specialized instances where its whiter, more highly refined appearance may be a factor.

Fill Point

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

Filler

An inexpensive, inert substance added to a plastic to make it less costly. Fillers may also improve physical properties, particularly hardness, stiffness and impact strength. Filler particles are usually small.

Film

(1) Unsupported, basically organic non-fibrous, thin, flexible material not usually exceeding 0.0003 inch in thickness. (2) Generally, a thin coating.

Finish

The specifically shaped formation of glass or plastic surrounding the container opening which will eventually accept a cap.

Finish, blown

A finish which is blowmolded at the same time as the bottle. It is lighter than other finish applications, but results in uneven inner walls across the entire finish height, limiting sealing options.

Finish, captured

A finish formed by compressing the resin between the blowpin and the neck ring. By packing the finish in this way, it provides a smooth sealing surface and holds a consistent internal diameter from the top sealing surface to ~150" down into the finish. Allows extrusion bottles to utilize closures that seal on the inner finish walls, such as plugs.

Finish, injected

A finish where the design is injection molded to the final geometry and is more dimensionally accurate than other finish types. This, combined with a smooth inside wall throughout the entire height of the finish, makes it reliable for sealing and consistency.

Fitment

A plug that fits within the neck of a bottle to control the flow of products such suntan lotions, coupled with a non-dispensing closure. The primary (non-dispensing) closure is usually removed each time to provide the desired function, while the fitment (plug) remains in place.

Flame Treating

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

Flange

(1) Generally, a projecting or flared edge, rib, etc., to hold, strengthen or facilitate the use of an object or part. (2) In steel drums and cans, a right angle flare or nearly right angle formed in the ends of the body-cylinder to enable heads and bottoms to be double seamed to the body. (3) In drum closures, the threaded fitting which receives the closure plug.

Flange Cap Seal

Tamper resistant closure over plugs in drums and pails.

Flanged Bottom

A bottom defect. A rim of glass around the bottom of the ware at the mold parting line.

Flash

Extra plastic attached to a molding along the parting line; it must be removed before the part can be considered finished. Also called a fin or cut-off.

Flash Line

A raised line appearing on the surface of a molding and formed at the junction of mold faces.

Flask

A style of narrow-neck bottle, usually of elliptical cross section, with flattened side walls having a width of four or more times the thickness.

Flavor scalping

A term used in the packaging industry to describe the loss of quality of a packaged item due to either its volatile flavors being absorbed by the packaging or the item absorbing undesirable flavors from its packaging.

Flexible Packaging

Packaging involving the use of such flexible materials as foils, films, paper, flexible sheeting, etc., to form the container, basically wraps, bags, envelopes and pouches.

Flexographic Printing

Formerly called aniline printing. A method of rotary letterpress printing that employs rubber or plastic plates and rapid drying inks. Extensively used in the printing of packaging materials as well as other printing applications.

Flint

Flint is perfectly clear transparent glass, like window glass, used for all types of containers.

FLPE

Fluorinated high density polyethylene.

FLPP

Fluorinated polypropylene.

Fluorination

Is an extra process in which a thermoplastic article (container or closure) is exposed to fluorine gas. The fluorine substitutes with some hydrogen atoms in the polymer chain creating a barrier and surface enhancement. Benefits include improved barrier properties and reduced solvent absorption and permeation.

Fluorocarbons

Liquid or gaseous compounds used as a propellent for aerosols or for refrigerants. Also known as solid thermoplastic materials. Typical fluorocarbons are Teflon (polytetranuoroethylene), TFE (Teflon tetrafluoroethylene), FEP (Teflon fluorinated ethylene propylene and KEL-F (polymonochlorotrifluoroethylene). Fluorocarbons are noted for their chemical inertness and high temperature resistance.

Flute

(1) A rib or corrugation on a surface; one of the undulations of a corrugated material. (2) A flat surface in a cylindrical container.

Foil (Laminated)

Foil bonded to other materials such as paper, board, films, etc., by means of an adhesive.

FoilSeal 1-12

Manufactured by Selig Sealing Products. Adheres to PE containers with a welded bond. With a pulp backing, provides a tamper evident seal for pharmaceutical, anti-freeze and windshield solvent applications. Composition: .0005” foil, .0005” PET, and .0015” heat seal layer. Equivalent liners: Unipac SG75 and ISPE, Sancap HS057, Tekniplex HS130, Techseal HS-1, Meyer PE30/12/35, Sonoco IHS705.

FoilSeal 1-13

Manufactured by Selig Sealing Products. With a pulp backing, provides a clean peel seal on PE containers for dairy, water and food applications, and a clean peel seal on PP containers for cosmetics (skin care) applications. Composition: .001” foil, and .002” heat seal layer. Equivalent liners: Unipac ISPE/PP, Sancap HS131, Meyer PE/PP, Sonoco IHS205, and Triseal TR758.

FoilSeal 1-15

Manufactured by Selig Sealing Products. The PET layer provides an added barrier. With a foam backing, provides a clean peel seal on PE containers for soup base, ketchup, skin care product, BBQ sauce, and fruit juice applications. With a pulp backing, provides a clean peel seal on PP containers for cosmetic, soup base, ethnic sauce, and condiment applications. Composition: .001” foil, .0005” PET, and .002” heat seal layer. Equivalent liners: Unipac ISPE/PP, Sancap HS415, Techseal HS-2, Meyer PE/PP, Sonoco IHS205.

FoilSeal 1-16

Manufactured by Selig Sealing Products. With a pulp backing, provides a clean peel seal on PE containers for dairy, water and food applications, and a clean peel seal on PP containers for cosmetics (skin care) applications. Composition: .0005” foil, and .002” heat seal layer. Equivalent liners: Unipac ISPE/PP, Sancap HS131, Meyer PE/PP, Sonoco IHS205, and Triseal TR758.

FoilSeal 1-17

Manufactured by Selig Sealing Products. Adheres to PE containers with a welded bond. Allows easy entry. With a foam backing, provides a tamper evident seal for pharmaceutical, anti-freeze and windshield solvent applications. Composition: .0005” foil, and .0015” heat seal layer. Equivalent liners: Unipac SG100 and ISPE/EO, Sancap HS702, Tekniplex HS123.

FoilSeal 1-18

Manufactured by Selig Sealing Products. The PET layer provides an added barrier. With a foam backing, provides a clean peel seal on PE containers for soup base, ketchup, skin care product, BBQ sauce, and fruit juice applications. Composition: .0005” foil, .0005” PET, and .002” heat seal layer. Equivalent liners: Unipac ISPE/PP, Sancap HS415, Techseal HS-2, Meyer PE/PP, Sonoco IHS205.

FoilSeal 1-19

Manufactured by Selig Sealing Products. Provides an excellent chemical and barrier. With a pulp backing, provides a tamper evident with barrier seal on PE containers for chemical and some solvent applications. Composition: .001” foil, .0005” barrier layer, and .0015” heat seal layer. Equivalent liners: Meyer PE30/12/60, Sonoco IHS220.

FoilSeal 1-21

Manufactured by Selig Sealing Products. Added layer for high barrier. With board backing, provides clean peel with barrier seal on PE containers for soup base, ketchup, skin care products, BBQ sauce, and fruit juice applications. With foam backing, provides clean peel with barrier seal on PP containers for cosmetic, soup base, ethnic sauce, and condiment applications. Composition: .001” foil, .0005” barrier layer, and .002” heat seal layer. Equivalent liners: Unipac ISPEPP, Triseal TR736.

FoilSeal 1-22

Manufactured by Selig Sealing Products. Clean peel seal from PE and PP containers with added layer for high barrier. Composition: .0005” foil, .0005” barrier layer, and .002” heat seal layer. Equivalent liners: Unipac ISPEPP, Triseal TR736.

FoilSeal 3-19

Manufactured by Selig Sealing Products. With a pulp backing, provides a clean peel seal on PET or PVC containers for peanut butter, isotonic drink, edible oil, water and juice applications. Composition: .001” foil, and .0005” heat seal layer. Equivalent liners: Unipac SG90 and ISCT, Sancap HS194, Tekniplex HS165, Techseal HS-3, Sonoco IHS640, Triseal TRPET.

FoilSeal 3-24

Manufactured by Selig Sealing Products. Has a thicker heat seal layer for added barrier performance. Provides a clean peel seal from PET and PVC containers. Composition: .001” foil, and .001” heat seal layer.

FoilSeal 3-25

Manufactured by Selig Sealing Products. With a foam backing, provides a clean peel seal on PET or PVC containers for peanut butter, isotonic drink, edible oil, water and juice applications. Composition: .0005” foil, and .0005” heat seal layer. Equivalent liners: Unipac SG90 and ISCT, Sancap HS194, Tekniplex HS165, Techseal HS-3, Sonoco IHS640, Triseal TRPET.

FoilSeal 3-26

Manufactured by Selig Sealing Products. Has a thicker heat seal layer for added barrier performance. Provides a clean peel seal from PET and PVC containers. Composition: .0005” foil, and .001” heat seal layer.

FoilSeal 3-27

Manufactured by Selig Sealing Products. Has an added layer for high barrier performance. With a foam backing, provides a clean peel seal from PET and PVC containers for ethnic sauce, salad dressing, and condiment applications. Composition: .001" foil, .0005" barrier layer, and .0005" heat seal layer. Equivalent liner: Unipac ISCT.

FoilSeal 3-30

Manufactured by Selig Sealing Products. Aggressive bond to PET (leaving residue on container lip) and CPET and PVC (without leaving residue). Offers clean peel seal on PEN. With a foam backing, provides a clean peel seal from CPET containers for water and isotonic applications. Composition: .0005" aluminum foil, and .0008" heat seal layer. Equivalent liner: Unipac ISPET/PVC

FoilSeal 3-31

Manufactured by Selig Sealing Products. Aggressive bond to PET (leaving residue on container lip) and CPET and PVC (without leaving residue). Offers clean peel seal on PEN. With a foam backing, provides a clean peel seal from CPET containers for water and isotonic applications. Composition: .001" aluminum foil, and .0008" heat seal layer. Equivalent liner: Unipac ISPET/PVC.

FoilSeal 3-32

Manufactured by Selig Sealing Products. Aggressive bond to PET (leaving residue on container lip) and CPET and PVC (without leaving residue) with added layer for high barrier. Offers clean peel seal on PEN. With a foam backing, provides a clean peel seal from CPET containers for pasteurization, hot fill-190f, processed and food applications. With pulp backing, provides tamper evident seal on PET and PVC for salsa and picante sauce applications. Composition: .005" foil, .0005" barrier layer, and .0008" heat seal layer. Equivalent liner: Unipac ISPET/PVC.

FoilSeal 3X6

Manufactured by Selig Sealing Products. Aggressive bond to PET (leaving residue on container lip) and CPET and PVC (without leaving residue) with added layer for high barrier. Offers clean peel seal on PEN. With a foam backing, provides a clean peel seal on CPET containers for pasteurization, hot fill-190f, processed and food applications. Successful applications include pickles, fruits, dairy-based drinks and soup. Composition: .001" foil, .0005" barrier layer, and .0008" heat seal layer.

FoilSeal 3X7

Manufactured by Selig Sealing Products. Welded bond to PET and PVC leaving residue on container lip. Offers clean peel seal on PEN. With a foam backing, provides a tamper evident with barrier seal on CPET containers for hot-fill food 190f applications. Successful applications include pickles, fruits, dairy-based drinks and soup. Composition: .001" foil, .0005" barrier layer, and .0008" heat seal layer.

FoilSeal 4-17

Manufactured by Selig Sealing Products. Provides a welded bond on P/P containers. Composition: .0005" foil, .0005" PET, and .0015" heat seal layer. Equivalent liners: Unipac ISPP, SANCAP HS295, Techseal HS-4, Meyer PP, and Sonoco IHS305.

FoilSeal 4-18

Manufactured by Selig Sealing Products. Adheres to PP containers with a welded bond. Allows easy entry. Composition: .0005" foil, and .0015" heat seal layer. Equivalent liners: Unipac SG101 and ISPP/EO, Sancap HS128, Meyer PP, Sonoco IHS805.

FoilSeal 4-6

Manufactured by Selig Sealing Products. Adheres to PP containers with a welded bond. Allows easy entry. With a pulp backing, provides a tamper evident seal for cosmetic (skin care) and food applications. Composition: .001" foil, and .0015" heat seal layer. Equivalent liners: Unipac SG101 and ISPP/EO, Sancap HS128, Meyer PP, Sonoco IHS805.

FoilSeal 4X5

Manufactured by Selig Sealing Products. Added layer for high barrier. Clean peel seal to PP containers. Successful applications include pickles, fruits, dairy-based drinks and soup. Composition: .001" foil, .001" barrier layer, and .002" heat seal layer.

FoilSeal 5-10

Manufactured by Selig Sealing Products. Provides welded bond to PS. Venting liner with universal seal. For dry products only. Vent option available. Composition: .001” aluminum foil, .005” paper, and .0015” heat seal layer.

FoilSeal 5-4

Manufactured by Selig Sealing Products. Provides welded bond. Universal seal (treated glass). For dry products only, tamper-indicating universal seal (treated glass). Vent option available. Composition: .001” foil, .002” paper, and .0015” heat seal layer. Equivalent liners: Unipac SG104, Sancap HSO35/30, Tekniplex HS405/435.

FoilSeal 5-5

Manufactured by Selig Sealing Products. Provides welded bond. Universal seal (treated glass). For dry products only, tamper-indicating universal seal (treated glass). Vent option available. Composition: .0005” foil, .002” paper, and .0015” heat seal layer. Equivalent liners: Unipac SG104, Sancap HSO35/30, Tekniplex HS405/435.

FoilSeal 5-6

Manufactured by Selig Sealing Products. Provides welded bond. Universal seal (treated glass). Can use with liquids. Composition: .002” paper, .0005” bonding layer, .001” foil, and .0015” heat seal layer. Equivalent liners: Meyer UNV.

FoilSeal 5-7

Manufactured by Selig Sealing Products. Provides welded bond. With pulp backing, provides tamper evident seal to P/S containers for pharmaceutical applications. Composition: .001” aluminum foil, and .0015” heat seal layer. Equivalent liners: Unipac SG104, Meyer UNV.

FoilSeal 5-8

Manufactured by Selig Sealing Products. Provides welded bond. Universal seal (treated glass). Can use with liquids. Composition: .002” paper, .0003” foil, and .0015” heat seal layer. Equivalent liners: Unipac SG102, Meyer UNV.

FoilSeal 5-9

Manufactured by Selig Sealing Products. Universal innerseal that will seal to all container materials (including treated glass) with varying degrees of adhesion. Composition: .001” aluminum foil, .0005” bonding layer, and .001” heat seal layer. Equivalent liners: Unipac SG108, Sancap HS592, Tekniplex HS153.

FoilSeal 7-12S

Manufactured by Selig Sealing Products. Provides clean peel seal from treated glass and PE containers. PET layer for added barrier properties. Composition: .001” foil, .0005” PET, and .002” heat seal layer. Equivalent liners: Unipac ISV, Sancap HS150.

FoilSeal 7-19S

Manufactured by Selig Sealing Products. Provides clean peel seal from treated glass and PE containers. PET layer for added barrier properties. Composition: .0005” foil, .0005” PET, and .002” heat seal layer. Equivalent liners: Unipac ISV, Sancap HS150.

FoilSeal 7-6S

Manufactured by Selig Sealing Products. Provides clean peel seal from treated glass and PE containers. Composition: .001” foil, and .00175” heat seal layer. Equivalent liners: Unipac SG105 and ISG, Sancap HS402, Tekniplex 125, Meyer SURLYN, Sonoco IHS190.

FoilSeal 8-1S

Manufactured by Selig Sealing Products. Welded bond. With pulp backing, provides tamper evident seal on barex containers for automotive and chemical applications. Composition: .001” foil. Equivalent liners: Techseal HS-6.

FoilSeal M-1

Manufactured by Selig Sealing Products. Adheres to PE containers with a welded bond. With a pulp backing, provides a tamper evident seal for pharmaceutical, anti-freeze and windshield solvent applications. Composition: .001" foil, .0005" PET, and .0015" heat seal layer. Equivalent liners: Unipac SG75 and ISPE, Sancap HS057, Tekniplex HS130, Techseal HS-1, Meyer PE30/12/35, Sonoco IHS705.

FoilSeal M-4

Manufactured by Selig Sealing Products. Offers welded bond to P/P containers. With a pulp backing, provides a tamper evident with barrier welded bond on P/P containers for pharmaceutical and cosmetic applications. Composition: .001" foil, .0005" PET, and .0015" heat seal layer. Equivalent liners: Unipac ISPP, SANCAP HS295, Techseal HS-4, Meyer PP, and Sonoco IHS305.

Folding Carton

A container made of bending grades of paperboard. Formed by the maker, and to be set up, filled and closed by the user. Folding cartons are made in a multitude of styles, a few of which are: tuck-end carton, reverse tuck, straight tuck, two-piece and many others. A general class of paperboard container, distinct from set-up boxes and corrugated and solid fibre boxes.

Forming Mold (also "Finish Mold")

Sometimes referred to as the bottle mold, is the mold in which the bottle is blown into its final shape after being preformed in a blank mold.

Freight on board (FOB)

The term used to signify that the seller is required to bear all costs required to place the goods aboard equipment of the transporting carrier. The stated FOB point is usually the location where title to the goods passes to the buyer. The buyer is liable for all charges and risks after passing of title.

Friction Fit

Refers to a type of plug can closure. The plug is designed so that frictional resistance to movement exists between the plug and the part of the container designed to hold it.

Frosting

A crystalline finish or pattern on a glass surface.

F-Style Can

Called "F" because it was originally created to package Flit insecticide. It is a rectangular metal or plastic can with a pouring spout.

G.C.M.I. (Glass Container Manufacturers Institute)

Former name of G.P.I.

G.M.P. (Good Manufacturing Practices)

Regulations promulgated by the FDA under which device manufacturers must produce, package, and label their devices.

G.P.I. (Glass Packaging Institute)

An organization composed of glass container producers. GPI establishes policies, such as standardization and develops industry advertising programs.

G.P.P.S. (General Purpose Polystyrene)

A clear polymer that exhibits high stiffness, good dimensional stability, low specific gravity and excellent electrical properties. It offers several advantages over other polymers because of its clarity and ease of processing, both of which are due to its amorphous nature.

Gamma Irradiation

Sterilization by means of exposure to a source of gamma rays, normally Cobalt 60.

Gas Transmission Rate

A measure of the permeability of a packaging film to gases by measuring the movement of a gas through the film under specified conditions.

Gasket

A liner applied between the sealing surface of container lip and closure to provide the ultimate seal.

Gate

In a molding process, a restricted section of runner at the edge of an injection mold cavity, serving to permit entrance of the plastic material into the closed cavity and core assembly.

Glass Coating, Safety

Stock and custom glass containers with special safety and shatterproof coatings.

Glass Types

Four types of glass are specified by the U.S. Pharmacopoeia on the basis of chemical durability tests. Types I, II, and III are intended for packaging parenteral preparations and Type NP for non-parenteral products. Type I: Containers normally made of borosilicate glass having a highly resistant composition. Type II: Containers made of commercial soda-lime glass which have been treated on the inside surface at a high temperature to obtain a great improvement in chemical resistance. Type III: Untreated glass containers made of commercial soda-lime glass of average or somewhat above average chemical resistance. Type NP: Untreated glass containers made of ordinary soda-lime glass.

Glassine 54#

The 54# Glassine liner is composed of: 25# Glassine / 4# butyl rubber adhesive / 25# Glassine. It is primarily used in child resistant closures. Glassine is the major Tacseal material currently available from Owens Brockway. It is used exclusively on dry products.

Glassine 57#

The 57# Glassine liner is composed of: 25# Glassine / 7# laminating wax / 25# Glassine. Glassine is the major Tacseal material currently available from Owens Brockway. It is used exclusively on dry products.

Glassware

Stock and custom glassware, including bowls, stemware, candle holders, vases, plates and perfume bottles.

Gloss

Shine or luster of the surface of a material. If a surface clearly and plainly reflects an image of light, it has a high gloss.

Gob

A lump of molten glass with a specific shape, temperature, viscosity, and weight. The gob will be processed by the IS Machine into a glass container.

Gold Reverse

The gold-lacquered interior of a closure.

Good manufacturing practices (GMP)

A document that describes agreed-to best or optimal procedures for manufacturing.

Graduations

Marks on a container to show fluid levels of contents on a scale of full to empty.

Grossage

A quantity in terms of gross. Grossage is the usual denomination used in glass container terminology.

H Dimension

The height of the bottle finish measured from the sealing surface, in a line parallel to the axis of the finish and tangent to the threads on the finish, down to a point where the line intersects the body (shoulder) of the container. 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 closure.

H.D.P.E. (High Density Polyethylene)

The resin of choice in blow molding because it is stiff, chemical resistant, has good processing behavior and good environmental stress crack resistance (ESCR). This ESCR makes it a good choice for bleach and detergent bottles where resins having densities between 0.950 and 0.960 and above are commonly chosen. Injection blow molding is a proven and valued processing technique when a container benefits from excellent neck finish and lack of pinch-off.

Haze

The degree of cloudiness in a plastic material.

Head Space

The space between the level of the contents in the neck of a container and the closure. Head space is intended to furnish room for expansion of product due to heat or other action after packing, and to allow the container to be grasped without spilling the contents.

Heat Stability

The resistance of a plastic material to chemical deterioration during processing.

Heat Transfer

Process similar to hot stamping except preprinted images on a carrier web are applied by heat and pressure to the surface to be printed. Multicolor Decorating is a one-step process. Method is widely used for decorating plastic bottles but also for glass and folding cartons.

Heat Transfer Label

Labels printed with special inks on a web from which they are transferred to containers by application of heat as they contact the container surface.

Heat-Seal

A method of uniting two or more surfaces by fusion, either of the coatings or of the base materials, under controlled conditions of temperature, pressure and time (dwell).

Heat-Seal Label

A label made of paper or other material coated on one side with a heat-seal coating, usually a thermoplastic resin, and characteristically difficult to remove after application.

Heavy Bottom

A bottom defect. A localized thick area in the bottom which is usually thickest in the center of the bottom.

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 side-wall.

Heel Radius

The degree of curvature at the extreme bottom end of a bottle extending upward from the bearing surface. Also called base radius.

Heel Tap

A bottom defect. A localized thick area at one side of the bottom.

Helix Angle

The measure of inclination of the thread, from a plane perpendicular to the vertical centerline of the thread finish.

Hermetic Seal

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

Hermetically sealed container

A container designed and intended to be secured hermetically against the entry of microorganisms and to maintain the commercial sterility of its contents after processing.

Hilo

Also hi-lo. Double-wall corrugated board combining both A-flutes and B-flutes.

Hollow Neck

A neck defect. A neck in which the glass has blown away, leaving it with thin walls.

Horizontal Bar Code

A bar code or symbol presented in such a manner that its overall length dimension is parallel to the horizon. The bars are presented in an array which looks like a picket fence.

Hot Check

An edge or side defect. A check characterized by deep V-shaped cracks appearing on the edge or side.

Hot Stamping

This decorating technique utilizes a die (design) that cuts metal foils from a ribbon and by heat, embosses the design onto the surface of the plastic containers. Often used in conjunction with silkscreening on cosmetic containers such as those used for shampoos and conditioners.

Hot-Melt Adhesive

Adhesive, solid at room temperature, which is liquefied by heat, applied molten, and forms a bond by cooling and solidifying. Based on thermoplastic polymers generally modified with resins and/or waxes. Usually used in range of 250 to 400 degrees F.

HS 015

A SANCAP Liner Technology product. SANCAP Heat Seal is a proprietary heat seal coating with a relatively low melting point. It works in many applications where high heat would affect the product or closure function and appearance. HS 015 is a paper-backed aluminum foil coated with a clear heat-sealable blend of high molecular weight ethylene and vinyl acetate copolymers. Color: Aluminum. Suggested uses include tamper indicating innerseal for OTC drug products on P/E, glass, PET, PVC, P/S and P/P containers. Additional uses: dry products, spices, peroxide, glass cleaner, milk and fruit juice.

HS 030

A SANCAP Liner Technology product. SANCAP Heat Seal is a proprietary heat seal coating with a relatively low melting point. It works in many applications where high heat would affect the product or closure function and appearance. HS 030 is composed of aluminum foil laminated to glassine and the glassine coated with a clear heat-sealable blend of high molecular weight ethylene and vinyl acetate copolymers. Color: White. Suggested uses include tamper indicating innerseal for OTC drug products in P/E, glass, PET, PVC, P/S and P/P containers. Additional uses: dry products, spices, fruit juice, milk, glass cleaner and peroxide.

HS 035

A SANCAP Liner Technology product. SANCAP Heat Seal is a proprietary heat seal coating with a relatively low melting point. It works in many applications where high heat would affect the product or closure function and appearance. HS 035 is composed of a paper-backed aluminum foil coated with a clear heat-sealable blend of high molecular weight ethylene and vinyl acetate copolymers. Color: Aluminum. Suggested uses include tamper indicating innerseal for OTC drug products on P/E, glass, PET, PVC, P/S and P/P containers. Additional uses: dry products, spices, fruit juice, milk, glass cleaner and peroxide.

HS 057

A SANCAP Liner Technology product. SANCAP Heat Seal is a proprietary heat seal coating with a relatively low melting point. It works in many applications where high heat would affect the product or closure function and appearance. HS 057 is composed of an aluminum foil, polyester combination coated with P/E. Color: Foil. Overall thickness: .0038". Suggested uses include tamper indicating innerseal for OTC drug products on P/E containers. Additional uses: dry products, motor oil, anti-freeze, cooking oil, shampoo, fruit juice and vinegar.

HS 057A

A SANCAP Liner Technology product. SANCAP Heat Seal is a proprietary heat seal coating with a relatively low melting point. It works in many applications where high heat would affect the product or closure function and appearance. HS 057A is composed of an aluminum foil, polyester combination coated with P/E. Color: Foil. Overall thickness: .0030". Suggested uses include tamper indicating innerseal for OTC drug products on P/E containers. Additional uses: dry products, motor oil, anti-freeze, cooking oil, shampoo, fruit juice and vinegar.

HS 194

A SANCAP Liner Technology product. SANCAP Heat Seal is a proprietary heat seal coating with a relatively low melting point. It works in many applications where high heat would affect the product or closure function and appearance. HS 194 is composed of an aluminum foil, polyester and PVC combination. Color: Aluminum. Suggested uses include tamper indicating innerseal for OTC drug products on PVC and PET containers. Additional uses: dry products, shampoo, mouth wash, fruit juice and cooking oil.

HS 205

A SANCAP Liner Technology product. SANCAP Heat Seal is a proprietary heat seal coating with a relatively low melting point. It works in many applications where high heat would affect the product or closure function and appearance. HS 205 is composed of a heat sealable aluminum foil and P/P combination. Color: Aluminum. Suggested uses include tamper indicating innerseal for OTC drug products in P/P containers. Additional uses: dry products, cosmetics, spices, motor oil, anti-freeze, shampoo, cooking oil, fruit juice and vinegar.

HS 295

A SANCAP Liner Technology product. SANCAP Heat Seal is a proprietary heat seal coating with a relatively low melting point. It works in many applications where high heat would affect the product or closure function and appearance. HS 295 is composed of a heat sealable aluminum foil, polyester, and P/P combination. Color: Aluminum. Suggested uses include tamper indicating innerseal for OTC drug products on P/P containers. Additional uses: dry products, cosmetics, spices, motor oil, anti-freeze, milk, fruit juice, cooking oil, vinegar and shampoo.

HS 402A

A SANCAP Liner Technology product. SANCAP Heat Seal is a proprietary heat seal coating with a relatively low melting point. It works in many applications where high heat would affect the product or closure function and appearance. HS 402A is composed of a heat sealable aluminum foil and surlyn combination. Color: Aluminum. Overall thickness: .0035". Suggested uses include tamper indicating innerseal for OTC drug products on P/P, treated glass, PET, PVC and P/S containers. Additional uses: dry products, salad dressing, cooking oil and peanut butter.

HS 403

A SANCAP Liner Technology product. SANCAP Heat Seal is a proprietary heat seal coating with a relatively low melting point. It works in many applica-

tions where high heat would affect the product or closure function and appearance. HS 043 is composed of a heat sealable aluminum foil and surlyn combination. Color: Aluminum. Overall thickness: .0040". Suggested uses include tamper indicating innerseal for OTC drug products on P/P, treated glass, PET, PVC and P/S containers. Additional uses: dry products, salad dressing, cooking oil and peanut butter.

HS 592

A SANCAP Liner Technology product. SANCAP Heat Seal is a proprietary heat seal coating with a relatively low melting point. It works in many applications where high heat would affect the product or closure function and appearance. HS 592 is composed of an aluminum foil and polyester combination coated with a clear heat sealable blend of high molecular weight ethylene and vinyl acetate copolymers which can be waxed- or permanent-laminated to pulp or P/S foam. Color: Aluminum. Suggested uses include tamper indicating innerseal for OTC drug products on P/E, glass, PET, PVC, P/S and P/P containers. Additional uses: dry products, spices, fruit juice, milk, glass cleaner and peroxide.

HS 702

A SANCAP Liner Technology product. SANCAP Heat Seal is a proprietary heat seal coating with a relatively low melting point. It works in many applications where high heat would affect the product or closure function and appearance. HS 702 is composed of a heat sealable aluminum foil and P/E combination. Color: Aluminum. Suggested uses include tamper indicating innerseal for OTC drug products on P/P containers. Addditional uses: dry products, motor oil, anti-freeze, cooking oil, fruit juice, vinegar and shampoo.

HS 805

A SANCAP Liner Technology product. SANCAP Heat Seal is a proprietary heat seal coating with a relatively low melting point. It works in many applications where high heat would affect the product or closure function and application. HS 805 is composed of aluminum foil with a co-extruded heat seal coating. Color: Aluminum. Suggested uses include tamper indicating innerseal for OTC drug products on P/E, glass, PET, PVC, P/S and P/P containers. Additional uses: dry products, spices, glass cleaner, peroxide, fruit juice and milk.

HVD

High viscosity density (HVD) pumps are available.

Hygroscopic

Tending to absorb moisture.

I Dimension

A specified minimum diameter inside the bottle neck. A minimum diameter is specified to allow sufficient clearance for filling tubes to enter the bottle neck easily.

I.S. Machine (Individual Section Machine)

Used for the formation of glass containers. It has the ability to have one or more sections taken out of production for maintenance while the remaining sections continue making containers.

IBC

Intermediate bulk container. A large bag, box or other container capable of transporting, storing, and discharging one-half ton (1,000 lbs) or more of material.

ID

Inside diameter of a container or container part, ordinarily of the container shell or body.

Impact Resistance

Relative susceptibility of plastics to fracture by shock. Impact resistance is indicated by the energy expended by a standard pendulum type impact machine in breaking a standard specimen in one blow.

Impact Strength

(1) The ability of a material to withstand shock loading. (2) The amount of energy needed to fracture, under shock loading, a specified test specimen in a specified manner.

Imperial Gallon

The British gallon, equal to 277.274 cubic inches, or about 4.8 U.S. quarts.

Induction Sealing

A sealing technique in which excitation by means of high frequency electric impulse causes materials to bond. Usually associated with inner seals whether they are applied separately or as an integral part (metal or platic) of the closure.

Injection Blow Molding

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

Injection Mold

A mold into which a plastic resin is introduced by pressure from an exterior heated cylinder.

Injection Molding

A molding procedure whereby a heat-softened plastic material is forced from a cylinder into a relatively cool cavity giving the article the desired shape.

Ink Jet Printing

Non-impact method of printing whereby tiny drops of ink are formed into letter, number or other configuration and sprayed on to the object or surface to be printed. Can be used for high speed printing. A major application is for code marking beverage cans.

In-Mold Labeling

Process by which preprinted labels are placed in the mold before the plastic is injected into the mold. This form of labeling is very economical for large manufacturing runs, as it does not require any additional processes on the production line or post production decorating.

Inner Seal

An extra seal of comprising a sheet that is resistant to water vapor or vapor from some chemical, and adhered to the top end of a container below the regular cover or closure, to give added protection to the contents, such as: hygroscopic materials like soluble coffee, volatile chemicals such as chloroform, or creams and ointments containing volatile ingredients. The added protection includes: barrier to movement of water vapor or volatile chemicals and perfumes, and protection against tampering, contamination and leakage.

Interrupted Thread

Threads on the neck finish of bottles that are not continuous, having gaps at seam areas to avoid scratching internal coatings on closures.

Irradiation, Atomic

As applied to plastics, refers to bombardment with a variety of subatomic particles, generally alpha-, beta-, or gamma rays. Atomic irradiation has been used to initiate polymerization and copolymerization of plastics and in some cases to bring about changes in the physical properties of a plastic material.

Jeroboam

A champagne bottle holding the same amount contained in four ordinary champagne bottles (102-2/5 oz).

Jug

A bottle, usually of half-gallon or larger capacity, fitted with a handle.

Just-in-time (JIT)

First used by Toyota in Japan, it has been successful in reducing inventory while maintaining high throughput and increased quality. In simple terms, JIT means that regardless of what disasters happen in the packaging process, you have the excess capacity to guarantee the highest probability of attaining the exact delivery window required by the customer with quality packages.

KD

Knocked down. Applied to boxes, cartons, cases, etc., which are stored or shipped flat, that is before the package is set up for loading.

KLP/SFW

Extruded 75 gauge saran film laminated directly to Kraft lined pulpboard with a wax coating on the saran. There is always a full wax coating on this liner.

Knurl

Indented or crimped portion on the skirt at the top of the cap for holding liner in cap, used as a grip for applying cap and also for a better hold or grip for removing. Also provides non-skid surface during threading operation.

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.

L.D.P.E. (Low Density Polyethylene)

LDPE is similar to HDPE in composition. It is less rigid and generally less chemically resistant than HDPE, but more translucent. Used primarily for squeeze applications. LDPE is significantly more expensive than HDPE, but will yield a glossy bottle when produced in colors.

L.F. (Lubricant Finish)

Lubricant finish treatment is used to reduce excessive removal torque build-up found with plain vinyl and P/E coated papers. These papers have a tendency to cold flow after the closure is applied, causing removal torque build up, which is is accentuated with time and temperature. The LF coating is effective in minimizing this problem. The LF coating is also used with Saran film, which has a tendency to grasp the glass sealing surface during capping. This results in erratic capping performance and false application values. Closures which appear to be on tight are reduced to approximately zero removal torque with only slight impact on handling. To overcome this tendency and insure good application and removal torque performance, the LF coating of wax treatment is used.

Label Panel

That portion of the body of a container to which labels are affixed or Decorating imprinted.

Labels

Self-sticking, bar code, UPC, IBM, mylar, cloth, color, aluminum, wrap-around, spot, cling, sleeve, pressure sensitive, heat transfer, DOT, in-mold, expanded content, holographic, rotating, inverted vertical hanging, medical, shipping, international wordless, paper, booklet, production, inventory, and shrink labels. Printing and decorating options are available.

Labels, Expanded-Content

Labels that expand for the printing of consumer directions for use. Available plain or printed, in a variety of colors. Hot stamping and embossing are also available.

Land Dimension

The sealing surface of a glass or plastic bottle.

Land Seal

Also called flat land seal. The Land Seal requires that a flat surface molded into the closure makes contact against the top of the sealing surface (land) of a container. This seal works best when the closure contains a liner material. It is best suited for threaded closures.

Lap

A general defect. A large fold on the outside of the bottle. Also called “wrinkle”.

Laser marking

Similar to the idea behind etching, this process uses a laser beam to create white letters or designs on a plastic container.

Lehr

The long heated oven through which glass containers move on a conveyor belt so gradual cooling will properly anneal and remove stress from glass. Also used to fuse ceramic color onto glass.

Lens Caps

Closures with clear inserts intended for cosmetic jars and round or square cosmetic pots.

Letter Check

An edge or side defect. A small check which appears in the lettering.

Lever Lock

A method of holding a lid on a full open head drum by means of a lever-operated tightening device or ring that can be locked in closed position.

Light Bottom

A bottom defect. A localized thin area in the bottom of the container.

Light Resistance

The ability of a plastic material to withstand exposure to light, usually sunlight or the ultraviolet part of the light spectrum, without change of color or loss of physical and/or chemical properties.

Light Seam

An edge or side defect. A defect characterized by thin spots in the side of the ware.

Liner

In the manufacture of closures, a disc of paper, cork, composition, etc., retained in a closure to provide a sealing surface against the finish of a container.

Liner Board

A type of paperboard used in making corrugated cartons.

Liner Fall Out

Liner falling out of cap; usually due to shrinkage, loss of moisture or under sized punching.

Linerless Closure

A one-component thermoplastic closure incorporating a sealing “fin” which, when applied to a container with the appropriate finish, seals most liquids including those that are volatile.

Liners

Trash can, drum, bin, hamper, pail, and disposable liners.

Lip

The extreme outer edge of the top of a container intended to facilitate pouring.

Lithography

Decorating of flat surfaces by means of plates. Lithography is the prime method for decorating cans, but must be done on the sheet steel before the can is formed.

Living hinge

A thin flexible hinge (flexure bearing) made from the same material as the two rigid pieces it connects, rather than cloth, leather, or some other flexible substance. It is typically thinned or cut to allow the rigid pieces to bend along the line of the hinge.

LLDPE

Linear low density polyethylene.

Loading Marks

A general defect. Fine vertical laps on surfaces.

Locking Ring

Metal closing ring around the rim of a full-removable-head container intended to retain the cover and form a seal. The ring is a circular modified “V” or “U” section channel, the ends of which are drawn together by means of a bolt and the periphery thus shortened, to develop the closure.

Long Neck

A neck defect. A neck which has been stretched longer than that specified.

LTL

Less than truck load. An order which will not fill the minimum standard weight required for truck load freight rate, which usually means that the customer must pay an LTL freight rate.

Lug

(1) Extensions around the circumference of a lid which are crimped down to hold the lid securely in place against the body of the container. (2) A small indentation or raised portion on the surface of a plastic bottle, provided as a means of indexing the bottle for operations such as multi-pass decorating or labeling. (3) A metal fastener used for securing the top or bottom heads of a fiber drum, steel drum or metal pail to the side-wall.

Lug Closure

Interrupted thread finishes with the GPI finish number designations in the 2000 series.

Lug Cover

A cover for metal drum or pail, with extensions around the circumference that are bent down to hold the cover securely in place against the container body.

Lug Finish

Also called Lug/Twist. A glass container finish identified by intermittent horizontal tapering protruding ridges of glass that permit the specially shaped edges of the closure to slide between the protruding lugs and fasten securely with a partial turn. These lug finishes have the GPI designations in the 2000 series.

Lug/Twist

Intermittent thread design closure - commonly used for glass food containers.

LW

Light Wax (LW). Light wax treatment is generally used to improve the moisture vapor barrier characteristics of a given liner facing. The type of wax used for this treatment also acts as a lubricant in the same manner that LF coating of wax does.

Magnum

A glass bottle, used occasionally for sparkling wines, having a capacity of two-fifths U.S. gallon. Some foreign magnums vary in capacity.

Material Distribution

A term which describes the variation in thickness of various parts of a plastic bottle, i.e., body, wall, shoulder, heel, base, etc. Material distribution is controlled by parison programming, temperature of the melted plastic, bottle geometry, blow up ratio, etc.

Materials Handling

Any component or system designed for material storage and retrieval in manufacturing and distribution applications. Examples include pallet racks, metal shelving, bins and totes, forklifts, and conveyor and carousel systems.

Matte Finish

A coating surface which displays no gloss when observed at any angle. Also referred to as a flat finish.

MDPE

Medium density polyethylene. Slightly stiffer and has a higher melting index than low density polyethylene. Widely used in film.

Mechanical shock

A sudden acceleration or deceleration caused by impact, drop or kick.

Medicine Cups

Plastic cups usually found inverted on top of OTC liquid medicine bottles. Also called dose cups.

Megarad

Unit of radiation measurement.

Metallized Closure

Plastic closures with a surface deposit of aluminum coated with lacquers to render a decorative metallic effect.

Metallizing

The process of coating a plastic item with a thin layer of metal to give a gold, silver or other metal look. It is commonly used on closures used for cosmetic packaging.

Metric Conversions

Volume metric conversions include: 1 ounce = 29.57 or 8 drams, 8 ounces = 236.60 cc, 16 ounces = 473.20 cc, and 32 ounces = 946.40 cc. Liquid Capacity metric conversions include: 1 fluid ounce = 29.57 ml, 8 fluid ounces = 236.60 ml, 16 fluid ounces = 473.20 ml, 32 fluid ounces = 946.40 ml, 1 liter = 33.81 fluid ounces, 1 U.S. Gallon = 3.78 Liters, and 1 Imperial Gallon = 153.72 fluid ounces.

Mil

A unit of measurement equal to .001 inch.

Minimum Wall

A term designating the thickness of the wall (body) of a container. Usually specified as the minimum thickness allowable for the body of a container.

MM

Millimeter. Metric unit of length equivalent to approximately 0.04 inch.

Modified atmosphere

The practice of modifying the composition of the internal atmosphere of a package (commonly food packages, drugs, etc.) in order to improve the shelf life.

Moisture Vapor Transmission Rate (MVTR)

The rate at which water vapor permeates through a plastic film or bottle wall at a specified temperature and at relative humidity.

Mold (also Mould)

A set of iron forms fastened on a bottle machine to provide a means of shaping a glass or plastic container. Parts of the set are tips, neck rings, blank molds, finish molds, and bottom plates with a plunger used in producing wide mouth containers.

Mold Number

The number assigned to each mold or set of molds for identification purposes, usually placed in that part of the container mold that forms the base of the container.

Mold Release

A chemical substance used to facilitate the freeing of a molded object from the mold in which it was formed. Unless the substance is cleaned from the object molded, it may cause adhesion problems at a later stage in manufacturing.

Mold Seam

A vertical line formed at the point of contact of the mold halves. The prominence of the line depends on the accuracy with which the mating mold halves are matched. Also known as parting line.

Mullen

A test made to determine the bursting strength of a flat specimen of paper, paperboard, film, foil, plywood, corrugated fibreboard, solid fibreboard or other material.

Multi-Cavity Mold

A mold with more than one cavity impressions. Therefore, the mold produces two or more bottles per molding cycle.

Multi-Layer Bottle

A bottle which is co-extruded with two or more layers to contain oxygen-sensitive foods or industrial chemicals.

Mylar

A synthetic polyester fiber or film.

Narrow Mouth

A container having an opening roughly one half the diameter of the container or smaller.

Neck

(1) The part of a container where the bottle cross section decreases to form the finish. (2) A round fitting in a can for the purpose of pouring the contents, covered by a closure.

Neck Bead

Usually a protuding circle on the neck of the bottle.

Neck Bead Ring (or Band)

A protruding ring just above the neck ring parting line necessary in the manufacture of glass containers and specifically in transferring containers from blank to mold.

Neck Insert

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

Neck Ring

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

Neck Ring Seams

A finish defect. Seams which have a fin of glass around the parting line between the finish and the neck of the bottle.

Nesting Containers

Containers made with sloping sidewalls so they can be nested in each other when empty to conserve space.

Newsboard

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

Nomimal

The exact (or ideal) intended value for a specified parameter. Tolerances are specified as positive and negative deviations from this value.

Nonpyrogenic

Term applied in the medical device and pharmaceutical fields to products which have been tested and found to be free of a specified concentration of bacterial endotoxins (fever-causing agents). Typically evaluated using the USP in vivo Rabbit Pyrogen test or the in vitro LAL test.

Non-Reusable Container (NRC)

(1) Mandatory embossing on the bottom of steel shipping containers indicating an un-reusable container. (2) Also used to indicate any non-reusable container. (3) A container, often required to be marked NRC, whose re-use is restricted by one or more regulatory agency.

Nylon

The generic name for polyamides. A versatile family of thermoplastic resins that vary from relatively flexible products to tough, strong, and stiff materials. A key characteristic is resistance to oils and greases. Also outstanding resistance to fatigue and repeated impact. Water vapor transmission rate is high and gas permeability is moderate. Nylon films are widely used for meat and cheese packaging, boil-in-bags and pouches.

Oblong

A particular shape. A rectangular figure having greater length than width, may have angle or rounded corners and parallel or nearly parallel sides.

Off-Gage Finish

A finish defect. A finish which is usually oval-shaped and which may be pinched or flattened in one or more places. Also call “out-of-round”.

Offset Finish

A finish defect. A finish which is formed with the two halves of the mold shifted out of alignment, either vertically or horizontally.

Offset Printing

This method of printing utilizes printing plates rather than silk screens to transfer the ink to the containers. Offset printing is more exact than silk screening, and is practical for multiple color labeling. Offset printing is utilized primarily on round containers. Because plates are engraved for each color rather than making screens, offset is more expensive than silk screening. The process involves transferring ink from a printing plate to a rubber blanket and subsequently to the sheet (surface to be decorated).

Opaque

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

OPET

Oriented PET.

Orange Peel

An uneven surface somewhat resembling an orange peel.

Orientation

The alignment of the crystalline structure in polymeric materials so as to produce a highly uniform structure. Orientation can be accomplished by cold drawing or stretching during fabrication.

Orifice

The opening in a container through which product is dispensed.

Orifice Reducer

Plug or fitment with a controlled-diameter opening. When inserted in the I.D. of a bottle neck finish, it reduces the flow of product being dispensed.

O-ring

A closure liner or gasket made of pulp or foam cap liner. Gives a closure the ability to adjust to manufacturing variation to ensure a tight seal.

Out of Round

A finish defect. A finish which is usually oval-shaped and which may be pinched or flattened in one or more places. Also call “off-gage”.

Out-of-Shape Ware

A general defect. Ware which is tilted to one side or which is bulged, sunken-in, or mis-shapen.

Outside Dimensaion (OD)

The outside dimensions of a container, package or part. In metal drums, it is the diameter over the rolling hoops.

Oval

A particular shape. A container which has an elliptical cross section perpendicular to the major axis.

Overcap

A secondary closure that fits over the primary closure or seal mechanism. It protects the primary closure from accidental dispensing. Overcaps are also used to enhance the design of a package.

Overflow Capacity

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

Overpack

An outer container usually made of steel, wood or fibre, designed to enclose and protect one or more less durable inner containers.

Overpress

A finish defect. A finish which has excessive glass projecting upward from the inside edge of the finish. See also “wire edge” defect.

Oxidation

A chemical reaction involving combination with oxygen to form new components.

P/.0015 AF

Pulp and Aluminum Foil: .0015 aluminum foil laminated to paper and then laminated to pulpboard.

P/E

Abbreviation for Polyethylene.

P/MF-514

Pulp and Polyester Aluminum Foil: Polyester film applied to .001 HDPE coated on 0.00035 aluminum foil, white sulfite paper backed and laminated to pulpboard.

P/MY

Pulp and Mylar: .001 Mylar (polyester) film applied to a white paper, laminated to pulpboard.

P/O

Pulp/Oil Paper. Duplex liner composed of a pulpboard backing laminated with a kraft paper coated with oleoresinous varnish facing. Oil paper is used most often in the food industry. It is suggested in preference to most other liners where the product is filled hot (above 150 degrees F). Oil paper is always suggested with pulpboard backing and with or without a wax coating depending upon the application.

P/P

Abbreviation for polypropylene.

P/PE

Pulp/Polyethylene Coated Paper. Pulpboard backing with a .0015” P/E coated paper facing. Application: Provides an excellent moisture barrier.

P/RVALF

Pulp and Vinyliner Lubricant Finish: Vinyl Coating applied to low-density polyethylene coated white paper laminated to pulpboard with LF (lubricant finish wax treatment) over vinyl.

P/RVT

A thermosetting vinyl chloride-acetate copolymer coating applied to a high density polyethylene treated white sulfite or bleached Kraft paper. Provides a reasonably good moisture, alcohol and gas barrier but is softened by essential oils and ketones. Usually the facing is suggested in combination with pulp backing and lubricant finish. The lubricant finish facilitates closure removal after extended periods of product storage.

P/RVTLF

Pulp/Polyvinyl Lubricant Film. Pulpboard backing with vinyl coating applied to HDPE-coated white paper, with lubricant finish over the vinyl.

P/S

Abbreviation for polystyrene.

P/SA-66

Pulp and Polyester/Aluminum Foil: Polyester film applied to polyethylene coated aluminum foil, bonded to Kraft paper and laminated to pulpboard.

P/SAF

Pulp/Saran Coated Aluminum Film. Pulpboard backing with white pigmented Saran coating applied to .00035” aluminum foil with white paper backing.

P/SCK

Pulp/Saran Coated Kraft Paper. Pulpboard backing with a 20# emulsion coating of polyvinylidene chloride (PVDC or Saran) on polycoated 35# Kraft paper facing. It can also be supplied on bleached Kraft paper, resulting in a white material rather than yellow/brown. This liner combinations exhibits better moisture protection and oxygen protection than oil paper.

P/SFLF

Pulpboard/Saran Film/Lubricant Finish: Same as P/SF with the addition of a lubricant finish wax treatment.

P/TF

Pulp and Tin Foil: .0015 in foil adhered to paper; the paper then laminated to pulpboard.

P/VAF

Pulp/Vinyl Coated Aluminum Foil. Pulpboard backing with a white pigmented vinyl coating on .00035” aluminum foil facing.

P/W-77

Pulp and Polyester/Saran: White paper backed, polyester film, reverse side saran coated, laminated to pulpboard.

P/WPW

Pulp/White Paper Waxed: This liner consist of a waxed paper laminated to pulpboard using an adhesive consisting of a wax and synthetic resin blend. The waxed papers is the specific product of one manufacturer. This liner is specifically applicable to the packaging of dry hydroscopic products. It provides an excellent and relatively inexpensive barrier against entry of atmospheric moisture. There is a wax costing approximately 0.002" thick on the white paper.

Package Testing Service

Evaluation of basic packaging materials such as corrugated, paper and paperboard, foams, plastics, and films. Tests include shock transmission, vibration analysis, tear, creep, burst test, altitude testing, etc.

Packaging Component

A packaging component is any stand alone element of a primary or secondary package such as a bottle cap or a protective sleeve, or any stand alone element of transport packaging such as a pallet or strapping, and includes labels, adhesives, inks and/or coatings used on the component.

Packaging Services

Packaging services include package concept, design, drawings, models and prototypes, decorating options, estimated costs, and coordination of physical and time factors.

Packaging, anti-counterfeiting

Packages engineered to help reduce the risks of package pilferage or the theft and resale of products. Authentication seals and security printing help indicate that the package and contents are not counterfeit. Anti-theft devices, such as dye-packs, RFID tags or electronic article surveillance tags, can be activated or detected by devices at exit points and require specialized tools to deactivate.

Packaging, Hazardous Material

United Nations certified containers for the domestic and international transportation of hazardous materials by air, ground and water.

Packaging, primary

The material that first envelops the product and holds it. This usually is the smallest unit of distribution or use and is the package that is in direct contact with the contents.

Packaging, secondary

This is outside the primary packaging, perhaps used to group primary packages together.

Packaging, tertiary

This is used for bulk handling, warehouse storage and transport shipping. The most common form is a palletized unit load that packs tightly into containers.

Packer

A line of bottles used primarily in the pharmaceutical industry. The bottles have large finishes with respect to bottle size, making bottles easy to pack.

Packing Supplies

General purpose and specialty tapes and adhesives, case sealing equipment, shrink film equipment, bubble wrap, foam, anti-static foam, stretch wrap/pallet wrap, mailing envelopes, boxes/cartons, corrugated partitions and pads, cloth and poly bags, strapping, labels and labeling equipment, thermoformed packaging, netting, pouches, dust covers, liners, stenciling machines, absorbents, humidity indicators and desiccants.

Pad Printing

Direct transfer of ink by means of a pad. The operation is similar to that of a rubber stamp. It is used on small areas and also to decorate points on odd shaped containers that would otherwise be impossible by other means, i.e., eyes and nose coloring on the “honey bear” bottles.

Pail Lids

Plastic and steel pail lids in a variety of shapes, sizes and colors, and with a variety of closures and spouts. Labeling is available.

Pails

Plastic and steel. Various sizes and shapes are available, as well as different decorating options.

PAM

Pulp/Aluminum/Mylar.

Panel Check

An edge or side defect. A check characterized by deep V-shaped cracks appearing on the edge or side.

Paneling

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

Parison

Also called a “gob”, “pattern” or “blank”. A hollow plastic tube from which a container is blown in extrusion blow molding. In injection blow molding, it is the plastic shape formed by the core rod and parison mold that is transferred into the blow cavity for forming the final shape. Parison can also refer to the preliminary shaped red hot glass that hangs from the neck rings as the blank molds open.

Particulate Matter

Unwanted foreign material which may become attached to or enveloped with a “clean” product. May be dust, debris, hair, or other particles. Generally 0.5 um or larger. May be airborne or “gross”.

Parting Agent

A lubricant, often wax, used to coat a mold cavity to prevent the molded piece from sticking to it and facilitate its removal from the mold. Also called release agent.

Parting Line

The slight horizontal ridge formed by a surplus of glass blown into a worn crevice or joint between two parts of the mold equipment. These lines may occur on various areas of the container, such as between the neck ring and the plunger tip or guide ring, between the neck ring and blank or mold, and between the mold and bottom plate. The vertical line formed by the joint between two halves of the same mold part is called a “seam”.

Partitions

Custom corrugated, B, C and E flute corrugated, chipboard, plain or pre-printed, solid bleached sulfate and poly-coated partitions. Die cutting, slotting, printing and Decorating are available.

Pasteurization

A relatively mild heat treatment of food, intended to destroy all organisms dangerous to health, or a heat treatment that destroys some but not all microorganisms that cause food spoilage or that interfere with a desirable fermentation.

Patent-Lip Vial

A tooled-neck vial with a square, rather heavy lip. See serum vial.

PBT

Also Polybutylene Terephthalate. In the polyester class of plastic resins. Good chemical resistance and clear color. Resistant to water and weak acids and bases at room temperature. Can be sterilized by EtO and autoclaving at temperatures up to 180 degrees Celcius.

PC

See polycarbonate.

Performance Testing

The evaluation of a distribution package to determine its suitability to carry a packaged product through its distribution channel, without damage to the product, by simulating conditions within the transportation environment.

Permeability

(1) The passage or diffusion of a gas, vapor, liquid, or solid through a barrier without physically or chemically affecting it. (2) The rate of such passage.

PET (Polyethylene Terephthalate)

Known as thermoplastic polyester. Has the unusual ability to exist in either an amorphous or highly crystalline state. The crystalline state is necessary for extruding the material, and the amorphous state permits it to be oriented. Widely used in beverage bottles and in food trays designed for microwave and conventional ovens.

PETG

Polyethylene terephthalate G copolymer. Similar to engineering resins due to its strength and durability. However, its glass-like clarity, toughness and excellent gas-barrier properties make it an outstanding choice for storing biologicals. Tests have shown PETG to be biologically equivalent to, or better than, Type 1 borosilicate glass bottles for cell culture applications. In tests using a wide variety of cell lines, PETG was determined to be non-cytotoxic, and media stored in PETG bottles demonstrated proliferative and morphological characteristics comparable to control media. In fact, PETG bottles allowed growth of good monolayers directly on the surface of the bottle. PETG can be sterilized with radiation or compatible chemicals but cannot be autoclaved. Chemical resistance is fair.

Phenolic

Generic name for phenol-formaldehyde thermosetting plastic.

Pilferproof Seal

A seal that cannot be opened without partially destroying the cap or otherwise showing evidence of tampering.

Pinched Neck

A neck defect. A neck which has been pushed or pinched in.

Pinch-Off

In plastic bottle manufacturing, the bottom of the parison that is pinched off when the mold closes.

Pinhole

A very small hole in a glass or plastic container, film, etc.

Pitch

On a closure thread, the distance from one point to a similar point on the next adjacent thread.

Plastic Recycling Code

The recycling code on the bottom of each container consists of a triangle formed by three arrows, with a number in the center and distinguishing letters under the triangle. The number codes are: 1) PETE = polyethylene terephthalate, 2) HDPE = high density polyethylene, 3) V = vinyl, 4) LDPE = low density polyethylene, 5) PP = polypropylene, 6) PS = polystyrene, and 7) Other.

Plasticize

To soften a material and make it plastic or moldable by means of a plasticizer or the application of heat.

Plasticizer

Chemical agent added to plastic compositions to make them softer and more flexible.

Plastics, Dip Molded

Dip molding is used to produce custom molded plastic parts, including grips, sleeves and bellows. The process offers low tooling costs, short tooling lead times, various surface textures and no exterior surface parting lines.

Plastisol

A suspension of a finely divided resin in a plasticizer.

Plug

(1) A type of closure which is designed to be inserted into the opening of a container. May be held by friction or by screw threads. (2) A threaded closure part for metal drums. Usually marketed with a receiving flange which is fastened to the drum body or head by welding or other method. (3) A bung. (4) The removable top furnished with certain types of cans.

Plug Seal

A narrow non-flexible protusion molded into a closure which fits into the bottle neck during normal bottle sealing operations. To be effective, specific inside dimensional tolerances are required for both the closure plug and the bottle neck finish. Plug seals are most commonly seen on snap-on style closures.

Plugs

Stock and custom plugs available, including mailing tube plugs, even-tint plugs, side pull plugs, fitting plugs and vented plugs.

PMS

Pantone Matching System. A series of standard colors commonly used by package designers and manufacturers. These are published by Pantone, Inc. Communication of specified colors can be made with a code number on a tear-away chip taken from the book.

Pock Marks

Irregular indentations on the surface of a blown container caused by insufficient contact of the blown parison with the mold surface. They are due to low blow pressure, air gas entrapment, or moisture condensation on the mold surface.

Polyallomer (PA)

Polyallomer is an essentially linear copolymer with repeated sequences of ethylene and propylene. It combines some of the advantages of both polymers. Polyallomer is autoclavable, and offers much of the high temperature performance of polypropylene. It also provides some of the low temperature strength and flexibility of polyethylene.

Polycarbonate

Polycarbonate is window-clear, amazingly strong, and rigid. It is autoclavable , nontoxic and the toughest of all thermoplastics. PC is a special type of polyester in which dihydric phenols are joined through carbonate linkages. These linkages are subject to chemical reaction with bases and concentrated acids, cydrolytic attack at elevated temperatures (e.g. during autoclaving), and make PC soluble in various organic solvents. For many applications, the transparency and unusual strength of PC offset these limitations.

Polyethylene

A thermoplastic material composed of polymers of ethylene. It is normally a translucent, tough, waxy solid unaffected by water and by a large range of chemicals. There are three general classifications: low density, medium density and high density.

Poly-Line

A backing material to which facings are laminated in the manufacture of duplex liners. It is a construction of white P/E laminated to P/S foam on one or both sides. Poly-Line is an alternative to P/E foam.

Polymer

A high molecular weight organic compound, natural or synthetic, whose structure can be represented by a repeated small unit, the polymer; i.e., polyethylene, rubber, cellulose. Synthetic polymers are formed by addition or condensation polymerization of monomers. If two or more monomers are involved, a copolymer is obtained. Some polymers are elastomers, some plastics.

Polyolefins

Polyolefins are high molecular weight hydrocarbons. They include low-density and high-density polyethylene, and polypropylene. All are break resistant, nontoxic, and non-contaminating. These are the only plastics lighter than water. They easily withstand exposure to nearly all chemicals at room temperature for up to 24 hours. Strong oxidizing agents eventually cause embrittlement. All polyolefins can be damaged by long exposure to ultraviolet light.

Polypropylene

Similar to polyethylene, but each unit of the chain has a methyl group attached. It is tranlucent, autoclavable, and has no known solvent at room temperature. It is slightly more susceptible than polyethylene to strong oxidizing agents. It offers the best stress-crack resistance of the polyolefins. Products made of polypropylene are brittle at ambient temperature and may crack or break if dropped from benchtop height. Used in film, in sheet and for molded rigid containers.

Polypropylene Alloy

Appreviation PPAL. Physical blend of polypropylene and high density polyethylene resulting in characteristics common to both resins, with additional barrier to migration of essential oils.

Polysan

Manufactured by Selig Sealing Products. POLYSAN is a broadly used material which combines the exceptional chemical resistance of P/E with the low transmission rate of PVDC. It is available in white and tan versions and is market proven on a variety of salad dressings and mayonnaise brands.

Polyscrim

A SANCAP Liner Technology product. Low density film on white paper. The Polyscrim Venting Liner is a low density extrusion coated film on one side of a white reinforced Kraft paper. Color: White. Suggested product uses include pool aids, bleaches, hydrogen peroxide 10% and starch blends.

Polystyrene

A thermoplastic material derived from the polymerization of styrene (vinyl benzene); non-toxic, tasteless, odorless, good general dielectric properties; excellent water and weather resistance and resistant to most foods, drinks, etc., with the exception of essential oils, gasoline, turpentine, which will harm the material. Poor impact strength.

Polysulphone

A polymer containing a specific sulfone linkage. These thermoplastic materials exhibit exceptionally high temperature and low creep properties.

Polyvinyl Acetate

A thermoplastic material prepared by the polymerization of vinyl acetate alone. A colorless solid with good resistance to water and concentrated acids and alkalies.

Polyvinyl Chloride (PVC)

A thermoplastic material composed of polymers of vinyl chloride. Rigid, natural straw color, transparent, good barrier properties with strong resistance to oxygen permeation and oils as well as a fair impact resistance.

Post-Fill

To fill containers after labeling instead of labeling them after filling and closing, which is called pre-fill.

Pour-Out Finish

A container finish with an undercut immediately below the top, designed to facilitate pouring without dripping. The pour-out finish is used principally for prescription and other drug and chemical containers.

PPAL

Polypropylene alloy. Physical blend of polypropylene and high density polyethylene resulting in a material with characteristics common to both resins, with an additional barrier to the migration of essential oils.

Pre-Fill

To fill containers before applying labels to them.

Preform

Used in the blow molding processes. A heat-softened polymer is formed into a shape similar to a thick test tube with neck threads. This tube is subsequently inflated while inside a blow mold to create the shape of the desired article.

Press and Blow Process

A method of glass container manufacturing of large diameter finish containers in which the parison is shaped by pressing the glass against a blank mold with a metal plunger.

Pressure Check

An edge or side defect. A check characterized by thin, vertical cracks appearing at the seams.

Pressure Sensitive Label

A die cut label coated with a pressure sensitive pre-applied tacky adhesive and requiring pressure only to adhere it to a package or product.

Printing, digital

A process in which a computer-generated image is transmitted directly to an output device. Used with paper, photo paper, glass, metal, marble and other substances. Technique for printing on applied labels.

Printing, flexo

A process which utilizes a flexible relief plate and water based inks. Used with plastic, metallic films, cellophane, and paper. Technique for printing on applied labels.

Printing, gravure

A process in which a copper plate is coated with a light-sensitive gelatin tissue, exposed to a film positive, and then etched. Used with paper or cardboard. Technique for printing on applied labels.

Printing, offset

A process in which the inked image is transferred from a plate to a rubber blanket, then to the printing surface. Used with paper, canvas, cloth or wood. Technique for printing on applied labels or directly on container.

Printing, silk screen

A process which utilizes a mesh-based stencil to apply layers of ink onto a surface. Used with textiles, ceramics, wood, paper, glass, metal and plastic. Technique for printing on applied labels or directly on container.

Product stability (K value)

The ability of the product to be handled in a stable and consistent manner. A beer bottle, for example, has all the features necessary to make it a stable and consistent product: cylindrical parallel shape; relatively low center of gravity; heavy, smooth base for stability and low friction; relatively hard to break; a shape that remains stable throughout the packaging cycle.

Prototype Mold

A simplified mold construction often made from a light metal casting alloy or from an epoxy resin to provide actual molding for evaluation and testing prior to production mold consideration.

PS-113

Pressure sensitive adhesive coated on polystyrene foam.

PS-22

Pressure sensitive, coated on polystyrene foam.

PT 204

Manufactured by SANCAP Liner Technology, Inc. PT 204 is composed of a heat sealable aluminum foil and surlyn combination laminated to polyolefin foam and film. It is a clean peel product. Suggested uses include tamper indicating innerseal for OTC drug products in P/E, glass, PET, PVC and P/S containers. Additional uses: salad dressing, cooking oil, peanut butter and dry products.

PT 405

Manufactured by SANCAP Liner Technology, Inc. SANCAP Heat Seal is a proprietary heat seal coating with a relatively low melting point. It works in many applications where high heat would affect the product or closure function and appearance. HS PT405 is composed of an aluminum foil coated with heat sealable polyester. It is a clean peel product. Suggested uses include tamper indicating innerseal for OTC drug products on polyester and PVC containers. Additional uses: peanut butter, vegetable oil, mouthwash and automotive products.

PT 508

Manufactured by SANCAP Liner Technology, Inc. PT 508 is composed of aluminum foil with an overcoat on one side and co-extruded heat seal coating laminated to poly foam and film. It is a clean peel product. Suggested uses include tamper indicating innerseal for OTC drug products on P/E, glass, PET, PVC and P/S containers. Additional uses: dry products, spices, milk, fruit juice, glass cleaner and peroxide.

Pull/Push

Injected molded 2-piece dispensing closure. Closure is opened by pulling up and closed by pushing down the spout. Overcaps are optional.

Pulpboard

Also P. Pulpboard is a common backing material to which facings are laminated in manufacture of duplex liners. It is mostly ground wood or mechanical pulp (usually about 80 percent ground wood to 20 percent sulphite pulp). It can be made up of virgin and reclaimed wood fibers. Standard thickness is .035". Solid wood pulpboard is clean, sanitary, free of objectionable odors and flavors, and is satisfactory for use in direct contact with food.

Pumps, Dispensing

Plastic, glass and metal dispensers, double dispensers, airless dispensers, bottletop dispensers for dispensing aggressive reagents, sensitive reagents or sterile fluids, syringe dispensers, table dispensers, lotion and soap dispensers, metered dose dispensers, and dispensing pumps for pails and drums.

Pumps, Spray Mist

Glass, plastic, metal and enamel spray mist pumps, purse sprayers and table atomizers.

Purging

In plastic bottle manufacturing, the forcing out of one color or one resin type by another from an extruder or cylinder prior to molding the new color or resin.

Push Up

The recessed area on the bottom of a container designed to allow a stable bearing surface on the outside edge and prevent rocking.

PVC

Polyvinyl chloride. A thermoplastic material composed of polymers of vinyl chloride, a colorless solid with outstanding resistance to water, alcohols, and concentrated acids and alkalines. Compounded with plasticizers, it yields a flexible material superior to rubber in aging properties.

PVDC

A thermoplastic polymer of vinylidene chloride (1.1-dechloroethylene), it is a white powder with softening temperature at 185 to 200 degrees Celcius. Polyvinylidene chloride is also known as "Saran".

PW

Liner consisting of plain pulpboard with a .001" to .002" thick coating of wax on one side. Its sole point of merit is low cost. It is an adequate liner for packaging non-hygroscopic dry products, but should not be used where other than very nominal protection from atmospheric moisture is needed. Not recommended for liquid products.

PY

Solid Extruded Polyethylene.

Quality control

A system for assuring that commercial products meet certain standards of identity, fill of container, quality sanitation and adequate plant procedures.

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 Decorating.

Reaming

A method used to trim and size the inside of a plastic bottle neck finish. A special rotating cutting tool trims the sealing surface smooth and simultaneously reams (bores) the bottom opening to desired size.

Recessed Panel

A container design in which the flat area for labeling is indented or recessed.

Recyclable

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

Regrind

In plastic bottle manufacturing, ground material from flash and trimmings which is usually blended with virgin material and remolded.

Removal Torque

The turning or twisting force required to remove a lug cap, screw cap, or twistoff crown. Usually expressed in terms of “inch pounds” and measured by means of a reliable torque meter.

Reshipper

Shipping container in which empty unit containers are received and intended to be used as shipping containers for the product packaged in the unit containers.

Resin

Any of a class of solid or semi-solid organic products of natural or synthetic origin, generally non-crystalline and of high molecular weight with no definite melting point. Most resins are polymers.

Resin Additives

Fillers, stabilizers, color pigments, etc., that are mixed in small quantities with resins to manufacture plastic items.

Resins

Various physically similar synthetic chemical compounds which are used to manufacture plastic items. Common resins include high density polyethylene (HDPE), polypropylene (P/P), and polyethylene terephthalate (PET).

Reverse Taper Closure

A closure silhouette characterized by the top of the closure being larger in diameter than the open end.

RNase

An enzyme that breaks down RNA, is a contaminant that interferes with nucleotide research. Plastic containers may be manufactured RNase free, but this a difficult to certify. No analytical tools exist to test for low RNase levels.

Rocker

A container with a bulged or deformed bottom, causing the container to rock when in an upright position.

Rocker Bottom

A bottom defect. A bottom which has sagged so that the container is unstable when placed on a flat surface.

Rods

Glass and polyethylene rods are used particularly in the drug and cosmetic industries. One of the most common is a balled-end rod for touch applying medicines.

ROPP

Roll-on pilferproof aluminum closure.

Rough Finish

A finish defect. A finish which has irregular, minute imperfections causing a rough surface.

RSC

Regular slotted container. A rectangular three dimensional shipping container, made of either solid fibreboard or of corrugated fibreboard. Outer flaps meet. Inner flaps do not meet unless length and width happen to be the same.

Rust Inhibitor (RI)

A chemical agent, incorporated in a compound applied to a metal surface to prevent or reduce rust or corrosion.

S Dimension

Locates the position of the bottle thread with respect to the sealing surface. The “S” dimension is the vertical distance from the sealing surface to the intersection of the finish wall and the top part of the first part of bottle thread where full depth contour exists.

SA-22

A Unipac product. A facing consisting of a treated polyester film bonded to the paper side of paperbacked aluminum foil.

SA-66

Polyester film laminated to aluminum foil bonded to .035 pulp board. Application: Good barrier for shampoos, hand creams, mouthwashes or pharmaceutical products.

SAN

Styrene acrylonitrile. Thermoplastic copolymer with good stiffness, scratch, chemical and stress-crack resistance. Similar to general purpose polystrene except for improved impact resistance and barrier properties; increased rigidity and UV stability; natural straw color; transparent.

Saralene

Manufactured by SANCAP Liner Technology, Inc. Saralene is a white pigmented or clear vinylidene chloride-vinyl chloride copolymer film laminated to P/S foam on one side and P/E film on the other side. Color: White. Suggested product uses include after shave lotion, cold cream, cologne, deodorant (cream), glass wax, peroxide, poison ivy lotion, shampoo, concentrated coffee, corn oil, cough syrup, alcohol and fruit extracts.

Screen Printing

A printing technique involving the passage of printing medium, such as ink, through a web or fabric, which has been stretched on a frame, to which a refined form of stencil has been applied. The stencil openings determine the form and dimensions of the imprint thus produced.

Screw-Thread Vial

A vial with a very short neck and an outside screw-thread finish.

Sealing Surface

The lip portion of the finish that makes contact with the sealing gasket or liner to form a seal.

Seam on Top/Side of Finish

A finish defect. A fin of glass across the top or the side of the finish.

Seamless

Made in one piece without a joint.

Sept Seal

Manufactured by SANCAP Liner Technology, Inc. SEPT SEAL is a backing material to which facings are laminated in the manufacture of duplex liners. Is is a heat sealable film coated with P/E.

Serum Vial

A vial having a neck with a relatively small opening to receive a rubber plug stopper and aluminum seal.

SFYP

When pressure sensitive or heat induction liners are printed with the words “SEALED FOR YOUR PROTECTION”.

Shape

In the Glass and Plastic product types, Shape refers to the shape of the bottom of the container.

Shear Marks

A general defect. C-shaped marks making a definite line in the glass.

Shelf life

The length of time that a product will maintain market acceptability under specified conditions of storage.

Shelfline

A line of glass containers (used by drug and chemical companies) that was designed to give the packer specific advantages on label space, maximum size, appearance and easy pouring, combining the best features of Boston Round and F-style containers.

Shell Vial

A cylindrical container, usually made of glass, characterized by having straight sides, being neckless, and having a flat bottom. Made by sealing one end of a glass tube of appropriate diameter and length.

Shingling

Solvents leaching through a plastic container.

Shoulder

(1) That part of a container between the main body and the neck. (2) That portion of a closure immediately adjacent to and including the corner where top and skirt join. (3) In a can, an off-set on a straight side to act as a stop or support.

Shoulder Check

A shoulder defect. A check which is shallow and in the surface, usually wavy in appearance.

Shrink Labels and Bands

Pre-decorated plastic sleeves that are slipped over the container and heated until they conform to the surface of the container. Same principle as the sleeve label, but superior for odd and small shapes.

Shrinkage

The decrease in dimension a molded article undergoes after being molded. Shrinkage is caused by cooling and subsequent contraction of the plastic material.

Sifter Fitment

A plastic or metal component of a package designed to allow shaking out of dry products, as with a table salt shaker. Snaps over bead, with metal or plastic cap applied over the fitment.

Silkscreening (SS)

A method of printing in which the ink is forced through a design on a taut screen, made of nylon, wire, or other tough screen material, onto the container to be printed. This method can be applied to closures, liners and most containers regardless of shape or size.

Skirt

The vertical part of a closure below the shoulder.

Sleeve Label

A decorated, plastic label made into a tubular form that fits over and on plastic bottles.

Slip Cap

(1) A metal closure with indentations on its sides to make a friction fit on a vial with a slip-cap finish. (2) A closure made of soft material such as polyethylene or rubber, without threads, to be pushed over the tip or neck of a container and held in place by friction.

Snap Top

The most prevalent hinged closure. This closure features a spud and orifice design that is sanitary and self cleaning to prevent clogging. It is available in a wide range of orifice sizes. The snap type can also be designed with an off center spout to direct product flow. The pour spout can be easily lined with a variety of heat sealed materials to ensure product freshness.

Softening Point

The specific temperature in which glass is just barely able to maintain its shape and not flow like a liquid.

Solid Poly

Solid low density polyethylene.

Source reduction

The mass and volume of packaging (per unit of contents) can be measured and used as one of the criteria to minimize during the package design process. Usually “reduced”packaging also helps minimize costs.

SPI resin identification coding system

A set of symbols placed on plastics to identify the polymer type. The primary purpose of the codes is to allow efficient separation of different polymer types for recycling.

Spike

A bottom defect. A small projection of glass or plsatic in the center of the bottom of the container.

Spin Welding

A process of fusing two objects together by forcing them together while one of the pair is spinning, until frictional heat melts the interface. Spinning is then stopped and pressure held until they are “frozen” together.

Split Finish

A finish defect. A finish which has a crack, or split, across the top surface, extending from the top of the finish downward.

Spray coating

A process in which a plastic or glass container is sprayed with a coating to create a customized color, effect or even a textured finish. May be applied to the container as a whole or in sections to create dimension.

Spray Frosting

The technique of spray coating a glass container to create a frosted, matte translucent appearance.

Sprayers

Trigger, finger-tip, pump, continuous spray and metering sprayers, hose-end sprayers for lawn and garden, and compressed air sprayers.

Stabilizer

An ingredient used in the formulation of some plastics, especially elastomers, to assist in maintaining the physical and chemical properties of the compounded materials at their initial values throughout the processing and service life of the materials.

Stacker Cap

A closure designed specifically to nest with the bottom plate of a container to facilitate the stacking of filled containers on top of each other.

Stelvin(R)

The Stelvin(R) neck finish can be found on some glass wine bottles. It is a screw thread finish designed to accomodate the Stelvin(R) closure, an aluminium cap with a tamper evident breakaway band. Offers product preservation, a modern look and practicality.

Stippling

A Decorating consisting of a system of closely spaced small raised dots on the outer surface of a container or closure.

Stockkeeping unit (SKU)

An industry term that details the assortment or variety of items shipped in “one” physical case.

Stones

A general defect. Small inclusions of refractory or unmelted batch materials.

Stopper

A solid, cork-shaped, ground-to-fit plug used to seal some bottles.

Storage Life

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

Stress Cracking

The susceptibility of a thermoplastic article to cracking or crazing under the influence of certain chemicals and stress. Frequently accelerated by the environment to which the plastic is exposed. The stresses which cause cracking may be present internally or externally or may be combinations of both.

Striation

In plastic bottle manufacturing, a longitudinal line in the parison or bottle due to a disturbance in the melt path.

Style

In the Glass and Plastic product types, Style can refer to standard industry names, such as Cylinder, Boston Round, F-Style, Modern Round, Wide Mouth Jar, etc. If a name is not standard industry-wide, Style refers to the sides of the bottle, i.e., straight sided, tapered, etc. In the Closure product type, Style designates standard industry names. If a closure has threads, the Style is Continuous Thread. Other Styles include Dispensing, Child Resistant Closure (CRC), etc.

Styrene Acrylonitrile

Similar to general purpose polystyrene except for improved impact resistance and barrier properties; increased rigidity and UV stability; natural straw color; transparent. Also see SAN.

Sunken Shoulder

A shoulder defect. A shoulder which is not fully blown.

Surface Treating

Any method of treating the surface of a plastic item to accept inks, paints, adhesives and chemical, flame and electronic treating.

Sustainability

The quality of not being harmful to the environment or depleting natural resources, and thereby supporting long-term ecological balance. In relative terms, this is a lifecycle assessment which considers the material and energy inputs and outputs to a package, the packaged product, the packaging process, the logistics system and waste management.

T Dimension

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

T.P.E.

Thermoplastic elastomer.

T/H

Abbreviation for tight head. Used by drum and pail manufacturers to indicate that the lid is a structural component of the drum or pail, instead of a separate part.

Tacseal

A form of liner usually of glassine that is applied over and bonded to a waxed under-liner. When cap is removed from glass, the tacseal liner adheres to the glass lip as a security-type liner.

Tamper Resistant Seal

A seal that cannot be opened without partially destroying the cap or otherwise showing evidence of tampering.

Tamper-Evident Band

(1) A secondary closure made of aluminum, steel, plastic, tape or film to be applied over a primary cap-closure of a rigid container, and designed to require tearing off by manual effort before the container is opened or contents removed. Purpose is to reveal any tampering with the primary closure. (2) Also a perforated extension of tamper-evident closures.

Tear Strip

A narrow ribbon of film, cord, etc., usually incorporated mechanically in the wrapper or overwrap during the wrapping operation or imbedded in a carton to facilitate opening of the package. The scored strip on a key-opening can. Tear tape.

Tear Tab

An extension of the tearing strip on a package to permit easy grasping with the fingers.

Tear Under Finish

A finish defect. A finish which has a small surface section of glass torn from under it.

Teflon FEP

Teflon FEP is translucent, flexible and feels heavy because of its high density. It resists all known chemicals except molten alkaki metals, elemental fluorine and fluorine precursors at elevated temperatures. It should not be used with concentrated perchloric acid. FEP withstands temperatures from -270 degrees C to +250 degrees C and may be sterilized repeatedly by all known chemical and thermal methods. It can even be boiled in nitric acid.

Teflon PFA

Teflon PFA is translucent and slightly flexible. It has the widest temperature range of the fluoropolymers from -270 degrees C to +250 degrees C, with superior chemical resistance across the entire range. Compared to TFE at +277 degrees C, it has better strength, stiffness and creep reistance. PFA also has a low coefficient of friction, outstanding anti-stick properties and is flame resistant.

Tefzel ETFE

Tefzel ETFE is white, translucent and slightly flexible. It is a close analog of the Teflon fluorocarbons, an ethylene tetrafluoroethylene copolymer. ETFE shares the remarkable chemical and temperature resistance of Teflon TFE and FEP, and has even greater mechanical strength and impact resistance.

TFE

Solid Teflon: .030 solid unpigmented polytetrafluoroethylene.

Therimage

The generic term is heat transfer labeling. Process in which a label is applied to a container by heating the label and the surface of the bottle. The heating of the label activates the adhesive on it. After application, the labeled container is flamed to set the label. Used for decorating plastic bottles, glass bottles, and folding cartons.

Thermal Stress Crack

Crazing and cracking of some thermoplastic resins which result from over-exposure to elevated temperatures.

Thermoforming

Custom vacuum and pressure thermoforming. Thermoformed packaging is available for food and product displays, blister packs, clamshells and tri-folds.

Thermoplastic

A plastic that will repeatedly soften when heated and harden when cooled. Typical packaging thermoplastics are styrene polymers and copolymers, acrylics, cellulosics, polyethylenes, vinyls, nylons, and the various fluorocarbon materials.

Thermoplastic Resin

A resin having the property of becoming soft upon application of heat, rigid at normal temperature, and plastic on each reapplication of heat.

Thermoset

(1) A material that will undergo or has undergone a chemical reaction by the action of heat, catalysts, ultra-violet light, etc., leading to a relatively infusible and cross-linked state. Typical of the plastics in the thermosetting family are aminos (melamine and urea), polyesters, alkyds, epoxies, and phenolics. (2) A material which hardens when heated and does not again soften when reheated.

Thin Shoulder

A shoulder defect. A shoulder which has a thin section, characterized by the difference in color between thick and thin glass, or by the appearance of a wave above and below the thin section.

Thread

The indented curved formed section of the cap on the skirt that engages and matches the thread of the container for screw fit purposes. The thread may be continuous or interrupted.

Threads Not Filled Out

A finish defect. A finish with threads or lugs that are not completely blown or pressed to the shape of the cavity in the neck ring.

Tinplate

In closure applications, refers to tin-plated steel. It is sheet steel, usually of special formula and temper, coated on both sides with a controlled thickness of pure tin.

TL

Truckload.

Tolerance

The allowable variation from actual specifications permitted in the manufacturing operation.

Top Load

The amount of weight bearing on the top of a container. The term is sometimes used to indicate the maximum load the container will bear without becoming distorted.

Torque - Application

The rotational force with which a closure is applied to a bottle finish during capping. It affects seal integrity and tightness between bottle and closure. A properly established application torque will provide sealing integrity under expected conditions of temperatures, vibration, humidity, and shock.

Torque - Removal

The rotational force with which a threaded closure is removed from a bottle finish. It defines the amount of rotational force necessary to loosen, open, or remove the closure. A properly designed package should have a removal torque range appropriate for its intended use and the consideration of any requirements for child resistant or tamper evident closure needs.

Torque - Stripping

The application torque which is sufficient to cause the closure and/or bottle finish to distort and override the matching closure/bottle threads, resulting in loose caps, no seal, or package component deformation.

Torque Tester

A type of torque meter used for measuring removal torque of screw caps, lug caps, or twist-off crowns. Can also be used to apply screw or lug caps to a known predetermined tightness.

Transfer Bead

A projecting bead 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.

Translucent

Descriptive of a material or substance transmitting some light, but not clear enough to be seen through.

Transparent

Descriptive of a material or substance capable of a high degree of light transmission (e.g., glass). Some polypropylene films and acrylic moldings are outstanding in this respect.

Tri-Foil

Manufactured by Tri-Seal, a Tekni-Plex Company. Liner utilizing F-217 as a backing material bonded to a polyester film/white LDPE/aluminum foil facing. Provides very good control of moisture vapor and gas transmissions.

Tri-Gard Series

Manufactured by Tri-Seal, a Tekni-Plex Company. Liner with F-217 backing material bonded to any of several heat seal coatings. When adhered to aluminum foil and exposed to an electromagnetic field from an induction sealer, the liner will bond to containers made of LDPE, HDPE, P/S, P/P, PET and PVC. Also available as Tri-Gard Separating which provides a clean peel on HDPE, LDPE, P/P and PET bottles.

Tri-Lam Series

Manufactured by Tri-Seal, a Tekni-Plex Company. Liner with an F-217 backing material and any of various face materials. The face material, in thicknesses of 0.0005” to 0.002” depends on the product being packaged. Possible face materials include polyester, PVDC-coated polyester, PVDC film, nylon/EVOH, EVA/EVOH and aluminum foil.

Tri-Pen Series

Manufactured by Tri-Seal, a Tekni-Plex Company. Liner with either F-217 or F-8268 backing material bonded to PEN face material. Provides excellent carbon dioxide barrier, oxygen barrier, moisture barrier, good thermal properties, and stability. Uses include health care and pharmaceutical items, personal care products, food, beverages, and industrial.

Tri-So2rb Liner

Manufactured by Tri-Seal, a Tekni-Plex Company. Liner with capability to remove oxygen from sensitive areas, including oxygen initially present in the headspace, oxygen entrapped in the food or beverage, and oxygen that is permeating into the package over time.

Tubes

Stock and custom plastic and aluminum dispensing tubes and collapsible aluminum tubes in various sizes, styles and shapes.

Tubes, Flex

PVC, PETG and cellulose propionate flex tubing. Shapes include square, round, triangle and rectangle. Options include shell, beaded, hang-up and threaded.

Tubs

HDPE, LDPE, P/P, P/E, P/S, PET and PVC tubs in various sizes, colors and shapes. Lids and decorating are optional.

Tubular Glass

Containers made from preformed hollow glass tubes. The tubes are cut into desired length, and by heat and pressure they are shaped into the desired configuration. Unlike blown glass, tubular items do not require molds.

Turret

An injected molded 2-piece dispensing closure. It requires that the turret “spout” be lifted with a finger to open and dispense.

Type I Glass

A borosilicate glass which releases the least amount of alkali. It is commonly used for pharmaceutical or fine chemical products that are sensitive to PH changes.

Type II Glass

A soda lime glass (Type III) that has been de-alkalized by treating the interior surfaces to eat away the alkali on or near the glass surfaces. The undesirable characteristic of Type II Glass is that the treating etches the surface, causing a frosted appearance.

Type III Glass

A soda lime glass and the most common in use. Type III is compatible with most items: food, beverages, common chemicals, etc.

Type NP Glass

General purpose soda lime glass.

Ultraviolet

Zone of invisible radiations beyond the violet end of the spectrum of visible radiations. Since UV radiation is a shorter wavelength than visible, it is of higher energy that is sufficient enough to initiate the chemical reactions that degrade most plastics.

UN Number

The four-digit number assigned by the United Nations Committee of Experts on the transport of dangerous goods. These numbers identify a particular group of substances.

Uneven Distribution

A general defect. Thin and thick areas, especially in the side walls of the ware.

Unit Mold

A simple mold which comprises only a single cavity without further mold devices, and is used for the production of sample containers.

Unit of Packaging

A unit of packaging includes all the components required to create a usable package, e.g., a fiber milk carton with a HDPE pouring spout, security seal, cap and any auxiliary materials used such as labels, adhesives, inks and/or coatings.

Unitized Load

A load in which all the containers or articles which may consist of two or more units combined by interlacing or, more commonly, bound together by means of tension strapping, plastic shrink or stretch films.

Unscrewing Mold

Mold action in the manufacture of closures. After the injection cycle is completed, the mold cavity is removed. The core then begins to rotate, literally unscrewing the core from the closure, as a stripper sleeve moves forward to eject the closure.

UPC Symbol

Universal product code. A 10 digit, all numeric code which uniquely identifies a product. The first 5 digits, called the manufacturer identification number, identify each manufacturer or organization controlling the label of the product. The second 5 digits, called the item code, identify individual items within the companies and are assigned by the manufacturer or organization controlling the label of the product.

Urea

Generic name for urea-formaldehyde. A thermosetting compound used to fabricate light colored plastic closures as opposed to phenol which is for dark closures.

UV Stabilizer

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

Vacuum Closure

Any closure equipped with a liner capable of holding a vacuum.

Vacuum forming

A simplified version of thermoforming, whereby a sheet of plastic is heated to a forming temperature, stretched onto or into a single-surface mold, and held against the mold by applying a vacuum between the mold surface and the sheet.

Valve Cap

A closure that includes a valve to regulate the flow of the product from the container.

Valve Seal

A Valve Seal finish requires a closure mechanism that will seal a container on the inner portion of the container wall, at the top of the finish.

Vent

In a mold, a shallow channel or minute hole cut in the cavity to allow air to escape as the material enters and to facilitate ejection of the molded part from the cavity.

Vinyl

Informal generic term for any of the vinyl resins, or for film, or other product made from them.

Viscose Band

A secondary closure or seal made of regenerated cellulose, applied in a wet state over the cork, metal or plastic cap that forms the primary closure, and then shrunk tight by drying. It is used to prevent tampering, to dress up the package, to provide brand identification, to aid the primary closure in preventing escape of products, to prevent cap from becoming unscrewed, etc.

Volume

Referred to as “Displacement” and also as “Capacity.” (1) The amount of water displaced by a model of a bottle. Volume is used to estimate its capacity. (2) The amount of product a bottle is designed to hold, i.e., up to the fill point of the bottle. (3) The overflow capacity, i.e. the amount of product a bottle will hold when filled to overflowing.

VPPA Stripe

The VPPA stripe is a polyamide resin powder coating applied to the side seam after the body cylinder has been welded. The welding process is not able to weld through a coated surface, so the coating must be applied post welding. If the coating was not applied to the side seam, the product would attack the unprotected substrate.

V-Seal

A small non-flexible v-shaped ring molded into a closure so that the v makes contact with the sealing surface (land) of the container's finish during normal sealing operations. The V-Seal requires compression to be effective. Most commonly used for sealing tubes.

W (Full Wax)

Full wax treatment is generally used on wide mouth closures as a caulking agent. It is difficult for many liner facings to provide a satisfactory seal on wide mouth containers. The larger the finish, the greater the tolerance in both container and finish. Inherent waves and dips in large finishes also contribute to this condition. The full wax treatment is generally suggested for closures 58mm and above, primarily as a sealing aid. It also provides an additional moisture barrier and acts as a lubricant similar to the LW and LF coating treatments.

Waist

The central portion of a container which has a smaller cross-section than the adjacent areas.

Wash Board

A general defect. A series of horizontal waves or folds on the side of the bottle.

Water Vapor Permeability

The property of a material that permits water vapor to pass through its structure. This property has measurable values that can be determined under specified conditions of time, temperature and the water vapor pressure differential between two sides of a material or between two sides of material or between the inside and the outside of a container.

Wavy Appearance

A general defect. Irregular surface on either the inside or outside of the container.

Wax Coatings

Wax is widely used as a component of liner facings and serves three principal functions: 1) Lubricates the facing. This prevents excessive adherence to the glass or plastic finish, which may cause closures to be difficult to remove. 2) Reduces vapor transmission. Many dry products are packaged using liners, which depend on wax entirely as the vapor barrier. 3) Acts as a caulking agent. On widemouth containers, the wax helps to compensate for surface variations in the container finish.

Weathering

The attack on glass surface by atmospheric elements.

Well Cap

A closure for a container in which there is an interior recessed opening into which an applicator may be affixed.

Wide Mouth (Finish)

Any container having an opening roughly half of the diameter of the container to almost the full diameter size of the container.

Wire Edge

A finish defect. A finish which has excessive glass projecting upward from the inside edge of the finish (similar to an overpress) except that it does not extend above the sealing surface. It is sharp and could chip.

Wrinkle

A general defect. A large fold on the outside of the bottle. Also called “lap”.

WVTR

Water vapor transmission rate. The actual rate of water vapor transmission used to compare water vapor barrier, wrapping, or container materials. Usually expressed in grams of water passing through 1 square meter of material in 24 hours at 100 F and 90% relative humidity. Rate may also be expressed in different units as grams per 100 square inches per 24 hours, etc., or under different conditions of temperature and relative humidity.

Yellow Oil 613A

A SANCAP Liner Technology product. An oleoresinous coated natural Kraft paper. Yellow Oil 613A is a multicoat resinous coating on natural Kraft paper. Color: Yellow Mottled Pattern. Suggested product uses include maple syrup, lemon juice, blue cheese dressing, mayonnaise, sauces, salad dressing, auto polish, duplicating fluid, industrial oil, linseed oil, pet products, mineral spirits, motor oil, paint remover, shoe polish, varnish, hydrogen peroxide, paint and stencil ink.

Yellow Silite

A SANCAP Liner Technology product. A melamine/ureaformaldehyde coating on yellow Kraft paper. Yellow Silite is a yellow Kraft paper coated on one side with a melamine-urea-formaldehyde resin blend. Color: Yellow. Suggested product uses include maple syrup, auto polish, duplicating fluid, floor wax, industrial oil, insecticide, lighter fluid, linseed oil, motor oil, paint, paint remover, shoe polish, stencil ink, varnish and turpentine.