

## GLOSSARY OF COMMON PACKAGING TERMS



- **AESTHETIC FILL** – Filling to a specific level in a clear or transparent package where the fill level is visible.
- **ANTIOXIDANT** – A chemical substance that can be added to a plastic resin to minimize or prevent the effects of oxygen attack on the plastic (e.g. yellowing or degradation).
- **BARRIER** – Protection from deterioration or admittance of moisture or other elements (such as oxygen and other gases) through the package material. Barriers can consist of an additive to the resin or a coating on the interior or exterior of the bottle.
- **BARRIER COAT** – A surface coating to improve permeation resistance and/or protect the container from scuffing.
- **BASE** – The bottom of the bottle or jar, often marked with an SPI plastic identification code and indentations (called deco ramps or lugs) used to orient a bottle during filling and labeling.
- **BASE PLATE (PLASTIC)** – That part of the mold which contains the heel (base radius) radius and the “push-up” of the container to be formed.
- **BEAD** – On Hinge-Guard/J-Cap style neck finishes, the collar of plastic beneath the neck area that snap-on caps rest against. On 2-stage PET bottles, the bead is known as a transfer bead, and provides a surface by which the preform is suspended while it is reheated and blown into a bottle.
- **BLOW MOLDING** – A process in which a warm plastic parison or preform (hollow tube) is placed between the two halves of a mold (cavity) and blown into the desired shape. This improves the gas barrier, stiffness, clarity and impact strength of the container compared to extrusion molding processes; and as a result, containers can be reduced in weight.
- **BLOW PRESSURE** – The pressure required to form the parison or preform into the shape of the mold cavity, in a blow molding operation.
- **BODY** – The principal part of a container, usually the largest and widest part of the bottle. In bottles, the body is the main portion of the bottle without the neck.
- **BUTTERFLY HINGE** – Flexible (i.e., “living”) hinge used in joining the cover to the main body of a flip top dispensing closure. Butterfly hinges are known for having superior impact resistance.
- **CAD** – Computer Assisted Design
- **CAM** – Computer Aided Molding
- **CAPACITY** – The amount of space inside a container for a given amount of product. The normal volume (usually measured in ccs, mls, ounces, or grams) of a bottle, published in standard sizes used by industry. When a bottle is filled to standard capacity, the contents usually fill it up to its shoulder area.





- CAVITY – The part of the mold that contains the reverse image of the product being formed.
- CLOSURE – A term used to describe a metal or plastic molded cap which effects a primary seal when properly applied to a container.
- CONTINUOUS THREAD (C/T) FINISH – An uninterrupted protruding helix on the neck of a bottle to hold a screw type closure. Continuous thread finishes are the most common type of neck finishes on the bottles and jars produced by Alpha.
- CORE – The part of a mold that allows the internal shaping of a product such as the internal threads of a cap.
- CHILD RESISTANT (CR) – This designation indicates that a package will pass a test protocol administered by the U.S. Consumer Product Safety Commission. CRC stands for Child Resistant Closure.
- CYCLE – The complete, repeating sequence of operations in a process. In molding, the cycle time is the period of elapsed time between a certain point in one cycle and the same point in the next.
- DECO TEMPLATE – A template that shows the area on a bottle or jar that can be safely labeled or screen printed. Graphic designers rely on the deco templates when designing labels to ensure their designs can be applied to a specific bottle or jar.
- DENSITY – Weight per unit of volume of a substance, expressed in grams per cubic centimeter, pounds per cubic foot, etc.
- DIMENSIONAL STABILITY – The ability of a material to maintain its shape under given processing or use conditions.
- DRUG MASTER FILE – A Drug Master File (DMF) is a submission to the Food and Drug Administration (FDA) that may be used to provide confidential detailed information about facilities, processes, or articles used in the manufacturing, processing, packaging, and storing of one or more human drugs.
- ENVIRONMENTAL STRESS CRACKING – The susceptibility of a plastic part to crack or craze under the influence of certain chemicals, stress or other agents.
- FILL POINT – The level to which a container must be filled to supply a designated quantity of the contents.
- FINISH (PLASTIC) – The plastic forming the opening of a bottle shaped to accommodate a specific closure. It is the portion of the neck which carries the threads, lugs or friction fit members to which the closure is applied, and includes the sealing surface. (Often referred to as the Neck Finish.)
- FLASH – The extra plastic attached to a molding along the parting line, that is removed before the part is considered finished.
- FLEXIBILITY – The property of a material that will permit its being bent or twisted without breaking.



- **FLIP TOP/SNAP TOP DISPENSING CLOSURE** – A two-piece closure system where both pieces are typically attached by a living hinge. One half provides the threads for attachment to a bottle, tube or jar and an orifice for dispensing the product while the other half provides the closure mechanism, usually a pintel that snaps audibly into the orifice.
- **FLUORINATION** – A surface treatment for polyethylene that is used to improve the barrier properties against non-polar materials or solvent.
- **GAS PERMEABILITY** – The ability of a gas or other volatile substance to penetrate a material. Materials that will allow significant passage of gases are said to be permeable, while materials that resist or stop the passage of gases are said to offer gas barrier properties.
- **GAYLORD** – A term used to designate a very large carton (i.e., 45" x 33" x 51") that will fit one per pallet. There are various sizes depending on the pallet and the customer requirements.
- **HARDNESS** – The resistance of a material to compression and indentation.
- **HAZE** – A cloudy or foggy appearance in a normally transparent plastic.
- **HEAD SPACE** – The space between the level of the contents in the neck of a bottle and the closure. It is intended to furnish space for expansion of product due to heat or other action after packing. Head space may also refer to the amount of space in a corrugated shipper carton filled with plastic bottles or jars.
- **HEAVY GRAM BOTTLES** – Bottles blown from a parison or preform to a size that is relatively small for the parison's/preform's normal capacity. The result is a bottle with greater wall thickness, because more plastic has been distributed over a smaller bottle shape.
- **HERMETIC SEAL** – A seal that will exclude air and will be gas tight at normal temperatures and atmospheric pressures.
- **HIGH-DENSITY POLYETHYLENE (HDPE)** – A rigid, tough and strong resin of natural milky color. HDPE has very good stress crack resistance as well as high impact and melt strength. With HDPE it is easy to add color.
- **INDENTED LABEL PANEL** – When the diameter of the label panel area on a bottle is smaller than the diameter of the bottle immediately above and below the label panel area. Indented label panels are often used to prevent scuffing of pressure-sensitive paper labels.
- **INJECTION MOLDING** – A molding process in which, under pressure, melted or liquefied plastic is forced from a cylinder into a cooled mold cavity to form a desired shape.
- **INJECTION BLOW MOLDING** – A blow molding process in which the parison or preform to be blown is formed by injection molding and then blown out into the shape of the cavity that surrounds it.
- **J-CAP FINISH (also called HINGE-GUARD)** – Flexible (i.e., living) hinge used in joining the cover to the main body of a flip top dispensing closure. Consumers open a J-Cap closure by removing a strip of plastic holding the top of the closure to the base of the closure, leaving a hinged, snap-top closure mechanism. This type of closure can also provide tamper evidence.



- LABEL PANEL – The flat area of the bottle's body where a pressure sensitive label or screen printing can be applied. Some of Alpha's bottles feature indented label panels that help prevent scuffing of the labels.
- LIVING HINGE – Integral hinge made of flexible plastic.
- LUG CLOSURE – A screw-type closure where the thread is interrupted rather than continuous. The closure is affected by a short camming action. One advantage is that application is very fast, since the closure needs only a few degrees of rotation. In contrast, a normal continuous thread closure might require 360 degrees or more of rotation to affect a seal.
- MINIMUM WALL – A term that designates the minimum thickness of the wall of a container.
- MOUTH – The opening at the top of a bottle or jar.
- NARROW NECK – Narrow neck bottles from Alpha have neck sizes ranging from 15mm to 38mm and most often are Continuous Thread closures. Narrow neck bottles are best suited for liquids and lotions, and products that can be poured or pumped.
- NECK – The part of the container where the bottle cross-section decreases to form the finish.
- NECK FINISH – The plastic surrounding the opening of a bottle shaped to accommodate a specific closure. It's the portion of the neck that carries the threads, lugs or friction fit members to which the closure is applied, and includes the sealing surface and sealing bead; generally, the whole portion above the transfer or pry-off bead. Alpha makes continuous thread (C/T) necks for twist-on caps, and Hinge-Guard (J-Cap) necks for snap-on caps.
- NECK INSERT – Part of the mold assembly that forms the neck and finish. Sometimes called the "neck ring."
- NECK RING – That part of the mold equipment that forms the finish of a bottle.
- OPAQUE – Descriptive of a material or substance which will not transmit light.
- OVERFLOW CAPACITY – The maximum capacity of the container to the top of the finish if it was filled to the very top. This figure allows manufacturers to determine if their product will fit in a certain bottle style.
- PACKER – Packers are wide-mouth bottles typically used for pills, capsules and tablets. Alpha makes several different styles of packers, including rounds (also called Pharma Rounds), oblongs (with square bases) and apothecary styles (with concave shoulder areas) in both PET and HDPE.
- PARISON – The extruded hot plastic tube that will be placed in a high-density polyethylene mold to be inflated into a bottle or other hollow form.
- PARTING LINE – The mark on a bottle where two halves of a mold meet in closing.
- PERMEATION – The extent to which a gas or water vapor passes through a plastic film or container.
- PINCH-OFF – A raised edge around the cavity in the mold, which seals off the part and separates the excess material as the mold closes around the parison in the extrusion blow molding operation.



- PLA – Polylactide – A corn-based resin made by NatureWorks PLA that goes by the brand name Ingeo™.
- PLASTIC MEMORY – The tendency of plastics to return to their original molded form.
- PLASTICIZER – A material added during the manufacturing process to increase flexibility. None of Alpha's bottles include any form of plasticizer.
- POLYETHYLENE TEREPHTHALATE (PET) POLYESTER – The most common thermoplastic polyester. PET is a hard, strong, shatterproof and dimensionally stable material that absorbs very little water. It has good alcohol, solvent and gas barrier properties and good chemical resistance. It also has very good oil barrier properties and is rigid and naturally crystal clear. It accepts colorants extremely well and is commonly recycled.
- POUR-OUT FINISH – A bottle finish having uniform undercut lips as a dealing surface, to facilitate pouring without dripping.
- PREFORM – Used in Blow Molding processes. Heat-softened polymer (such as PET) is formed into a shape similar to a thick test tube with neck threads. In 2-stage stretch blow molding, the preform is cooled for storage; when it is needed, the tube is re-heated and inflated while inside a Blow Mold to create the shape of the desired bottle or jar. In single-stage injection stretch blow molding, the preform is formed immediately prior to being placed in the blow molding station without cooling down.
- PROTOTYPE MOLD – A simplified mold construction often made from a light-casting alloy or from epoxy resin in order to obtain information for the final mold or part design.
- PUSH UP – The contour of the bottom of the plastic container designed in such a manner as to allow an even bearing surface on outside edge and prevent the bottle from rocking.
- REGRIND – A thermoplastic from a processor's own production that, having been processed by molding, extrusion, etc., is then reground or pelletized for reuse or recycling.
- RUNNER – In injection molding, one of the passages that take plastic melt from the injection point (sprue) and distribute it to the various cavities in a multicavity mold.
- SEALING BEAD – A bead of material that is molded onto the top of the land area completely around the top of the neck finish in order to further enhance the sealing capabilities of the component.
- SEAT – Indentations on the base of a bottle that help align bottles on filling and decorating lines so that the bottles are oriented correctly during these processes.
- SHELF LIFE – The period of time during which a product can be stored under specified temperature and humidity conditions and remain suitable for use. Shelf life is sometimes called storage life.
- SHOULDER – The sloped area of a bottle or jar between the neck area and the body of the bottle.
- SIFTER TOP – Perforated top on a container or fitment designed to dispense contents.
- SURFACE TREATING – Any method of treating a plastic so as to alter the surface and render it receptive to inks, lacquers and adhesives, such as chemical, flame or electronic treating.



- THERMOFORMING – A method of forming plastics in which a plastic sheet material is heated to a point where it is soft and pliable. The sheet is then formed to the desired shape using vacuum, pressure and mechanical assists or any combination of these.
- THERMOPLASTIC – Material that will repeatedly soften when heated and harden when cooled, often used for caps and closures.
- THREADS – On continuous thread styles, the “spiral” of plastic onto which a C/T closure is twisted. Different C/T closure styles feature different numbers of threads.
- TORQUE – Twisting force used to either attach or remove the closure.
- U.V. INHIBITOR – A chemical added to a plastic resin, which absorbs UV light and helps prevent damage to and prolongs the life of the plastic. (See UV STABILIZER).
- U.V. STABILIZER (ULTRAVIOLET) – Any chemical compound which, when admixed with a thermoplastic resin, selectively absorbs UV rays and minimizes chemical and/or physical changes that may be caused. (See UV INHIBITOR).
- UNIT CAVITY – A mold with only one cavity, usually a pilot for the full production set of molds. Alpha often develops cost-effective unit cavities for the prototyping machines in our Innovation Lab to bring new products to market faster.
- WALL – The thickness of the bottle, usually measured along the side walls. Alpha manufactures some heavy-wall styles of bottles that offer improved strength and stacking.
- WELD LINES – A visible line created on the surface of a molded part caused by two flowing streams of plastic joining with the cavity as the cavity is filled.
- WIDE MOUTH – Containers with large finish opening or those that have a large finish size in relation to capacity.