QEC Quality Environmental Containers

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Glossary of Terms for Plastic and Glass Containers

Amber — A chromatic (brown) color of glass or plastic containers that absorbs nearly all radiation with wavelengths shorter than 450mm. It is used principally to protect the contents of the container from exposure to light. Amber glass offers excellent protection from ultraviolet radiation.

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

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.

Barrier Resins — A group of resins specially formulated to resist the transmission of oxygen, water, solvents, essential oils, etc.

Borosilicate Glass — A high silicate glass with at least 5% boron oxide (see Type 1 Glass)

Chemical Durability — The resistance of glass to attack by solvents or product.

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.

Clarity — Freedom of haze or cloudiness in a plastic material.

Closure — Any structure or device which is designed to close off the opening of a container and prevent loss of its contents (aka caps).

Continuous Thread — A continuous spiral projecting glass ridge on the finish of a container intended to mesh with the thread of a screw type closure.

Density — Weight per unit volume normally reported as grams per cubic centimeter. Typical container glasses range from 2.48 to 2.52 gm/cc. One of the physical properties used to monitor composition.

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.

"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.

Ear	The name given to the finger grip of pressed glass between the shoulder and finish of a ½ gallon, gallon, or other glass jug. The ear is used to facilitate holding the jug.
Environmental Stress Cracking	The susceptibility of a thermoplastic article to cracking under the influence of certain chemicals and stress.
Extrusion	The compacting of a plastic material and forcing of it through an orifice in more or less continuous fashion.
Fill Point	Level to which a container must be filled to furnish a designated quantity of the contents.
Finish	The plastic or glass forming the opening of a container and shaped to accommodate a specific closure.
Flint	A glass color or lack of color. Flint is perfectly clear transparent glass, like window glass, used for all types of containers.
HDPE	An abbreviation for High Density Polyethylene.
Head Space	The space between the fill level of a container and the sealing surface.
Heel	The part of a bottle between the bottom bearing surface and the side wall.
"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.
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.
"L" Dimension	The vertical distance from the sealing surface to the top part of neck bead, i.e., where the uppermost part of the bead intersects the container neck.
Lug	(1) A type of thread configuration designed so the thread segments are disposed equidistantly around a bottle neck (finish). The closure has matching portions that engage each of the thread segments. (2) A small indentation or raised portion on the surface of a container. The lug provides a means of indexing the container for operations such as multi-color decoration or labeling.
Mil	A unit of measurement equal to .001 inch.
Minimum Wall	A term designating the minimum thickness of the wall of a bottle.
Moisture Vapor Transmission Rate	The rate at which water vapor permeates through a plastic film or bottle wall at a specified temperature and at relative humidity.
Narrow Mouth	A finish of a plastic or glass container in which the diameter is small relative to the diameter of the body.
Neck	The part of a container where the shoulder cross section area decreases to form the finish.

Neck Bead	A small protruding circle of glass on a glass container at the point where the neck meets the finish of the container.
Overflow Capacity	The capacity of a container to the top of the finish or to the point of overflow.
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. PET has the unusual ability to exist in either an amorphous or highly crystalline state. The crystalline state is necessary for extruding the material. The amorphous state permits it to be oriented.
Polyethylene	A thermoplastic material composed of polymers of ethylene. It is normally a translucent, tough, waxy solid unaffected by water and a large range of chemicals.
Polypropylene	A tough, light-weight rigid plastic made by the polymerization of high-purity propylene gas in the presence of an organometallic catalyst at relatively low pressures and temperatures.
Polystyrene	A water-white thermoplastic produced by the polymerization of styrene (vinyl benzene).
Polyvinyl Chloride (PVC)	A thermoplastic material composed of polymers of vinyl chloride. PVC is a colorless solid with outstanding resistance to water, alcohols, and concentrated acids and alkalies
Resin	Any class of solid or semi-solid organic products of natural or synthetic origin, generally of high molecular weight, with no definite melting point. Most resins are Polymers.
"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.
Sealing Surface	The lip portion of the finish that makes contact with the sealing gasket or liner to form a seal.
Shoulder	The portion of a glass container in which the maximum cross section or body area decreases to join the neck of the container.
"T" Dimension	The outside diameter of the thread helix on a bottle finish.
Tolerance	The allowable variation from actual specifications permitted in manufacturing.
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.
Type I Glass	Containers made of Type I Borosilicate glass are generally used for preparations that are intended for parenteral administration. Highly resistant borosilicate glass.
Type II Glass	Treated soda lime glass.
Type III Glass	Soda lime glass.
Type NP Glass	General purpose soda lime glass.

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.
Weathering	The attack on glass surface by atmospheric elements.
Wide Mouth	The finish of a glass container in which the diameter is large relative to the diameter of the body.

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