

A to Zs of Packaging

Glossary/Definitions of Packaging Terminology

Packaging Term	Picture	Definition
Alarm Indicator		Pertaining to sealers, these are visual or audible indicators that announce the completion of sealing.
Angel Hair		Small strands of film found on the edge of film; caused by improper cutting or slicing.
Anti Static Film		An additive that is used when making film to reduce static in the poly bags. Ideally used for electronic components.
Automatic Sealer		Impulse sealer with continuous opening and closing of sealing jaw which can bet set by the operator; can seal more bags/minute than a hand or foot operated sealer. Sealer is equipped with an electromagnet and transistorized circuit board.
Bag on Side		Slipping the basket into the bag from the side and closing at the back of the basket. This hides the closure when the basket is viewed from the front.
Bag Over and Under		Dropping a shrink bag over the top of the gift product and placing the excess film under the product. When heated, the excess film will shrink tightly.
Bag Sealer		Refers to sealers that seal using a tape dispenser; popular in the product market. The sealer wraps tape around the bag opening and seals and cuts in one motion.
Barrier Bag		Bag comprised of a non-permeable material such as nylon or metal foil; suitable for vacuum packaging and nitrogen flushing.
Basket in Bag		Open bag and place basket inside. Pull bag up over basket and tape or seal the top. You can flare excess film at top and shield with cardboard while shrinking the basket. This give a dramatic look to the basket.
Bi-Axial Orientation		Oriented along both X and Y axis.
Blister Packaging		Term used for pre-formed plastic packaging. This process takes a thermoformed piece of hard plastic (the "blister") and heat seals it over your product on a treated printed card. Blister packaging is also referred to as carded packaging.
BOPP		Bi-axially oriented polypropylene; popular in flexible packaging due to its crystal clear nature resulting from when polypropylen is bi-axially oriented.
Bottom Gusseted Bag		Pleated bottom on bag. There are three dimensions used when giving the side of a bottom gussted bag. Length x Width x Gusset Size.

A to Zs of Packaging

Glossary/Definitions of Packaging Terminology

Packaging Term	Picture	Definition
Bottom Seal Bag		The bag is made from seamless poly tubing then cut at desired lengths. The bottom of the poly length is then heat sealed forming a bag.
Burning the Film		Accidental hole-making occurs when the heat gun is held in one place too long.
CBS		See Also Continuous Band Sealer .
Cellophane		Cellophane is derived from wood and is 100% biodegradable. Cellophane has high permeability allowing moisture to pass through preventing condensation and reducing risk of mold. Cellophane's ability to "crinkle" is useful for display purposes.
CF Film		Centerfold Film is film that is folded in half and wound up on a roll. For example, a 12" CF film means that film is actually 24" flat when unfolded. It is measured in by width (inches) x length (feet).
Channel-Type Bag and Tubing		Specially designed bag to allow air to be drawn out during the vacuum process as bags are not used for nozzle-type vacuum sealers. Most household vacuum sealers such as the FoodSaver and Seal-a-Meal sealers use channel bags.
Clam Shell		A piece of rigid plastic is thermoformed to create a case or "clamshell" for your product. Usually the front and back of the clamshell are attached by a plastic hinge. Material of the clamshell is usually PVC, PE, or PS. When clam shells are securely heat sealed, they are tamper resistant and deter package pilferage. Clam shells can be sealed with a clam shell sealer such as the KF-772DH or an ultrasonic clam shell sealer, the Quppa.
Co-extruded film		Film comprised of multiple layers of film; combines the performance characteristics of multiple film materials.
Congel Time		Also known as the Cooling Time. For impulse sealers, cool time is the time the jaws of the sealer are closed during which the plastic in the seal area is allowed to cool and reset under pressure providing the strongest seal. When the cool time is too short, the seals made by the sealer tend to appear distorted.
Constant Heat Sealer		Also known as direct heat sealers, constant heat sealers maintain heat in both sealing jaws. Because constant heat sealers maintain heat as long as the power is on, constant heat sealers have better heat penetration to seal thicker materials. Constant heat sealers use a temperature controller to directly control the temperature setting. Constant heat sealers are recommended for sealing for materials such as coated aluminum foil, polycello films, gusset bags, coated Kraft paper, waxed paper, cellophane, mylar, coated PP, and other materials.
Continuous Band Sealer		Sealer that is capable of continuous packaging sealing by moving your packaging through heated a sealing jaw using a driving belt. The speed will depend on how fast the operator can feed the packaging through the sealer. Band sealers are capable of both horizontal or vertical sealing.

A to Zs of Packaging

Glossary/Definitions of Packaging Terminology

Packaging Term	Picture	Definition
Cooling Time		See Also Congeal Time .
Copolymer		Result of two monomers being combined through polymerization
Core		A paper or plastic tube on which film is wound. Cores are furnished in 3" and 6" inside diameters. 3" is standard.
CPP		Cast Polypropylene is a polypropylene based. Known in the packaging field to be the more "elegant" brother of polyethylene film, with higher gloss, greater transparency and better heat resistance.
Crow's Feet		Wrinkles found at the corners of a shrink wrapped package. Usually occurs when a package has not received enough heat during the shrink wrap process
Custom Bags		Bags that are specifically designed to meet the needs of the individual customer. If you have any custom requests, please contact us and we will see what we can do.
Cutting Wire		Refers to a heating element that is a round wire. The purpose of the round wire is to cut and seal at the same time and position leaving no seam at the top of your packaging.
Cutting Length		Refers to the cutting length of a sealer equipped with a cutter. The cutting length is usually a little shorter than the sealing length.
Direct Heat Sealer		See Also Constant Heat Sealer .
Dog Ear		Refers to the triangular protrusions of shrink film at the corners of the trim seal. To remove the dog ears, hold it with your fingers as you shrink around it, the film will begin to pull in as you shrink. When you have shrunk all the film down as far as possible, pat any excess film with your hand and it will disappear. Using dome bags will eliminate the occurrence of dog ears
Double Sealer		Both the upper and lower jaws are equipped with heating elements. Both sides of the seal are heated which allows thicker materials to be sealed.
Double Sided Sealing		This refers to the sealing from a double sealer, usually preferred when sealing thicker and heavier materials. See Also Double Sealer .
Dwell Time		Time in which the sealer is exposed to both heat and pressure. The dwell time is the sealing time plus the cooling time.
Electronic Timer		See Also Timer .

A to Zs of Packaging

Glossary/Definitions of Packaging Terminology

Packaging Term	Picture	Definition
Element		Wire that generates heat when connected to electricity and fuses the two layers of film together. Elements are usually comprised of nichrome.
Emboss Coder		A coding mechanism that marks a package so that it stands out in relief.
Emergency Stop		The sealing operation is stopped with an emergency stop button located on the unit.
EVA		Ethylene Vinyl Acetate, a copolymer, that is extremely impact resistant with extreme toughness. Recommended where high strength film is required. EVA is one of the popular commercial polyolefins; others being polyethylene (PE) and polypropylene (PP). EVA is commonly added to ordinary polyethylene film to add strength.
EVOH		Ethyl Vinyl Alcohol, a copolymer, with the primary purpose to provide an oxygen barrier for improved food packaging shelf life. The standard formulation consists of a co-extrusion of a polyester outer layer, a thin EVOH layer and a polyethylene inner layer. EVOH is a strong, flexible and transparent film with good moisture and excellent oxygen barrier specifications.
Fish Eyes		Rounded or oval areas found when film has not completely shrunk; additional heat would cure the fish eyes.
Flat Element		A flat element will result in a seal width ranging from 2mm to 10mm. See Also Element .
Flat Bag		A bag which has no fold, flips, lips; 3-sided sealed.
Food Grade		Denotes if a packaging material can come in contact with an edible product; meets FDA criteria.
Foot-Operated Sealer		Free-standing sealers with a foot switch to allow operator to activate the closing of the sealing jaws with his/her foot. Operator is thus able to have both hands free to operate the sealer. A foot sealer is usually accompanied with a work table that can be adjusted. A foot sealer can seal more bags/minute than a hand sealer.
Film Roller		Film rollers hold rolled film or poly bag tubing. Some are equipped with film separators, needle punchers, and or work tables.

A to Zs of Packaging

Glossary/Definitions of Packaging Terminology

Packaging Term	Picture	Definition
Gauge		Thickness of film. Gauge divided by 100 equals 1 mil. Different gauges are recommended for different packaging materials. Rule of thumb for PVC shrink film: If you wrapping products under 12 pounds, 75 gauge film is recommended. Average shrink time is 40 seconds. Products over 12 pounds, use 100 gauge film. For products over 35 pounds, use 150 gauge film. Average shrink time is 60 seconds.
Gusset		A special pleat, on the side or bottom of a bag.
Hand Sealer with Cutter		Sealers with cutter/blade to cut off excess material.
Heat Gun		A heat gun is a device used to emit a stream of hot air. They are superficially similar in shape and construction to a hair dryer, though they run at much higher temperatures.
Heating Element		See Also Element .
Heat Sealer		See Also Impulse Heat Sealer or Direct Heat Sealer .
High Integrity Seal		A high-integrity seal, also known as a lap seal, is a method of sealing in which two pieces to be sealer are over-lapped and then heated to form a seal. The seal is usually stronger than a standard slit seal. The width of the high-integrity seal is typically 3/16".
Hot Wire Sealer		Hot wire sealers are impulse sealers that seal and cut your packaging leaving no seal seam above. Hot wire sealers use heating elements that are "round."
I-Bar Sealer		A round wire sealer, which can cut and seal used commonly in the shrink wrapping industry. A typical I-Bar sealer is accompanied with a film roller and film separator.
Impulse Heat Sealer		Impulse sealers are the most common heat sealers on the market. Sealers require no warm-up time and seal by applying a pulse of energy to the sealing area. Impulse sealers are equipped with a controlled dwell timer which is pre-set to a specific time to seal a film. The unit is not on all the time and only utilize electricity during the sealing process. Typically, the heat temperature is 400°C or 750°F and is accompanied with a timer which regulates the length of the heating cycle. There are many different kinds of impulse sealers: hand, foot, automatic, etc.
Ink Coder		A coding mechanism that marks a character on a surface by pressing ink-coated metal characters. The ink coder uses either wet or dry ink to create visible imprints on the material surface.

A to Zs of Packaging

Glossary/Definitions of Packaging Terminology

Packaging Term	Picture	Definition
Ink Roll		When an ink roller is placed in contact with a heated metal printing with a heating block, the ink becomes liquid and is transferred to the printing wheel.
Induction Liner		Induction liners are found in bottles that are sealed through induction. The liners are comprised of different layers: top layer - paper pulp, middle layer - wax used to bond aluminum to the wax, and bottom layer is a polymer laminated with foil. When passed through an induction machine, the heated foil melts the wax and polymer created a hermetic (airtight) seal.
Induction Sealer		Induction sealer, also known as cap sealing, is a method of heating a metallic disk to hermetically seal the top of plastic or glass containers. Industries that use induction sealing include pharmaceutical, food, and cosmetics
L-Sealer		An L-Sealer has L-shaped heating elements and most often used in shrink wrap packaging. L-Bar sealers offer a one step packaging process when using centerfold film.
LDPE		Low Density Polyethylene is a type of plastic that is easily heat sealed, relatively inexpensive and commonly used with products with a short shelf life. LDPE has relatively poor barrier properties allowing moisture and gas to pass through and will not protect products from oxygen or water vapor over extended periods of time.
Leak Proof Bags		Polyethylene leak proof bags are manufactured with a special EVA additive and extra seal.
Magnet Option		A magnet is embedded into the sealing arm to hold the arm down during the heating cycle.
Manufacturer's Replacement Kit		Refers to the parts that are provided with a brand new machine, usually the consumable parts. For a sealer, this is usually the heating element and teflon cover.
MAP		Modified atmosphere packaging is a technique for extending the shelf-life of fresh foods. In the MAP process, the air surrounding the food is changed to another composition.
MD		Machine Direction, the direction the film is manufactured and moves through the sealing equipment.
Medical Sealers		Also called sanitary sealers, medical sealers are engineered with enhanced process control, user interface functionality and seal validation capability that is required for use in the medical and pharmaceutical industries.
Meshed Seal		Design of the seal is comprised of small squares.
Microswitch		Also known as the trigger switch that is found on sealers. The microswitch is a small switch that when activated will allow the electrical circuit to complete, which in turn allows the sealing cycle to begin. You should be able to hear a "click" when the switch is activated (when the arm or jaw of sealer is brought down.)

A to Zs of Packaging

Glossary/Definitions of Packaging Terminology

Packaging Term	Picture	Definition
Mil		Thickness of film. 1 mil is equal to 1/1000 of an inch. One mil is equal to 100 guage and 25 micron.A unit of measure for thickness of a plastic bag, expressed in 1/1000 of an inch.
Monoaxial		A film which is oriented to shrink film in only one direction.
Moisture Barrier Bags		Comprised of metalized polyester that offers dry packaging for moisture sensitive products and is vacuum sealable.
Mylar		A polyester film made from stretched polyethylene terephthalate (PET) that is metallized. Used for its excellent gas and aroma barrier properties, tensile strength, and chemical and dimensional stability.
Nitrogen Purge		Nitrogen purging is an added feature in vacuum sealing; the process flushes out oxygen and moisture to ensure freshness of a product.
Nozzle Vacuum Sealer		Also called External Clamp (snorkel) vacuum sealers. These vacuum sealers clamp the open end of your bag shut while a retractable nozzle suctions the air out of the bag. Retractable nozzle vacuum sealers use the standard vacuum pouches. The most common entry level nozzle vacuum sealer is the SINBO DZ-280/A.
OD		Outside dimension of a bag, container, or other packaging.
OTR		Oxygen Transfer Rate. The lower the number, the higher the barrier. Usually quoted as cc/sq meter.
PE		Polyethylene is the most commonly used plastic. PE is lightweight and resistant to staining with low moisture absorption rates. PE has a higher impact strength but lower working temperatures and tensile strength than polypropylene. There are different grades of PE such as: Low Density Polyethylene (LDPE), High Density Polyethylene (HDPE), and Ultra Molecular Weight Polyethylene (UHMWPE).
Perforation		A perforation in the poly bag allows the end-user to easily access the product by providing a convenient way to tear the bag open.
PET		Polyethylene Teraphthalate (PET) is a thermoplastic resin of the polyester family.
Pneumatic		A pneumatic sealer means that a sealer requires not only electrical power to operate, but also pressurized air as well.
Polyester		Refers to a large family of synthetic plastics but most commonly is specific to the term known as PET.
Polypropylene		PP is a thermoplastic polymer used in a variety of applications. Polypropylene is an economical material that offers a combination of outstanding physical, chemical, mechanical, thermal, and electrical properties not found in any other thermoplastic. Compared to low and high density polyethylene, it was lower impact strength, but superior working temperature and tensile strength.

A to Zs of Packaging

Glossary/Definitions of Packaging Terminology

Packaging Term	Picture	Definition
Poly		An abbreviated term for plastic.
Poly Bags		Bags made of polyethylene or polypropylene.
Poly Bag Sealers		Poly bag sealers use a controller to generate electrical pulse that generates heat on a heating wire or strip embedded on the sealer to melt and fuse materials together. When the heating is de-energized, the cooling cycle is initiated and during this cooling period, a solid air and water tight bond is formed.
Poly Tubing		A continuous roll of flexible plastic polyethylene film; it can be cut into whatever length wanted. Different gauges and widths are available.
Polyolefin		A generic term used to describe a family of polymers derived from a particular group of base chemicals known as olefins. The polyolefin family includes polypropylene, polyethylene, and advanced polyolefins.
Polystyrene		Polystyrene (PS) is one of the most widely used plastics. Foam products are made from polystyrene.
Porous		Allow oxygen and moisture to slowly re-enter the bag. Both Polyethylene and polypropylene bags are porous.
PP		See Also Polypropylene .
PTFE		PTFE stands for polytetrafluoroethylene. It is used in non-stick pans and is better known as Teflon, which is trademarked by the DuPont company. PTFE's mechanical properties are low compared to other plastics, and can be used over a wide temperature range of -100°F to
PVC		Polyvinyl chloride is a thermoplastic polymer. In its pure form, PVC is not very useful since it is stiff and inflexible. PVC can be made softer and more flexible by the addition of plasticizers.
Rear Shrinking		Begin shrinking from the rear of all products. This will draw the seams to the rear so that they will not obscure the front view of the product.
Recycle Time		See Also Dwell Time .
Replacement Kit		Usually consists of Heating elements, teflon (PTFE) adhesive or teflon(PTFE) covers.

A to Zs of Packaging

Glossary/Definitions of Packaging Terminology

Packaging Term	Picture	Definition
Resin		The raw material that is melted down and then blown into film.
Replacement Kit		See Also Manufacturer's Replacement Kit .
Round Element		A round element is used to cut and seal with no excess material above the sealing point. Round elements are mostly used for shrink wrapping.
Seal Length		Refers to the maximum width of a bag that a sealer can seal.
Seal Width		Refers to the width of the seal. Widths can range from 1.5mm to 10mm for the common flat seal.
Sealing Wire		See Also Element .
Separator Bar		A rod, arm or bar that extends into the centerfold film to keep the the film open for easy product entry.
Serrated Seal		Lined seal. The design of the seal is made up of horizontal line.
Shrink Bags		A pre-made shrinkable bag which will fit the dimension of your product. The bag should be at least 10 times larger than the product to be wrapped.
Shrink Banding		This process drops a cut piece of PVC tubing on your product. Your product then travels through a heat tunnel to shrink the tubing down tight on your product.
Shrink Film		A clear or tinted flexible fim normally available in centerfold fashion that is highly sensitive to extreme heat. The film has been manufactured so it will shrink to contour to the product.

A to Zs of Packaging

Glossary/Definitions of Packaging Terminology

Packaging Term	Picture	Definition
Shrink Wrap		The shrink wrap process places a sealed plastic bag or film over your product. The bagged product when exposed to heat using a heat gun or heat tunnel, will shrink down to the exact size of your product.
Shrink Time		Duration for which heat must be applied to cause film to shrink.
Shrink Tunnel		This unit is a heated chamber with roller conveyor. The product enters one end on the conveyor belt and exits the opposite, completely shrunk. Shrink tunnels can be heated by using Infra-red rods as well. See our shrink tunnel machine, the CN-4520.
Shrinkability		Most shrink films will shrink differently in the vertical and horizontal directions.
Side Gusseted Bag		A bag with a pleated fold on each side to allow for greater capacity.
Silicone		Fireproof and burn resistance material. Silicone Rubber is used as a pressing bar for sealers.
Single Sided Heating		Most common type of sealers, with one heating element used.
Singlewound Film		A term used to describe one layer of film wound around a core. It is generally used on automatic shrink packaging equipment.
Skin Packaging		Process takes a sheet of soft flexible film, heats it, and then vacuums the film down over your product on a coated board. Formation of contour fitting covers normally adhered to stiff paper board.
Stretch Film		Also called hand wrapping film, stretch film is a type of food service film specifically designed to wrap a wide range of food products.
Stretch Wrap		Stretch packaging uses stretchable film to wrap your product , most commonly to a pallet. This process can be done by hand, or automatic equipment.
Shrink Wrapping Systems		A complete package usually consists of a sealer, film or bag and a heat gun to do shrink packaging.

A to Zs of Packaging

Glossary/Definitions of Packaging Terminology

Packaging Term	Picture	Definition
Stand Up Pouch		Stand Up Pouches are also known as stand bags or stand pouches because when filled, these bags can stand on their own. Our stand up pouches are clear with a higher gloss and greater transparency than other pouches.
Tear Notch		This small slit in the end seal or a cut on the side of bag allows consumers to easily tear the film in order to gain access to the product.
Teflon Cover/Tape		Teflon or PTFE piece of fabric with high heat resistance and non-stick surface. It is used in sealer to prevent the heating element from coming in contact with the film to prevent the heating element or sealing wire from carbonizing. Teflon is a registered trademark of DuPont
Timer		Unit that controls the seal cycle duration.
Transverse Direction		Parallel to the film width.
Trim		The edges of excess shrink film which are cut from a package.
Trim Seal		A seal applied using a seal wire which melts and fuses layers of film together. The seal wire both seals and cuts excess material from the package.
Twin Heating Element Sealer		Not to be confused with Double Sealers. For a twin elements sealer, there are two heating elements, side by side, so there are two seal bands on the bag.
Vacuum Sealers		Vacuum sealers remove air from a bag through a nozzle and then hermetically heat seal the package.
Vacuum Chamber Machines		Vacuum chamber machines use a vacuum pump to remove the air from an entire chamber and then hermetically seal the bag. They are ideal where a high vacuum level is required.

A to Zs of Packaging

Glossary/Definitions of Packaging Terminology

Packaging Term	Picture	Definition
Vacuum Packaging		Refers to packaging in containers (rigid or flexible) from which substantially all the air has been removed prior to final sealing of the container.
Vacuum Pouches		Refers to pouches made of multi-layered nylon and polyethylene. Vacuum pouches are non-porous and used in long term food storage/freezing.
Validatable		Generally it is the testing and verification of a heat sealer's ability to repeatedly seal package(s) using a specific range or ranges of temperature, pressure and dwell Time. The goal of validation is to insure that every package that is put through a sealer gets a perfect seal every time.
Vented Bags		Bags with a hole punched within the body of the bag. Allows air to escape the bag.
Vent Hole		A hole made in the shrink film which allows the air between the product and the film escape as the film is shrinking.
Vertical		Refers to the position of bag in the sealing process
Water Tight Seals		Seal on the bottom of the bag specifically designed to help contain water and other gel like materials.
Zipper Style Bags		These bags have a zipper that allow user to reseal bags.