

# TAPE GLOSSARY

This glossary has been assembled with information provided by the [Pressure Sensitive Tape Council \(PSTC\)](#) and other sources. This resource aims to provide a common language as we communicate with you on material choices and performance properties that best suit your needs.

---

**Jump To:** [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

---

## A

### **ABRASION RESISTANCE**

The ability of a tape to withstand repeated rubbing and still remain intact.

### **ACCELERATED AGING**

A means whereby the deterioration of a tape encountered in natural aging may be accelerated and reproduced in the laboratory.

### **ACCELERATED WEATHERING (weathering)**

Exposure in a chamber to ultraviolet light, heat, and water whereby the effect of outdoor exposure on a tape can be approximated.

### **ACRYLIC**

A synthetic polymer with excellent aging characteristics that can be formulated as a pressure-sensitive adhesive, liquid adhesive, coating, or saturant.

### **ADHESION**

A bond produced between an adhesive and another surface

### **ADHESION TO BACKING**

The bond strength of the adhesive to the backing of the same tape or another tape backing.

### **ADHESIVE DEPOSIT OR RESIDUE**

Adhesive that is pulled away from the tape upon removal and remains on the surface to which it has been applied.

### **ADHESIVE TRANSFER**

The conveyance of adhesive from its normal position on the tape backing to a surface to which the tape was attached, either during unwind or removal.

### **ANCHORAGE**

Specific adhesion of a pressure sensitive adhesive to a face material (backing ) or an anchor coat.

## **B**

### **BACKING**

A relatively thin flexible material to which the adhesive is applied.(also called a carrier) Theoretically, any material that is reasonably flat, thin and flexible can be used as a tape backing.

### **BACKSCORING**

Precisely cutting the bottom of the release liner to aid in the dispensing or applying of the product

### **BACKSIZE**

An occlusive coating applied to the non-pressure sensitive side of a porous backing, such as paper, to provide a satisfactory surface that the pressure sensitive adhesive side can contact when the tape is wound into a roll.

### **BLEEDING**

Penetration through the tape of a coloring material (paint, etc.) onto the surface to which the tape is applied.

### **BLOCKING**

Adhesion between the sheets of the plies of rolls of coated material, usually due to extreme conditions of pressure, temperature or humidity.

### **BURSTING STRENGTH**

The ability of a tape to resist damage when a force is applied evenly and perpendicularly to its surface.

## **C**

### **CALIPER**

The thickness of a tape or specific layers in a tape construction as measured under specified conditions. See also THICKNESS.

### **CARRIER**

A carrier or web that holds a pressure sensitive adhesive, especially used to refer to double-faced or double-coated tapes. (same term as backing)

### **CLOSED CELL**

A description of the cell structure in foams. A closed cell structure results in a foam that usually denser and has the ability to resist environmental factors.

### **COATING WEIGHT**

The weight of a coating per unit area. In SI-units expressed as grams per square meter (g/m<sup>2</sup>) or in the USA, ounces per square yard.

### **COHESION (cohesive strength, internal bond)**

The ability of the adhesive to resist shear stress and splitting. Good cohesion is necessary for clean removal.

### **COLD FLOW**

The tendency of a pressure sensitive adhesive to act as a heavy viscous liquid over long periods of time. Such phenomena as oozing and increase in adhesion with time are the result of this characteristic.

### **COLOR STABILITY**

The ability of a tape to retain its original color, particularly when exposed to light.

### **COMPRESSION LOAD DEFLECTION**

The force required to compress a material (usually a foam or rubber) a given distance.

**COMPRESSION SET**

The amount of deformation which a material (usually a foam or rubber) retains after the compressive load is removed, usually expressed as percentage of the original dimension.

**CORONA RESISTANCE**

The ability of an elastomeric adhesive, coating, or sealer acting as an insulator to withstand the effects of high-voltage discharge. Indications of failure appear as surface cracks.

**CORONA TREATMENT**

A process that uses a high voltage discharge to oxidize the surface in a precise manner. The oxidation raises the surface energy of certain polymeric films such as polyethylene to obtain better adhesion of inks, adhesives, and other coatings.

**CREEP**

The slow movement of the adhesive or backing under shear stress.

**CROSS-LINKING**

The development of a three-dimensional molecular structure in an adhesive normally activated by heat or irradiation. An improvement in shear resistance, high temperature resistance and oil or solvent resistance will normally result.

**CURE**

To alter the properties of an adhesive by chemical reaction, which may be condensation, polymerization or vulcanization. This is usually accomplished by the action of heat and catalysts, alone or in combination, with or without pressure.

**CURL**

The tendency of paper by itself or in a laminate to bend or partly wrap around the axis of one of its dimensions.

**D****DELAMINATION**

A separation or splitting of the tape, such as separation of the backing into two distinct layers; separation between laminations of a tape consisting of more than one backing; separation between filaments and backing of a filament reinforced tape; or separation of the adhesive from the backing.

**DENSITY**

The mass per unit of volume

**DIE CUTTING**

Process by which any shape or pattern can be cut out of tape, label, or film materials. Common die cutting methods include, flat bed, rotary, and digital processes such as waterjet, flash knife, and laser.

**DIELECTRIC STRENGTH**

The measure of the maximum voltage stress that a single layer of tape can withstand before dielectric failure occurs, with the test being carried out under prescribed conditions.

**DIMENSIONAL STABILITY**

The property of a material that relates to the constancy of its dimensions, particularly in relation to external influences such as moisture or temperature.

**DOUBLE COATED**

A tape form factor where adhesive is applied or coated on both sides of a backing or carrier.

## **DUROMETER**

A test method used to measure hardness which is then reported on a scale. It measures the depth of an indentation in the material created by a given force on a standardized presser foot.

## **DYNAMIC OVERLAP SHEAR**

A test whereby two stainless steel plates are joined together with a small overlap of double coated tape. The test specimen is placed in the jaws of a tensile testing machine and pulled apart at a specified rate. The force to shear apart the joint is recorded in pounds per square inch or in SI units, kilopascals ( kPa) or Newtons per square centimeter.

## **E**

### **EDGE CURL**

The peeling back or lifting of the outer edge of an applied tape in a curved manner.

### **EDGE LIFT**

The tendency for the edge of an adhesive label to lift from a surface to which it has been adhered.

### **ELASTICITY**

The extensible property of adhesive films or adhesive interfaces to contract and expand in such a manner as to overcome the differential contraction and expansion rates that the bonded adherends may exhibit.

### **ELASTOMER**

An elastic, polymeric substance, such as natural or synthetic rubber that can return to its original shape after being deformed by a load.

### **ELECTROLYTIC CORROSION FACTOR**

A measure of the tape's corrosive effect on an electrical conductor, particularly copper. This is particularly important in the selection of tapes for electrical insulation.

### **ELONGATION (stretch, ultimate elongation)**

The distance a tape will stretch in the machine or cross direction before breaking under controlled conditions, expressed as a percentage of original length. Elongation is not necessarily an indication of conformability.

### **EXTENDED LINER**

Refers to the width of the release liner which can extend beyond the actual edge of the tape itself to facilitate easy removal. Also called dry edge and finger lift.

## **F**

### **FACE STOCK**

Any paper, film, fabric, laminate, or foil material suitable for converting into pressure sensitive material stock. In the finished construction this web is bonded to the adhesive layer and becomes the functional part of the tape construction.

### **FALL-OFF**

When a tape completely delaminates from the surface to which it is applied and drops off.

### **FATIGUE**

A weakness resulting from stress created by repeated flexing or impact force upon the adhesive-adherend interface.

### **FILAMENTS**

Thin, longitudinal yarns or threads of glass, polyester, nylon, or other high-strength materials.

## **FLAGGED ROLLS**

A small flag is placed at the edge of a roll to identify the area where a defect is present, a coat weight or sample was taken, or where a splice might be present.

## **FLAGGING**

Refers to the end of a length of tape that lifts or peels away from the surface to which it was applied. This term is used frequently in spiral wrap applications.

## **FLAKING**

A condition sometimes occurring during removal of masking tape in which flakes or particles of paint flake away from the tape backing.

## **FLAME RESISTANCE**

The ability of a tape to withstand exposure to flame. Fireproof materials will not burn even when exposed to flame. Flame-resistant (fire-retardant, self-extinguishing) materials will burn when exposed to flame, but will not sustain the burn after the flame is removed.

## **FLUTING**

Distortion of a roll of tape such that the layers no longer form a circle.

## **FOAM**

A material formed by creating small bubbles in a base material such as natural or synthetic rubbers or other elastomeric materials.

# **G**

## **GAPPING**

Openings between layers of tape within a finished roll.

## **GLOSS**

A light reflection characteristic of tape backings, usually expressed by such terms as glossy, low gloss, matte, etc.

# **H**

## **HEAT SEAL**

An adhesive film intended to be reactivated by the application of heat.

## **HIGH-SPEED UNWIND**

A term referring to the process of unwinding or dispensing of tapes at a relatively high rate of speed, usually over 15 meters / minute.

## **HOLDING POWER (shear adhesion, shear resistance)**

The ability of a tape to resist static forces applied in the same plane as the backing. Usually expressed in a time required for a given weight and length of tape to shear free from a vertical panel.

## **HOT MELT (pressure sensitive adhesive)**

A pressure sensitive adhesive, applied to the backing in hot molten form, which then cools to form a conventional pressure sensitive adhesive.

## **HUMIDITY**

The moisture content of the air. Actual humidity is the number of grams of moisture in the air at any given time. Relative humidity is the percent of moisture relative to the maximum that air at any given temperature can retain without precipitation.

**HYDROPHILIC**

The ability of a material to absorb water

**HYDROPHOBIC**

The ability of material to repel water

**HYGROSCOPIC**

A tendency of some materials to readily absorb moisture from the atmosphere.

**I****IMPACT RESISTANCE (shock resistance)**

The ability of a tape to resist sudden impacts, pulls, or shocks as may sometimes be encountered by packages in transit.

**INSULATION RESISTANCE**

The ability of tape to prevent the flow of electrical current across its surface, usually measured on the backing.

**J****K****KISS CUTTING**

A die cutting process where the tape or label material is cut into a specific shape only down to the bottom release liner. The surrounding material or matrix is stripped away leaving the finished part on a common release liner for easy dispensing.

**L****LABEL STOCK**

Pressure sensitive insulation materials furnished in roll or sheet form with liner that can be later printed, frequently die cut, and intended for use as labels.

**LAMINIATING**

The joining of multiple layers using adhesives and/or heat to produce a new composite.

**LAP JOINT**

A joint made by lapping one material over another to provide a mated area that can be joined with an adhesive.

**LATENT STAIN**

A stain in a surface to which tape has been applied, which does not become noticeable until some time after the tape is removed—usually after the surface has been exposed to sunlight or heat.

**LATHE SLITTING**

Also referred to as single knife slitting or baloney slitting, this type of slitter typically uses a rotating blade to cut through the diameter of a log roll of tape including the core. The cutting head indexes down the length of the log and can cut multiple widths of tape to match customer needs. This slitting technique allows for quick changeovers from one product to another.

**LIFTING**

Situation where a section of tape pulls away from the surface to which it has been applied.

## M

### **MATRIX**

The scrap or waste material that surrounds a die cut part that is usually removed and discarded.

### **METAL FOIL**

Thin flexible sheets of metal, such as aluminum, copper and lead used as tape backings because of their inherent properties, such as weather resistance, electrical conductivity, reflectivity, etc.

### **MIGRATION**

The movement of an ingredient from one component to another when the two are in contact. This can occur within a tape itself or between the tape and the surface to which it has been applied. Often refers to plasticizer migration which are low molecular weight species that can migrate into an adhesive causing it to soften over time.

### **MOISTURE VAPOR TRANSMISSION RATE**

A measure of the rate of water vapor transmission through a pressure-sensitive product usually measured in grams / square meter / 24 hours.

## N

### **NORMAL TENSILE**

Also referred to as a T-Block test. A test whereby two T shaped blocks are bonded together with a double coated tape. The assembly is placed in the jaws of a tensile testing machine and pulled apart a specified rate. The force to pull apart the bonded area in the Z direction is recorded in pounds per square inch or in SI units kilopascals (kPa) or Newtons per square centimeter.

## O

### **OFF-CORE**

A roll of tape in which the layers are in correct alignment, but the tape is displaced sideways on the core.

### **OOZING**

A "squeezing out" of the adhesive from under the backing. Occurrence when a tape is in a roll form causes the edges of the roll to become tacky.

### **OPACITY**

The ability of a tape to prevent the transmission of light.

### **OPEN CELL**

A description of the cell structure of a foam. Open cells permit the transmission of air and moisture through the foam core.

### **OUTGASSING**

The release of volatile components under heat or vacuum.

## P

### **PANCAKE ROLLS**

The most common roll form for tape products. Each layer is wound directly on top of the next layer to form a uniformly wound roll.

**PATTERN COATED**

Refers to the width and spacing arrangement of strips of adhesive laid down parallel to machine direction and across the width of pressure sensitive stock during its production.

**PEEL ADHESION**

The force per unit width required to break the bond between a pressure sensitive adhesive tape and the surface to which it has been applied when the tape is peeled back at a controlled angle at a standard rate and condition.

**PERFORATING**

Sometimes called "perfin". It refers to a series of small holes that are cut into a material to allow it to be torn in a uniform manner. Most common example is paper towels.

**PLASTICIZATION**

The softening of an adhesive when exposed to migrating plasticizers or oils.

**POLYETHYLENE**

A tough, often stretchy film that exhibits good low temperature characteristics.

**POLYESTER**

A strong film having excellent resistance to solvents, moisture, oils, and many other chemicals. Often clear but can come in other colors or be metalized.

**POLYPROPYLENE**

A chemical cousin to polyethylene but exhibits higher strength and temperature resistance.

**POLYURETHANE FILM**

A tough polymeric film that offers excellent conformability, puncture resistance, chemical resistance and durability.

**PRESSURE SENSITIVE**

A term commonly used to designate a distinct category of adhesive tapes and adhesives which in dry form (solvent / water free) are aggressively and permanently tacky at room temperature, and that firmly adhere to a variety of dissimilar surfaces upon mere contact without the need of more than finger or hand pressure. These products require no activation by water, solvent, or heat in order to exert a strong adhesive holding force toward such materials as paper, plastic, glass, wood, cement, and metal. They have sufficient cohesive holding power and elastic nature so that, despite their aggressive tackiness, they can be handled with the fingers and removed from smooth surfaces without leaving a residue.

**PRESSURE SENSITIVE ADHESIVE TAPE**

Pressure sensitive adhesive tape can be defined as a continuous flexible strip of cloth, paper, metal, plastic or foam coated on one or both sides with a permanently tacky adhesive at room temperature that will adhere to a variety of surfaces with light pressure (finger pressure) with no phase change (liquid to solid) and usually in roll form. PSAs can be blends of natural or synthetic rubber and resin, acrylic, silicone or other polymer systems, with or without additives.

**PRIMING**

The application of a thin layer of adhesive-like material to a backing that serves as a bonding agent between the backing and the final adhesive coat.

**PVC (POLYVINYL CHLORIDE)**

Also called "vinyl". A tough, stretchy polymeric film or foam that has good resistance to chemicals and many solvents. It has excellent abrasion resistance and high elongation properties that permit it to be used in a variety of applications.



## Q

**QUICK STICK (Finger tack, initial adhesion, wet grab)** - see TACK.

## R

### **RELEASE LINER**

A web of sheet material that is typically coated with a silicone release agent and used as a protective liner, which covers the adhesive side of the tape. It is removed prior to application. It is most frequently found on double-sided tapes and label stocks.

### **RELEASE FORCE**

The measure of the force required to separate a unit width of pressure sensitive tape from a release coated surface at a controlled angle and speed.

### **RESILIENCY**

The ability of a material to absorb energy while being deformed, unloading the energy, and returning to its' original state.

### **REWINDING**

The operation of winding the webstock from the reel onto a core to produce rolls of the desired width, diameter, and tension.

## S

### **SATURATION (impregnation)**

Adding materials (saturant) to the backing for improvement of physical properties and resistance to various environments.

### **SELF-SEAL**

An adhesive joint that is accomplished by coating both adhered surfaces, and bringing them under pressure; an elastomeric adhesive (cohesive) used on envelope flaps, box closures, etc., whereby the adhesive film will bond only to itself.

### **SELF WOUND**

For single coated tapes, a tape in which each layer is directly on top of the other without the presence of a release liner. For double coated tapes, tape that is coated on both sides but with one release liner.

### **SHEAR ADHESION**

The time required, under specified test conditions (surface area, weight load), to slide a standard area of pressure sensitive tape from a standard flat surface in a direction parallel to the surface.

### **SHORE HARDNESS SCALES**

Scales 00, A, and D are typically used for rubber and foam materials.

### **SINGLE FACED (SINGLE COATED)**

A tape to which a pressure sensitive adhesive is applied to only one side of the backing.

**SLIP SHEET OR INTERLINER** - See RELEASE LINER

### **SLIVERING**

When the tape tears or breaks into small pieces, either on unwind or on removal from a surface.

## **SPOOL**

Also called traverse wound or level wound. The tape is wound traversing back and forth across a common core wider than the tape itself layer upon layer. The resulting spool is similar to fishing line on a reel or a spool of thread where longer lengths of tape can be wound on a common core preventing the need for frequent roll changeovers that would be experienced with pancake rolls.

## **SURFACE ENERGY (surface wetting ability)**

The free energy at the surface of a material compared to the bulk. The measure of surface tension in dynes. The lower the surface energy of a substrate, the more difficult it becomes for an adhesive or coating to wet out that surface.

## **SURFACE TREATMENT**

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

# **T**

## **TACK**

The property of a pressure sensitive adhesive that allows it to adhere to a surface under very slight pressure. It is determined by the ability of the adhesive to wet quickly the surface it contacts.

## **TEAR RESISTANCE**

The force required to propagate a tear in a tape in a given direction after the tear has been initiated.

## **TELESCOPING**

A sideways sliding of the tape layers, one over another, such that the roll looks like a funnel or a telescope, usually occurring over a period of time.

## **TENSILE STRENGTH (breaking strength)**

The force required to break a unit width of tape by controlled pulling on opposite ends.

## **THERMOPLASTIC**

A polymer that when heated turns to liquid and when cooled returns to a solid state

## **THERMOSET**

A polymer that irreversibly cures either by heat or chemical reaction

## **THICKNESS (caliper, gauge)**

The perpendicular distance from one surface of either a tape, backing or adhesive to the other, usually expressed in mils, thousandths of an inch, or millimeters. This is usually measured under controlled slight pressure with a special gauge.

## **TRANSFER TAPE**

A pressure-sensitive adhesive unsupported applied to a two-side release coated liner.

# **U**

## **UNWIND or UNWIND ADHESION**

The force required to remove tape from a roll under prescribed conditions.

## **UPVC (UNPLASTICIZED PVC)**

A tough durable polymeric film similar to PVC but without the elongation due to the absence of plasticizers.

## V

### **VISCOELASTIC**

A material that exhibits both viscous and elastic properties. Viscous materials resist shear flow and strain linearly with time. Elastic materials return to their original state when a force is removed.

### **VOID**

A bare, uncoated area of adhesive or release coating.

## W

### **WATER PENETRATION RATE (WPR)**

The weight of water transmitted through a controlled area of tape under a specified time and conditions.

### **WATER VAPOR TRANSMISSION (WVTR)**

The weight of water vapor allowed through a controlled area of tape within a specified time period and under controlled conditions.

## X

## Y

## Z



## **CONTACT TOM BROWN, INC. WITH ANY QUESTIONS**

Looking for a little more information on any of these terms and/or your specific needs? Please contact us with any questions.