

Glossary

There are technical terms used in the description of technical adhesive tapes that you may not be familiar with. To help you choose the right tape and look for the characteristics you need

Abrasion resistance

The ability of a tape to withstand rubbing and friction and still function satisfactorily.

Adhesion

The state in which two surfaces are held together by inter-facial forces; e.g. bond formed by contact between an adhesive and a surface.

Adhesion to self

The force required to remove a tape from its own backing to which it has been reapplied with a defined pressure after being removed from the roll.

Adhesion to steel

Force required to remove tape from a steel plate.

Application temperature

The temperature range at which the tape may easily be applied off the roll.

Breakdown voltage

The voltage at which breakdown of the tape occurs under the prescribed conditions of the test, divided by the distance apart of the two electrodes between which the voltage is applied.

Breaking load • The force needed to break the tape under stress.

Clean peel

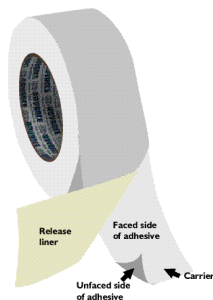
A tape, which can be removed after application, without leaving residue behind.

Conformability

The ability of tape to fit snugly or make essentially complete contact with the surface of an irregularly shaped object without creasing or folding.

Differential adhesive

Where the adhesion of faced and unfaced sides of double sided tapes differs. (See diagram, right).



Dimensional stability

Where the tape will suffer minimal distortion.

Ease of unwind

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

Electrical strength

The voltage at which breakdown of the tape occurs under the prescribed conditions of test, divided by the distance apart of the two electrodes between which the voltage is applied.

Electrolytic corrosion

A reaction which can occur when dissimilar metals are in contact.

Elongation at break

The amount of tape that has stretched length wise at the point of breaking. It is expressed as a percentage of the original unstretched length.

Flame resistance/retardant

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

Flame retardant in situ

The ability of a tape to resist burning (once it has been applied to a substrate).

Flexible

The ability of a tape to be freely bent or flexed during application, particularly applicable to low temperature use.

Heat resistance

The ability of a tape to withstand a specified temperature under well defined conditions.

Low stretch

Mostly applicable to filmic tapes, the ability of a tape to resist stretching and hence shrink back once applied. A highly desirable attribute for lane or hazard marking tapes.

Low tack

Where the tape's instant stick is not high and is designed to be removed. Usually appears on tapes designed for masking applications. (This does not necessarily mean the tape has low adhesion as well as low tack). See also tack or quick stick.

Low tack tape

Used (often incorrectly) to describe a pressure sensitive tape that has low adhesion. (Also see above, low tack).

Insulation resistance

The ability of a tape to prevent the flow of current across the surface of the backing.

Moisture vapour permeability

The rate at which a tape will allow water vapour to pass through a given area of tape.

Non-corrosive adhesive

An adhesive which does not chemically attack the surface it is in contact with.

Ozone resistance

Resistant to cracking due to exposure to ozone over time.

Plasticiser resistance

The ability of the tape to withstand plasticiser migration.

Pressure sensitive adhesive

A type of adhesive, which is permanently tacky at room temperature and when applied to a variety of surfaces, forms an immediate bond. The bond strength may be increased by pressure and/or time.

Pressure sensitive tape

A term used to describe a category of tape coated on one or both faces with a pressure sensitive adhesive.

Printable

The ability of a tape to accept and hold a printed legend and especially to resist off-setting of the print when unwound from a roll.

Quick stick (see tack)

Release liner

A removable material, which protects the adhesive face or faces of the roll of tape.

Removability

Ability to remove the tape from the substrate without damaging or contaminating the substrate under specified conditions, usually after a long period of time.

Re-positionability

Ability to remove the tape from the substrate without damaging or contaminating the substrate under specified conditions, yet retaining bond strength when re-applied, usually after a short period of time.

Resistance to ageing

The ability of a tape to withstand normal exposures, after application, and to perform satisfactorily.

Resistance to oils, grease, solvents

The ability of a tape to resist exposure to such chemicals after application, and to perform satisfactorily.

Self amalgamating

The ability of a tape to form a homogeneous mass by the fusing of layers so that the individual layers cannot be separated, when applied under tension without the need for external heat or pressure.

Self bonding

Tape that will adhere to itself without fusing so that the individual layers can be separated cleanly if required.

Self-extinguishing

The ability of the tape to cease burning once the flame is removed.

Service temperature

The temperature range at which the tape will continue to give satisfactory results once applied.

Shear strength

The ability of the adhesive to resist force applied in the same plane as the tape.

Short term temperature resistance

Maximum short term is a matter of seconds or minutes rather than hours. Tapes with short

term high temperature resistance are used in manufacturing processes. Machine speed, tensions and temperatures reached will need to be taken into account and the tape trialled prior to full implementation.

Substrate

The surface to which the tape is applied.

Tack (or quick stick)

The property of an adhesive tape that causes an instant bond, with measurable force, by the touching of the adhesive and a substrate without externally applied pressure.

Tearability

How easy the tape is to tear by hand by a person of average strength without the need for any cutting tools. Where tearability is indicated as difficult, tools may be needed to cut the tape.

Thermosetting adhesive

An adhesive, which becomes firmer on heating and remains so on cooling. Thermosetting of adhesive improves solvent resistance and increases softening temperature.

Thickness

Measurement given in millimetres. (Excludes release paper where applicable).

UV Resistance

The ability of the tape to resist exposure to ultra-violet rays after application and to perform satisfactorily.

Waterproof/water resistant

The ability of the tape to withstand water without the tape bond altering.

Weather resistance

The ability of the tape to resist exposure to specified conditions after application and to perform satisfactorily; these conditions are usually cold, water and UV.

Writable surface

A surface, which can be written on with ball point or marker pen. Particularly useful if the tape is to be used in identification applications.

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