

SURFACE PREPARATION & APPLICATION GUIDE

GENERAL

The following handling instructions will assist the user to achieve optimum results and safeguard against any common applications issues. Optimum bonding depends mainly on the following parameters: substrate surface & preparation, contact pressure & time, temperature & relative humidity.

SURFACE PREPARATION GUIDE

All surface contact areas must be free from dirt, grease, wax, moisture and contaminants such as release agents used on plastics, residual detergents, oil from skin and loose particles from unsealed surfaces.



ACTION

- Wipe surfaces with a typical cleaning solvent example 50/50 IPA isopropyl alcohol/ water mixture. Since not every cleaning agent is suitable for every substrate, please check the cleaning agent suitability.
- Remove all residues with a clean, lint free wiping cloth (ensure you wipe in one direction to prevent cross contamination).
- All surfaces must be dry, free from moisture before applying the tape.



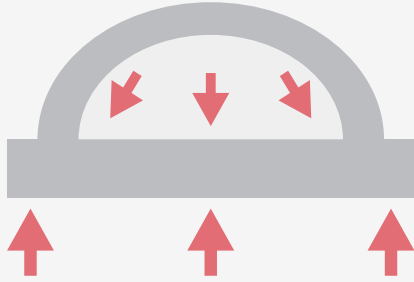
In addition to chemical cleaning in maybe necessary to use an abrasive pad to prepare surfaces such as bare metals, heavily contaminated surfaces, remove old paint, rust & oxides. Please ensure to remove all dust with a lint free wipe.

SURFACE ENERGY SUITABILITY

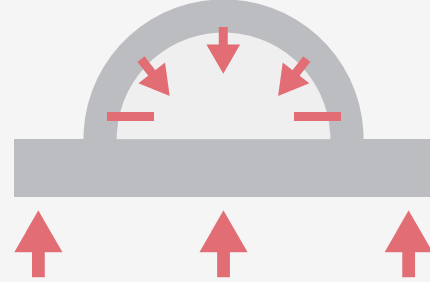
Please see attached diagram for surface degree of difficulty.
For Low Surface Energy surfaces please contact us for suitable adhesive tapes to test.

Different Substrates & Relative Surface Energy Guide

High Surface Energy
Easy to adhere
Good adhesive "wet out"



Low Surface Energy
Hard to adhere
Poor adhesive "wet out"



← EASY ————— **BOND TO:** ————— HARD →

HIGH SURFACE ENERGY (HSE)	MEDIUM SURFACE ENERGY (MSE)	LOW SURFACE ENERGY (LSE)
Stainless Steel	Acrylic	Polyethylene
Aluminium	Rigid PVC	Polypropylene
Glass	Polycarbonate	Silicone
Anodized Aluminium	ABS	Acetate
Zinc	Polyester	Teflon
Cooper	Nylon	Tedlar
Lead	Kapton	Polystyrene
Painted Metal (not powder coated)	Epoxy & PU Paint	EVA
	Powder Coated Metal	
NOTE: The higher the surface energy, the greater the strength of adhesion.		

SPECIAL CONSIDERATIONS

- Low Surface Energy substrates may need to be chemically primed before tape application to ensure an effective bonding surface. Please contact us for primer information.
- Most porous surfaces such as concrete, wood, plaster, & fabrics need to be sealed for effective tape bonding. Ensure that any sealers used are fully cured prior to applying the tape.
- Some materials such as copper, bronze, lead & plasticized vinyl may need to be sealed or primed prior to applying the tape.
- Glass surfaces may need to be primed especially if used in high humidity conditions.
- Best bonding results are generally achieved on smooth surfaces, however on textured or uneven substrates it is important to select & test a suitable tape with a thicker carrier & a heavier adhesive mass.

APPLICATION PRESSURE

The bond strength is a direct function of the contact between the adhesive and the substrates.

Good surface contact is attained by high application pressure, which can be obtained, for instance, by using a squeegee, pressure roller or pressure fixture. Generally this results in a better bonding contact than the application by hand. The way the pressure is applied and the amount of pressure depend on the materials used. It is therefore necessary to coordinate the application pressure parameters with the materials.

Please bear in mind that, depending on the adhesive system used, it may take up to 72 hours to attain the final bond strength.

Always apply the UHB at a constant speed while ensuring there is no entrapped air along the tape to substitute bond area. The best method is to use a hand roller to ensure an effective adhesive wet out & no air entrapment.

When removing the plastic release liner pull at a 180 degree angle to effect a clean removal from the bonded UHB.

Please make sure that the ends of the parts to be joined are strain-free. Shear and tensile loads acting on the bonded parts must be able to spread over the entire adhesive surface. Long-lasting tensions generally have a negative impact on the bond strength.



PROCESSING / APPLICATION TEMPERATURE



Optimum processing temperatures (object temperature and ambient temperature) range from +15°C to +30°C. We do not recommend working at higher temperatures unless adhesive systems that were especially developed for that purpose are used. If the tape is applied below the recommended temperature, the adhesive may harden, compromising the desired adhesion.

The formation of condensate must always be avoided. Condensate can form only when the adhesive tape and/or the substrate is moved from a cold area to a warmer one. In such cases sufficient time should be allowed between transportation and application so that the temperatures of all parts to be joined become similar and rise to a value within the above-mentioned temperature range.



Product Storage:

Adhesive tapes must be stored in their original packing at 20°C and relative humidity of 50%. High relative humidity & direct sunlight must be avoided at all costs. Normal storage timeframe from date of manufacture is 12 months.



Tape Application:

Remember: Pressure sensitive tapes ideally require around 15psi (100 kPa) to achieve good “wet out”, however this will be affected by the smoothness of the two surfaces and the ambient temperature. Unwind the tape and smooth down with hand pressure, avoiding any wrinkles.

NOTE – APPLICATION TEMPERATURE:

- Depending on the surface type you may need to apply a primer &/or use an abrasive pads – follow surface preparation guidelines.
- Apply firm, even pressure across the surface of the release liner with a hand pressure roller to ensure entire surface contact with no air bubbles.
- The release liner should be left on until the second surface is prepared & ready to be bonded.
- It is recommended to peel back the release liner at 90° especially if one is positioning the tape in a mounting application. Expose part of the tape to assist in correct positioning and remove the rest of the release liner once in place. In some cases clamping surfaces together maybe beneficial to assist in a solid bond over the curing time.

These processing instructions are based on our know-how and experience. They do not explain all bonding aspects to be taken into account. The user is expected to have subject specific knowledge and know-how. Because of the large number of potential influences resulting from processing, bonding and use we recommend that you conduct tests on our products before using them for special applications. Our data do not imply any guarantee of specific properties.

For more specific information on application of our tape products, contact our helpful sales team.



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