

Application Guide for the Sign Industry

Please refer to our Application Guide when using our range of adhesive tapes for the applications within the Sign Industry.

1. Temperature

As a general statement, the best temperature for bonding adhesive tapes is between +15°C and +30°C. Low temperature application is possible for modified adhesive systems, but there may be a compromise on the ultimate bond strength.

2. Surface

The surface of the parts must be clean, dry and free of moisture and condensation. The surfaces must also be free of oil, fat, dust and other contaminants. Porous surfaces can be primed to ensure a uniform, stable surface.

3. Application / Handling

When application of an adhesive tape is required by hand, Semi Automated or Fully Automated, it is vital that the adhesive is not touched at all prior to the adhesive tape being applied to the desired surface. If the Adhesive Tape is touched or handled before it is applied this will increase the potential levels of contaminations meaning oil's, dirt & dust being transferred from fingers or hands onto the adhesive, it is crucial that this does not happen as this will affect the adhesive tapes overall bond.

4. Cleaning

The cleaning of the surfaces has to be done with clean cloths together with suitable solvents like alcohol or ethers, to remove dust and oil. We offer our GUKITISOPROP which is our Isopropanol Cleaner (50/50 mix of alcohol & water). For release agents and other contaminants you can use the following solvents: isopropanol water mixture 50:50, heptane, ethanol, acetone, MEK or other suitable solvents that do not attack the substrate to be bonded. The selected solvent must be checked thoroughly before being used and the safe use of solvents must always be taken into consideration.

5. Activator & Primer

a) Our Prime LINK RS is an adhesion activator (cleaner & Activator in one) for a large number of different surfaces. Once applied it will clean the surface, it also alters the surface to make it more receptive to our adhesive tape systems. It works in a similar way to a chemical corona treatment. Prime LINK RS is particularly recommended for use with the following hard to adhere to surfaces:

- Aluminium
- Polished and unpolished stainless steel
- Painted, zinc plated and chrome plated steel
- Plastics: polyamide, polycarbonate, ABS etc
- Powder coated substrates

Prime LINK RS can be used in conjunction with: Urethane adhesives, Epoxy adhesives and Acrylic adhesives.

Prime LINK RS is particularly easy to process because it is delivered ready to use. In all cases it must be applied to clean, dry surfaces. Prime LINK RS is applied with a brush or dry cloth in a thin, uniform coat. After applying Prime LINK RS wait 1 or more minutes to leave it time to dry, at room temperature, before applying an adhesive tape on the primer-prepared surface. When dry the surface of the powder coated channel turns from a bright shiny surface to a dull matt surface. In order to avoid any hydrolysis problems, it is recommended not to leave the container in contact with atmospheric humidity.

b) For a specific primer, we offer our Prime LINK LSE. The Prime LINK LSE is a heavy solid, held in suspension within an aggressive solvent. When the Prime LINK LSE is applied, the solvent flashes off, leaving a residual layer on the substrate surface. This 'artificial' layer, has many functional groups and is therefore very receptive to the PSA (Pressure Sensitive Adhesive) on application, increasing tack.

6. Pressure

Adhesive tapes are pressure sensitive (PSA's). The initial application pressure is critical to the ultimate performance of the adhesive tape. The target application pressure is 10-15N/cm², which is best provided by a roller or press. When application only by hand is possible, a firm even and overall pressure is essential and is best provided by use of an applicator or rubber based 'squeegee'. Firmer adhesive classes (such as pure acrylics) require more initial application pressure than soft ones. The full bonding power of hard adhesives is attained between 24 & 72 hours, depending upon the substrates, application pressure and the application environment.

7. Force and stress

Where possible, avoid leverage of the bonded components for as long as possible after assembly. Shear and peel forces have to be evenly distributed across the whole of the bonded surface areas. During assembly, permanent shear loads should be avoided, as this will adversely affect the viscoelastic bonding. (for example arched, curved or bowed surfaces should be mechanically clamped and held for the bond to be effective)

8. Suitable materials

Typically, good adhesion can be attained on smooth surfaces, for rough surfaces you will require a thicker tape or alternative product format.

Good or easily bonded surfaces are: metals, high energy surfaces such as smooth wood, ABS polycarbonate, PMMA, hard PVC, wood, stone and glass.

9. Critical materials

Guidance should be sought for low energy surfaces, particularly plastics, where plasticisers may be present, which can adversely affect the bond. These critical surfaces such as polyethylene, polypropylene, rubbers, powder coats, silicones, polyurethane, Teflon, varnishes should be tested for performance and compatibility prior to specifications or recommendations for use are made.

10. Storage

The storage of adhesive tapes should be at room or ambient temperature and at 50-70% relative humidity and out of direct sunlight. Extremes and fluctuations in storage temperature and humidity should be avoided. For Storage of our Prime LINK RS, The shelf life is at +2°C to +30°C and original unopened containers for 24 months from date of shipment.

11. Aluminium to Aluminium – then to be powder coated.

For use on an Aluminium to Aluminium, then to be powder coated, we would recommended to test and evaluate our ProLINK 250R (0.25mm thick, Clear Pure Acrylic Tape). The ProLINK 250R should be used in conjunction with our Primelink RS (Cleaner & Activator), please revert to point 5a for further information on the PrimeLINK RS and the recommended application for this product.

12. Powder Coated and Painted Aluminium to Dibond

For use on Powder Coated and Painted Aluminium to Dibond, we recommended to test and evaluate our ProLINK 1000R (1mm thick, Clear Pure Acrylic) and CustomLINK 3493 (1.1mm thick, Black Foamed Acrylic). The ProLINK 1000R and CustomLINK 3493 should be used in conjunction with our Primelink RS (Cleaner & Activator), please revert to point 5a for further information on the PrimeLINK RS and the recommended application for this product.

13. Raw Aluminium to Raw Aluminium

For use on raw Aluminium (untreated aluminium in its original form) to raw Aluminium, we recommended to test and evaluate our ProLINK 1000R (1mm thick, Clear Pure Acrylic) and CustomLINK 3493 (1.1mm thick, Black Foamed Acrylic). The ProLINK 1000R and CustomLINK 3493 should be used in conjunction with our Primelink RS (Cleaner & Activator), please revert to point 5a for further information on the PrimeLINK RS and the recommended application for this product.

14. Secondary Mechanical Fixture

As many factors come into the equation when using Adhesive Tapes in the Sign Industry, some factors which may be out of UK Industrial Tapes Limited control or evaluation, we would always recommended that when using our tapes, you consider the specification for secondary mechanical fixtures on certain projects, especially on applications which Powder Coated or Painted Aluminium and Diabond are used.

15. Limitation of Liability

Please refer to our companies Conditions of Sale, clause 9, the Limitation of Liability.

9.1 Nothing in these Conditions shall limit or exclude the Seller's liability for:

- (a)** Death or personal injury caused by its negligence, or the negligence of its employees, agents or subcontractors (as applicable);
- (b)** Fraud or fraudulent misrepresentation;
- (c)** Breach of the terms implied by section 12 of the Sale of Goods Act 1979;
- (d)** Defective products under the Consumer Protection Act 1987; or
- (e)** Any matter in respect of which it would be unlawful for the Supplier to exclude or restrict liability.

9.2 Subject to clause 9.1:

- (a)** The Seller shall under no circumstances whatever be liable to the Buyer, whether in contract, tort (including negligence), breach of statutory duty, or otherwise, for any loss of profit, or any indirect or consequential loss arising under or in connection with the Contract; and
- (b)** the Supplier's total liability to the Buyer in respect of all other losses arising under or in connection with the Contract, whether in contract, tort (including negligence), breach of statutory duty, or otherwise, shall in no circumstances exceed the price of the Goods.

If you have any further queries regarding your application or our Adhesive Tapes, please contact our Technical Sales Department on;

E: sales@ukindustrialtapes.co.uk or T: 0191 269 7810

T: (0191) 269 7810 | F: (0191) 267 1028

E: sales@ukindustrialtapes.co.uk | sales@postapes.co.uk | sales@stix2.co.uk

Brumwell House, Westway Industrial Estate, Throckley, Newcastle Upon Tyne. NE15 9EW

www.ukindustrialtapes.co.uk | www.postapes.co.uk | www.stix2.co.uk



It is the buyer's responsibility to consider & assess the fitness for purpose of the goods, having regard to use to which the buyer intends to put such goods. The price is quoted for the quantity quoted. All prices quoted are for 30 days only. Standard credit terms are 30 days from the end of month unless agreed in writing otherwise. All orders are subject to this Company's terms & conditions of trading which can be seen on our website ukindustrialtapes.co.uk, postapes.co.uk and stix2.co.uk



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