

## APPLICATION INSTRUCTION GUIDE

Please refer to our Application Instruction Guide when using our range of adhesive tapes on your application.

### 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. 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. Primer

3M™ Tape Primer 94 is an adhesion promoter. 3M™ Tape Primer 94 can be used to promote adhesion of tapes to surfaces such polyethylene, polypropylene, ABS, PET/PBT blends, concrete, wood, glass, metal, and painted metal surfaces.

#### Surface Preparation Details:

The bonding surface must be relatively clean and dry. Contaminated surfaces should be cleaned with a 50/50 Isopropyl Alcohol and water mixture. A clean lint-free cloth should be used.

#### Application:

Shake primer 94 well before using. Apply a thin uniform coating to the bonding surface using the minimum amount that will fully coat the surface. Allow primer 94 to dry thoroughly before applying tape. This is usually accomplished in 5 minutes at room temperature. Be sure the primed surface remains free from contaminants prior to applying the tape. Porous surfaces may require 2 applications of primer 94 for uniform coverage and good adhesion. Allow first application of primer to dry before applying the second coat. Primer 94 may be applied with brush or swab. It can also be applied with a pressurized flow gun, knurled roller or other similar type of application equipment.

#### Storage and Shelf Life:

When stored under proper conditions, product retains its performance and properties for 18 months from date of

manufacture when stored in the original container at 60-80°F (15-27°C).

- Keep 3M™ Tape Primer 94 in the original container.
- Transfer only a small amount into a work vessel for use.
- Keep original container tightly sealed to avoid solvent evaporation.

For a specific Data Sheet or MSDS Sheet for the 3M™ Tape Primer 94, please contact our sales team.

## 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/cm<sup>2</sup>, 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 3M™ Tape Primer 94, please refer to point 5.

## 11. 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.

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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](http://ukindustrialtapes.co.uk), [postapes.co.uk](http://postapes.co.uk) and [stix2.co.uk](http://stix2.co.uk)



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