Tape

Application Instructions

Temperature

As a general statement, the best temperature for bonding adhesive tapes is betweens +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.

Surface

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

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 containments you can use the following solvents: isopropanolwater mixture 50:50, heptane, ethanol, acetone, MEK or other suitable solvents that do not attack the substrate to be nonded. The selected solvent must be checked thoroughly before being used and the safe use of solvents must always be taken into consideration.

Pressure

Adhesive tapes are pressure sensitive (PSA's). The initial application pressure is critical to the ultimate performace of the adhesive tape. The target application pressure is 10-15N/cm^2, 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 bet 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 or hard adhesives is attained between 24 & 72 hours, depending upon the substrates, application pressure and the application environment.

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)

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.

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.

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.