

# Processing Instructions

No. 12, version 2012/20

## General Processing Instructions for ORAFOL® Adhesive Tapes



ORAFOL® Europe GmbH

To be able to take full advantage of the characteristics of a product described in the datasheet specific processing conditions should be observed. The purpose of these processing instructions is to provide the necessary application-specific advice to users of technical adhesive tapes manufactured by ORAFOL® Europe GmbH.

### 1 Surface condition

The substrates to be taped must be strong and stable as the strength of the bond depends entirely on the internal stability of the application surface. Any loose particles must be removed, porous surfaces or fibrous materials must be pre-treated with a suitable primer. Good results are generally achieved on smooth substrates. Thicker compensatory adhesive tapes must be used for rough or uneven substrates.

In any case, the surfaces to be taped must be dry, free of dust, grease, oil, oxides, release agents and other contaminants.

Naturally it is more difficult to apply tape to some substrates than to others. The difficult-to-tape substrates include polypropylene (PP), polyethylene (PE), polytetrafluoroethylene (PTFE), silicones, powder-coated materials, flexible PVC and rubber (e.g. EPDM). We manufacture special adhesive tapes for such substrates and would be pleased to provide any information you may require. Metals, glass, polycarbonate, ABS and rigid PVC are easy to tape.

### 2 Chemical surface cleaning

Isopropanol, ethanol, ethyl acetate, toluene or benzene are suitable substances for removing dust, grease, oil, releasing agents and other contaminants. Other commercially available residue-free cleaning agents can also be used. Since not every cleaning agent is suitable for every substrate, the material compatibility of the cleaning agent should always be checked before using it. It is essential to comply with the safety instructions issued by the solvent and cleaning-agent manufacturers.

Do not clean the surfaces with other materials than clean and lint-free **disposable wipes**. The adhesive tapes should then be applied rapidly in order to prevent that dust or fingerprints affect the surfaces again.

### 3 Mechanical surface cleaning

In addition to chemical surface cleaning or if the outcome of chemical cleaning is not satisfactory or as expected, the surface to be taped can be roughened mechanically by means of a suitable abrasive. Adhesion on roughened and hence enlarged surfaces is normally more effective and yields higher bond strength. Please check the suitability of the abrasive before using it. Any abrasive dust must be removed with a lint-free disposable wipe.

### 4 Processing 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.

### 5 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

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therefore necessary to co-ordinate 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. Brittle adhesives usually require higher application pressure and longer retention time than ductile ones before producing the final bond strength.

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.

### **6 Storage**

Adhesive tapes must be stored in their original packing at 20°C and relative humidity of 50%. The period of storage depends on the type of adhesive tape and is determined by the components used (adhesive, backing materials, etc.) For information on the exact storage period, please consult the technical datasheet of a specific product.

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.

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