

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

### 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 and porous surfaces or fibrous materials must be pre-treated with a suitable primer. Good results are generally achieved on smooth 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). Before applying adhesive mirror tapes to these substrates it is necessary to perform own tests to establish the suitability of the ORABOND® adhesive mirror tape. Metals, glass, polycarbonate, ABS and rigid PVC are easy to tape.

### Chemical Surface Cleaning

Isopropanol, ethanol or ethyl acetate 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 prior to use. 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.

### 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 (not the mirror surface) 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.

### Processing Temperature

Optimum processing temperatures (object temperature and ambient temperature) range from +15° C to +30° C. We do not recommend working at lower temperatures. 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 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.

### 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 adjust the application pressure parameters to the materials used.

Please bear in mind that, depending on the adhesive system used, it may take up to 72 hours to attain the final bonding strength. Brittle adhesives (pure acrylates) usually require higher application pressure and longer retention time than ductile ones (synthetic rubber adhesives) 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 bonding strength.

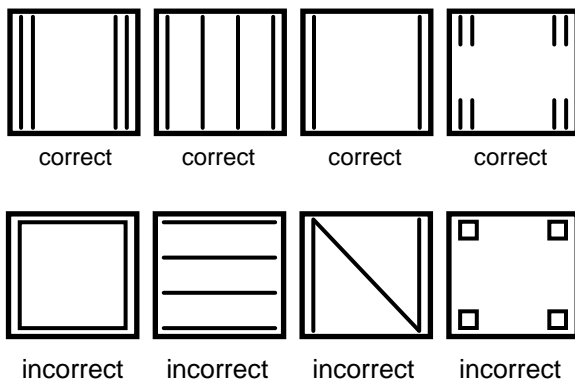
### Amount and positioning of the adhesive tape

ORABOND® adhesive mirror tapes must be applied straight without folds and overlaps. Remove the overlay film completely before final application. Apply the adhesive tapes vertically (from top to bottom) and distribute them evenly across the surface (see application graph). No individual ORABOND® adhesive tape should be longer than **50 cm**. It is important to cut the tape length in order to avoid dynamic tearing in case of improbable detachment. To ensure a safe bonding between surface and mirror the amount of ORABOND® adhesive mirror tape must exceed an area of **60 cm<sup>2</sup> per 1 kg mirror weight** (16.6 g/cm<sup>2</sup>).

### Storage

Adhesive tapes must be stored in their original packaging at 20 °C and relative humidity of 50 %. The maximum 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 data sheet of a specific product.

### Application overview



These processing instructions are based on our know-how and experience. They do not explain all application aspects to be taken into account. The user is expected to have subject-specific knowledge and know-how. Given 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 does not imply any guarantee of specific properties.

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