

1. Primary Note

POLI-TAPE offers a wide range of self-adhesive digital printing media for many different applications. POLI-TAPE can only ensure that the films conform as specified if the following application and processing instructions are adhered to.

POLI-TAPE recommends to use rolls from the same batch number for graphical application. When using rolls from different batch numbers then an experienced technician should verify beforehand if there are any disparities between the batch numbers as this could make an impact on the end result.

2. Storage

In general rolls delivered from POLI-TAPE should never be stored horizontally, they should be stored either upright or pendulously. Processing and storage should be in a cool, dry, sunprotected room with a relative humidity from 50 – 55 % and room temperature from ca. 18 – 22°C.

Attention! UV-radiation and excessive humidity can affect the quality of the self-adhesive material and impact the end result.

3. Printing instructions

In order to guarantee perfect printing conditions POLI-TAPE recommends to put the roll into the printer one day before printing. This way we can ensure that the material is ideally aligned to the individual room temperature und humidity.

The surface composition and the file to be printed should be inspected with the profiling before every print. We recommend that due care is taken and to use cotton wool gloves when handling digital printing media to avoid any impurities or damage.

Due to the differing qualities of the film rolls (monomeric-/polymeric- calandered), the various settings of the printer and

the monitoring software should always be verified and adjusted. In addition check the product details concerning their respective applications (indoor / outdoor) and durability. To avoid any unexpected results, please visit our homepage (www.poli-tape.de) for complete technical information regarding your purchased product.

4. Drying Time

The inks require a certain drying time after every printing process before finalizing so that the contained solvents completely evaporate. In addition, before finishing, the freshly printed media should be properly dried to avoid any shrinkage of the graphic. POLI-TAPE recommends to dry the media widespread for ca. 48 hours.

If the graphic is laminated too early, it could happen that the solvents haven't completely evaporated which could influence the adhesion and durability of the product. Printed films which have not been sufficiently dried will shrink during the drying process on the substrate after the application. It could also happen that the film peels away from the edges if the film has shrunk.

5. Lamination

It is advisable to laminate every inkjet print in order to maintain a long lasting high quality optical film. POLI-TAPE has various cold laminating films on offer in their product range. These films protect digital prints and photos against the influence of UV, dirt, humidity and abrasion. In addition, if combined, we recommend that only films from the same version are used (Monomeric PVC films on Monomeric PVC films and Polymeric PVC films on Polymeric PVC Films) because the components are aligned to match each other. POLI-TAPE recommends never to adjust the roll temperature higher than 30°C in order to avoid any deformation of the film. Furthermore, the film should be laminated without any tension.

6. Surface Treatment

POLI-TAPE offers diverse high quality special adhesives which can be used for almost all clean surfaces which are free from silicone, wax or grease. In addition, POLI-TAPE highly recommends that all surfaces are thoroughly cleaned with an Iso-propanol mixture and dried afterwards with a suitable cloth. Other detergents are not recommended, because they could affect the surface and influence the adhesion. Do not apply films on freshly painted areas. Newly painted surfaces are only cured after a standing time of minimum 3 weeks (depending on the kind of paint). If the detergents are not completely removed then gas cavities could develop between the surface and the film. For products made of polycarbonate and any other surfaces which have the tendency to produce cavities, POLI-TAPE suggests to bond a film with the surface 12 – 24 hours prior and to store at a minimum of 50°C. If gas cavities have formed then we suggest that either the material is stored for a longer period of time at room temperature or to perform heat treatment.

7. Bonding

In general, it must be differentiated between dry and wet bonding.

Wet bonding is recommended for flat and even surfaces otherwise there could be the risk that the water is trapped and cannot completely drain away. Therefore, wet bonding on concave and convex surfaces should be avoided. In addition, wet bonding is only recommended for material with solvent based adhesive (e.g. polymeric products). Products with air ducts like POLI-PRINT 1003 WHITE GLOSS PG Air Free and POLI-ETCH SILVER FROSTY 5055 Air Free are NOT suitable for wet bonding either. Firstly, when wet bonding, the surface must be moistened with a liquid detergent so that the material can be repositioned. Once the film is positioned correctly, the water residue can be pressed out from the inner side to the outer edge by using a plastic squeegee.

We recommend repeating this process several times to be sure that there is no water left trapped under the film. Water resi-

due can cause adhesion modifications. Once applied, the film should be left one day to rest so that the adhesion is completely developed. To finish, the film should be carefully pressed again with a squeegee to achieve the maximal bonding.

When applied dry, press a corner of the film onto the surface which is to be bonded, then spread the remaining film over the complete area with the help of a squeegee. The silicone paper can be completely removed before bonding for small films. We do not recommend this when bonding large films; instead, the silicone paper should be removed piece for piece during bonding. The film should be pressed again a couple of hours after bonding to ensure optimal quality bonding. In order to avoid different colour effects, we recommend that the films are processed in the same running direction. If films overlap, cut a straight, sharp edge by using an adequate sharp knife otherwise the films could peel off or misalign.

Attention should be given that there is never any tension when transferring the film but to constantly follow the profile. When bonding several films, POLI-TAPE recommends only using films from the same manufacturer and composition (Polymeric, Monomeric) as well as the same Lot number.

Attention! Care should be taken when selecting material if films are to be adhered on insulation glass panes due to temperature variability. This could cause thermal friction and the glass can become damaged.

8. Removability

In order to ensure a residue free removal of the film, the surrounding and ground temperature should be at least 20°C. In addition to the environment, the removal of the film depends on the adhesive properties and most important the condition of the surface. Certain substances could interact with each other e.g. diffusion of plasticizers, or fumigation of solvents. This could cause the adhesion to increase from removable

self-adhesive products and impedes a residue free removal of the film. The following surfaces could be affected from the above mentioned reciprocal effects:

- ABS
- Acrylic Glass
- Freshly painted areas and varnish
- Nitro Lacquer
- Polycarbonate
- Polystyrene
- PVC

Appropriate application tests on original material should be conducted by an experienced technician before every application. A differentiation should always be made between films with permanent and removable adhesive systems when removing. Films with a removable adhesive can be removed without difficulty within the period confirmed in the technical data sheet. Please be careful when removing the film that the films are never removed at an angle of 90°, but at a sharp 180° angle. Otherwise the risk of residue on the surface is increased.

Films with permanent adhesive are more difficult to remove. We recommend using a hot air gun, hot water, a squeegee or a mild cleaning detergent.

In general, the film should be carefully peeled off on the corner at a ca. 180° angle. The use of a hot air gun during removal will facilitate the process significantly. If any adhesive residue is left on the surface, we recommend using a mild detergent (e.g. Heptane or Isopropanol) to eliminate it.

Attention! Care should be taken when choosing the detergent that it does not affect the surface.

9. Durability within different climates

In general, the maximum for Digital Printing media is ensured only for vertical outdoor exposure. POLI-TAPE defines a deviant bonding application > 10° as a horizontal bond. General information can be found online on our homepage www.poli-tape.de in our technical data sheets regarding the basis of evaluating the maximal durability.

The technical details in our data sheets are based **ONLY** on the condition that **vertical bonding** in a **moderate climate** is undertaken. In addition to horizontal/vertical bonding, different climates can have a significant influence.

Durability and climatic zones are accurately defined on our homepage among processing information.

Due to the additional influences by mechanical abrasion or other chemical influences, it is not possible for us to transfer the maximum durability on each film. Consequently no warranty claims can be derived from the above information.

10. General Information

Poli-Tape provides an individual list with recommended printers and ICC-Profiles on our website www.poli-tape.de

The following technical details are issued to the best of our knowledge, however, without any responsibility for results due to several different kinds of surfaces and application processes. Therefore, we highly recommend that before every usage a test should be conducted on the original material.