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# Application Recommendations for Adhesive Backed Inkjet Media

## Introduction

Since proper cleaning and preparation of the substrate is critical to adhesive performance, it is very important to read the following cleaning and surface preparation instructions immediately prior to applying the adhesive-backed ink jet material to the substrate. Failure to follow these procedures may result in severe or complete adhesion loss.

These instructions are derived from normal application techniques for pressure-sensitive cast and calendered vinyl, and should be very familiar to experienced installers. Since there is such a wide variation in the type of substrate used in the sign and screen-print industry, it is critical that installers use surface preparation methods appropriate to the substrate in the particular application as shown below.

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## Cleaning and Preparation

**All loose dirt, grease, oil or wax must be removed prior to applying the adhesive-backed inkjet material.**

- Detergent and water will remove most contaminants, but surfaces with heavy grease and oily lagers should first be cleaned with a solvent (follow OSHA regulations) such as toluol, mineral spirits, heptane, lacquer thinner, etc.
- After this initial cleaning step, the surface should again be cleaned with IPA and allowed to completely dry before the image is applied. Under no circumstance should solvent residues be allowed to remain.
- Exposure to solvents and other chemicals may break down the adhesive at the edges, causing shrinkage and lifting.

## Temperature

**Temperature can have a large impact on the initial tack of the adhesives system.**

- It is recommended that the ambient temperature should be in the range of $50^{o}$ F to $90^{o}$F.
- Temperatures below $50^{o}$ F will severely reduce the tack of the adhesive, and this can lead to edge curl or even delamination from the surface of the substrate. High ambient temperatures make the adhesive very aggressive and it may be necessary to use wet application techniques (see next) under these conditions.

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## Wet Application

**Whenever possible, Epson recommends the use of dry application, i.e. that no application fluid or wetting agents be used.**

- For images larger than 24" x 24", installers *can* use application fluids such as Rapid Tac, or even detergent and water. This also applies to smaller images that have intricate designs and cuts.
- When using application fluids, the installer should follow the instructions given by the application fluid manufacturer.
- Soap and water or Windex are **not** recommended as they can leave residues that may affect adhesion

## Intructions for Adhesion to Specific Surfaces

**Since many surfaces require unique preparation, please check the following list prior to application of Adhesive Backed Inkjet Material.**

### Painted Surfaces

- Adhesion and compatibility should be tested prior to application. You might want to remove the application prior to repainting and will not want the painted surface to be damaged during removal of the image.
- Highly pigmented or flat metallic are not suitable substrates, as they tend to chalk and flake promoting poor film adhesion.
- All paints must be allowed to dry completely. For most air drying paints, at least one week is recommended.
- In high humidity conditions, the surface must be cleaned with alcohol immediately before application and allowed to dry.
- Avoid flat latex paint, latex paints on wood surfaces, and paints containing waxes and silicone leveling agents.
- Automotive finishes often contain silicone agents which must be thoroughly and completely removed. This is critical in the case of brand new vehicles.

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## Metallic Surfaces

- Some metallic surfaces can be reactive and care must be taken to test them before application. Tin, copper, magnesium, lead, and brass should be avoided.

  **Aluminum**
  It recommended that only etched aluminum should be used. Any surface contamination and protective coatings or machining oils must be removed using solvents.

  **Galvanized Steel** (**Do not use sheet steel**)
  Galvanized steel should be brushed to remove any loose zinc oxide, cleaned with a petroleum solvent such as heptane or toluol, then alcohol, and finally wiped with a clean dry cloth and allowed to dry completely.

  **Stainless Steel**
  The surface should be cleaned and prepared as indicated in the general instructions given at the start of this bulletin.

## Lexan (polycarbonate)

- Polycarbonates can absorb relatively large quantities of moisture and must be oven dried (following the manufacturers instructions) prior to application of the graphic. Failure to do so can result in severe bubbling due to outgassing of the moisture.

## Glass

- Residue should be removed with a razor blade, and then the surface cleaned with alcohol and allowed to dry.

## Acrylics

- These should be cleaned according to the general instructions given at the start of this bulletin.

## ABS

- Same instructions as above.

## Fiberglass

- Clean the surface with alcohol on a soft cloth and allow to dry for 24 hours, followed by oven drying at 65°C for three hours. If bubbles occur from out gassing, cure the fiberglass for three days at 60°C.

## Unpainted wood and fiberboard

- This is generally not recommended for use with adhesive backed films due to the irregular surfaces.

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# Other considerations:

## Application methods

- Care should be used to prevent damage to the image when using a squeegee during the application process. A soft cloth should be wrapped several times around the squeegee and minimal pressure applied.
- Calendered vinyl must not be stretched during installation. When exposed to heat, calendered vinyl will shrink back to its original size, resulting in gaps or edge lifting between panels.
- Not recommended for horizontal applications due to extreme level of heat and UV. Mounting angle should be $45^{o}$ or greater.

## Minimizing edge curl

- **Unlaminated**: Leave a one-half-inch or greater white space border around the graphic and apply edge sealer.
- **Laminated**: Overlap one-half inch or greater beyond the edge of the ink jet vinyl to seal the edges. Apply to non-porous substrate.

## Lamination

- Lamination will enhance the durability and scuff resistance of the image. Epson media may be laminated using pressure-sensitive or thermal or liquid lamination. The recommendations of the producers of the laminator and lamination film manufacturer should be followed.

## Technical Service

- Support for questions on EPSON hardware, software, and consumable is available by contacting the Epson Preferred toll free support line specified in the hardware's in-box warranty statement. The toll free line is available for use by customer's under warranty or extended service plan, and requires the entry of the Unit ID Number also supplied in the original warranty documentation for the Printer. The same Epson Professional Graphics printer support group can be accessed by calling 562-276-1305