

3.7 Avery Dennison® SignFlex™ - Recommendations on converting and application

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1. Introduction

This technical bulletin advises the handling, cutting, printing, applications for Avery Dennison SignFlex™ serie. This serie is specially developed to adhere to flexible substrates like tarpaulins. It gives a permanent adhesion on highly plasticized PVC banners.

The product is available in 5 different colours + a white digital printable product, which can be applied either dry or wet. A clear DOL SignFlex™ overlamine is provided to protect the print media. All films have a glossy finish appearance. The final visual appearance has to be judged on applied material.

2. Product

Product name	Width/Length (m)
SignFlex™ Black	1.23 x 50
SignFlex™ White	1.23 x 50
SignFlex™ Red	1.23 x 50
SignFlex™ Blue	1.23 x 50
SignFlex™ Yellow	1.23 x 50
SignFlex™ Green	1.23 x 50

3. Substrate

The SignFlex™ serie has been successfully tested on the following truck tarpaulins listed in the table below. Avery Dennison SignFlex™ can be applied to a wide variety of flexible, PVC coated substrates. As some PVC coated substrates have been topcoated or treated otherwise, applicators should convince themselves that good adhesion can be obtained before actual use.

Used/older tarpaulin materials could be reused to apply SignFlex™ films. The condition of the tarpaulin has to be tested on a small area prior to a full application. No applications allowed on printed area nor on old signages. The application is at the risk of the customer. In any case the tarpaulin must be cleaned by wiping over the surface with a cloth soaked in Avery Dennison surface cleaner or mild solvent.

Substrates of other nature than plasticized PVC are not recommended.

Brand	Reference
Dickson	Dicoplan 867
Dickson	Dicoplan 7307
HEYtex	HEYcargo vectaplan 8/8 (H5518)
HEYtex	HEYcargo vectaplan panama (H5551)
HEYtex	HEYcargo vectaplan 9/9 (H5560)
Sioen	5061
Sioen	7500
Verseidag	Duraskin B1065
Verseidag	Duraskin B1071
Verseidag	Duraskin B1293
Verseidag	Duraskin B2011
Verseidag	Duraskin B2033

4. Converting

4.1 Cutting and weeding

Roll to roll or flatbed plotters are suitable.

Adjust pressure and speed in order to cut the vinyl only.

Care should be taken when cutting printed and laminated media, small letters (< 2cm) are not recommended.

Overposting of max. 5mm or edge to edge applications are suitable.

More information can be retrieved in the Technical bulletin 3.1 'Signcutting of Avery Dennison® films'.



4.2 Application Tape

High to medium tack application paper are recommended. The use of plastic application tapes is not recommended. More information can be found on the Avery Dennison Application Tape/Paper product overview.

4.3 Printing

Before printing, it is required to have the right media profile installed and selected in your print server. The media profile contains a combination of information on printer / rip / ink / media. The right media profile not only produces the best colours but will also reduce the amount of ink deposited on the material, resulting in less influence of the solvent on the material properties. Media profiles are available via the Avery Dennison website for the SignFlex™ White Gloss. (<https://averydennison-eu.color-base.com/>)

In case of solvent printing, films need to be fully dried before an overlamine can be applied on. In general a drying time of 24 hours (full solvent) or 48 hours (eco-/mild solvent) will be sufficient. In case of a high ink load, materials may need increased drying time in order to be sufficiently dry. When drying, material should not be tightly wound on a core, as the solvents are then unable to evaporate. The materials should be left drying loosely wound on a core, or stacked in racks as sheets.

Printed SignFlex™ films are not recommended to be further processed on flatbed plotter, roll to roll plotters are suitable.



4.4 Lamination

Both SignFlex™ and SignFlex™ DOL are extremely flexible.

Cold lamination combined with a low speed and tension will give the best results.

Increased temperature and/or higher winding tension could lead to unwanted elongation of the DOL when laminated onto the printed film, potentially causing defects such as edge lifting after application.

5. Application procedure

5.1 Preparation

Rolls and Tarpaulins should be acclimatized in the working area.

The best working conditions in a plotting room are 18-23 °C and 40-55 % R.H.

The minimum application temperature is 10°C.

Application tools:

- Squeegee.
- Atomiser (such as plant sprayer) to dispense application fluid.
- Avery Dennison cleaner or mild solvent, to clean the surface prior application.
- Application fluid: Addition of 0,5 % of neutral detergent to water will give you the right application fluid or suitable ready to use application fluids.
- Sufficient cloth or paper to absorb the application fluid after application.

5.2 Application procedure

Application should be done on a rigid and flat background as the adhesive needs pressure to acquire the best bonding between the tarpaulin and the film.

Before application, all flexible face materials must be cleaned by wiping over the surface with a cloth soaked in Avery Dennison surface cleaner or mild alcohol. Ensure that the surface is well dried before starting the application. Signflex™ can also be applied on used/older tarpaulin material, the condition of the tarpaulin has to be tested on a small area prior to a full application. The application is at the risk of the customer.

Large pre-spaced texts can be hand cut into sections to facilitate application. For large texts or logos which involve overlapping sections, allow a 5 mm overlap. Overlaps should face to the rear or the bottom of the vehicle wherever possible.

The film can be applied in dry or wet method. The wet method allows repositioning a few minutes after the application on the tarpaulin.

After 2 hours of applications, the tarpaulin can be fixed on the truck trailer, the ultimate adhesion of the film has been already reached.

Additional remarks for wet application:

- Spray the application fluid on both the adhesive side of the graphic and on the flexible substrate surface so that there is a fluid film on both.
- Apply the graphic to the curtain and squeegee it down with firm overlapping squeegee strokes to remove all fluid. Work your way down from top to bottom and to the middle of the edges of each section. Pay more attention to remove all application fluids on 'anti vandalism' curtains; the surface being not flat.
- Proceed with the other sections of the graphic until the entire graphic has been applied. Make sure that all application fluid has been removed properly.
- The application tape can be removed at an angle of 180° downwards, 5-15 minutes after the completion of the application.
- Re-squeegee the surface of the graphic and, wipe away any liquid expelled with an absorbent cloth. Check that all edges have been applied properly.

Take particular care with small pre-spaced graphics, lettering and fine details: gentle heat applied via a hot air gun ensures good adhesion, particularly at low application temperatures.

- Once the graphic has been applied, the flexible substrate must be kept for at least 2 hours at a temperature of 10°C or higher in order to allow the adhesive to settle down and any remaining application fluid to evaporate. Immediate use of the flexible substrate at low temperatures (e.g. in frosty conditions) may result in delamination.

- After completion of the application and the settling down period, the flexible substrates or banners should be packed flat or wound for storage with the Avery Dennison SignFlex™ graphics to the **outside** of the pack or roll.

6. Cleaning and maintenance instructions for Avery Dennison® SignFlex™

In order to maintain a high quality image of Avery Dennison SignFlex™ once they have been applied to a curtain, they need to be cleaned regularly. Any vehicle cleaning schedule is dependent on the weather, traffic and road conditions, but generally speaking cleaning once a month with non-aggressive detergents should be sufficient.

No solvents nor steam washes should be used.

Cleaning of heavily-soiled curtains and graphics:

Dilute the cleaning agent according to the manufacturer's instructions.

Spray the cleaning solution generously over the entire surface of the curtain to be cleaned, starting at the bottom of the curtain working upwards.

Using a standard soft vehicle brush, thoroughly agitate and mix the cleaning agent solution into the dirt on the curtain's surface.

Rinse off dirt and cleaning solution together using a pressure washer, water hose or brush wash. When using high-pressure equipment, a pressure of max 80 bars (1200 psi) and a water temperature of max 60° C should be used. A minimum distance of 30 cm should be maintained between curtain and dispenser nozzle.

Inspect the cleaned curtain for any ingrained grease or scuff marks, and remove them with the aid of a soft brush or cloth and a hand sprayer containing cleaning solution. Rinse off.

Points to watch:

- Do not clean Avery Dennison SignFlex™ graphics within 48 hours after application.
- Avery Dennison SignFlex™ graphics may be cleaned using all normal truck washing methods, but high pressure steam cleaning should be avoided as the extreme heat can interfere with the adhesion on the films.
- The cleaning solution should fall within the mild acid or mild alkaline limits (pH 3-11).
- Do not use solvents and/or abrasive cleaning agents
- The high pressure cleaner nozzle shall be pointed perpendicular to the curtain surface: angled aiming may damage the graphics.

Important:

The above recommendations and cleaning instructions are intended only as a source of information and are given without a guarantee and do not constitute a warranty. Purchasers should independently test cleaning agents and methods, prior to use, to determine their suitability.

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