PRODUCT BULLETIN

APPLICATION GUIDE
Film for vehicle tarpaulins: TB9000S / VTB901WG1 / PTB900

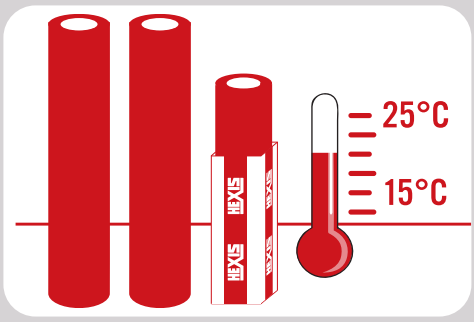
REQUIRED EQUIPMENT

- Plotter
- Tesa® 7476 adhesive tape
- Masking tape
- Liquids for the cleaning of application surfaces:
- ProTech® SHAMPCAR or SHAMPCARV2 car body shampoo
- SHAGCLEAN
- HEXIS'O
- HEX904 transfer film (tape)
- Squeegees of your choice from the catalogue
- Cutter

STORE YOUR FILMS UNDER GOOD CONDITIONS

Keep the films away from any major sources of heat (radiators and heaters, direct exposure to sunlight, etc.).

Shelf life: The shelf life of this film is 2 years when stored in its original packaging at a temperature ranging from +15 °C to +25 °C (+59 °F to +77 °F) with relative humidity between 30 % and 70 %.



CHARACTERISTICS

The films for vehicle tarpaulins are composed of a cast PVC, which is coated with an acrylic adhesive particularly suitable for the application to this kind of substrate.

TB9000S:
80-µm, mass-coloured film for use in plotters.

VTB901WG1:
80-µm film, which is printable with solvent, eco-solvent, latex and UV inks.

PTB900:
50 µm laminate, which is intended for the protection of the printable VTB901WG1 film.

The technical performance and flexibility of these films allow you to apply them to the tarpaulins of various vehicles, whether they are burglar-proof or not.

PREPARING YOUR APPLICATION SURFACE

HEXIS films can be applied to a wide variety of vehicle tarpaulins as long as the target surface is clean, dry and free from any traces of oil, grease, wax, silicone or other contaminants. To avoid unexpected outcomes, always assume that every substrate is dirty and needs to be cleaned (cf. chapter 6).

Do not forget to carry out a preliminary trial on a small surface to check that the substrate remains undamaged.

For further technical information, please refer to the data sheets available on the "Professionals" pages on our website www.hexis-graphics.com.

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Application methods are based on the manufacturer's experience and are not restrictive. To ease application, comply with recommendations.
HEXIS also offers training sessions to enable professionals to achieve optimum results.

1. RECOMMENDATIONS:

› TB9000S and VTB901WG1 films and PTB900 laminates have been developed to adhere to the PVC banners of transport vehicles whether or not they are burglar-proof.

› The optimal adhesion of the TB9000S and VTB901WG1 films is achieved after 24 hours of contact.

2. PRELIMINARY TEST OF THE BANNERS:

Before any application, the installer must first inspect the substrate to which the film will be applied.

The installer and the customer are responsible for the suitability evaluation of the target surface to be covered.

3. FILM CUTTING:

The films should preferably be stored in the same environment as the cutting station.

Make sure that the cutting strip on the plotter is perfectly smooth and not scratched. A damaged cutting strip reduces the cutting quality.

Set the correct cutting speed and blade pressure so as to cut the film and the adhesive-coated surface.

The pressure of the blade has to be adjusted depending on the film. The film colour is given by the pigment loads which may cause different degrees of hardness when cutting. Thus, a red film that is cut after a white film may need more pressure.

It is recommended to carry out a plotting test before starting a production run.

> If the pressure is too high, the protective liner may slightly crack causing adhesive bleeding. This would make the weeding process more difficult.

In any case, it is recommended to weed the material right after the cutting.

3.1. Introduction to plotting:

The smallest possible size to be cut depends on the condition of the blade, pressure, cutting speed and plotter. In general, an acceptable height is 10 mm (0.4 in.), with serifs of 1.5 mm (0.06 in.), at medium speed and with a blade in good shape. Smaller letters can be obtained by reducing the speed.

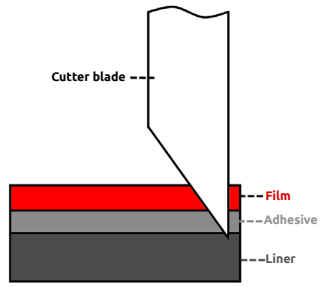

Figure 01

For instance, the recommended medium speed for a ROLAND® GX24 cutting plotter is 20 cm/s (7.87 in./s).

> Note: In any case, carefully read the cutting plotter's instructions and carry out a preliminary plotting trial.

The blade must cut the film and the adhesive-coated surface. (FIG. 01)

A blunt and worn blade will impair the quality of the cutting and will require a higher pressure. Weeding will also be more difficult.
After cutting, proceed with the weeding, that means removing any excess film. To do this, carefully remove the excess film by peeling it from the liner at an angle of 180 degrees, leaving the image to be transferred on the liner. In any case, it is recommended to weed the material right after the cutting.

Generally, it is easier to weed the graphics from right to left. Nevertheless, certain fonts come off easier from left to right.

Pay very special attention to small graphics which may easily be torn off when weeding.

3.2. Plotting test:

In order to determine the plotter settings, we advise you to carry out a preliminary test:

› Cut a square of 10 cm x 10 cm (3.94 in. x 3.94 in.).

› Weed: remove any excess material.

› Check:

  › that the cut square adheres well to the liner; (FIG. 02) (FIG. 03)
  › that the liner is free of any incision.

› Weeding will be successful if the plotter is properly set up (pressure, speed, shape of the blade).

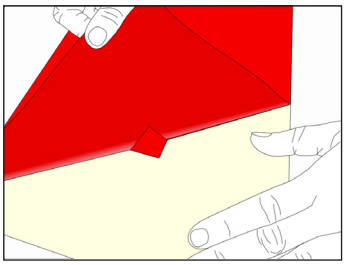

Figure 02

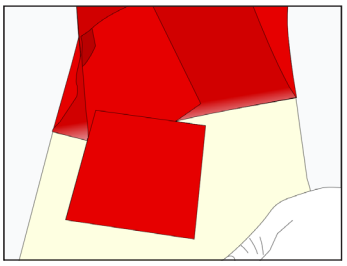

Figure 03

4. LAMINATING THE PRINTED VTB901WG1 FILM:

We recommend you laminate the VTB901WG1 film with the laminating film PTB900.

Ensure that the film is dry before application.

The printed VTB901WG1 film is touch-dry at 10 minutes maximum following application, but it is recommended to leave a drying time of at least 48 hours before laminating, cutting or applying it.

› To ensure that the solvents evaporate completely, leave the printed films stacked in sheet racks in a ventilated room to dry.

5. APPLYING THE TRANSFER FILM (TAPE):

In order to facilitate the transfer of your graphics or letterings to banners, HEXIS recommend using the HEX904 tape.

It is recommended to carry out the transfer the day after the application of the tape so as not to leave the tape in contact with the graphics for too long.

› After weeding, the application of the tape must be followed by a vigorous squeegeeing (firmly pressing on the small characters).

6. CLEANING:

Cleaning of the substrate is required before performing the application. It should always be assumed that the substrate is contaminated with dirt. Some residues or soiling may not be visible; however, they may impact the adhesion of the film.

⚠ *Before using any cleaning liquids or chemicals, please refer to the Technical Data Sheets and Safety Data Sheets available for download on our website www.hexis-graphics.com.*

It is advised to wash the vehicle with the SHAMPCAR or SHAMPCARV2 vehicle body shampoo, then carry out a final cleaning using the HEXIS'O product and wipe the surface dry with a clean cloth.

Shampcar / ShampcarV2
Concentrated vehicle shampoo

HEXIS'O
Cleaner and degreaser

7. GRAPHICS APPLICATION:

The application method of films to vehicle tarpaulins that must be used is the same as the one used to apply films to flat surfaces. The notable difference comes from the substrate which is flexible and structured.

Due to the structure of the banners, it is mandatory to use the so-called "dry" application method with the TB9000S and VTB901WG1 films whether they are applied with a transfer film (tape) or not.

⚠ *Any liquid trapped in the banner structure cannot be evacuated during film application, thereby reducing the final adhesion of the film. It is therefore important to thoroughly dry the substrate prior to film application.*

Before any application of the TB9000S or VTB901WG1 films, make sure that all surfaces are clean (cf. paragraph 6), paying particular attention to critical areas such as tarpaulin edges and seams.

The ideal application temperature ranges from 15 °C to 25 °C (59 °F to 77 °F) (minimum 15 °C (59 °F)) and must be respected for both the ambient and the substrate temperatures. Hygrometry may also result in a lower adhesion of the film to its substrate. In a cold environment, the transfer tape should be left on longer before its removal as several days are necessary to complete the final adhesion of the film.

However, the TB9000S and VTB901WG1 films must be firmly squeegeed to achieve optimum adhesion to the substrate.

To carry out an optimal application of films to vehicle tarpaulins, HEXIS recommend using a flat, rigid and fixed surface to support the back of the banner. However, when this is not possible, an application directly on the trailer can be performed but may be more complicated in particular along the longitudinal and transversal reinforcement bars.

Folds can form at these intersections which may reduce the adhesion of the film and may result in the film peeling off over time.

To limit this phenomenon, it is recommended to stretch the banner as much as possible, to insist firmly at the edges of the bars and to ensure that the film is correctly applied to these parts.

7.1. Positioning:

Figure 04

› Position the marking (tape/film/liner or film/laminate/liner complex) on the target surface and fix it using masking tape strips (FIG. 04).


Figure 05

› For easier application of plotter films, it is possible to carry out cuttings in the tape + liner compound once the graphic is positioned. (Take care to not touch the banner with the cutter blade). The graphic application can thus be carried out in several independent steps (FIG. 05).

7.2. Application:

› Apply a strip of masking tape in order to create a horizontal hinge about 20 cm (7.87 in.) from the edge of the film to be applied.

› Fold the compound on the previously created hinge.

› Remove the liner from the film + tape.

› Cut the released part of the liner (FIG. 06).

Figure 06

› Apply the liner-free film by running a soft squeegee (e.g. MARBLEU) over the tape, from the centre to the outside of the graphic (FIG. 07). The squeegee must form a 45°-angle with the lower part of the film.

Figure 07

› After having applied this part, remove the top hinge and continue removing the liner, then continue applying the graphic or the remaining section of the graphic until completion of the application.

› Firmly press on the borders of the film using the squeegee.

› Carefully remove the tape by forming a 180-degree angle with the surface (FIG. 08).

Figure 08

› Repeat the previous steps until completion of the graphic application (FIG. 09).

Figure 09

› The application is complete.

⚠ *HEXIS advise to keep the banner stretched for 24 hours until the maximum adhesion of the film is reached.*

8. CLEANING AND MAINTENANCE OF THE FILMS:

The TB9000S and VTB901WG1 films can be cleaned in any conventional automatic car wash, using cleaning products and detergents used for professional maintenance of vehicles and advertising equipment.

Nevertheless, exercise care when cleaning with high-pressure cleaners: Apply medium water pressure at a minimum distance of 50 cm (20 in.) and a maximum water temperature of 35 °C (95 °F).

⚠ *Caution: Do not wash the film within the 48 hours following its application as this can affect the adhesion that may result in the film peeling off.*

⚠ *Caution: Solvents and corrosive detergents are forbidden.*

⚠ *HEXIS are not liable for any adhesive films cleaned with unspecified additives from cleaning stations.*

⚠ *Car washes: The additive products and the condition of the rotating brushes may impair the adhesion of the graphics or films. It is commonly admitted that after 10 car washes, the polyurethane paint becomes streaked; we are not accountable for these mechanical effects that may affect the film appearance.*

HEXIS tip: Always carry out a test on a small area before cleaning the entire covered surface.

9. REMOVAL PROCEDURE:

The TB9000S and VTB901WG1 films feature a permanent adhesive; therefore, their removal needs some attention. Nevertheless, by following the instructions below, the removal will be relatively easy.

› Using a heat gun, start from a corner and heat the film to a temperature of around 60 °C (140 °F) (use the laser thermometer).

⚠ *Please carry out preliminary trials on the resistance of the banner to this temperature. HEXIS are not liable for damages and degradations caused to the substrates by applying too high temperature.*

› Gently lift the corner with the cutter - available in the tool box - without damaging the substrate, and gradually remove the previously heated film; the film should form a 70- to 80-degree angle with the substrate.

⚠ *A more or less wide angle will cause the film to break more easily.*

› Always proceed gradually by heating small areas while carefully removing the film so as to limit the risk of leaving any adhesive on the substrate or tearing off the film.

› Continue to carefully heat and peel off the film gently until it is completely removed while keeping a watchful eye on the heat applied, on the pulling angle of the film, and the pulling speed.

› If any adhesive remains on the substrate, take a cloth soaked with our SHAGREMOV product and rub the surface until all traces disappear.

SHAGREMOV
Powerful cleaning agent

⚠ *Prior to treatment, run a compatibility test on a small, inconspicuous area of the substrate to be treated. Certain plastic materials might be damaged by the cleaning products. Take the necessary precautions to protect the most sensitive parts before performing the clean-up. HEXIS are not liable for damages and degradations caused to the substrate by using incompatible products.*

⚠ *Before using any of our liquids, please refer to the technical data sheets available on our website: www.hexis-graphics.com.*

For further technical information, please refer to the Technical Data Sheets available for free download from our website *www.hexis-graphics.com* on the "Professionals" pages.

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