APPLICATION AND REMOVAL
HEX’PRESS CAST VINYL FILM

HX100 Series: HX100WG2 – HX100NTWG2

ESSENTIAL ACCESSORIES
- Adhesive tape Tesa® 7476
- Masking tape
- HEXIS'O cleaner
- CLEAN HEXIS degreaser
- ND45 strong cleaner
- « System 1, 2, 3 » cleaning liquids:
  - 1-Remover
  - 2-Pre Cleaner
  - 3-Final Cleaner
- Your preferred squeegee available in the catalogue
- PC30 laminate (PC30G2, PC30M2 or PC30M3) or V750 (flat surfaces)
- VR 7077 sealing varnish
- A heat gun
- A MALCOV HEXIS tool case
- DECOLLVIT cleaner

ALWAYS STORE VINYL ROLLS AT THE RECOMMENDED CONDITIONS

Keep the film away from sources of heat (radiators, exposure to direct sunlight...): the ideal storage temperature is between 15 and 25°C (59 and 77°F). Store in an atmosphere with low humidity (30 to 70% relative humidity).

Keep your films in their original packing. Each opened roll must be stored vertically or suspended from the core in order to avoid pressure marks on the contact surface.

CHARACTERISTICS

The films in the HX100 Series are made of a 50-micron vinyl film intended for complex surfaces. It adheres particularly well on glass, steel, aluminium, PVC, melamine, except grained substrates or surfaces covered with an acrylic paint.

The high technical performances and their conformability make it suitable for full wraps and for curved and riveted surfaces...

The combination of the ultra conformable cast vinyl and the advanced HEX’PRESS adhesive technology ensure you obtain high quality results while at the same time reducing working time. This technology allows you to easily reposition the vinyl, but does not exclude the necessary steps of squeegeeing to ensure optimum adhesion of the film on the substrate.

In low temperature conditions (10 – 15°C) applications with the film HX100NTWG2 are easier. The film HX100WG2, on the other hand, has a « low tack », which make transfer and application really easy ensuring optimum results (for temperatures over 20°C).

PREPARING THE TARGET SURFACE

HEXIS films can applied to a wide variety of substrates under the condition that the target surface is clean, dry, smooth, non-porous and without any traces of oil, grease, wax, silicone or other contaminating agents. In order to guard against all eventualities, always assume that the substrate is contaminated and requires cleaning (cf. chapter 3).

Do not forget to carry out a preliminary test in a small inconspicuous area to check that the substrate does not deteriorate.

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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

- In a full vehicle wrap avoid applying self-adhesive films on unpainted components such as trim or unpainted bumpers.
- The HX100 vinyl achieves optimum adhesion after 24 hours of contact.

2. PRELIMINARY TESTING OF THE TARGET SURFACE

- Fresh paint must dry for at least 7 days at 25°C (77°F) in order to outgas completely. A outgassing test must be carried out before the application of a self-adhesive film.
- Older paint or paint that has become dusty or flaky must be sanded and restored before the application and a rip test should be carried out.

2.1 Tear off test

Using a self-adhesive tape of the type Tesa® 7476 or similar, apply on an area of 2.5cm x 5cm (1in x 2in) plus some extra length to hold with fingers. Fold and tear off with a swift movement at a right angle to the surface. The adhesive tape should not show any traces. Repeat the test at different places.

> HEXIS provides, on request, samples of the 2.5cm x 5cm Tesa® tape.

2.2 Outgassing test

Use a 15cm x 15cm (6in x 6in) square of adhesive polyester or of the film to be applied. Leave for 24 hours or 2 hours at 65°C (149°F). The appearance of bubbles indicates that the substrate has insufficiently outgassed. Repeat the test after a couple of days or else use the method described below.

2.3 Outgassing by flaming (polycarbonate, translucent or diffusing metacrylate, expanded PVC...) consists in modifying the surface tension of a substrate by wiping it with the flame of a gas burner. Proceed in even and fast sweeps, both horizontally and vertically over the entire surface of the substrate (use the blue tip of the flame).

Attention: do not stop the movement of the flame over a single spot for more than 1 second (risk of damage to the substrate). The film must be applied immediately as the effect of this type of gentle surface treatment disappears after a few minutes.

HEXIS is not liable for any bubbles due to outgassing.

3. CLEANING

Depending on the condition of the substrate, three cleaning possibilities are possible:

3.1 Clean surface appearance

General case:
Before applying the film on the substrate, we recommend you clean it with the gentle HEXIS’O solution. Dry with a clean and lint free cloth.

For total vehicle covering:
In the case of a total covering, it is recommended to use HEXIS FINAL CLEANER. Spray onto the surface. Leave to work for a few moments (30 to 60 seconds) then remove with a clean, dry cloth.

3.2 Dirty support:

General case:
Clean the support using a cloth soaked with CLEAN HEXIS de-greasing solvent and dry it with a cloth before evaporation.

For total vehicle covering:
In the case of a total covering, use of HEXIS PRE CLEANER is recommended. Spray onto the dirty surface. Leave to work for a few moments, then wipe dry with a clean cloth. Carry out a final cleaning using HEXIS FINAL CLEANER.

3.3 Very dirty support:

Applies in the case where the support has been soiled by resistant pollutant such as diesel, tar or rubber stains.
**General case:**
Use a cloth soaked in the powerful HEXIS ND 45 cleaner. If necessary, precede this step by scraping the stain with a flexible, non-abrasive scraper.
In all cases, then wash the areas concerned with the HEXIS’O solution.

**For total vehicle covering:**
In the case of a total covering, it is recommended to use HEXIS REMOVER.

- Use in a ventilated area. Wear protective gloves and goggles.
- Test a small, non-visible area for compatibility of the support before treatment. Certain plastic materials may be damaged by the REMOVER product.
- Spray onto the dirty surface and spread out using a dry cloth.
- Leave to work for a few moments, then wipe dry with a clean cloth.
- When the support is clean and dry, clean again with HEXIS PRE CLEANER, then finish with HEXIS FINAL CLEANER (refer to use below).

**3.4 Special case:**

Remember to adapt the preparation methods according to the substrate type and condition.
The painted surfaces must be dry and hard, and the baked paints must be cooled down.
Air-dried paints or car paints need to be dried for minimum 1 month before applying the film. For bare metallic surfaces, clean the substrate with soapy water and then with a cloth soaked in HEXIS’O solution.

Consult the product safety data sheets before use.

**4. LAMINATION**

We recommend you laminate the HX100 film with the PC30 laminate. The combination of the HX100 film with the V750 laminate concerns exclusively applications on flat surfaces.
Ensure that the film is dry before application: the printed HX100 is touch dry after 10 minutes at the most, however it may be necessary to wait for 24 hours before applying, laminating or cutting the film. To ensure the solvents evaporate completely leave the cut sheets to dry in ventilated racks.

**5. APPLICATION OF THE HX100**

The HX100 vinyl film must be dry applied, be it laminated or not, because of its HEX’PRESS liner. This technology lets you easily reposition the vinyl on the substrate but does not exclude the necessary steps of squeegeeing to ensure optimum adhesion of the HX100 on the substrate.
Before any application of the HX100 + PC30 compound (or HX100 + V750) or of the films on its own, make sure all surfaces are absolutely clean.

Application temperature:
The recommended application temperature is:
- minimum +10 °C for the HX100NTWG2,
- between +20 °C and +25 °C for le HX100WG2.

The application temperature must be complied with both with regard to the room temperature and the temperature of the substrate. Hygrometrics may also influence the adhesion of the film on the substrate.

**5.1 First steps and application of the HX100 onto flat surfaces**

- Always wear cotton gloves (available from HEXIS)
- Position the printed film on the target surface so as to hold it in place without stretching it.
- With the help of strips of masking tape or magnets, make a horizontal hinge preferably on a flat area.
- Peel off 10cm (4in) of the liner and start applying the vinyl using a squeegee (cover edge with felt strip) at an angle of 45° wiping from the centre towards the sides.
- Remove the top hinge and continue removing the liner, depending on the surface pattern (cf. paragraphs below).
- During application on flat surfaces, squeegee the entire surface and at the same time remove the liner steadily, tightly following any unevenesses.
5.2 Undulated surfaces
Having completed step 5.1, you may come across slight or heavy undulations for which the application process will be different.

5.2.1 Slight undulations: « stretched application » (FIG.06)

- Remove all the liner.
- Apply the stretched vinyl over the substrate so as to have it stick only to the peaks of the undulation. (FIG 06 ① AND ②)
- Apply the surface contours with a finger or a squeegee.
- Then heat the stretched areas to between 40°C and 50°C (104°F and 122°F) with the heat gun.
- Keep applying heat and with a finger press the film down into the hollow from either side.
- Without heating apply the area between the 2 undulations from the centre to the rims.
- Now cut the contours if the substrate has several parts.
- When the application is finished reheat all areas that have undergone a deformation to between 80 and 90°C (176 and 194°F) to thermoform the product definitively.

5.2.2 Heavy undulations: « extended application » (FIG.07)

- Remove the liner gradually by tensioning it towards the lower end.
- Apply the film with the thumb or a squeegee horizontally progressing slowly into the hollow of the undulation.
- Apply the hollow ① then the peak ②, then the hollow ①.
- Go up onto the next peak ① then go to ①.
- As the film was not permanently stretched, it is not necessary to reheat the film.

Attention: the concave areas HEX’PRESS adhesive technology requires appropriate pressure in order to completely drive out any air that remain in the micro-channels as any air that has not egressed and may not be visible may later result in the film lifting off the substrate.

5.3 Concave surfaces
After 5.1 proceed as follows:

- Remove all the liner (FIG.08)
- Stretch the vinyl over the substrate so that the film touches the peaks only.
- Apply the film with a finger or a plastic squeegee covered with a felt sheet (FIG.09).
- If necessary, lift off again and re-stretch the film; then apply.
- Heat to between 40 and 50°C (104 and 122°F) and with a finger press down into the hollow area so as to apply the adhesive (FIG.10).

Attention: HEX’PRESS adhesive technology makes the film repositionable during application and allows easy elimination of air bubbles. However particularly in concave areas HEX’PRESS adhesive technology requires appropriate pressur in order to completely drive out any air that may remain in the micro-channels as any air that has not egressed and may not be visible may later result in the film lifting off the substrate. HEXIS recommends you pay particular attention to the application of HEX’PRESS media in concave areas.

- When finished, reheat all hollow areas that have undergone strong stretching to between 80 and 90°C (176 and 194°F) in order to definitely thermoform the product (FIG.11).
5.4 Convex surfaces

After 5.1 proceed as follows:

- Remove the liner.
- Heat the vinyl to between 40°C and 50°C (104°F and 122°F) (FIG 12) then stretch the film so as to completely wrap the convex surface (FIG 13).
- Apply the vinyl over the entire surface with the help of a plastic squeegee covered with a felt sheet and carefully wipe over the convex area (FIG 14) to eliminate any tensions.
- If necessary, lift the film, re-stretch it and completely wrap the convex surface (FIG 15).
- Next heat to between 40°C and 50°C (104°F and 122°F) (FIG 16), and squeegee down.
- Leave to cool down.
- Cut the film if necessary and reheat to 80-90°C (176-194°F) for optimum adhesion.
- The application is completed (FIG 17).

5.5 Riveted surfaces

After step 5.1 proceed as follows:

- When you encounter a rivet, the vinyl is stretched. Apply a little heat between 40°C and 50°C (104°F and 122°F).
- With a squeegee go all around the rivet (FIG 18) and pierce the rivet 2 or 3 times with a needle to evacuate any trapped air.
- Next heat each rivet again to 80 - 90°C (176 - 194°F). (FIG 19)

5.6 Full vehicle wraps

- On vehicles the application of film on gaskets between windows and/or body panels must by all means be avoided.
- Whenever a horizontal application becomes necessary as on engine hoods or roofs this may over time lead to a slight attenuation of colour and gloss compared to vertically exposed areas. As these areas suffer maximum exposure to sunlight and climatic influences they are not covered by the manufacturers warranty regarding durability.
- If an overlap becomes necessary, HEXIS recommends 1cm (0.4in) carried out in the following way:
  - Horizontal overlap of the HX100: the upper part of the film (higher) overlaps the lower part (tiling).
  - Vertical overlap of the HX100: on mobile surfaces: as the film is always applied starting at the rear of the vehicle working towards the front, the overlap is done in the same way (FIG 20).
- In a full vehicle wrap avoid applying self-adhesive films on unpainted components such as trim or unpainted bumpers.
- The first steps are the most important and here is some essential advice:
  - Make a horizontal hinge as indicated above just above the door handles.
  - Cut and remove the liner on the upper part.
  - Tension the film and apply with the help of a squeegee.
  - Once the upper part is applied, remove the remaining liner on the lower part.
Q Tension the film over the door handles and with a squeegee apply the film along the contours of the door handles. Once the door handles are done, tension the film down to the bottom of the vehicle body. (FIG 21)

Q Do not hesitate to lift the film off again and to stretch it again so as to remove any folds. If necessary heat to between 40°C and 50°C (104°F and 122°F).

Q The film is now stretched over the total surface area to be wrapped. You can apply the film (FIG 22) according to the type of surface.

6. USE OF THE HEAT GUN
You have used the heat gun for dry application onto complex surfaces (concave, convex, riveted).
When the application is finished, reheat all areas that underwent heavy deformation with the heat gun. (FIG 23). The temperature should be between 80°C and 90°C (176°F and 194°F); check with the laser thermometer - included in the HEXIS MALCOV tool case. The heat accelerates the bonding process of the pressure sensitive adhesive. Thus the vinyl is definitely thermoformed.

7. EDGE SEALING TAPE OR EDGE SEALING VARNISH
HEXIS does not recommend the use of a sealing varnish in combination with the HX100 applied to vehicles (to avoid any risk of damage to the vehicle paint) but instead advises to use sealing strips cut from PC30 or V750 laminates. However in certain cases such as HX100 applied to trains or heavy machinery, the sealing varnish VR7077 will be required to reinforce the edge of the film.

7.1 Edge sealing tape
To increase the adhesion of the HX100 film on areas exposed to heavy wear such as door sills, wheel cages etc., you may use strips of V750 laminate on flat surfaces or PC30 for slightly curved surfaces.

Q Cut the laminate into strips 14mm (½in) wide.

Q Apply the strips with an overlap of approx. 7mm (¼ in) on the vehicle body and 7mm (¼ in) over the HX100 film. (FIG 24)

7.2 Edge sealing varnish
To increase the adhesion of the edge of the HX100 on flat surfaces preferably and in particular at the corners HEXIS recommends the use of the VR7077 edge sealing varnish.

Q Ensure that all surfaces are completely dry.

Q Apply 2 strips of masking tape:
1 on the substrate at 5mm (0.2in) from the edge of the HX100.
1 on the HX100 at 5mm (0.2in) from the edge. (FIG 25)

Q Apply the varnish with a brush in one single coat; wear gloves and protective goggles.

Q Remove the masking tape 15 minutes after application.

Q The drying time is variable depending on the thickness of the varnish coat and the surrounding temperature: for a film with an average coat, the optimum drying time is 24 hours. Physical aggression (cleaning, abrasion, etc.) must be avoided by all means during that time.

Avoid contact between the varnish and the window seals.
8. CLEANING AND MAINTENANCE OF THE HX100
The HX100 may be cleaned in a conventional automatic car wash using cleaning products and detergents used for professional maintenance of vehicles and advertising equipment. Nevertheless exercise care: medium pressure at a distance of at least 50cm (20in) and a water temperature of 35°C (95°F) at the most.

⚠️ Attention: it is advisable not to clean the film during the 48 hours following the application to avoid the risk of affecting its adhesion which might result in the film lifting off.

⚠️ Attention: do not use any solvents or corrosive detergents.

⚠️ HEXIS declines all responsibility if any unknown additives are used during cleaning.

⚠️ Car wash: additives and the condition of the rotating brushes may affect the behaviour of the graphics or the films. It is generally admitted that 10 automatic washes scratch polyurethane paints, and for this reason and in the same manner, this mechanical effect may damage the appearance of the vinyl but remains beyond the manufacturer’s liability.

Our advice: always carry out a test on a small area before you clean the total surface of a vehicle wrap.
9. REMOVAL OF THE VINYL

The HX100 vinyl film carries a permanent adhesive; for this reason the removal needs some attention. Nevertheless, if you follow the instructions below, the removal will be relatively easy.

- With the heat gun, starting in one corner heat the film at a temperature of around 60°C (140°F) (use the laser thermometer).
- Peel the corner with the help of a cutter blade (available from HEXIS) avoiding contact with the substrate and then progressively heat the other areas and remove the film. The film should be peeled at an angle of 70° to 80° relative to the surface of the substrate.

⚠️ An angle wider or narrower will make breaking up of the film more likely.

- Always proceed gradually by heating small areas and carefully removing the film so as to avoid the risk of breaking up the film and of leaving any adhesive on the surface.
- Continue gentle heating and carefully peel the film until the complete surface area is removed exercising particular care as to the temperature, the peeling angle and the peeling speed.

- If any adhesive remains on the substrate, use a piece of cloth with DECOLLVIT adhesive remover (available from HEXIS) and gently rub the surface until all adhesive traces have disappeared.
- To ease the removal of the VR7077 edge sealing varnish, acetone may be used.

⚠️ Attention: do not let the liquids come into contact with rubber joints or seals.

⚠️ Before handling any liquids, refer to the users instructions on our website: www.hexisgroup.com.

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For further information of a technical nature, refer to Technical Data Sheets available for download from our website www.hexisgroup.com under professionals/data sheets.

The great diversity of media and the ever growing number of possible applications commit the user to ensure that the product is suitable for each usage. The information given does not constitute a warranty. The seller assumes no liability for claims or damages beyond the replacement value of a product. Specifications are subject to changes without notice. Updates to specifications can be found on our website www.hexisgroup.com.