PRODUCT BULLETIN

APPLICATION AND REMOVAL METHOD

Polymeric HEX'Press Vinyl Film

HX200 Series
(HX200WG2 – HX200NTWG2)

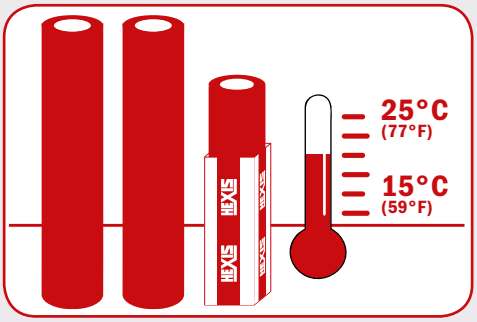
REQUIRED ACCESSORIES

- Tesa® 7476 adhesive tape
- Masking tape
- HEXIS'O surface cleaning agent
- CLEAN HEXIS degreaser
- ND45 strong cleaner and degreaser
- Cleaning liquids «Système 1, 2, 3»
  - 1-Remover
  - 2-Pre-Cleaner
  - 3-Final Cleaner
- ProTech® SHAMPCAR vehicle shampoo
- Assorted squeegees from the catalogue
- PC30 or V750 laminate (flat surfaces)
- VR 7077 sealing varnish
- Heat gun PISTHERMIQ
- MALCOV HEXIS toolcase
- DECOLL'VIT adhesive remover

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 HX200 Series are made of a 70-µm PVC film and are perfectly suitable for slightly complex surfaces and adhere particularly well on glass, steel, aluminium, PVC, melamine.
The high technical performances and their conformability make it also suitable for markings on flat or slightly curved surfaces requiring a certain conformability: sign boards, shop windows, vehicles.
La combination of a polymeric PVC 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 step of squeegeeing to ensure optimum adhesion of the film on the substrate.
In low temperature conditions (10 to 15°C/50 to 59°F) applications with the film HX200NTWG2 are easier.
The film HX200WG2, on the other hand, has a « low tack », which makes transfer and application really easy ensuring optimum results (for temperatures over 20°C/68°F).

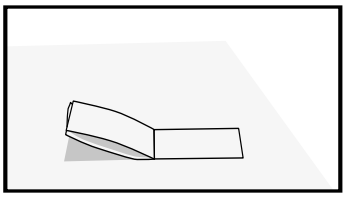
PREPARING THE TARGET SURFACE

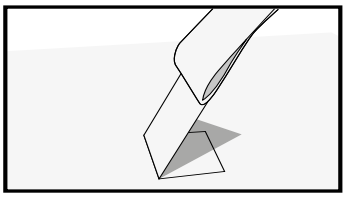
HEXIS films can be applied to a wide variety of substrates under the condition that the target surface is clean, dry, smooth, non-porous and without any traces of oil, grease, wax, silicone or other contaminating agents. In order to guard against all eventualities, always assume that the substrate is contaminated and requires cleaning (cf. chapter 3).
Do not forget to carry out a preliminary test in a small inconspicuous area to check the compatibility of the substrate.

SUMMARY

1 Recommendations
2 Preliminary examination of the substrate
2.1 Tear off test
2.2 Outgassing test
2.3 Outgassing procedure
3 Cleaning
3.1 Soiled surface appearance
3.2 Heavily soiled surface appearance
3.3 Special cases
4 Laminating the film
5 Application of the HX200
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5.2 Slightly undulated surfaces
5.3 Slightly concave surfaces
5.4 Slightly convex surfaces
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6 Using the heat gun
7 Sealing tape or sealing varnish
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8 Cleaning and maintenance of the HX200
9 Removing the vinyl

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

› The HX200 films adhere particularly well on glass, steel, aluminium, PVC and melamine.
› The HX200 films have less adhesion on these substrates: low energy surfaces (polyethylene, polypropylene,...) grained or textured surfaces, acrylic paints.
› For applications on vehicles avoid applying self-adhesive films on unpainted components such as trim or unpainted bumpers.
› For any other substrate preliminary tests must be carried out.
› The HX200 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°C) 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).

⚠ *Pass the flame with sweeping movements over the substrate (risk of damage to the substrate if there prologed heating of over one secondeon one spot). 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

HEXIS'O
cleaner and
degreaser



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 applications on vehicles:



In the case of an application onto a vehicle, it is recommended to wash the vehicle with the help of our vehicle shampoo SHAMPCAR and then to use the PRE CLEANER (Product 2). Spray onto the surface. Leave to work for a few moments, then wipe off with a clean cloth. Proceed with a final clean with the FINAL CLEANER (Product 3).

3.1 Soiled surface appearance:

General case:

Clean the substrate using a cloth soaked with the product FINAL CLEANER and dry it with a cloth before evaporation.

For applications on vehicles:
In the case of an application onto a vehicle, it is recommended to wash the vehicle with the help of our vehicle shampoo SHAMPCAR and then to use the PRE CLEANER (Product 2). Spray onto the contaminated surface. Leave to work for a few moments, then wipe off with a clean cloth. Proceed with a final clean with the FINAL CLEANER (Product 3).

3.2 Heavily soiled surface appearance:

Applies in the case where the substrate has been soiled by resistant pollutants such as stains from diesel, tar or rubber.

General case:

Use a cloth soaked in the powerful cleaner ADHESIVE REMOVER. If necessary, precede this step by using a flexible, non-abrasive scraper.

⚠ *Beforehand carry out a compatibility test on a small non-conspicuous surface of the substrate to be treated. Certain plastic materials may indeed be damaged by the product ADHESIVE REMOVER (Product 1).*

In all cases, then wash the areas concerned with the HEXIS'O solution.

For applications on vehicles:

In the case of an application onto a vehicle, it is recommended to wash the vehicle with the help of our vehicle shampoo SHAMPCAR and then to use the ADHESIVE REMOVER (Product 1).



ADHESIVEREMOVER
strong cleaner

⚠ *Use in a ventilated area. Wear protective gloves and goggles.*

⚠ *Test a small, non-visible area for compatibility of the substrate before treatment. Certain plastic materials may be damaged by the ADHESIVE REMOVER (Product 1).*

› Spray onto the dirty surface and spread using a dry cloth.

› Leave to work for a few moments, spray the ADHESIVE REMOVER (Product 1) again, then wipe dry with a clean cloth or with a squeegee.

› When the substrate is clean and dry, clean again with PRE CLEANER (Product 2), then finish with FINAL CLEANER (Product 3), (refer to use below).

3.3 Special case:

Remember to adapt the preparation methods according to the substrate type and condition. Thus painted surfaces must be dry and hard, 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 (general case) or the liquids PRE CLEANER (Product 2), then FINAL CLEANER (product3) in the case of a fiull wrap..

Refer to the product safety data sheets before use .

⚠ *Thoroughly wipe the surface after the cleaning process.*

4. LAMINATION

We recommend you laminate the HX200 film with the PC30 laminate.

The combination of the HX200 film with the V750 laminate concerns exclusively applications on flat surfaces.

Ensure that the film is dry before application.

The printed HX200 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 racks in a ventilated room.

5. APPLICATION OF THE HX200

The HX200 vinyl film must be dry applied, be it laminated or not, because of its HEX'Press liner.

The HEX'Press technology lets you easily reposition the vinyl on the substrate.

However it does not exclude the necessary step of squeegeeing to ensure optimum adhesion of the HX200 on the substrate.

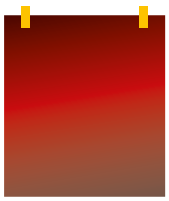
Before any application of the HX200 + PC30 compound (or HX200 + V750) or of the film on its own, make sure all surfaces are absolutely clean.

Application temperature:
The recommended application temperature is:
minimum +10°C/+50°F for the HX200NTWG2,
between +20°C and +25°C (+68°F and +77°F)f or the HX200WG2.

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 HX200 onto flat surfaces

› Always wear cotton gloves (available from HEXIS)



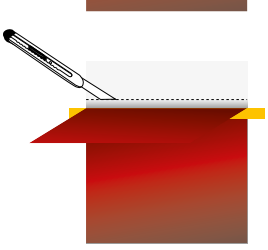
(FIG 01)

› Position the printed film on the target surface so as to hold it in place without stretching it (FIG 01).



(FIG 02)

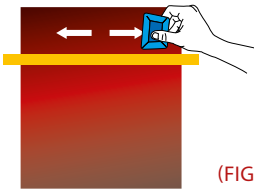
› With the help of strips of masking tape or magnets, make a horizontal hinge preferably on a flat area (FIG 02).



(FIG 03)

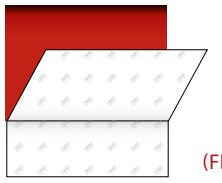
› Peel off 10cm (4in) of the liner (FIG 03).

› Start applying the vinyl using a squeegee (cover edge with felt strip) at an angle of 45° wiping from the centre towards the sides. (FIG 04)



(FIG 04)

› Remove the top hinge and continue removing the liner, depending on the surface pattern (cf. paragraphs below). (FIG 05)



(FIG 05)

› During application on flat surfaces, squeegee the entire surface and at the same time remove the liner steadily, tightly following the edges.

5.2 Slightly undulated surfaces

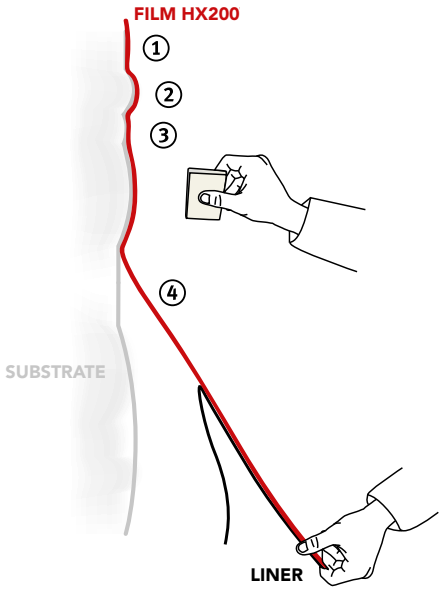
Having completed step 5.1, proceed as follows (FIG 06).

› 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 3.

› Go up onto the next peak 4 and so on



(FIG 06)

5.3 Slightly concave surfaces

After 5.1 proceed as follows:

› Remove all the liner

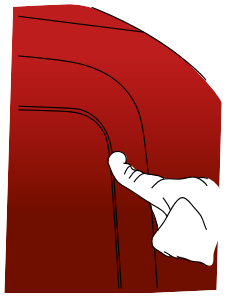
› Stretch the vinyl over the substrate so that the film touches the peaks only.

› Apply the film with a finger or a plastic squeegee covered with a felt sheet.

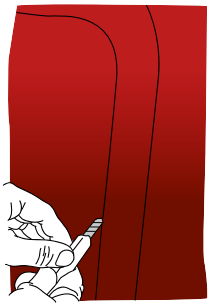
› If necessary, lift off again and re-stretch the film; then apply.

› 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.

If any areas turn out to be too concave we recommend you make appropriate cuts in the following way:



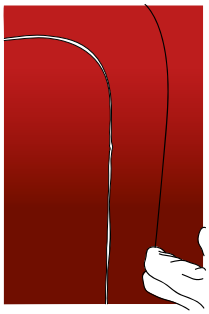
(FIG 07)



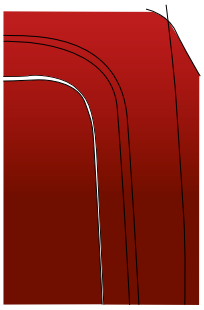
(FIG 08)

› Put on the glove and apply the outward curved areas (FIG 07).

› Cut one side of the concave area (FIG 08) (be careful not to scratch the substrate under the vinyl).



(FIG 09)



(FIG 10)

› Heat the hollow area to between 40 and 50°C (104 and 122°F) and move your finger over the vinyl and press it down (FIG 09).

› Once finished (FIG 10) reheat all areas that underwent deformation to between 80 and 90°C (176 and 194°F).

If the area is particularly visible and if you wish to achieve as good as perfect results we recommend the use of a cast film from the HX100 Series, which can be applied without cuts.

5.4 Slightly 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) then stretch the film so as to completely wrap the convex surface.

› 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 to eliminate any tensions.

› If necessary, lift the film, re-stretch it and completely wrap the convex surface.

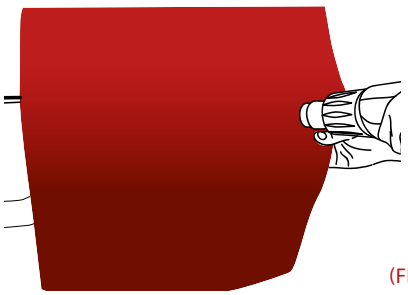
› Next heat to between 40°C and 50°C (104°F and 122°F), and squeegee down.

› 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.

If any areas turn out to be too convex we recommend you make appropriate cuts in the following way:
Example for the lower part of a car bumper:



(FIG 11)

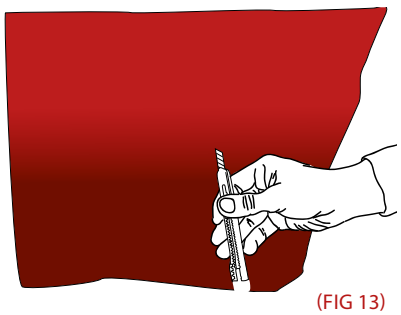
› Heat the vinyl to between 40°C and 50°C (104°F and 122°F) (FIG 11).



(FIG 12)

› Stretch the vinyl over the flat surface area (FIG 12).

› Cut narrow vertical stripes into the vinyl (FIG 13).



(FIG 13)

› With a squeegee apply stripe after stripe with correct overlaps avoiding creases (FIG 14).



(FIG 14)

› Once the convex area is applied, leave to cool down and apply the necessary cuts. Then reheat to 80-90°C (176-194°F) for optimum adhesion.

If the area is particularly visible and if you wish to achieve as good as perfect results we recommend the use of a cast film such as HX100, which can applied without cuts.

5.5 In addition for a full wraps

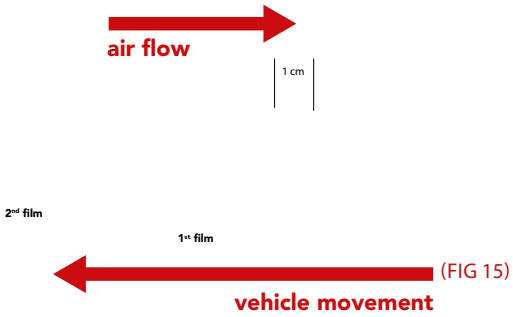
› On vehicles the application of film on seals between windows and/or body panels must by all means be avoided.

› 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: the film higher up on teh vehicle overlaps the lower part (tiling).

› Vertical overlap on mobile surfaces: as the film is always applied starting at the rear of the vehicle working towards the front, the second film will overlap the first one (FIG 15).



(FIG 15)

› Avoid applying the HX200 film on unpainted areas such as plastic profiles and unpainted bumpers.

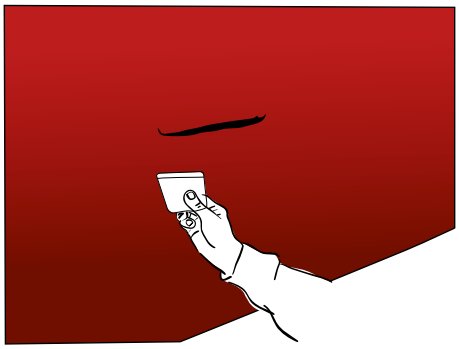
› The first steps are the most important and here is some essential advice:

› Make a horizontal hinge as indicated above (cf. 5.1 First steps and application of the HX200 onto flat surfaces) just above the door handles.

› Cut and remove the liner on the upper part.

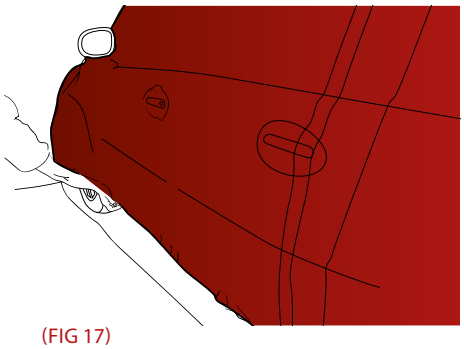
› Tension the film and apply with the help of a squeegee.

› Once the upper part is applied, remove the remaining liner on the lower part.



(FIG 16)

› Tension the film over the door handles and with a squeegee apply the film along the contours of the door handles (FIG 16).



(FIG 17)

› Once the door handles are done, tension the film down to the bottom of the vehicle body (FIG 17).

› 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).

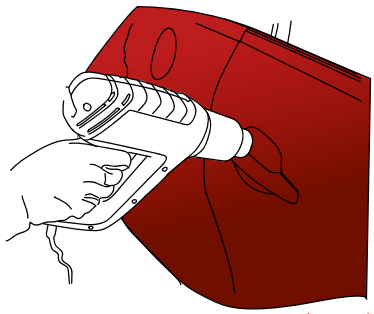
› The film is now stretched over the total surface area to be wrapped (FIG 18). You can apply the film according to the type of surface.



(FIG 18)

› If any area is too convex or too concave make the appropriate cut. For very curved shapes (as on car bumpers) or hollow shapes (as under door handles) it is advisable to cut the vinyl in order to avoid excessive stretching of the vinyl. You may consider use of a cast film such as HX100.

6. USE OF THE HEAT GUN



(FIG 19)

You have used the heat gun for dry application onto slightly complex surfaces
.
When the application is finished, reheat all areas that underwent heavy deformation with the heat gun (FIG 19).

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

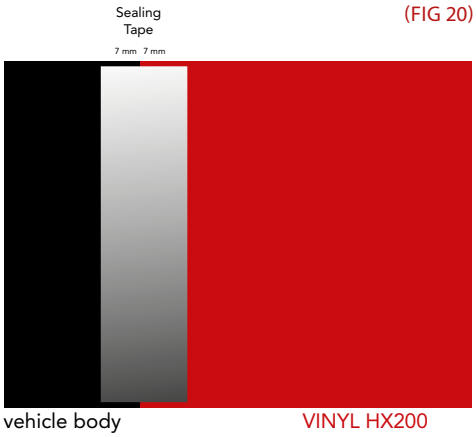
HEXIS recommends the use of sealing strips with the PC30 or V750 laminates rather than the use of a sealing varnish in combination with the HX200 applied to vehicles (to avoid any risk of damage to the vehicle paint during the removal).
However in certain cases such as HX200 applied to trains, heavy machinery or boats, the sealing varnish VR7077 will be required to reinforce the edges of the film.

7.1 Sealing tape

To increase the adhesion of the HX200 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.

- Cut the laminate into strips 14mm (½in) wide.
- Apply the strips with an overlap of approx. 7mm (¼ in) on the vehicle body and 7mm (¼in) over the HX200 film (FIG 20).

HEXIS Advice: Preferably use sealing strips rather than the VR7077 varnish for most applications.



(FIG 20)

7.2 Sealing varnish

The VR7077 varnish should only be applied to reinforce the resistance and the adhesion of the edges of the HX200 film subjected to heavy stress without modifying the adhesion properties of the films.

HEXIS Advice: For most application use sealing strips in preference to the VR7077 varnish.

- Ensure that all surfaces are completely dry.
- Apply 2 strips of masking tape:
1 on the substrate at 5mm (0.2in) from the edge of the HX200.
1 on the HX200 at 5mm (0.2in) from the edge. (FIG 21)
- Apply the varnish with a brush in one single coat; wear gloves and protective goggles.
- Remove the masking tape 15 minutes after application.
- 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.



(FIG 21)

⚠ *Avoid contact between the varnish and the window seals.*

8. CLEANING AND MAINTENANCE OF THE HX200

The HX200 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.*

HEXIS 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 HX200 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 our product ADHESIVE REMOVER (Product 1) and gently rub the surface until all adhesive traces have disappeared.

⚠ *Beforehand carry out a compatibility test on a small non-conspicuous surface of the substrate to be treated. Certain plastic materials may indeed be damaged by the product ADHESIVE REMOVER (Product 1).*

› 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.hexis-graphics.com.*

For further information of a technical nature, refer to to Technical Data Sheets available for download from our website www.hexis-graphics.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 particular 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.hexis-graphics.com.

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