

# PRODUCT BULLETIN

## APPLICATION AND REMOVAL METHOD HEX'Press Cast Vinyl Film **HX190WG2**

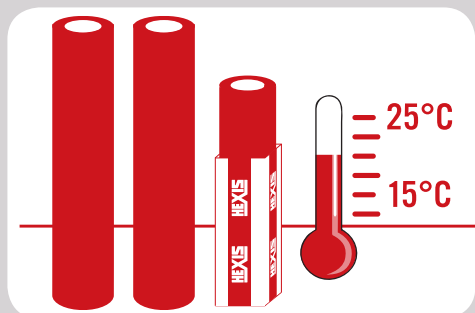
### REQUIRED ACCESSORIES

- › Adhesive tape Tesa® 7476
- › Masking tape
- › HEXIS'O cleaner
- › « System 1, 2, 3 » cleaning liquids:
  - › 1-Remover
  - › 2-Pre Cleaner
  - › 3-Final Cleaner
- › ProTech® SHAMPCAR vehicle shampoo
- › Your preferred squeegee from the catalogue
- › PC190G2 laminate
- › VR7077 sealing varnish
- › PISTHERMIQ heat gun
- › MALCOV HEXIS tool case

### 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 HX190WG2-film is made of a 50-µm vinyl film are perfectly suitable for complex surfaces and adhere particularly well on glass, steel, aluminium, PVC, melamine. The high technical performances and their conformability allow to use them for full wraps and on 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 step of squeegeeing to ensure optimum adhesion of the film on the substrate. The film HX190WG2 has an adhesive, which makes transfer and application really easy ensuring optimum installations at low temperatures conditions (10 to 15 °C /50 to 59 °F).

### 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 area to check that the substrate is compatible.

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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.

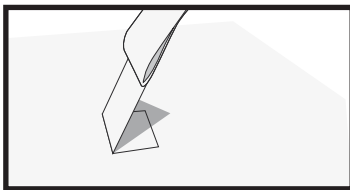
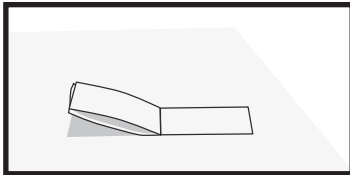
## 1. RECOMMENDATIONS

- › The HX190WG2 films adheres particularly well on glass, steel, aluminium, PVC and melamine.
- › The HX190WG2 film has less adhesion on these substrates: low energy surfaces (polyethylene, polypropylene...) grained or textured surfaces, acrylic paints.
- › In a vehicle wrap 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 HX190WG2 vinyl achieves optimum adhesion after 24 hours of contact.

## 2. PRELIMINARY TESTING OF THE SUBSTRATE

- › 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 any self-adhesive film.
- › Older paint or paint that has become dusty or flaky must be sanded and restored before the application and a tear-off 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 2.5 cm x 5 cm (1 in x 2 in) 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 2.5 cm x 5 cm Tesa® tape.

### 2.2. Outgassing test

(To check) Use a 15 cm x 15 cm (6 in x 6 in) 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...)

This method consists in modifying the surface tension of a substrate by swiping 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 prolonged heating of over one second on 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

It is absolutely necessary to clean the substrate before the installation. It should be assumed that the substrate is contaminated. Some residues or contaminations may not be visible, but will all the same impact on the adhesion of the film.

⚠ *Before any cleaning liquids or chemicals are used refer to the Technical Data Sheets and the Health and Safety Data Sheets available for download from our website: [www.hexis-graphics.com](http://www.hexis-graphics.com).*

### 3.1. Clean surface appearance

For application of letterings on the vehicle, it is recommended to wash the vehicle with the SHAMPCAR vehicle shampoo and then to use the PRE CLEANER (Product 2). Spray onto the surface. Leave to work for a few moments then wipe with a clean cloth. Finish with a final clean with FINAL CLEANER (Product 3).

Shampcar  
concentrated vehicle  
shampoo



### 3.2. Soiled surface appearance

For application of letterings on the vehicle, it is recommended to wash the vehicle with the SHAMPCAR vehicle shampoo and then to use the PRE CLEANER (Product 2). 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 FINAL CLEANER (Product 3).

Adhesive Remover  
Powerful cleaning  
agent



### 3.3. Heavily soiled surface appearance

For application of letterings on the vehicle, it is recommended to wash the vehicle with the SHAMPCAR vehicle shampoo and then to use ADHESIVE REMOVER (Product 1).

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

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

- › Spray onto the dirty surface and spread out using a dry cloth.
- › Leave to work for a few moments. Spray again with ADHESIVE REMOVER (Product 1), then wipe with a clean cloth or squeegee.
- › When the substrate is clean and dry, clean again with PRE CLEANER (Product 2), then finish with the product FINAL CLEANER (Product 3) (refer to use below).

Pre Cleaner  
Powerful universal  
cleaning agent



Final Cleaner  
Cleaning and  
degreasing finishing  
agent



### 3.4. 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 (Product 3) in the case of a full wrap.

Refer to the product safety data sheets before use.

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

HEXIS'O  
Cleaning and  
degreasing Agent



## 4. LAMINATION OF THE FILM

We recommend you laminate the HX190WG2 film with the PC190G2 laminate.

Ensure that the film is dry before application.

The printed HX190WG2 is touch dry after 10 minutes at the most, however it may be necessary to wait at least for 48 hours before applying, laminating or cutting the film.

- › To ensure the solvents evaporate completely leave the sheets film to dry in racks in a ventilated room.

## 5. APPLICATION OF THE HX190WG2

The HX190WG2 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.

The final step of squeegeeing to ensure optimum adhesion of the HX190WG2 on the substrate remains essential with this technology.

Before any application of the HX190WG2 + PC190G2 or of the films on its own, make sure all surfaces are absolutely clean.

Application temperature:

The recommended minimum application temperature is +10 °C (+50 °F).

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 HX190WG2 onto flat surfaces

› Wear cotton gloves (available in the tool case).

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



Fig.01

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



Fig.02

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

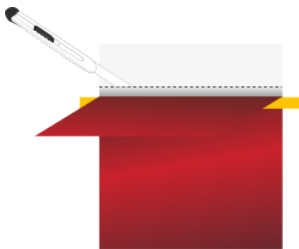


Fig.03

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

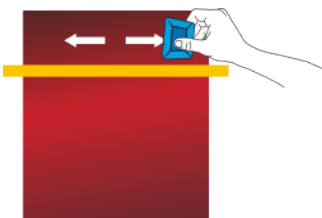


Fig.04

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

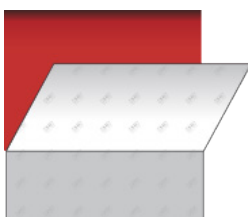


Fig.05

› During application on flat surfaces, squeegee the entire surface and at the same time remove the liner steadily, firmly applying in particular along the edges.

## 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 »

- › 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.

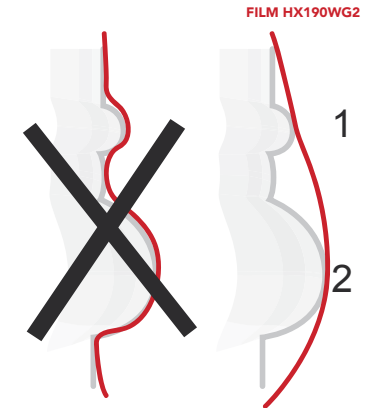


Fig.06

### 5.2.2. Heavy undulations: « extended application »

- › Remove the liner gradually by tensioning it towards the lower end (FIG. 07).
- › 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 and the hollow ③.
- › Go up onto the next peak ④ then go to ⑤ until the installation is completed.
- › The application is finished.

⚠ In the concave areas HEX'Press adhesive technology requires appropriate pressure 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.

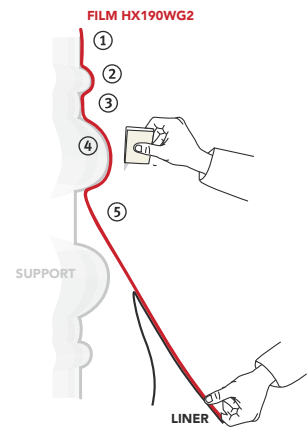


Fig.07

## 5.3. Concave surfaces

After 5.1 proceed as follows:

- › Remove all the liner (FIG. 08)



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.

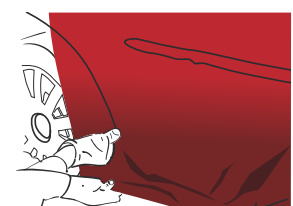


Fig.09



Fig. 10

- › 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 adhesivity (FIG. 10).

⚠ *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 pressure 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.*

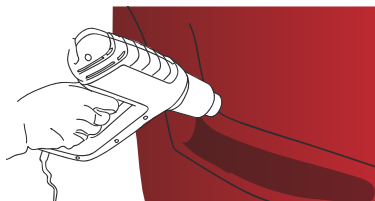


Fig. 11

- › 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

Having completed step 5.1 proceed as follows:

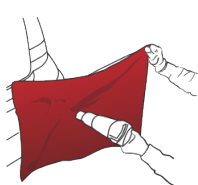


Fig. 12



Fig. 13

- › 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).

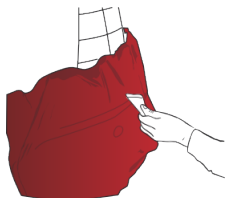


Fig. 14

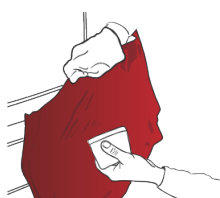


Fig. 15

- › 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

Having completed 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.

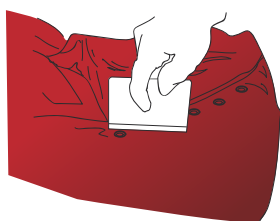


Fig. 18

- › Next heat each rivet again to 80 to 90 °C (176 to 194 °F) (FIG. 19).

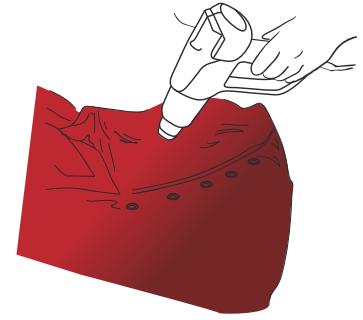


Fig.19

**5.6. In addition for a full vehicle wrap**

- › 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 of widths becomes necessary, HEXIS recommends 1 cm (0.4 in) carried out in the following way:
  - › Horizontal overlap: install from the bottom working towards the top so that the upper part of the film (higher) 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 width overlap the first one etc. (FIG. 20)

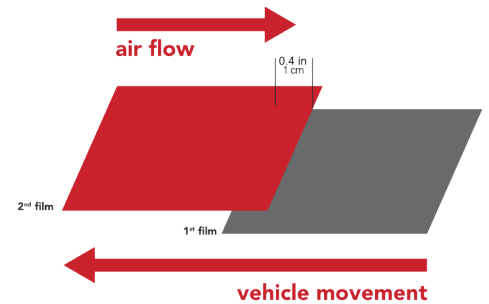


Fig.20

- › Avoid applying HX190WG2 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 hinge as indicated above (chapter 5.1, First steps and application of the HX190WG2 onto flat surfaces, page 4) 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.
  - › Tension the film over the door handles and with a squeegee apply the film along the contours of the door handles (FIG. 21).



Fig.21

- › Once the door handles are done, tension the film down to the bottom of the vehicle body (FIG. 22).

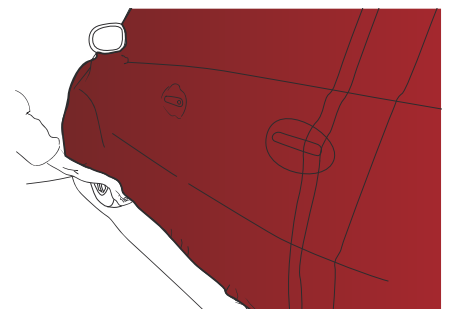


Fig.22

- › If necessary lift the film off again, stretch it again and heat to between 40 °C and 50 °C (104 °F and 122 °F) so as to remove any folds.

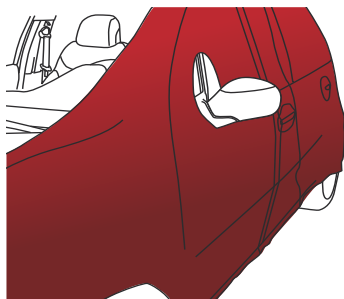


Fig.23

- › The film is now stretched over the total surface area to be wrapped. You can apply the film (FIG. 23) according to the type of surface.

### 6. USE OF THE HEAT GUN

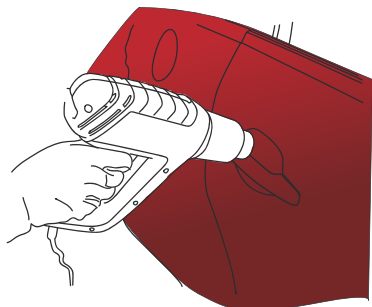


Fig.24

You have used the heat gun for dry application onto complex surfaces (concave, convex and riveted).  
 When the application is finished, reheat all areas that underwent heavy deformation with the heat gun (FIG. 24). 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 PC190G2 laminate rather than the use of a sealing varnish in combination with the HX190WG2 applied to vehicles (to avoid any risk of damage to the vehicle paint during the removal).  
 However in certain cases such as HX190WG2 applied to trains, heavy machinery or boats, the sealing varnish VR7077 will be required to reinforce the edges of the film.

#### 7.1. Edge sealing tape

To increase the adhesion of the HX190WG2 film on areas exposed to heavy wear such as door sills, wheel cages etc., you may use strips of PC190G2 film for slightly curved surfaces.

- › Cut the laminate into strips 14 mm (½ in) wide.
- › Apply the strips with an overlap of approx. 7 mm (¼ in) on the vehicle body and 7 mm (¼ in) over the HX190WG2 film (FIG. 25).

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

#### 7.2. Sealing varnish

The VR7077 varnish should only be applied to reinforce the resistance and the adhesion of the edges of the HX190WG2 film subjected to heavy stress without modifying the adhesion properties of the films.

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

The use of the VR7077 varnish is at the installer's discretion.

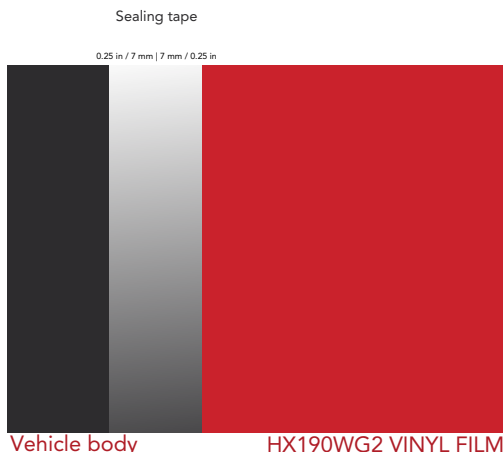


Fig.25



- › Ensure that all surfaces are completely dry.
- › Apply 2 strips of masking tape:
  - 1 on the substrate at 5 mm (0.2 in) from the edge of the HX190WG2.
  - 1 on the HX190WG2 at 5 mm (0.2 in) from the edge (FIG. 26).
- › 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. Any physical aggression (cleaning, abrasion, etc.) must be avoided by all means during that time.

⚠ By all means avoid contact between the varnish and the window seals.

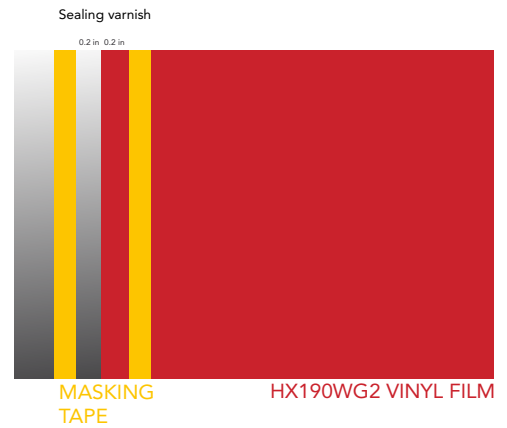


Fig.26

## 8. CLEANING AND MAINTENANCE OF THE HX190WG2 FILM

The HX190WG2 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 50 cm (20 in) and a water temperature of 35 °C (95 °F) at the most.

⚠ It is however 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.

⚠ 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 HX190WG2 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 in the tool case) without damaging 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 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 soaked with our product ADHESIVE REMOVER (Product 1) 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.

⚠ *The liquids may damage seals. Take the necessary precautions before starting the cleaning process.*

⚠ *Before handling any liquids, refer to the data sheets on our website: [www.hexis-graphics.com](http://www.hexis-graphics.com).*

For further information of a technical nature, refer to Technical Data Sheets available for download from our website [www.hexis-graphics.com](http://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](http://www.hexis-graphics.com).



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