

PRODUCT BULLETIN

APPLICATION AND REMOVAL METHOD Film for vehicle glazing **WINDSHIELD PROTECTION FILMS**

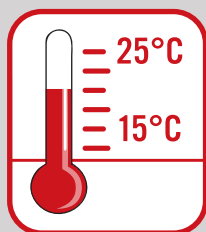
REQUIRED EQUIPMENT

- › 1.5-l SPRAYBOX sprayer
- › A bottle of baby shampoo or pH-neutral soap
- › MARBLEU squeegee
- › MARNOIR squeegee for the finishings
- › MAXHANDLE or POIGNVITRE handle with MAXBLUE or TOBLUEMAX squeegee
- › POIGNVITR handle with LAMVITRE or TOCLEAN cleaning blade
- › Small blade cutter CUTVITRE
- › CUTLAME blade refill
- › PISTHERMIQ heat gun
- › Absorbent paper

STORE YOUR FILMS UNDER APPROPRIATE 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 %.



FEATURES

The windshield protection films are scratch-resistant, thermoformable, premium, multilayered films to be applied to the outer side of windshields.

3333 Shield: Compound composed of 3 adhesive films intended for passenger vehicles.

4444 Racing: Compound composed of 4 adhesive films intended for racing vehicles.

PREPARING YOUR APPLICATION SURFACE

The windshield protection films can be applied to any kind of automobile windows as long as the target surface is clean, smooth, non-porous 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 2. CLEANING:, page 2).

Caution: *It is the responsibility of the installer to make sure that the modifications to the vehicle's glazing comply with his/her country's current legislation. HEXIS S.A. is not liable in the event of violation noted concerning the glazing's modification.*

Caution: *The application of windshield protection films must be carried out by an installer having passed the "Tear-off" training accreditation. No claim will be accepted by HEXIS S.A. following any film application carried out by an unauthorised installer.*

The technical data sheets of the films used are available on our website www.hexis-graphics.com.

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1. RECOMMENDATIONS:

- › Clean the windows only with the products listed in chapter 2. CLEANING:, page 2.
- › Ensure the external cleanliness of the vehicle.
- › Always comply with your country's current legislation.
- › The multilayered films for automobiles are applied to the outer side of windshields.
 - The technical data sheets are available on our website www.hexis-graphics.com.
- › During thermoforming, the tunnels should always form vertically.
- › Note that an average installation should take about 1 h to 1h30. Difficult windshield protection film applications will take slightly longer.

2. CLEANING:

- › Prepare the application liquid in the 1.5-l sprayer (SPRAYBOX) with around 7 ml of mild detergent (baby shampoo or pH-neutral soap) and water.



Figure 01

- › Start by cleaning, preparing and drying the front section of the vehicle (hood, fenders, bumper) and the windshield. (FIG. 01)



Figure 02

- › Measure the windshield's length and width. (FIG. 02)

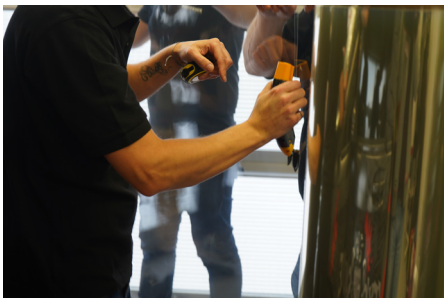


Figure 03

- › Cut the film to the length corresponding approximately to that of the windshield using the electric HEXIS cutter. (FIG. 03)

3. FILM APPLICATION:

3.1. Cut to the windshield's size:

- › Spray the windshield with the application liquid. (FIG. 04)



Figure 04

- › Place the film (liner down) on the windshield. (FIG. 05)

⚠ *The HEXIS windshield protection film only heat shrinks in one direction (film's unwinding direction on the roll).*



Figure 05

- › Squeegee the film to the windshield to tack it in place, this allows the film to stay in place and to not move while the cutting is being performed. (FIG. 06)

Spray some application liquid on the film surface so that the squeegee glides easily over the film surface.

- › All horizontal tunnels must be moved to the top or bottom of the windshield using the BLUESQUEEG or TOBLUEMAX squeegee.



Figure 06

- › Carry out a rough cut of the film in the shape of the windshield using the electric cutter. (FIG. 07)

Make sure that the film does not move during this operation. It may be necessary to run the squeegee over the film again to improve its adhesion to the windshield.



Figure 07

3.2. Thermoform the film:

- › Once the film is in place and ready, start heat shrinking the film using the heat gun (PISTHERMIQ).

This operation may result in the formation of vertical tunnels. This is absolutely normal.

- › Keep the heat gun constantly moving at a distance of approximately 25-30 cm (10-12 in.) from the tunnel that is being formed. (FIG. 08)

⚠ *Too much heat in a specific area will damage the film's adhesive. This will cause small film distortions.*

- › Go over each heated area with a squeegee to make the film adopt the deformation of the windshield.

Note: If the film is heated for a longer period, it may be necessary to spray the liquid on and under the film again to improve the adhesion of the latter on the windshield.



Figure 08

3.3. Final film cutting:

- › Once the thermoforming is finished, carry out the final cutting of the film with the cutter (CUTVITRE).



Figure 09

In order to not scratch the windshield, HEXIS advise you to use a piece of squeegee as support for the cutter blade tip. The squeegee piece can thus slide over the windshield without the cutter blade coming into contact with the glazing. (FIG. 09)



Figure 10

- › Cut the film while following the edge of the windshield (1 to 2 mm towards the centre). (FIG. 10)

Note: It is also possible to shave the edge of the film.

4. FINAL APPLICATION:

The next steps require that there be 2 to 3 installers. All installers must make sure that they have clean hands and that they touch the film only in the areas that will be outside of the visual field so as not to leave fingerprints.

- › Clean the windshield again in order to start the film application.
- › Spray the application liquid on the windshield, then use the cleaning squeegee in order to remove any contaminants from the application area.

Wipe the windshield with a piece of clean absorbent paper and a squeegee.

- › Spray large amounts of liquid on each side of the film and on the windshield before removing the liner to prevent contaminants from sticking to the adhesive.

The liner produces electrostatic charges which can attract any contaminants that are in the air or on the vehicle.



Figure 11

- › Start to remove the liner. (FIG. 11)

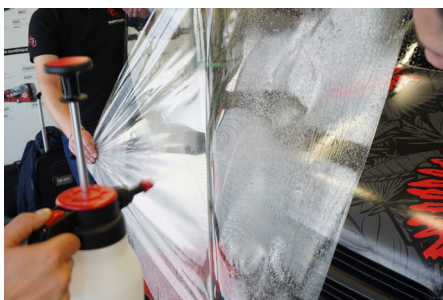


Figure 12

- › During the liner removal, spray the application liquid thoroughly on the adhesive. (FIG. 12)

- › Spray the application solution on the film and on the windshield again. (FIG. 13)

The windshield and the film must be completely moistened.



Figure 13

- › Place the film, adhesive down, on the windshield and correctly adjust its position. (FIG. 14)



Figure 14

- › Use the window squeegee to remove all large amounts of water between the windshield and the adhesive. (FIG. 15)



Figure 15

- › Always run the squeegee horizontally, from the centre towards the edges.

- › Continue using the BLUEMAX or TOBLUEMAX squeegee to finish evacuating all remaining water from underneath the film.

Note: Make sure that the BLUEMAX or TOBLUEMAX squeegees are in perfect condition. Any notch or scratch in the squeegee will leave a residue of water on the substrate. If the blade is in a bad shape, replace it prior to completing this step.

- › Proceed in the following manner: starting from the top of the windshield towards the bottom of the windshield, run the BLUEMAX or TOBLUEMAX squeegees horizontally. Complete one side of the windshield ①, then carry out the same working steps on the opposite side ②. Once both sides are completed, evacuate all remaining water from the centre of the windshield by pushing it from the top to the bottom of the windshield ③. (FIG. 16)

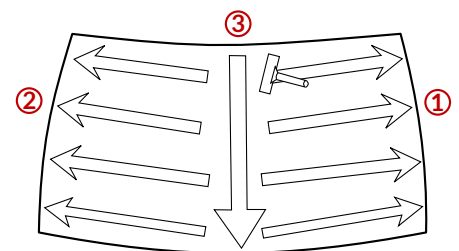


Figure 16

- › Then look from the inside of the vehicle through the windshield to make sure that all water was removed. If there are any large pockets of water underneath the film, it is important to squeegee the water to the closest edge of the film.

Note: Any water left behind may give a soiled appearance to the film. Repeat the previous step if necessary.

- › Make the final adjustments with the hard squeegee wrapped with absorbent paper. Run the squeegee over all edges of the film, pressing firmly to ensure that all water has been evacuated from underneath the film. (FIG. 17)

- ⚠ Always use a clean and dry absorbent paper for this working step. Using an old absorbent paper can bring water or contaminants under the film. This may cause the film to lift or even scratch the film.



Figure 17

If there are still tunnels, wait for about 15-20 minutes and use a squeegee wrapped with clean and dry absorbent paper.

- › Firmly press the squeegee on the tunnels, smoothing them towards the edge which is closest to the film.
- › In some cases, it may be necessary to use a heat gun, without overheating, to smooth the tunnels.

Be careful because too much heat can damage the film's adhesive and can leave traces.

5. FILM SUPERPOSING:

It is possible to superimpose up to 3 compounds on a windshield.

The application method is identical to that described above; the only constraint is that the size of the new compound(s) must be 1 to 2 mm narrower than the previous compound.

6. LAYER CUTTING:

The compound(s) is(are) now installed. Next, a piece of film in the top right corner of the windshield must be torn off from each layer in order to remove the different film layers easily.

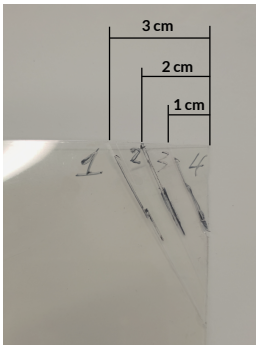


Figure 18

- › For a 4-layer film, make a cut in the upper layer (number 1) at a distance of about 3 cm (1 in.) from the edge using a new cutter blade. The cut should be at a distance of 2 cm (0.8 in.) from the edge for a 3-layer film.

Indicating the number of the layers on the film is for information purposes only.

- ⚠ *Correctly adjust the pressure on the cutter in order to cut only one layer at a time.*
- › For the next layer, the cut should be at a distance of 2 cm (0.8 in.) from the edge for a 4-layer film, 1 cm (0.4 in.) for a 3-layer film, etc. (FIG. 18)
- ⚠ *The layer in contact with the windshield (layer number 4) must not be cut.*

7. CLEANING AND MAINTENANCE OF THE FILM:

Do not use any type of scraper or any abrasive item nor any corrosive or abrasive liquids for cleaning the film.

- › Carry out the final cleaning. Let the film dry for about one hour and then the car will be ready for the final delivery to the customer.

In colder climates, the film may require a longer drying time before you can drive the car again.

Note: Inform the customer that the complete drying time of the film can take from one week to one month depending on humidity and weather conditions.

- › The car can be cleaned in a car wash after 7-10 days of film drying time.

8. LAYER REMOVAL PROCEDURE:

- › About every 6 months or when the film is damaged, the top layer should be removed.

To ensure that the durability of the compound is optimal, it is advisable to have the different layers removed by an authorised "Tear off" installer.

› Gently lift the film from the top right corner and pull it in order to remove it. The film should form a 180-degree angle with the windshield. A less wide angle could cause the other layers to peel off. (FIG. 19)



Figure 19

› When removing the last layer, if any adhesive remains on the windshield, take a cloth soaked with our SHAGREMOV product and rub the surface until all traces disappear.

⚠ *Liquids may damage seals; therefore, take the necessary precautions before performing clean-up.*

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

SHAGREMOV
Powerful cleaning
agent



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.

Due to the great variety of substrates and the growing number of new applications, the installer must check the suitability of the medium for each application. All the published information does not however constitute a binding guarantee. The seller cannot be held liable for indirectly related damages and assumes no liability for claims that are higher than the replacement value of the purchased product. All specifications are subject to potential changes without prior notice. Our specifications are automatically updated on our website www.hexis-graphics.com.

