

## Applying and removing of **panoRama Premium and panoRama Innova** with **panoRama Cast** and **panoRama Protect**

*This information is based on our knowledge and experience. Not all aspects which have to be considered for application will be explained. Specialized and occupational knowledge and competence of a professional signmaker are presupposed. Due to the diversity of influencing factors during application and use we recommend to make own tests of our products by customers who wish to use the material for special applications. No legal binding warranty of certain qualities can be derived from our information.*

The self-adhesive panoRama window film is easy to apply and to remove because the holes help to prevent air bubbles from forming and the film conforms well to curved glass surfaces. Installation is simple if you use the recommended tools and follow a few basic rules. If you follow this instruction you will enjoy using products from Continental Grafix. Please consider the recommendations of this instruction guide carefully.

*THIS TECHNICAL DATASHEET IS VALID FOR ALL PERFORATION PATTERNS.*

---

### Some Basic Advices

---

#### **Ink Drying**

The self-adhesive panoRama window film can be printed with solvent, eco-solvent, UV curable or latex inks (please refer to the technical datasheets of the different products). It is essential that the inks are completely dry before the panoRama Cast or panoRama Protect lamination is applied. We recommend a drying time of 24 to 48 hours depending on the inks. The prints should lay flat during that time. You should dry the graphics when not being rolled-up or at least when being loosely rolled in upright position. For optimizing the degassing of the loosely rolled print the roll should be placed on a ventilated grid. A loosely rolled film standing on the floor requires a much longer time for drying (up to 1 week).

#### Test method for checking the ink drying of solvent ink:

Fold the ink with maximum ink layer on itself and put weight of 140g/cm<sup>2</sup> on for approx.. 20 minutes.  
Check the printed surface for adhesiveness and matt spots after detaching.  
These are clear signs that the ink should cure and dry furtherly.

Unlike solvent inks rolling-up and staying in air is not necessary for curing of latex inks.  
The processor, however, could detect uncured, oily parts avoiding an optimum adhesion of the protective film.

In case of drying latex inks attention should be paid to the media profiles of the HP Media Solutions Locator.  
These media profiles comprise all important options for printing directly on a special film.  
Please, visit [www.hp.com/go/mediasolutionslocator](http://www.hp.com/go/mediasolutionslocator) for getting the profiles.

These basic settings of the media profile's colour saturation are decisive factors for the adhesion of the laminate.

Choose a presetting having 100% or less ink coverage.

The recommended operation conditions are +20°C up to +25°C indoor temperature and relative humidity of 40% - 60%.

Printings with latex inks should have completely finished the drying process when leaving the printer. If a print shows residual moisture the moisture DOES NOT VANISH by air drying as latex inks only dry inside the printer by heat whilst printing.

#### Test method for checking the ink drying of latex inks:

##### Visual examination:

Please, check the printing directly when leaving the printer.

The graphics should not feel wet or greasy.

##### Abrasion test:

The sample should be wiped with a wet white paper tissue after visual examination.

A complete dry ink would not peel off.

If the ink is not completely dry there will be visible ink residues on the paper tissue.

##### Stacking test

Although the surface of the graphics seems to be dry it could be possible that not complete dry ink might appear.

In that case the surface seems to be greasy or oily.

Stack at least 15 layers of protective paper on the printed graphics.

Remove the layers after 90 minutes and check each one of them for greasy, wet parts or other changes in brilliance there where much colour was applied.

In case of one of these irregularities the ink is not completely dry and the printer setting should be changed.

Generally the following changes are sufficient enough:

- increase the drying time in small steps (+5°C/per step)
- increase the number of print jobs for reducing the speed
- reduce the colour application (print setting lower colour density)

#### **Lamination**

The laminates from Continental Grafix (panoRama Cast or panorama Protect) especially manufactured for one-way-vision films are designed to be laminated without any heat. The quality of the laminator will have an impact on the result. The tension on the perforated film and on the lamination must always be regular and identical. Almost all problems of the lamination or tunnelling are due to a bad calibration of the laminator. We recommend a light pressure and a slow lamination mode. After lamination we recommend to wait 24 hours before applying onto the window.

#### **Packaging and transportation after printing and laminating**

In order to avoid tunnelling after printing and related problems during application we recommend the following procedure:

- Always wind roll with printed side outside.
- Do not wind the roll too narrow. Always try to wind it with as much diameter as possible (at least 30 – 50 cm diameter in the inner core).

#### **Subsurface**

panoRama window films are only suitable for smooth subsurfaces such as glass, acrylic glass and polycarbonate. However, we face a problem in the last years as a producer of window films. New windows are produced with a repellent coating, a so-called **nano-coating**. Window cleaning agents and car washes as well use novel cleaning agents that are dirt-repellent. But a surface that repels dirt rejects everything else that should be applied on the window, too. This includes our panoRama window films. The specified adhesion is not being reached to some extent. The film can come away from the window even though the films correlate the adhesion standards. Therefore, we recommend as follows:

**New glass panes:** New glass panes are usually provided with a protection layer. Best is to ask the producer of glass fronts and bus windows if they have a coating. In addition, we recommend an application test with a piece of film in an A4 format. One can determine an impairment of the adhesion after ten minutes, but by the end of the second day you will have full certainty if there is a coating on the window. If there is one, an application is difficult or impossible. How to remove this coating can only be explained by the producer of the film. In this case, we kindly ask you to contact the producer.

**Old glass panes:** due to newer cleaning technologies, even older glass panes get a new coating in line with the cleaning. They reduce the adhesion a little bit; however, this has no or almost no impact on the success of the campaign with our self-adhesive films. To be sure, spring-clean the window. Please note: neither isopropanol, glass cleaner nor professional cleaner such as Avery Surface Cleaner can remove this coating. We recommend a simple cleaning with soap sud. Wash it off with a lot of clear water and dry it thoroughly. In almost any cases the protection of the window is no longer existing and there is nothing that can prevent you now from a successful application of our panorama films.

### **Cleaning**

Subsurface must be clean. Use soap and water only to clean glass. Do not use under any circumstances solvent based cleanser. The surface must be completely free of grease and dust. After cleansing the surface needs to get dry. In order to dry the surface either use brown industrial paper or other material without any particles on it.

### **How to clean panoRama window film on vehicles?**

In general you can clean the adhesive film as like recommended for car paint. Nevertheless there are some differences you have to observe:

#### **Heavy dirt**

Heavily dirtied film should get rinsed with lots of water.

If you would like to use a high-pressure cleaner for that purpose you should note max. +60°C, make sure 30 – 50 cm distance to the film, do not direct the water jet to the film edges.

#### **Hand wash**

If you clean the vehicle by hand, please, use a lot of water and a mild detergent without additives. Do not use wax! This might cause non-removable or very difficult to remove stains.

#### **Carwashes**

When using automatic car wash, please, take extra care to look for car washes or gantry car washes with textile washing treatment.

Nylon brushes might leave fine scratches on the film.

Important to note: Only select washing programs without hot wax option!

Hot wax might cause non-removable or very difficult to remove stains.

### **Application temperature**

The application temperature must be at least +10°C and max. +32°C. These values relate to the outside temperature as well as to temperature on the surface itself on which you are going to mount the window film. In order to get an optimum tack on the subsurface we recommend that the window film shall be stored at the same application temperature for a few hours before you start with the application process. After the application if temperatures are below freezing temperatures it is recommended to wait for up to 24 hrs before you expose the product to the cold. This is to allow the adhesion to tack on the surface. If the adhesion is uncommonly weak (e.g. when the vehicle or parts of it have been pre-treated with substances using nanosealing/nanocoating or nano technology) cleaning with Aceton may help. Please make sure that neither window rubber nor painted surfaces or plastic parts get into contact with Aceton as it may damage these parts. Under no circumstances we would be responsible for damages caused by using Aceton.

---

## Method of application

---

panoRama window film shall only be applied in dry conditions. Further please note that it is not recommended to apply them holohedrally. There has to be a gap between the end of the film and the surrounding of the window. Never apply the film onto the sealing. Application to the window frame may cause the self-adhesive window film to become detached. Leave a distance of at least 5 mm to the window frame.

### Edge protection and sealing

In order to prevent edge curling or lifting, we strongly recommend using one of the following methods:

- The laminate shall cover the edge of the printed film at minimum 1 cm on each side. So the laminate will adhere at the edge directly on the surface.
- For further protection we urge you to work with an edge seam protection or at least with a stripe of the laminate that can be used as edge protection. This is especially recommended for applications under high exposure of aggressive or often cleaning. Additional edge protection is also necessary on vehicles that will be cleaned using high pressure cleaning or rotating brushes.
- If you are working with cut sized motives (only for professional application staff) you have the possibility to laminate them afterwards. First the film will be applied onto the surface and then it will be overlaminated. It has to be considered that the laminate covers the film at least 1 cm on each side. A further edge protection is recommended in case of high exposure of the surface.

### Application

1. Lift the upper edge of the liner and fold back approximate 8-16 cm (depending on the size of the graphics).  
UV liner: It is important to remove the perforated and imperforated layer of the liner together.
2. Carefully position panoRama window film so that it is properly aligned on all sides, then press corners in place using light pressure.
3. Using your hand or a soft plastic squeegee, lightly press the film in place.
4. Working from the top of the graphic to the bottom, continue by peeling away more of the liner and applying light pressure to the film. Continue in this manner until the liner is completely removed and the window graphic is in place.
5. Using a utility knife, carefully trim away any unneeded portion of graphics.
6. If you are installing more than one panel, properly align the next graphic in relation to the adjoining panel(s).
7. Follow the steps 1 through 5 above.
8. Finally, squeegee the film from the center and work outward in all directions.
9. Be sure to squeegee the edges firmly and to seal the edges as recommended.
10. Under certain conditions (weather, application temperature and/or passing time between printing/laminating and application) you may see after application the appearance of bubbles. This has been caused by the escape of solvents. Most such appearances will disappear in most cases during a few days and can be considered as normal. Try under no circumstances to lance these bubbles with a knife or a needle!

**Note:** In the case of graphics that must seam together, install the two pieces in such a way that the edges of the film butt against each other, with the holes aligned (don't overlap the two edges of the film). Consider a gap of at least 1 mm. This fissure has to be sealed with a stripe of laminate (edge protection).

*OUR PERFORATED FILM PANORAMA PREMIUM AND PANORAMA INNOVA CAN BE APPLIED ON LIGHTLY CURVED SURFACES LIKE SOME REAR WINDOWS OF CARS BUT IT IS NOT AIMED TO BE DEFORMED IN 3D. THE EXPERIENCE AND THE DEXTERITY OF THE APPLIER WILL BE DECISIVE FOR THE END RESULT.*

When applied on a vehicle, the vehicle should be left at least 12 hours at room temperature after the application, for the film to adhere correctly on the car. This recommendation is especially important during the cold season when temperatures are close or below freezing temperatures. The lower the temperature is outside, the more important it is to respect this step.

---

## Removal

---

Glass is one of the easiest substrates to work with. Removing the panoRama window film should not be a difficult task. Nevertheless, a long exposure may increase its tack and potential adhesive residue. If working with older films please try to remove it at once in one piece.

Please imperatively respect the temperature minimum of 10°C for removing the perforated film. This temperature is the minimum for the film and for the window for an easy removal.

Lift a corner of the graphic and slowly pull at an angle of approximately 45° to 75°. Over 90° the adhesive is more likely to leave residues on the glass.

In the rare case of adhesive residue on the glass, use a cloth soaked in mild detergent and a plastic squeegee to scrap off the adhesive residue. Always use caution to avoid scratching the glass.

In case of cold weather, you may want to use a hair dryer or heat gun to soften the adhesive. This will also help to avoid cracking the film (be careful not to crack the cold glass with hot air). If removing carefully panoRama window film can be drawn at once from the surface.

---

## Thank you

---

Thank you for choosing to use our panoRama products. We wish you a lot of success. For further information please do not hesitate to contact us.

**Status: July 2019**