

Application and Removal of **panoRama self-adhesive window films**

Our self-adhesive **panoRama & panoRama INNOVA window films** are 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 DATA IS VALID FOR ALL PERFORATION PATTERNS.

SOME BASIC ADVICE

INK DRYING / OFF-GASSING: Our self-adhesive **panoRama window films** can be printed with solvent, eco-solvent, UV-curable and latex inks (please refer to the technical datasheets of the different products). It is essential that the inks are completely dry before the **panoRama Protect or panoRama Cast** lamination is applied. We recommend an off-gassing time of 24 to 48 hours according to the inks, the prints should lay flat during that time. If the printed film is rolled proper off-gassing is not possible.

LAMINATION: The laminates from Continental Grafix (**panoRama Protect and panoRama Cast**), 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 tightly. Always try to wind it with as much diameter as possible (at least 10" diameter).

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CLEANING:

Windows must be properly cleaned, using soap and water and then denatured alcohol. Do not use solvent based cleaners, under any circumstances. The window must be completely free of grease and dust. After cleaning, the window needs to be completely dried. Be sure to use a lint free cloth.

APPLICATION TEMPERATURE:

The application temperature must be at least +10°C (50°F) and max. +32°C (90°F). 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 nano-sealing / nano-coating or nano technology) cleaning with Acetone may help. Please make sure that neither window rubber nor painted surfaces or plastic parts get into contact with Acetone as it may damage these parts. Under no circumstances we would be responsible for damages caused by using Acetone.

METHOD OF APPLICATION

- × panoRama should only be applied in dry conditions, using dry application method.
- × As glass expands and contracts, it is very important to leave a gap of at least 3-5 mm (1/8" - 1/4") between the edge of the window and the graphic. Do not apply the film to the window seal or frame. Application to the window frame or seal may cause the self-adhesive window film to become detached.

EDGE PROTECTION AND SEALING: In order to prevent edge curling or lifting, we strongly recommend using one of the following methods.

- × Apply optically clear edge seal tape, strips of optically clear laminate or liquid edge seal along all edges.
- × For experienced installers, it is possible to apply a laminate film after the window film is installed. Trim the graphic 1/2" back from the window frame. Over size the laminate, so that it goes beyond the edge of the graphic by at least 1/4" on all edges.

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APPLICATION:

1. Lift the upper edge of the liner and fold back approximate 8-16 cm (3"-5"), depending on the size of the graphics.
UV liner: It is important to remove the perforated and non-perforated print liner together.
2. Carefully position the graphic 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 graphic. Continue in this manner until the liner is completely removed and the window graphic is in place.
5. Squeegee the film from the center and work outward in all directions.
6. Using a utility knife, carefully trim away any unneeded portion of the graphic.
7. Be sure to squeegee the edges firmly and to seal the edges as recommended.
8. If you are installing more than one panel, we recommend butt seaming the panels. Overlap seams are less attractive and more likely to fail. All seams should be sealed with a strip of laminate, edge seal tape or liquid edge sealer.
9. 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!

OUR PERFORATED PANO RAMA AND PANO RAMA 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 to the vehicle. This recommendation is especially important during the winter season when temperatures are close to or below freezing. The lower the temperature is outside, the more important it is to respect this step.

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Gently clean windows, using mild detergents and a soft brush or rag. We recommend avoiding the use of high pressure sprayers or mechanical brush systems, as these can cause edge lifting and graphic failure.

REMOVAL

Glass is one of the easiest substrates to work with. Removing the panoRama 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 respect a minimum temperature of 10°C (50°F) 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 or adhesive residue remover 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).

Thank you for choosing to use our panoRama products.

Please do not hesitate to contact us, if you have any further questions.

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.