

Technical Bulletin 2.0 (Revision 01 EN) Date: 26/09/2022

This technical bulletin describes the general procedure for installing DELTAPLEX® windshield protection films. During the installation, the following recommendations must be observed:

1.0 Familiarization with the PDS (Product Data Sheet)

- Read the Product Data Sheet prior to application. It describes, among other things, the key characteristics of the material, storage and installation conditions. After studying all the information, proceed with the installation of the DELTAPLEX® film.

2.0 Tools and Equipment for Film Installation

- Waist bag (DT417, DT418)
- Measuring tape (DT413)
- Set of tools for dismantling wipers
- Glass scraper (DT108, DT109, DT110, DT111)
- Replacement scraper blades (DT155, DT156)
- Rubber squeegee with handle (DT217, DT202 + DT269/6, DT202 + DT271/6, DT277 + DT272/120, DT277 + DT274/120, DT277 + DT275, DT277 + DT276)
- Shaping blade (DT301G, DT301B, DT302, DT303, DT306R, DT306BK, DT306GR)
- Microfiber squeegee nozzle (DT402/4, DT403, DT402/60)
- Scraper (DT235/5N, DT235/5S, DT235/5D, DT251)
- Scraper holder (DT198, DT199, DT200, DT201)
- Knife with breakable blade (DT101, DT102, DT103, DT104)
- Spare blades (DT151, DT152, DT154);
- Squeegee and scraper sharpener (DT411)
- Lint free towel
- Spray bottle for soap solution (DT454);
- Degreaser
- Professional industrial heat gun
- PH-neutral shampoo
- Distilled water
- Isopropyl alcohol (>96%).

Each of the listed tools, equipment, main and auxiliary substances, and elements shall be used by the consumer with due regard for precautions, restrictions, recommendations, and rules of use specified by the manufacturer of such tools, equipment, main and auxiliary substances, and elements.

3.0 Storage Conditions

- UNIONDELTA® film products must be stored at an ambient temperature of +5 °C to +30 °C (±2 °C) and relative humidity of 40–60% (±5%) in the original packaging in a horizontal position away from heat and moisture sources. In case of violation of the original factory packaging and the use of part of the material, the remainder must be stored on the original tube, tightly packed, as factory-wound, with secure edge fixation to prevent undesirable unwinding of the film. If it is impossible to provide the required packaging for the opened roll, it is recommended to dismantle the top liner of the product that protects the lacquer layer of the film in order to avoid its delamination associated with loose winding or violation of its diameter. UNIONDELTA® film products are recommended to be installed within a period of no more than 24 months from the date of manufacture. The user assumes all risk and responsibility for loss of performance if the product is stored in violation of the rules specified in this paragraph.

4.0 Surface Recommendations for Application

- DELTAPLEX® protective films are intended for the application on the windshield of a car

5.0 Preparing and Cleaning the Glass Surface

- In order to provide full access to the windshield surface before cutting and forming the film, remove the wipers, side moldings, and plastic jabot from the bottom of the windshield (if any). To simplify the dismantling of the wipers, it is recommended to use specialized universal pullers.
- Make sure that the windshield surface is free from protective agents previously applied to it (anti-rain, glass sealants, and other coatings). Use isopropyl alcohol and a lint-free microfiber cloth to remove previous product residues.
- Prepare the glass surface for cutting and shaping. It is recommended to use a soap solution: 1 liter of distilled water mixed with 5 ml of PH-neutral shampoo. Spray the prepared soap solution generously onto the surface of the windshield (Fig. 1). The surface of the glass should be thoroughly cleaned of stubborn dirt (linden buds, bird droppings, traces of insects, bitumen, and other inclusions) using a special scraper with a blade. When cleaning the surface, use the scraper blade in one direction from the center to the edge of the windshield. Depending on the level of contamination, this procedure may need to be repeated to completely clean the windshield. After the surface is completely clean, the blade should slide over the glass without obstacles and not cling to the surface. After cleaning, remove moisture with a rubber squeegee (Fig. 2).



Fig. 1

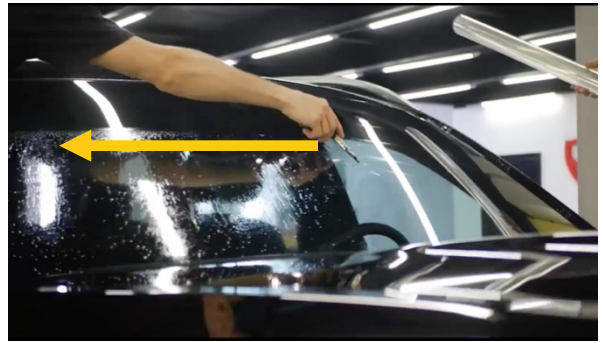


Fig. 2

6.0 Cutting and Shaping

- The reeled film is flat but the windshield of the car is convex, therefore the film needs to be shaped like a windshield using a thermoforming heat gun. Remember that the film can change its shape only in the direction of the reel winding. This should be taken into account when positioning the prepared material on the windshield surface. Cut and spread the material so that the winding orientation of the reel matches the long side of the windshield (Fig. 3).

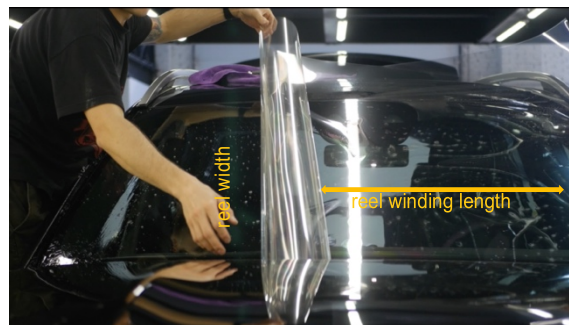


Fig. 3

- Cut off a suitable piece of film from the reel. Cut the material with a margin at the edges. Pay attention to the width of the roll of material, which varies from 1.01 m to 1.52 m depending on the DELTAPLEX® film series.
- Moisten the glass surface with a generous fresh portion of the soapy solution. The selection of the correct concentration of soap solution depends on many factors: ambient temperature and humidity, film temperature, and the surface for the application. Always select the solution empirically, depending on the conditions at the time of installation.
- Spread the prepared piece of DELTAPLEX® evenly on the windshield surface with the protective liner inward.
- Cut off the excess film from the left and right sides so that the material is firmly attached to the glass surface. Then cut the material along the top and bottom edges of the windshield.
- Make sure that the working surface of the tool is flat and free from defects that could damage the film material. To ensure the best result, it is recommended to sharpen the edge of the instrument with a special sharpener and additionally use a cloth attachment on the squeegee.
- First of all, fix the film on the windshield in the "H" way (Fig. 4). Expel moisture from under the film horizontally in the center of the windshield and along its edges on both sides vertically. Avoid the formation of horizontal wrinkles on the sides of the windshield. All of them should be oriented vertically, perpendicular to the lines of the roof and hood. Start shaping. It is recommended to select the molding temperature empirically, taking into account the distance between the heat gun and the material. Try to split large wrinkles into smaller ones to make them easier to shape. Gradually heat the wrinkles until they visually soften. Then straighten the heated wrinkles with a squeegee in the shape of glass from its tip to the base. Heat the molding section evenly to avoid overheated areas where creases are more likely (Fig. 5).



Fig. 4

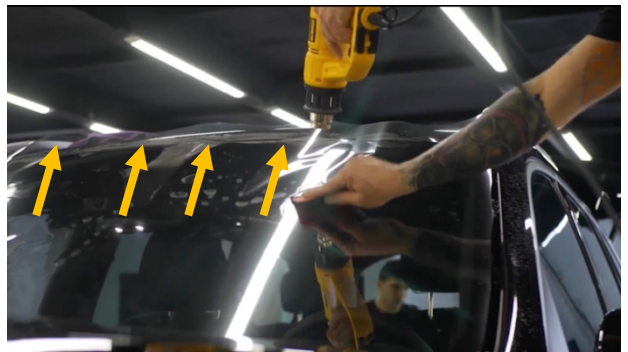


Fig. 5

7.0 Installing the Film on the Windshield

- After all the wrinkles are smoothed and the film has taken the form of a windshield, you can proceed with the installation.
- Before starting, it is recommended to re-clean the windshield as in paragraph 5.0 and reapply the soap solution.
- Remove the liner that protects the adhesive base (Fig. 6). At the time of removing the liner, constantly spray the adhesive layer with soapy water. Avoid dry areas, it is important to spread the solution over the entire surface of the adhesive layer.
- After the liner is completely dismantled, fit the film on the windshield of the car. Spread the film so that it covers the entire windshield to a maximum possible extent. Focus on the edge of the windshield (Fig. 7).

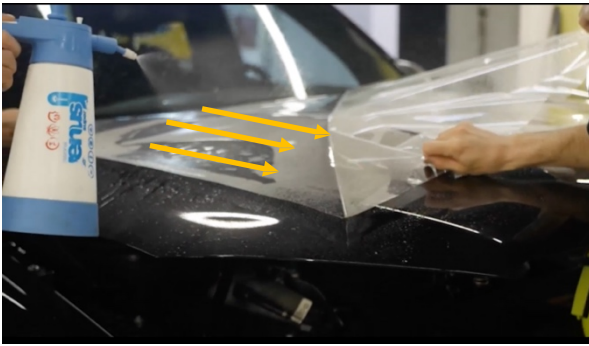


Fig. 6



Fig. 7

- Spread the molded film over the area of the windshield with equal margins from the edges. Start expelling the soap solution from under the film. To do this, use a special squeegee. The combination of a scraper with a special handle will give you maximum results. To ensure good sliding of the scraper on the film, ensure that the surface is constantly wet with soapy water. Try to first fix the material on the surface with one or more movements in the center, horizontally, and vertically. Next, expel moisture from the center of the windshield to the edges.
- Cut off the remaining film as close as possible to the edge of the windshield on all four sides (Fig. 8, 9). If possible, place the edges of the film under decorative trims, moldings, or frills in order to protect them from peeling off during operation.
- Install all previously dismantled elements. Wipe the windshield with the film installed on it with a lint-free cloth without applying pressure so as not to dislodge the film. Installation of the DELTAPLEX® protective film is complete.



Fig. 8



Fig. 9

9.0 Recommendations for Care and Use of the Film

The following rules shall be observed when using a vehicle with film coatings:

- Do not wash your car or turn on the wipers until the adhesive layer is fully activated. The activation period may vary depending on the ambient conditions, but can't be shorter than 72 hours.
- After coated, the car should be washed touch-free. It is not advisable to use automatic washes.
- When washing the car, do not bring the high-pressure cleaner nozzle closer than 50 cm to the coated surface.
- Any aggressive organic and inorganic contaminants must be immediately removed from the film surface. Prolonged contact between contaminants and the film coating may cause localized damage to the material.
- Do not use highly alkaline aggressive chemicals, dyes, or abrasive cleaners when washing your car.
- Do not use hard brushes or scrapers to wash your car or clean it from snow and ice.
- After the film is applied, it is recommended to install new windshield wipers and replace them at least twice a year thereafter.
- Do not use the wipers without a washing liquid.
- The film coating must not be polished.
- If you see any signs of delamination, please contact a professional installation center.

Important notice! The consumer is solely responsible for evaluating a particular product and determining whether it is fit for a particular purpose and suitable for chosen method and surface of application.

Disclaimer and Warranty. Warranty is void if any terms of use, storage, installation, handling or maintenance are violated. Warranty does not cover any mechanical damage, film performance or appearance shift caused by normal operating conditions, which should be studied by the user before purchase. Warranty terms and conditions stated herein may be changed. Please visit www.uniondelta.ae for up-to-date information.

Attention! When using during the installation and/or preparation or use of a solution and aggressive chemical compounds, alcohol-containing liquids, alcohol, and its varieties, follow the precautions displayed on the packaging of such compound, and proceed from common sense and safety of using any such liquid and/or composition.