

Technical Bulletin 1.0 (Revision1.0)
Date: 26/09/2022

This technical bulletin describes the application of DELTASKIN® polyurethane paint protection films.

During the installation, the following application rules 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 DELTASKIN® film.

2.0 Tools and Equipment for Film Installation *

- Waist bag (DT417, DT418);
- Nameplate removal tool (DT412);
- Magnets (DT414);
- Squeegee attachment (DT402/4, DT403);
- Set of tools for the installation in hard-to-reach places (DT405);
- Mini squeegee set (DT404);
- Medium hard squeegee (DT310BK, DT310B, DT310R DT308B);
- Soft squeegee (DT310G);
- Medium hard scraper (DT265C, DT253/5C, DT230/5C, DT251);
- Universal scraper (DT232/5C, DT278/3, DT278R/3, DT278/4, DT278/5, DT266/4, DT267/4, DT277, DT241R/3, DT241R/5, DT241B/3, DT241B/5, DT241G/3, DT241G/5, DT241O/3, DT241O/5, DT241Y/3, DT241Y/5, DT241P/3, DT241P/5, DT279);
- Scraper handles (DT198, DT201);
- Knife with replaceable blades (DT101, DT102, DT103);
- Spare blades (DT151, DT152, DT153, DT154);
- Special non-abrasive polishing clay (DT416);
- Lint-free microfiber cloth;
- Spray bottle for "fixing solution"* (DT454);
- Cylinder with a pump for the "installation solution";
- Degreaser;
- Professional industrial heat gun;
- Rubber squeegee (DT217, DT204, DT205, DT277 + DT272/120, DT277 + DT274/120, DT277 + DT276 or DT275);
- Paint sticky napkin;
- PH-neutral shampoo;
- Distilled water;
- Absolute isopropyl alcohol (>96%).

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.

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

4.0 Surface Recommendations for Film Application

- DELTASKIN[®] protective films are designed to protect the paintwork of car body parts painted at the factory in accordance with the manufacturer's technology.

5.0 Surface Preparation and Cleaning Prior to Film Application

- The film must be installed on a clean and grease-free surface;
- To prepare the surface for installation, clean it with a special automotive detergent*, then rinse and wipe with a lint-free microfiber cloth. Depending on the level of contamination, this procedure may need to be repeated;
- If, after washing, stubborn dirt remains on the surface (traces of linden buds, bird droppings, insects, bitumen, metal blotches, and other inclusions), then they should be additionally cleaned using special clay and other specialized products *. After additional cleaning, wash and wipe the car's paintwork again. Before using special agents* for cleaning the surface, make sure that they do not damage the paintwork of the car body;
- After cleaning the body, prepare the surface with a degreaser and a lint-free microfiber cloth. Depending on the level of contamination, this procedure may need to be repeated to ensure that the surface is fully prepared for application;
- Before installing the film, consider as follows:
 - ✓ Residues of car wax, polishes, sealants, quick detailers, ceramic and other coatings must be completely removed;
 - ✓ The surface of the paintwork to be wrapped must be dry and undamaged;
 - ✓ All external nameplates and letters must be removed.

6.0 Installing the Film on the Surface

- Wash your hands before you start;
- Ensure that DELTASKIN[®] film is applied in a clean and well-lit area;
- The film must be installed by "wet method" using a soapy installation solution (hereinafter "installation solution"): 1 liter of distilled water mixed with 2-4 ml of PH-neutral shampoo. Prepare and mix the solution in a pump with a sprayer. The selection of the correct concentration of "installation solution" depends on many factors: ambient temperature and humidity, film temperature, and the surface for the application. Always select a solution empirically, changing the concentration of shampoo depending on the conditions at the time of installation;
- Before applying, cut the material for the selected part from the reel and remove the transparent protective top liner from the front side;
- Before applying the film, spray the "installation solution" on the surface of installation. Remove moisture with a gentle sweep to ensure that the installation surface is free of dust, dirt, lint, and other contaminants that may have formed prior to installation;
- Use a tacky paint pad to permanently remove any fine dust or other debris that may have been left on the surface. Re-apply "installation solution" to the surface;

*See page 1

- Remove the bottom liner of the film that protects the adhesive base and apply the "installation solution" to the adhesive (Fig. 1). Then place the material on the selected installation area (Figure 2). If necessary, slide the film to the desired position. The "installation solution" should also be applied on the surface of the film throughout the application process so that the squeegee or scraper glides better;



Fig. 1



Fig. 2

- Once the material has been placed, carefully begin to expel moisture from under the film, from the center towards the edges (Fig. 3). Use a medium-hard squeegee with a buffer or a special scraper. Gradually increase the pressure on the surface to expel all air and "installation solution" from under the film. Squeeze the stroke of the squeegee by about 50% so as not to miss areas with air or moisture. Please note that changing the position of the film is only possible during the positioning stage and by applying low pressure to the squeegee or scraper while removing moisture. If you try to reposition the material at a later stage, visible marks or lines may remain on the surface of the film;
- If you need higher and faster adhesion when installing the film, then you must use a fixing solution* (hereinafter referred to as "fixing solution"): 1 part absolute isopropyl alcohol and 4 parts distilled water, for example, 200 ml of alcohol per 1 liter of water. Finding the right concentration of the "fixing 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;
- When installing the film on complex curved surfaces, the material must be slightly stretched so that it fits snugly on the surface. It is recommended to stretch the material without heating, using its natural elasticity (Fig. 4). It is allowed to heat the film to a temperature of 40-50 °C using a heat gun* or a steam generator*. Do not overstretch the film until a tear line appears on the top coat of paint and/or other visible marks;



Fig. 3



Fig. 4

*See page 1

- On some surfaces with a negative bend, it may be necessary to score the film to avoid excessive stress on the material. Such technical cuts do not affect the declared characteristics of the product. The installer must decide where and how to make the technical cut, based on common sense, the properties of the material, and the aesthetics of the end result;
- After the film is installed, cut off the excess film at the edges, leaving enough material to fold over the invisible edge of the element (Fig. 5 and 6). Always keep sectional blades sharp;
- Fold the material over the invisible edge of the element. For quick fixation of the folds, use a "fixing solution" *;
- After all the edges of the part are fixed, they must be heated with a heat gun. Please note that the film must be heated at a safe distance and a moderate time interval so that not to damage the material by too high temperatures. The installer assumes all responsibility during the use of the heat gun, when working with the film, and must use common sense and these instructions when using this equipment *;
- After the film installation on the selected part is completed, the surface of the film must be cleaned of installation traces. Soap stains, squeegee marks, finger marks, etc. are easy to remove with a "fixing solution"* and a lint-free microfiber cloth;
- On some materials, if the lacquer layer is damaged by the edges of the tool during installation, local heating of the damaged area is allowed to activate the self-healing function.



Fig. 5



Fig. 6

7.0 Film Self-Recovery Properties

- Self-recovery is the ability of a material to repair the surface of a film from installation marks, light abrasion, and minor scratches resulting from daily vehicle use. Significant scratches or damage cannot be repaired;
- Some DELTASKIN® products have the self-recovery property without the use of any external additional heat treatment. Other DELTASKIN® products are able to recover when exposed to an external heat source (>40°C) such as hot water, heat gun*, warm sunlight, and others. For more details about the self-recovery properties of each DELTASKIN® product see the Product Data Sheet (PDS).

*See page 1

8.0 Film Cleaning, Maintenance and Removal

- DELTASKIN® Paint Protection Films provide protection to the vehicle body throughout the life of the product. To care for and clean the film, you can use special products* designed for this purpose. Before using any film cleaner and care product, read the description of the product carefully and try it on an inconspicuous area of the surface. Only after obtaining a satisfactory result, proceed to applying to the main parts;
- The protective film is a temporary protective solution with a limited life span and must be replaced after it has expired. Within the stated lifetime and when applied to the recommended surface, DELTASKIN® protective films can be easily removed. The material must be removed by heating (40-50°C) and using a steam generator or heat gun, maintaining a low removal angle between the surface and the film ($\leq 45^\circ$ degrees) (Fig. 7). If adhesive residue remains after removal, use special products* to remove it.

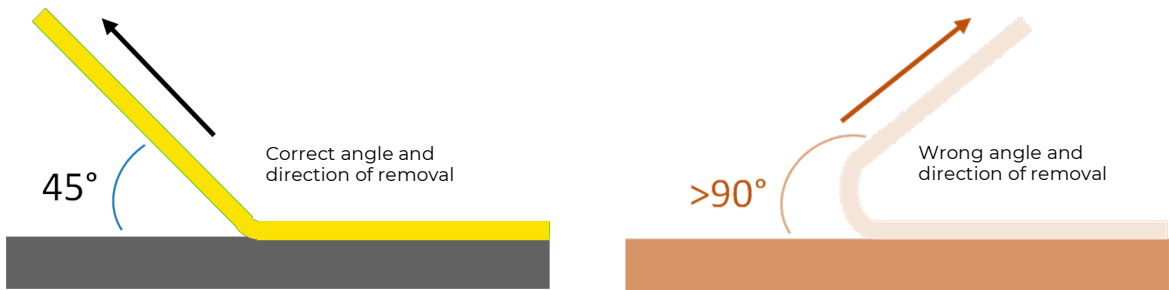


Fig. 7

*See page 1

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 the car 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.
- 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.

*See page 1