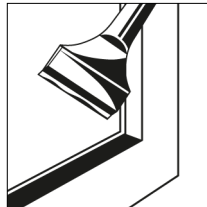
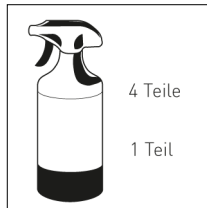


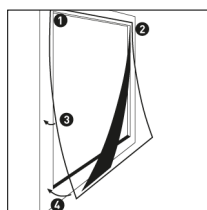
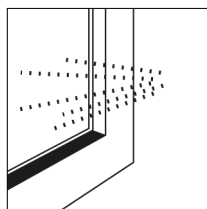
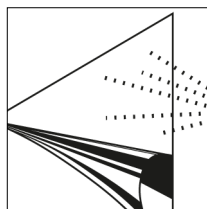
Working with splinter protection/anti-vandalism/sun- and UV protection films



Preparation: Before applying the film, the glass pane must be thoroughly cleaned. For this job, glass cleaner should be thinned with water (mixing ratio 1:4), the glass surface then sprayed and vigorously cleaned with a glass scraper whereby care must be taken that all particles of dirt, paint residues, etc., including those not clearly visible, are removed. The dirty water remaining on the glass pane should be removed with a rubber window squeegee used vertically top to bottom. This process should then be repeated a second time! If there is a time lag between cleaning and mounting, the pane should be again cleaned with clear water right before the mounting work begins.

The areas around the borders or the window should then be carefully dried off with a lint-free, absorbent paper towel. In the case of windows that have dried out or loose glazing putty around the frame, it should be either sealed or replaced before proceeding. If this is not an option, care must be taken that as little water as possible is used in the upper edge of the glass pane and, in compensation, that much more spray used on the film itself. The glazing putty can also be covered with waterproof adhesive strips.

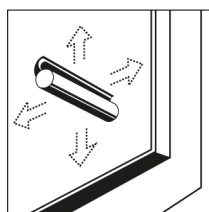
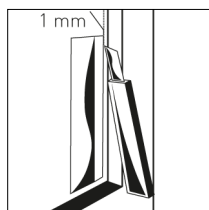
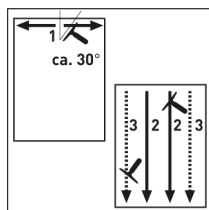
In the case of larger areas, the film can be applied end-to-end in continuous lengths. When this is necessary, care should be taken to locate the butt seams in the least conspicuous place. After making that determination, the first length should be attached as described below. If possible, the machine cut edge should be applied first because of the exactness of its right angle. It should also be noted that the butt seam should have a separation of 1-2 mm to allow for expansion.



Treatment: The film should now be cut in such a way that there will be an overlap of at least 1 centimetre on all sides. Note; doing the installation in tandem with someone else is highly recommended. The first person should hold the film taut while the second removes the transparent protective film. Because of this protective backing's extreme thinness, it is easier to remove it from the film by employing two overhanging pieces of adhesive tape. The dry adhesive should not be touched with dry fingers because fingerprints can, as a result, be visible when you are finished. Fingers should be wetted with a mounting liquid (water with a few drops of detergent) when working with this film.

As the protective backing is removed, the adhesive side of the film to be mounted should be generously sprayed with mounting liquid. This will, on the one hand, help prevent the film from attracting any dust or dirt through a static electrical charge and, on the other, the liquid facilitates the affixing of the film to the glass pane. When a single person is doing the work, it is recommended that the pre-cut film, having been wetted with mounting liquid, be placed upside-down (i.e. on the side without adhesive) on a separate pane whereby the film will remain flat and the protective backing can be more easily removed and any creases or folds will be prevented from developing.

At this time the pane itself should be sprayed with mounting liquid. The glass pane must be completely covered with the liquid. After this has been done, the film should be stretched tight and the sprayed (adhesive) side placed on the top area of the pane. The film should be placed such that all the sides have the same amount of overhang. The non-adhesive side of the film (facing away from the pane) should also be sprayed with mounting liquid as well. Any water and air bubbles that remain between the glass and the film should then be squeezed out by means of a rubber window squeegee. In doing so, the squeegee should be placed vertically in the middle at the top of the pane and pushed to the right and the left and at the bottom



portion of the pane pushed horizontally towards the bottom. During this process, the film should not be allowed to slip, buckle or crease! If, after you have squeezed out the water and air bubbles, particles of dust or dirt still remain between the film and the glass pane, you can carefully lift the film up again while simultaneously spraying both the glass and the film with more mounting liquid, remove the offending dirt, spray again and squeeze the water out again as described above.

At this point, using a RULER and ARTIST KNIFE (or a CUTTER), you should first cut the side edges and then the top and bottom edges in such a way that there is a one millimetre space between the film edge and the glass frame. The artist knife must definitely have a new blade and be held flat when cutting so as to avoid ripping the film. Now the film should be sprayed again and this time run over with a SQUEEGEE-TYPE APPLICATOR under firm pressure in order to remove any remaining water. All remaining moisture should subsequently be removed from all of the film's edges by means of a lint-free paper towel. When working with this film, extreme care should be taken in order to avoid any creasing or folds because they will be very visible when you are finished. In the case of direct sunlight, care must also be taken. In such cases, the work must be done quickly and a great deal of water employed in order to avoid having the adhesive dry too soon.

Working with exterior films: Working with exterior films is basically the same as working with interior films. When planning on applying the exterior film, however, you should check the weather to make sure that it will not be exposed to frost within the first two weeks.

Sealing in exterior applications: It is basically recommended that the film be mounted under an inner mounting profile in order to prevent the film from coming loose around the edges. If it is the case that there is no inner mounting profile or, alternatively, no reusable rubber seals, the film should be sealed with silicone. The silicone used should be a neutral crosslinked version which will not corrode the film.

Cleaning: In the first 35 days after affixing the film it may not be cleaned and, if possible, not touched or handled because only after this time span has the complete bond between film and glass been achieved. Note: the remaining moisture that at the beginning is somewhat optically disturbing will eventually evaporate through the film during this time span. Thereafter the glass pane can be cleaned with soap and water or a mild cleaning agent. Abrasive detergents, strong alkaline cleaners, acetone and sharp, scratching objects should definitely not be used. Difficult to clean spots can be removed by means of a piece of cotton wool drenched in kerosene or turpentine. Making a preliminary test on an inconspicuous area is highly recommended before attempting to employ a cleaning agent whose ingredients are unknown.

Removing the film: Spray the film with turpentine or isopropyl alcohol and allow it to act on the film for a while. It is best to cover film with a sheet of plastic film after it has been sprayed in order to prevent the solvent from evaporating away too quickly. Repeat this procedure if necessary and then pull the film free.