

**TB 1.16 Instructions for myMEDIA One Way Vision films**

**Introduction**

myMEDIA One-Way-Vision products are perforated self-adhesive films for use on windows, glass panes or transparent plastic panels. They consist of a white, printable front side and a black back side. The full-surface advertising print prevents the view through the window, while the view through the perforated black surface is almost unobstructed. These films can be used for advertising on vehicle windows (e.g. cars, vans, buses, streetcars, trains) or on windows (e.g. shop windows, building windows, ground floor offices, etc.). This application was developed, among other things, for public transport to increase the advertising space, as the window areas became larger and larger and the classic advertising space underneath became smaller and smaller.

**Functionality**

The effect that one can't see into a bus from the outside, but can easily see out of the bus from the inside, is well known. The trick with this application is that the eye focuses on bright colors (white front incl. print) and ignores dark colors (black back of the film). It is important to note that the application works only with bright foreground and dark background. The application is not possible with bright sides on both sides (e.g. illuminated interiors, glass partitions outdoors). The effect is quickly noticed with a fly screen, when with a white screen the view through always looks foggy and unclear (bright is focused), but with a black screen a clearly better view through is achieved (dark screen is ignored).

**Printing**

Suitability	Depending on the product, the surface can be printed digitally using Latex, Eco-Solvent, Solvent or UV-curing inks or screen printing. It is important to pay attention to the suitability of the ink, as holes can close with latex or UV-curing inks if the hole depth is too shallow and cause disturbances in the print image. Therefore, myMEDIA One Way Vision offers quality products with special Dualliner cover papers for these printing processes, which have an extended hole depth so that excess ink can dry there and does not close the holes on the print medium.
Drying	The printing ink or ink must be ABSOLUTELY DRY! The drying of the printed medium is strongly dependent on the amount of solvent introduced (ink application), therefore sufficiently long drying times must be taken into account. When printing the material in a roll-to-roll process, the printed web must be unrolled and laid out flat again as quickly as possible until final drying in order to achieve the best drying results. We recommend drying the material in an unrolled state for at least 24 hours before further processing. If this is not possible, place the roll upright and very loosely wound on an air-permeable (grid) floor to ensure air circulation. Insufficient drying (solvent residues, rewetting, etc.) can lead to blocking in the rolled state and subsequently to unrolling, shrinkage and insufficient adhesion, which are not covered by the warranty. Therefore, drying must be checked by practical methods, such as tesa test (optimally with cross cut), grip test, abrasion test and odor test, before further processing, lamination or application.

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<b>Lamination</b>	
Requirements	Complete drying of the print is required before lamination.
Lamination	Cold lamination only
Temperature	Roller temperature +20°C to +30°C
Speed	0 bis 2 m/min.
Laminating	To avoid tension, wrinkling or tunneling, make sure that the unwind and rewind rollers of the laminator are properly tensioned so that neither the laminate nor the film is stretched during lamination. Make sure that the laminator rollers are not uneven to avoid streaks or spots (e.g. caused by the deflection of the pressure rollers). Tension caused by the lamination process can lead to edge peeling, as there is about 40% less adhesion to the edges due to the perforation of the film.
Suitable laminates	myMEDIA 5625 Ultraclear PolyGuard or myMEDIA 5645 Ultraclear Guard (Please refer to the corresponding data sheets) These optically clear laminating films have a highly transparent adhesive and a glossy cover film, which means that optical transparency is not impaired and orange peel in the surface is avoided.
Not suitable laminates	"Normal" laminates with standard liner are not recommended. These are not highly transparent and the already reduced visibility is further reduced or blocked.
Vehicles	When used on vehicles, lamination is always recommended.
Rolling and transport	Printed side must always be rolled outwards. For transport, roll with large diameter if possible (e.g. on 6-inch core) to prevent tunnel formation.

**See through**

To improve see-through, it is recommended that myMEDIA perforated films are laminated with ultra-clear myMEDIA perforated film laminates to prevent dirt and water droplets from collecting in the holes and thereby impairing or blocking see-through. An accumulation in the holes during rain massively impairs see-through and, in the worst case, allows no see-through at all, which is neither desirable for passengers on public transport nor for restaurant patrons. Even if extended durability through lamination is not required, the difference of better see-through should be shown to the customer for decision.



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**Application areas and General Typ Approval (ABG)**

Architecture	Shop windows, building glass walls, glass facades, architecture, transparent advertising media.
Vehicles	Observe the information regarding use in the respective data sheets. When used on vehicles, country-specific laws and regulations must be observed. See also ABG.
ABG	myMEDIA offers various One Way Vision perforated films with ABG approval for use on vehicles. Products with ABG approval are: myMEDIA 1662 One Way Traffic myMEDIA 1665 One Way RainbowTraffic myMEDIA 1674 One Way GreenTraffic (only for flat windows)
ABG regulation	<p>Perforated foils may be applied either on the outside or on the inside of the window panes. The application of several foils on one and the same pane is not permitted. However, this does not apply to the laminate of perforated films when this is part of the approved perforated film system.</p> <p>The application of perforated films is permitted on side windows from the second row of seats to the rear, on the rear window, on skylights, and on all upper level side windows on double deck buses. The glass may only be coated with the film up to the pane holder; jamming with the frame or the seal must be ruled out. The application of the film must not increase the risk of injury from glass splinters. If the total area of the film on a pane is more than 1 m<sup>2</sup>, the film must be divided so that the individual parts of the film each cover an area of less than 1 m<sup>2</sup>. If a tinting film or a perforated film is applied to the rear window or to the side windows from the second row of seats onwards of the vehicle, the vehicle must have two "Class III" or "Class II" main rear-view mirrors in accordance with Directive 2003/97/EC or ECE Regulation 46.</p> <p>The analogous application of the marking regulations between the print film and the laminate as part of the perforated film system (GTC number) is sufficient. When applying, it must be noted that the foil marking must be present at least once on each pane.</p>
ABG in Austria	<p>In Austria, the approval mark is valid as proof.</p> <p>The respective certificate does not have to be carried along!</p>

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<b>Application and processing</b>	
Suitable substrates	Glass from flat to slightly curved (Information on this can be found in the corresponding data sheets).
Not suitable substrates	Problematic substrates listed under "Removability", glass surfaces with surface coatings (e.g. for self-cleaning, scratch resistance, anti-reflective, etc.), tinted glass or low-E glass (if necessary, obtain usability from glass manufacturer).
Substrate test	We recommend that you carry out a trial bond in advance to check adhesion. If adhesion is too weak (e.g. Nano-Coating), cleaning with acetone may be helpful. This should only be attempted carefully on the glass and under no circumstances should it come into contact with rubber, plastic, paint parts, etc., as this can lead to damage.
Pre-cleaning	The substrate must be dry and free of dust and grease.
Application	Only dry bonding is possible.
Handling	The liner should be peeled off flat from the film, never the other way around. This reduces stresses and reduces the risk of wrinkles and creases, which should be avoided.
Edge protection	To ensure durability in outdoor use, the edges should be protected from penetration of liquids and dirt and from mechanical damage. There are 2 ways to do this: - Laminating the laminate at least 10 mm above the foil edge of the printing film. - Subsequent laminate strip of 10 to 15 mm to protect the edges. Edge protection is also recommended for unlaminated graphics and improves the adhesion of the edges. In any case, make sure that no open edge is in permanent contact with water (e.g. lower edge of the film in standing water in the window frame).
Edge to edge installation	Multi-part motifs must not be overlapping, but glued edge to edge with a gap of approx. 1 - 2 mm. Or an overlap can be made in the middle and cut carefully through both layers of material without scratching the glass. Then remove the excess film and create the necessary joint. Then apply a 10 to 15 mm wide myMEDIA laminate strip over the joint to protect the edge of the joint and optimize visibility.
Frame	The film must never be applied up to and/or touch the edge of the pane or pane rubber, as this will impair adhesion. A distance to the edging of 3 mm without edge protection or approx. 10 mm with edge protection is required.
Curved panes	Start in the center of the window and squeegee the graphic from the center outward toward the edges of the glass. Be sure to avoid stretching the film as this can cause subsequent shrinkage and peeling.
Edges	All edges must be well squared and protected, otherwise peeling is possible.
Insulating glass	When applying the film to insulating glass panes, thermal stresses may occur due to the film and holes in temperature fluctuations, which may lead to cracks or breakage of the glass substrate.
Squeegee marks	Possible squeegee marks may be visible after bonding. These usually disappear after a few days of exposure to the sun and are no longer visible thereafter.

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<b>Cleaning the finished graphic</b>	
Waiting time	Do not clean or wash off within the first 72 hours after completion.
Washing stations	Vehicle washing stations with textile washing elements can be used, but avoid nylon brushes as these can leave fine scratches on the film surface. Hot wax should be avoided to prevent stains and thus impairments in visibility.
High pressure	The use of high-pressure cleaners is not recommended! The edges can become loose (especially with flat pressure). The pressure can puncture the material in the non-perforated areas of overlaminated films and break the laminate. In any case, when using high-pressure cleaning, a minimum distance of 50 cm, with a maximum temperature of 50°C and only a wide spray nozzle (no spot jet) should be used on the edges of the film
Cleaning agent	Mild cleaning agents (washing lyes, mild soap with sufficient water) must be used. Solvents, preparations containing solvents, abrasive cleaning agents or aggressive cleaners must not be used because they may damage the film. In case of uncertainty, tests must be carried out in advance on inconspicuous areas.
Cleaning of non-laminated perforated film	To achieve good foaming, mix sufficient water and mild soap and apply the solution with a lint-free cloth. The holes should not be soaked with water to avoid residues when drying out. To remove grease and dirt, gently wipe the perforated film, being careful not to transfer ink from printed films to the cloth. For stubborn dirt in the holes, use a soft bristle brush and apply more solution to loosen the dirt. Once the dirt in the holes has softened, rinse with clean water and again use a soft bristle brush to ensure the dirt is removed from the holes. Then rinse the film completely and allow the water to evaporate.

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<b>Removability after use</b>	
Removability	Especially in the cold season, a perforated window film, which is usually applied in large format to glass surfaces, tears very easily and makes it very difficult to remove. A laminated window perforated film, however, is a reinforced composite and is much stronger, which greatly improves removability and is usually easy to peel off in one piece, rather than in constantly torn, small individual pieces. Detachment should be slow and can be improved with the assistance of heat. The use of a hot air dryer should be avoided or severely limited to prevent excessive heat and resulting stress cracks in the glass, which can lead to grail breakage.
Durability	The removability duration can be found in the corresponding data sheets.
Conditions	The removability depends to a large extent on the condition of the substrate! The substrate must be solid and have high cohesion. Interactions may occur with some substrates (e.g. diffusion of plasticizers, outgassing of blowing agents or solvents, etc.). Adhesive strength may increase, properties and cohesion of the adhesive may change negatively, and much more, making residue-free removal difficult. Problematic substrates with possible interactions include: - ABS - Acrylic glass (PMMA) - Freshly applied paints and varnishes of any kind - Nitrocellulose lacquers - Polycarbonate - Polystyrene - Various types of PVC
Removal temperature	>= 20°C ( surrounding AND substrate temperature)

**Important Notice**

Information on physical and chemical characteristics is based upon tests, practical knowledge and experience. The values listed herein are typical values and are not for use in specifications. They are intended only as a source of information and are given without guarantee and do not constitute a warranty. Because of the variety of uses and applications, the purchasers should independently determine, prior to use, the suitability of this material to their specific use and carefully consider the suitability and performance of the product. The purchaser shall assume all risks for any use and application of the material. All specifications and technical data are subject to change without prior notice, errors and omissions expected. All warranty matters are regulated by our general terms and conditions.