

Vinyl Wrapping System Application Guide



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1. Vinyl Wrapping System K88000 Series

VWS K88000 Series is a new generation of superior quality soft hybrid PVC films especially developed for vehicle and other wrapping applications. This 100-micron material offers: -

- Excellent life expectancy (5 – 7 years).
- Exceptional colour stability and opacity.
- Superb application and coverage qualities (no “grin” through).
- Conformable on complex surfaces.
- Removable (up to 3 years).
- Choice of 17 standard colours.
- Special colour matches (minimum quantities apply).
- Printable by four basic methods – Screen Printing, Solvent Ink Jet, Electrostatic and Thermal Ribbon Transfer.

Careful handling of the film achieves a finish that is difficult to distinguish from paint.

This remarkable material, whilst ideally suited to the wrapping of metal vehicles, can also be used on fully cured GRP, and certain plastics, as well as many other surfaces and shapes.

2. Storage

- VWS offers a two-year storage guarantee for K88000 Series materials provided they have been kept at temperatures of +15°C to +25°C and at relative humidity of 40 to 60%.
- Avoid direct exposure of the vinyl to high temperatures (near radiators, direct sunlight... etc.)
- Any part used rolls should be kept vertical or horizontally hung on racks. Rolls should never be placed on their sides as this could lead to a large matt section appearing in the whole roll.

From time to time rolls may become matt in parts. The softness of the material means that the surface can take on the appearance of the release liner in the next single turn. This is perfectly normal and reversible. VWS K88000 Series will regain its glossy appearance once applied to the substrate (car, truck ... etc) although the time it takes to regain its original finish will depend on the temperature. In winter it may take several days, or in summer, just a few hours when exposed to sunlight. If a hot air gun is used during application, it could take just a few seconds.

3. Preparation/Cleaning the Application Surface

The best result is achieved by careful preparation of the surface before wrapping. It is recommended that the film be applied indoors, in a clean, well lit, dust free environment.

- Lights, handles, aerials, trims and any other protruding items should be removed, where possible, before application.

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- Clean all surfaces thoroughly using a four stage preparation process: -
 - 1 Thoroughly wash the surface to remove all dirt either by hand or in an automatic car wash.
 - 2 In a warm workshop environment, clean again with a white spirit/water mix at approximately 10% white spirit to water to remove any surface contamination, wax or silicone etc. Pay particular attention to recess areas when de-greasing and cleaning.
 - 3 Mist coat the flat panels with a solution of 45 ml of detergent (washing up liquid) to 1 litre of clean water. Do not wet sufficiently to cause the liquid to run off the panels. The mist spray should represent a coating of fine dew. Allow the water to dry off, this should take 10 to 15 minutes.
 - 4 Finally clean the recesses and rebates with isopropyl alcohol or methylated spirit. Wipe dry with a lint free cloth before the alcohol/spirit has had an opportunity to evaporate.

To ensure complete drying of the surface before application, a hot air gun, or hair dryer can be used.

The surface should now be suitable for application.

4. Application

4.1 Dry Method

Dry application is the preferred technique and the only method recommended and warranted.

Applications are best performed in clean and dry workshop conditions with the surface allowed to reach ambient temperatures of 20°C. Application to a cold substrate will adversely affect the adhesive bonding characteristics.

- Tools required: -
 - Soft and hard squeegees (hard squeegees can be softened by application of self adhesive velour).
 - Scalpel/retractable trimming knife.
 - Tape measure.
 - Hot air gun or hair dryer.
 - Cleaning/de-greasing cloths and materials.
 - Basic toolkit (for handle/trim removal).
- For three-dimensional surfaces that require the vinyl to be shaped or moulded around rivet heads, corrugations, welded areas... etc, some heat applied by a hair dryer may be required.
- The application of this film to a vehicle is best performed by two people. Overall wrapping times can be reduced with the assistance of a third person to remove and replace trims, handles, lights... etc and on larger vehicles when



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wrapping roofs and 'difficult to get to' places.

- Measure and cut the first panel of material. Lay the vinyl face down on a table and remove the protective release liner at an angle of about 30 degrees.
- Offer the material up to the panel and, taking an approximate horizontal centre line, run a finger across the panel width to secure the centre. Use as little tension as possible when applying the film. Slightly tension the film upward and, using finger pressure, 'tack' the upper corners. Repeat downwards for the lower section.
- Apply broad overlapping horizontal strokes using a soft squeegee to secure the large areas of material, (ignore recesses/handles for the moment). The unique adhesive will allow air bubbles to be dispersed easily. If any large bubbles become trapped or a crease appears then warm the vinyl surface, 'tap' the material away from the vehicle and then re-squeegee. Bubbles should not be pin pricked to aid application.
- Where recesses and stepped changes of section are encountered, the film should be laid or fed into and around these sections applying as little tension as possible. Use a hard squeegee edge to ensure that the material is well adhered to the internal angles/returns of the recesses. NOTE: If using heat, use only the minimum amount required, and work in small areas.
- Heat the film again in these areas to ensure the adhesive is fully activated – this will help achieve ultimate adhesion in these difficult areas.
- For compound curves and complex multi curves, such as the rectangular grooves on panel vans, special techniques must be used. This involves laying a cut section into the groove, the edges of which are then overlapped by the vinyl covering the van side. See section 4.1.1. Contact KPMF or a KPMF approved applicator in these cases.
- In extreme cases (very deep corrugations, paint/surfaces with low surface tension or complex multi curves) please contact KPMF or a KPMF approved supplier for more detailed advice.
- *Caution: If using a hot air gun, keep it at least 200mm away from the vinyl surface and use broad sweeping movements to heat the vinyl surface. A normal hairdryer develops sufficient heat to 'work' this material with less chance of burning the material or yourself!* Use only the minimum amount of heat at all times. Overheating the film will contribute adhesive failure.
- During fitting, care should be taken not to overstretch the film. Minimum tension should be used and it is best to average the 'stretch' over as large an area as possible.
If the film is being printed, it is suggested that the design is carefully planned to allow for 'stretch' zones around door edges/recesses and for cutting and fitting into recesses.

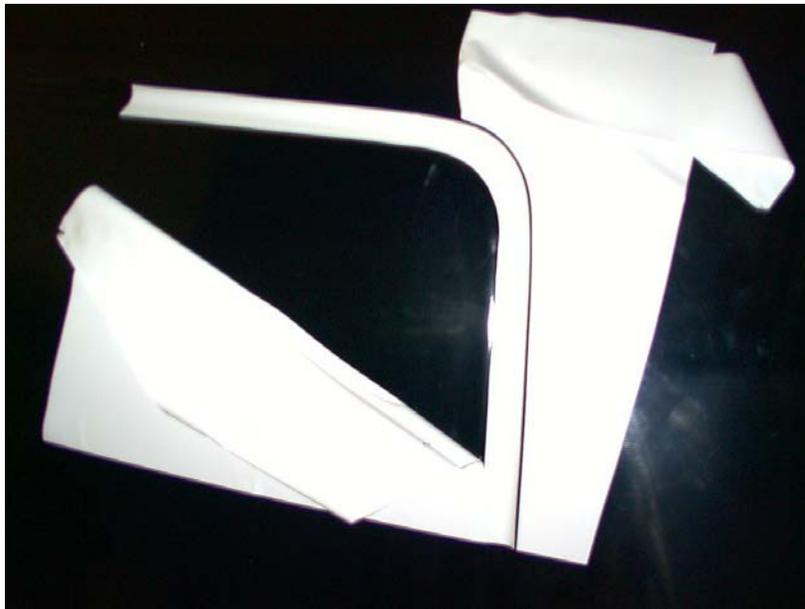
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- The film should not be cut flush to the edges of bonnets, doors boot or panel edges. Instead, the film should be wrapped around the edges by about 6mm to minimise the exposed edges of the vinyl.
- The film should not be cut to the edges of rubber mouldings but must be applied under the moulding to eliminate the possibility of exposed edges of the vinyl.
- Ideally text should either be kept away from such areas or produced and applied separately after wrapping. Text can be plotter cut out of VWS K88000 Series film (or conventional vinyl) and applied over the top of the basic wrap.

These measures should eliminate any chance of letter/design distortion due to stretching during application.

- As with all vinyl, printed materials must be thoroughly dried to eliminate the chance of retained solvents affecting the adhesive properties.
- Application to materials such as ABS, PP or rubber is not recommended. Do not apply VWS to these surfaces if long-term decoration is required.
- After application, do not clean the vinyl with a solvent-based cleaner. Normal vehicle washing procedures should be used.

4.1.1 Applying to Panel Van Recesses



- 1 Apply VWS over the panel and recess. Create a “gasket” wide enough to fit into the recess and internal edges allowing material for trimming. Remove the excess material leaving the “gasket”.

Working from the centre of the recess outwards in both directions, squeegee the vinyl into the base of the recess, around the internal radii and up to the outside edges of the recess.

Remove the waste from the panels.



- 2 Apply VWS to the flat panels and cut to overlap the edges of the vinyl in the recesses. Use gentle heat if necessary on the corners. This application method hides the joint line from view and ensures that the vinyl remains in the recesses.





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- 3 Demonstration of a completed recess corner. Some material has been removed from the recess for clarity.

4.2 Wet Method

- Wet application under normal conditions is not recommended because:
 - This method of application, combined with the low initial grab of the adhesive, produces very little initial tack.
 - Trapped water will restrict adhesion and makes it very difficult to “work” the material into recesses and around complex shapes.
 - The ultimate adhesion may be compromised, particularly in a cold climate.
- Film applied by wet application will not be warranted with regard to removal.
- If a wet application method has been employed, the vehicle must be kept in a heated environment for 24 hours after application and after this period of time the whole vinyl surface should be re-heated with a hair dryer/hot air gun and squeegeed firmly. Pay particular attention to recess and swage line areas.

After application, do not clean the vinyl with a solvent-based cleaner. Normal vehicle washing procedures should be used.

5. Aftercare

Because the VWS K88000 Series vinyl is 100 micron thick it offers unrivalled protection to the vehicle surface from the rigours of life on the open road.

Hand washing/conventional carwashes should not present a problem to the film. However, it is suggested that the use of power washes, steam cleaning and washing systems involving chemicals is discouraged. All of these can cause accelerated damage to any vinyl product – VWS K88000 Series is no exception.

Once cleaned, the surface can be polished/protected with a conventional car wax product.

Scuffmarks should be removed by a gentle rub with ‘T-Cut’ cutting compound and the gloss brought back by re-heating the vinyl followed by the application of a wax based polish.

6. Removal

Ideally the vehicle should be placed in a warm environment at about 20°C for at least 2 – 3 hours before attempting removal.

- Heat the vinyl to a temperature of +60°C to +80°C using a hot air gun.
- Starting at an edge gently peel the vinyl away from the surface. This is best done at a 30-degree angle. Work gradually down each panel heating and peeling as necessary.

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Caution: Do not snatch the material away from the surface or attempt to remove any areas that have not been heated.

- If there are any problems with removal – STOP – and contact the VWS supplier for detailed advice on how to proceed.
- Do not continue to remove the film unless advised to do so by the VWS supplier .
- The VWS supplier cannot be held responsible for inappropriate removal methods or for poor paint/lacquer adhesion to the vehicle bodywork.

7. **Benefits of Using VWS Film**

- Unlike paint, the film is removable.
- The film offers UV protection to the paint surface during the working life of the vehicle. When the film has been removed the paintwork still looks like new, maximising re-sale value.
- It is ideal for short-term contracts involving leased vehicles and where corporate image dictates vehicle colour.
- Unusual colour schemes (e.g. front half yellow, rear half blue) can be achieved without the need to repaint when the vehicle has completed its working life in that livery.
- No rubbing down, no masking off, no re-sprays, no delays.
- Improvements to the environment by the elimination of solvent emissions.

8. **Caution**

- This film is not a cure for rust! It is recommended that it is only fitted to paintwork that is in good condition.
- Whilst the film will cope with most recesses and swage lines, it is possible to over-stretch the film. Very deep/textured recesses (similar to those found on the Mercedes Sprinter, Vito and other panel vans) can still present difficulties.
- Before wrapping vehicles with these types of recesses, please contact KPMF or a KPMF approved supplier for specific application advice.
- It is strongly recommended that any printed vinyl is thoroughly dried to eliminate solvent retention before being applying to vehicles. Solvent retention will affect the adhesive properties and the removability of the film.

9. **Warranty**

Kay Premium Marking Films are produced under careful quality control and are warranted to be fit for the purpose and free from defect in material and workmanship. Any material shown to be defective to our satisfaction at the point of sale shall be replaced free of charge. Kay Premium Marking Films Limited liability to the purchaser shall in no circumstances exceed the cost of the amount of the defective material supplied.



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10. Material Supply and Training

- Supplies of material, training and application advice can be obtained through your local KPMF distributor or, in the U.K. from: -

Kay Premium Marking Films Ltd
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