

## 3M™ Wrap Film Series 1380

### Application on Substrates with Recesses

#### Instruction Bulletin

#### Recommended End Uses

3M™ Wrap Film 1380 is an extremely flexible cast film, specially designed for full wrapping of vehicles and application onto substrates with contours and deep channels.

3M™ Wrap Film 1380 uses 3M™ Controltac™ and 3M™ Comply™ technology.

3M™ Controltac™ minimizes the initial contact area of the adhesive and allows the applicator to reposition the film during application.

This allows easier installation of large format graphics in a wide temperature range.

3M™ Comply™ are air release channels allowing fast and easy, bubble-free application of films.

#### Important Notice!

3M™ Wrap Film is not intended for wet applications. Residual water will cause lifting in the recesses after application.

#### Cleaning

Clean the substrate thoroughly with 3M™ Surface Preparation System as grease and oil prevent the film from adhering properly. Use lint-free paper towels. After cleaning make sure that the substrate is completely dry.

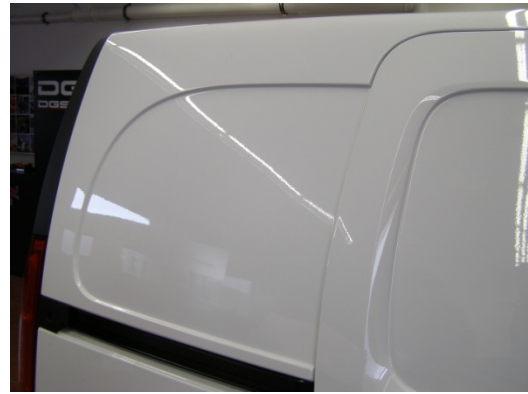


**Note:** Do not use isopropyl alcohol as this can affect the lifting resistance of the film in the recessed area. Other solvents than 3M™ Surface Preparation System may affect the expected lifting resistance performance of the film, too.

**Application** There are basically two different types of recesses:



U-Shape Recess

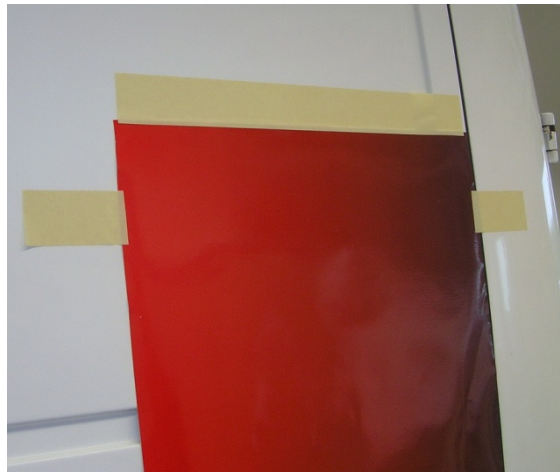


Single Recess

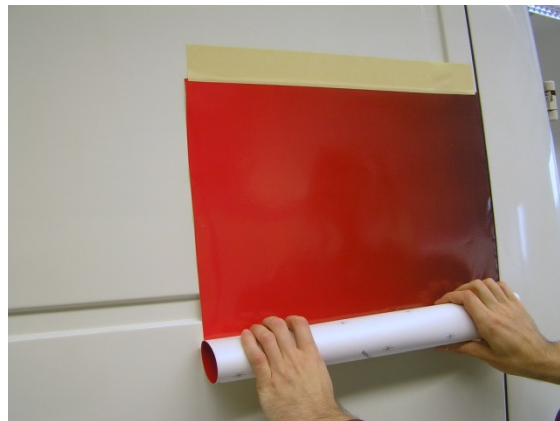
The following describes how to apply 3M™ Wrap Film 1380 onto both U-shape and single recesses.

### **Application to U-Shape Recesses**

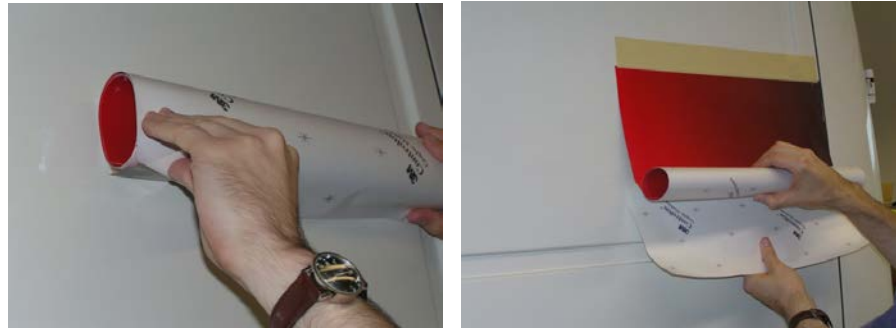
Position the panel onto the substrate and fix the panel with magnets or masking tape at the sides and then on the top.



Remove the masking tapes from the sides. Roll the panel up to the top.

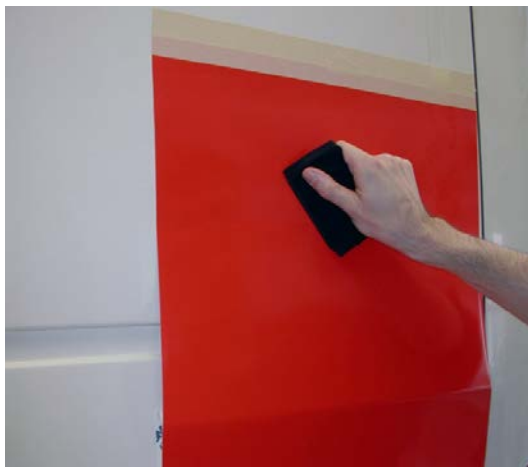


Remove the liner carefully from the film.



Start the application on the flat part of the substrate and bridge the film over the recess (deep channel).

**Films require high squeegee pressure to avoid air entrapment between film and substrate. Therefore the use of 3M™ PA-1 Gold Squeegee with thin and soft sleeve (e.g. microfibre) is recommended.** Wetting of sleeves helps to avoid scratches on film surface during application.



Apply the film manually or with appropriate tools on the recessed areas.

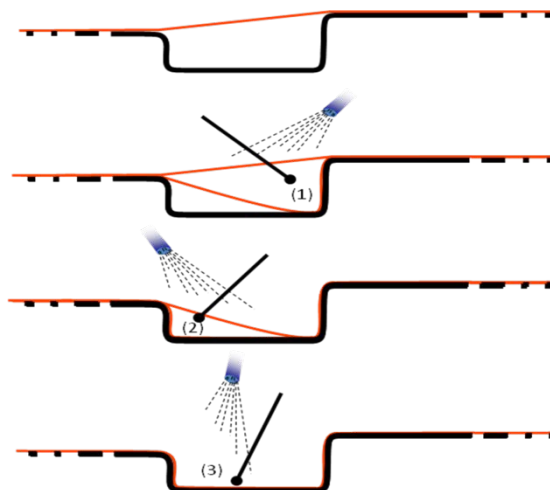
Beside manual application, specially developed hand-rollers can be used for the application of the film into recessed areas. The hand-rollers (3M Roller S and L) allow the film to be applied with uniform, continuous pressure and low friction.



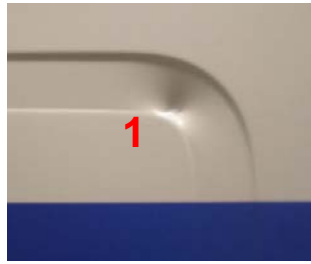
When applying manually, wear textile gloves to lower the friction between finger and film. Heat the film around the recess area with a hair dryer or professional heat-gun to a temperature of min. 50 °C.



Start film application in the recess in the deepest point first (1). Then continue at the opposite point of the recess (2). Last apply the film in the middle part of the recess (3).



(1) Deepest point first:



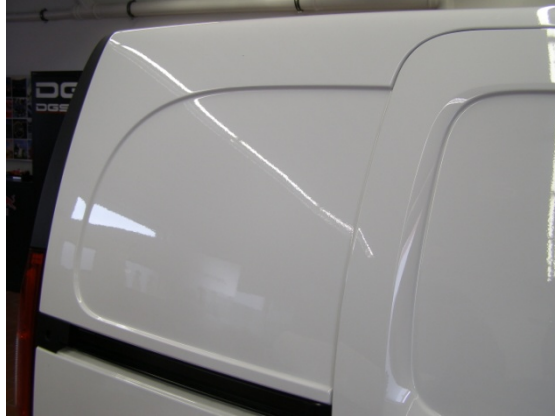
(2) Opposite site:



(3) Center:



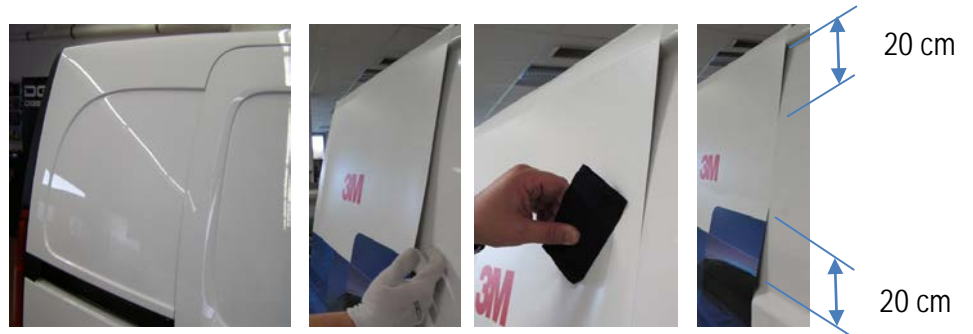
## Applications to Single Recesses



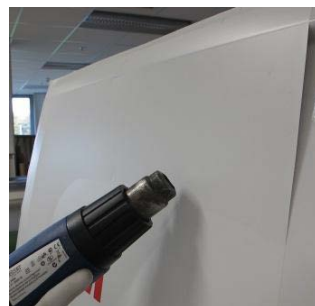
Position the film and apply it from the top.



In case of applying the graphic within the recess area, do not apply closer than 20 cm to the recess. To minimize the risk of lifting, it is essential, to have sufficient amount of material left. **Films require high squeegee pressure to avoid air entrapment between film and substrate. Therefore the use of 3M™ PA-1 Gold Squeegee with thin and soft sleeve (e.g. microfibre) is recommended.** Wetting of sleeves helps to avoid scratches on film surface during application.



Heat the film around the recess area with a hair dryer or professional heat-gun to a temperature of min. 50 °C. Applying heat to areas of film 20 cm beyond the recess area will reduce the tension of the film when being applied in the recess area.



Apply the film into the recess either with your thumb or with the hand roller (3M Roller L or S).



After the film is completely applied into the recess, apply the film on the remaining area within the recess.

Due to the 3M™ Comply™ technology, trapped air can easily be removed without causing air bubbles.

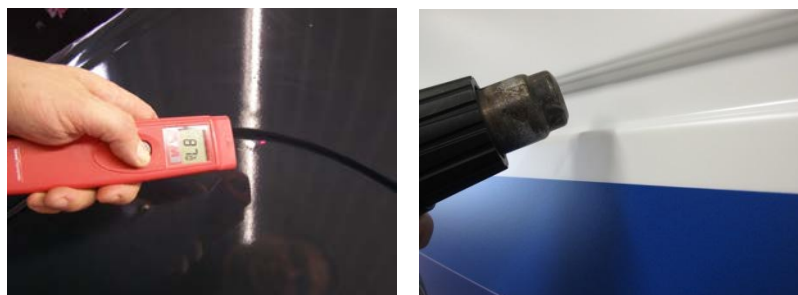


## Post-Heating

For application on recesses, post-heating is required. Ensure that no air bubbles are left trapped between the substrate and the film by re-heating the film in the recessed areas and deep channels with a hot-air gun. By doing this, overlooked air bubbles can be detected. Air bubbles between the film and the substrate must be removed with the air release tool.



After checking air bubbles, the film should be heated to a temperature of at least 85 °C to 100 °C. Re-roll immediately the film with the small hand-roller in the recessed areas and deep channels. This softens the adhesive, closes remaining air channels and ensures good final adhesion.

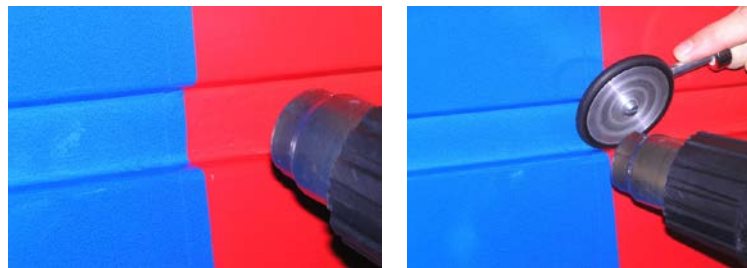


The hand-rollers (3M Roller S and L) allow the film to be applied with uniform, continuous pressure and low friction.



## Post-Heating of Overlaps

**Important:** In order to avoid lifting at the overlaps of the panels, post-heating of the overlaps with the hot-air gun of at least 120 °C is necessary to avoid lifting failures.



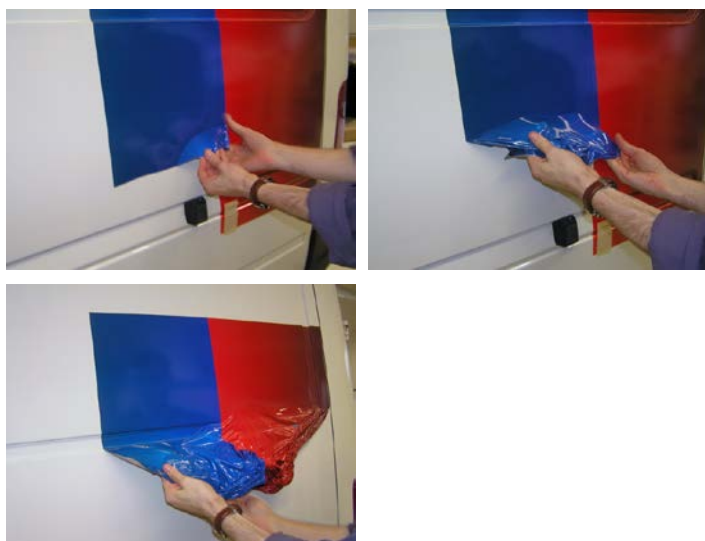
**CAUTION:** Re-heating of the film and repressing the film into the recesses and deep channels is a quality control to assure a proper application without air bubbles.

Omitting this can lead to lifting failures!

## Removal

Applied graphics can be removed with heat or chemicals.

Heat the film up with a hot-air gun at a temperature of at least 50 °C to 60 °C. Lift a corner from the film and pull the film from the substrate at a low pull-off angle.



For fast heating of larger film areas the use of Infrared heater (2000 W, e.g. TERM 2000 CVH from company Burda Worldwide Technologies GmbH) is recommended.



**Remarks** This bulletin provides technical information only.

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Before using, the user must determine the suitability of the product for its required or intended use, and the user assumes all risk and liability whatsoever in connection therewith.

**Additional Information** Visit the web site <http://www.3Mgraphics.com> for getting:

- more details about 3M™ MCS™ Warranty
- additional instruction bulletins
- a complete product overview about materials 3M is offering.



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