

### Application instructions

ORALITE® VC 104+ Rigid Grade / VC 104+ Rigid Grade Imagine / VC 104 Rigid Grade Commercial Customised (for the rest of this document referred to as **VC 104**) can be applied to new and used trucks and trailers with painted rigid sides.

**ATTENTION:** For unpainted surfaces e.g. stainless steel please contact ORAFOL.

### Tools required

- Clean cloths
- Craft knife
- Squeegee covered with a clean cloth to avoid scratching the material
- Old vehicles only: Abrasive pad
- Solvent Cleaner: Isopropyl alcohol (IPA)

### Application temperature

To ensure proper adhesion between the tape and the cleaned substrate, bonding materials must be applied when both the substrate and tape temperature is between 15° C and 38° C. The temperature needs to be consistent for at least one hour after application. NB! It is recommended that VC 104 materials are stored at temperatures between 18° C and 28° C.

### Where to apply

Use the guidelines provided in Regulation ECE 104 to ensure that the tape is in general positioned correctly on the vehicle.

### Initial preparation

#### Used Vehicles

Survey the vehicle for suitability of application. Avoid application of the tape over holes, rivets, rust and flaking paint. The tape should be applied to a flat, clean, uniform surface.

The user is responsible for determining whether the ORAFOL product is fit for a particular purpose and suitable for the user's application. Users are urged to carefully evaluate substrates for material adhesion and compatibility. Listed below are guidelines for selected substrates. Material failures caused by the substrate or improper surface preparations are not the responsibility of ORAFOL (Please contact ORAFOL [reflective.solutions@orafol.de](mailto:reflective.solutions@orafol.de) for any further information required).

#### Two-part polyurethane paints

Two-part polyurethane paints must be cured before applying ORAFOL tape. If the paint is not properly cured, outgassing will cause bubbles to form under the applied material and the adhesive will not adhere adequately. ORAFOL recommends testing for outgassing prior to applying ORAFOL tape. For drying times, paint manufacturers' guidelines are to be followed in all instances. While most paints are usually touch-dry within a few hours, dependent upon the primer, paint mixture and thickness, proper curing may take significantly longer, up to one week.

**GRP (Glass Reinforced Plastics) and/or gelcoated surfaces**

Similar guidelines to the above will apply for composite materials such as GRP substrates and/or gelcoated surfaces, in that the substrate must be properly and fully cured before applying, otherwise outgassing may result.

**Outgassing Plastics**

Polycarbonates, Polyprenes and other plastics can interact with the environment absorbing or outgassing moisture, or outgassing processing aids and solvent carriers for additives, which might cause the formation of bubbles on the film. Preliminary tests are essential to ensure that no adverse effects arise from this interaction.

**Stainless Steel**

For application on stainless steel VC 104 with #36 adhesive must be used (item code 3850-cc36-050, where cc refers to the colour). The same application guidelines and warranty as the standard product apply.

**Surface cleaning**

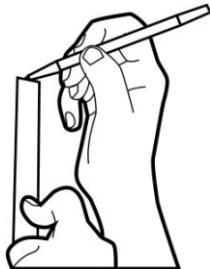
The purpose of cleaning the substrate is to remove any dirt or contamination. It is very important that the surface is free of dust and grease, and ideally the surface should be smooth. Use a clean cloth with isopropyl alcohol to wipe the surface in one direction only to avoid spreading contamination. With a dry clean cloth wipe away the cleaner before evaporation. Repeat this process until the surface is clean, i.e. when there is no visual dirt or contamination transfer onto the cloth. Ensure the surface is dry and the isopropyl alcohol has completely evaporated before commencing application.

Used vehicles :

An additional step is required for used vehicles: After completing the above cleaning process, lightly abrade the area with an abrasive pad to remove dirt residue without scratching the paint work. Afterwards clean again with isopropyl alcohol and a clean cloth.

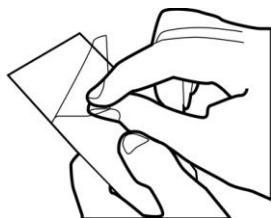
# ORALITE® VC 104+ Rigid Grade / Rigid Grade Imagine ORALITE® VC 104 Rigid Grade Commercial Customised

Application  
Instructions  
2016/16  
Page 3 of 6



## STEP 1:

Mark out a pencil line guide, or alternatively apply a strip of masking tape. Do not use chalk line or other means that may leave residue on the surface.



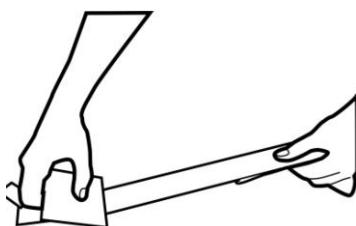
## STEP 2:

Peel back the adhesive liner and tack it onto the application surface with a squeegee. Avoid touching the exposed adhesive once the liner has been removed.



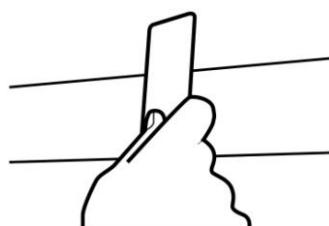
## STEP 3:

It is important that the initial alignment/positioning of the tape is correct as it is not possible to re-align the tape without causing wrinkles or "tunnels" once application starts.



## STEP 4:

Ensure that the exposed adhesive only comes in contact with the surface through the pressure of the squeegee. If the exposed adhesive touches the surface without uniform squeegee pressure, air can be trapped under the film and bubbles may occur.



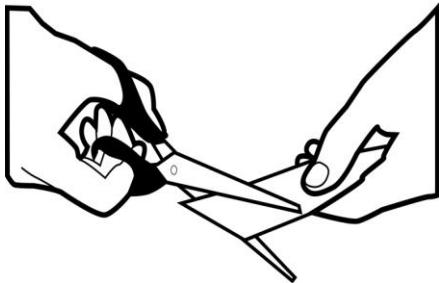
## STEP 5:

After the application, re-squeeze the whole length of the vehicle. It is important to ensure that the edges of the tape have been properly adhered to the surface. If a full contour marking is done, the corners of the tape can be overlapped.

Upon inspection of the application there should be no visual air bubbles. If air bubbles occur, use a pin to puncture the bubble and a squeegee to push the air towards the pin hole.

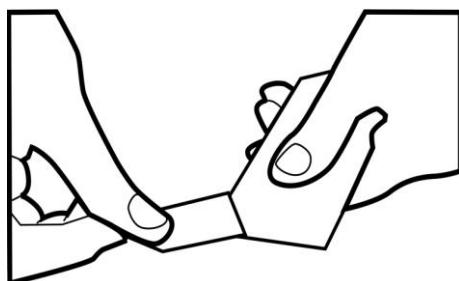
**TIP!**

If the liner needs to be quickly removed, the following tip might help:



**1:**

Cut a small piece of the reflective film and remove its liner.



**2:**

Apply it onto the reflective side of one of the corners of the piece to be applied on the trailer



**3:**

Pull back piece. By pulling back the small piece, the tape will be pulled back with it and will easily come off the liner.

### Bonding Time

The applied material should remain at temperatures between 15° C and 38° C for at least one hour after application.

## **Do's & Dont's** **Concave surfaces and contours**

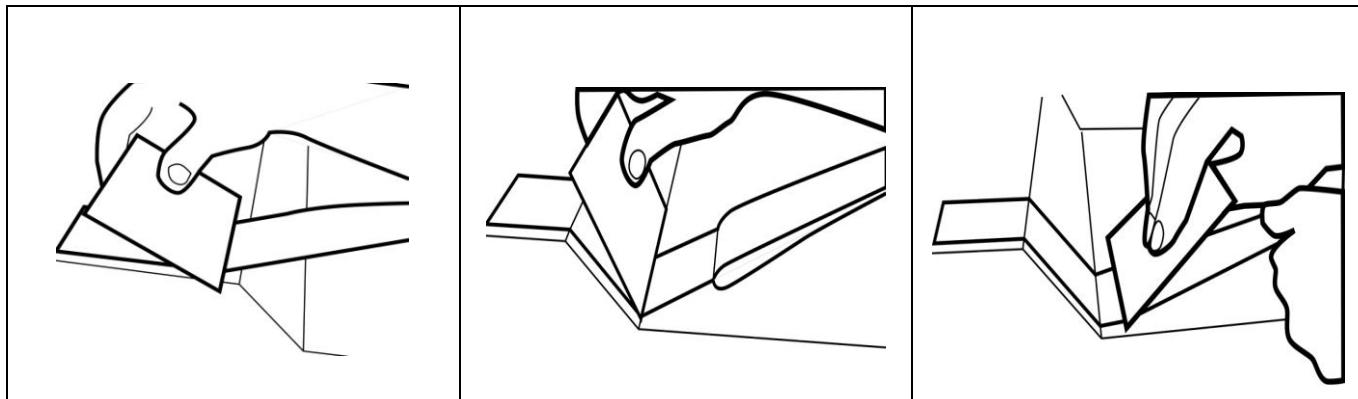
### **Bi-directionally bent surfaces:**

The film should **not** be applied to surfaces bending in two directions.

If the surface is slightly concave in one direction only (e.g. tanker sides), make sure that the squeegee is bending in such a way as to provide the correct contact and enough pressure between the film and the substrate.

### **Doors with contours:**

When applying VC 104 on sides or doors with contours, ensure that the tape is applied without tension, especially on the areas where the surface bends (see drawings).



### **Application to corners / edges**

The material should not be applied around corners or edges. Instead it should be cut back 6 mm (1/4") from the edge.

### **Application on panels**

When applying VC 104 on doors or sides with panels which might move and/or expand during use, it is recommended that the tape is cut and applied as separate pieces on the panels.

### **Application of reflective sheeting over vinyl**

ORAFOL does not recommend applying VC 104 over vinyl sheeting. This practice violates the warranty.

### **Heat application**

Do not use any source of heat when applying VC 104.

### **Storage**

All rolls including partially used rolls should be stored in original packaging, lying flat, tightly wound around a 3" diameter core and taped. Store in a clean and dry area, away from direct sunlight. Store at room temperatures between 18° C and 28° C and 50% r.h.

### **Removal**

When the need arises to remove VC 104 from the vehicle, keep the angle of removal perpendicular (90°) to the surface and pull at a moderate speed. A heat gun may be used to gently warm the adhesive and make it less aggressive. Be careful not

to leave the heat source in one spot for too long, as it could melt the adhesive causing it to release from the sheeting, or worse, damage the painted finish below. Leftover adhesive residue may be removed with clean-up solvents and adhesive removers. Before use, always review the manufacturer's MSDS and test the surface in an inconspicuous area for compatibility.

### CARE INSTRUCTIONS

#### Manual washing:

ORALITE® VC 104 can be washed manually by brush, cloth or sponge using water, soap or detergent followed by a clean water rinse.

#### Power washing:

Automatic truck / car wash or standard high-pressure hand spray:

- Maximum pressure – 1200 PSI / 80 bar
- Maximum water / wash solution 60° C
- 40° Nozzle cone opening size should be used
- Cleaning wand or jets to be at no greater angle than 45 degrees from perpendicular to the marking surface
- Hold the cleaning jet a minimum of 60 cm away from the material

When using cleaners/degreasers, make sure the product is suitable for vehicles and follow the manufacturer's recommendations for dilution. Thoroughly rinse after soaking vehicle. Prolonged exposure to cleaners/degreasers can in some circumstances affect the material negatively. Prolonged exposure in combination with sunlight can reinforce cleaners/degreasers negative effect.

Do not use solvents to clean the film, as they can adversely affect the product. If soap or detergent does not sufficiently clean the film, VC 104 can be gently rubbed with a cloth soaked in isopropyl alcohol to remove the stains.

**Important:** The suitability of the intended care process must be determined by the end user.

### IMPORTANT NOTICE

All ORALITE® products are subject to careful quality control throughout the manufacturing process and are warranted to be of merchantable quality and free from manufacturing defects. Published information concerning ORALITE® products is based upon research which the Company believes to be reliable although such information does not constitute a warranty. Because of the variety of uses of ORALITE® products and the continuing development of new applications, the purchaser should carefully consider the suitability and performance of the product for each intended use, and the purchaser shall assume all risks regarding such use. All specifications are subject to change without prior notice.

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