

## Cast Slideable Print Media

### Product Guide



### Get into the Gruv

*Gruv™ Slideable Cast Wrap stands out by delivering outstanding performance at an exceptional value.*

vehicles

walls

signage



# Cast Slideable Graphic Media

## Product Guide

### Gruv Slideable

Designed for speed and ease of application, the new product features a highly conformable 2.0 mil gloss white cast vinyl. The film is coated on one side with a low initial tack and permanent gray block-out acrylic adhesive that is slideable and repositionable. A primer is used to enhance the adhesive anchorage to the film for clean removability. It offers superior performance on complex curves, recesses, and riveted surfaces. The repositionable adhesive is accompanied by a 90# polycoated micro-channel, air-egress slideable liner. The micro-channels imparted into the adhesive allow a bubble-free installation without showing through the film.

Product Code	Face	Adhesive	Liner	Roll Size	Durability	Signage Media	Vehicle Media			Recommended Overlaminate
						Long-term	Full Wraps	Partial Wraps	Flat Surfaces Simple Curve	Rayzor™
GV1029SW54L150	Gloss White	Gray Repositionable	Micro Channel Air-egress	54" x 150'		■	■	■	■	■
GV1029SW60L150	Gloss White	Gray Repositionable	Micro Channel Air-egress	60" x 150'		■	■	■	■	■

### Features and Benefits

- Full or partial wraps on vehicles, fleets, buses, recreational vehicles, watercraft, and trailers
- Designed for ease of use and application speed, the repositionable adhesive is accompanied by a 90# polycoated micro-channel, air-egress slideable liner.
- The micro-channels imparted into the adhesive allow a bubble-free installation without showing through the film
- It can be used for long-term outdoor signage and other applications that require conformability and durability
- It is compatible with wide-format solvent, latex, and UV-curable inkjet printers and can be sheeted for UV offset and screen printing
- Covered by Mactac Open Image Warranty<sup>SM</sup>.

### Durability

- Film durability up to 10 years for unprinted, no overlaminate and applied to a vertical, flat surface.
  - Use-life estimate based on accelerated age studies on vertical applications under "normal" environmental conditions.
  - Severe environmental conditions will reduce life expectancy.
  - Recommendations are believed to be accurate but do not constitute a warranty written or implied.
- Refer to Mactac® Product Performance Guides and Technical Assistance Bulletins prior to use. Visit [mactac.com](http://mactac.com) to download.

### Compatibility

- Rayzor™ LF3648 Optically Clear Gloss, LF3648G Clear Gloss, LF3638 Matte Overlaminates

ICC profiles can be downloaded at [mactac.com](http://mactac.com) For more information about Gruv or other Mactac products, partnerships or graphic solutions, e-mail [Mactac.Americas@mactac.com](mailto:Mactac.Americas@mactac.com) or visit [mactac.com/graphics](http://mactac.com/graphics).





# GRUV Slideable

www.Mactac.com

Version #3 (0725)

Approved by NDG

## Product

Imagin® GRUV™ Slideable Vehicle Wrap Film  
GV1029S

## Product Description

Gruv Slideable is a 2.0 mil gloss white cast PVC film designed for wide format printing and ease of use. The film is coated on one side with a Slideable and repositionable quick building, block out permanent, acrylic pressure sensitive adhesive with a micro channel air egress 90# polycoated liner.

GV1029S is a slideable and repositionable long-term outdoor cast adhesive vinyl that works with curved, complex and riveted surfaces. Applications include vehicle wraps, fleet graphics, bus wraps, long term outdoor signage and recreational vehicles. The micro channels imparted into the adhesive allow a bubble free installation without showing through the film. Use of Rayzor overlamine, LF3648G for a gloss finish, or LF3638G with a matte finish, to extend the life of the graphic.

## Physical Properties

Property	Typical Values	Test Method
<b>Peel Adhesion, lb./in (N/25mm)</b> 180° on glass - 15 min. - 24 hr.	3.0 (12.12) 3.5 (14.14)	FTM-1
<b>Quick Tack, lb. /in<sup>2</sup> (N/25mm)</b> Stainless Steel	2.0 (8.75)	FTM - 9
<b>Dimensional Stability (inches)</b> 48 hours @ 158°F	max 0.02	FTM - 14 10" x 10" Sample Bonded to aluminum
<b>Temperature Ranges</b> Minimum/Upper Application: End Use:	50°F (+10°C)/ 80°F (27°C) -5° to 250°F (-20° to 121°C)	
<b>Tensile Strength (lbs./inch)</b>	>2.2	ASTM D882
<b>Elongation @ Break (%)</b>	>180	ASTM D882
<b>Flammability</b>	Self-Extinguishing	Internal Testing
<b>Water Immersion</b> 100 hours immersed @ RT	no change	

## Removability

Laminated Gruv Slideable, at a minimum of 50F air and substrate temperature, is cleanly removable for up to five years after application with high heat and/or chemicals. "Clean Removability" is defined as, when removed it will leave less than 20% of the adhesive on the substrate.

Some substrates are affected by the application of the GV1029S, such as acrylic, glass, stainless steel, polycarbonate, polystyrene, nitro-cellulose paints and plasticized PVC's. Besides damaging the substrate, subsequent removal could be difficult. Removal is not guaranteed from paint that is damaged or older than 5 years or from horizontal applications.

## Approved Print Materials

### Screen Printing:

UV Cured	<input checked="" type="checkbox"/>	Off-set	<input type="checkbox"/>
Solvent	<input type="checkbox"/>	UV Off-set	<input checked="" type="checkbox"/>
<b>WF Digital:</b> UV Inkjet	<input checked="" type="checkbox"/>	Thermal Transfer	<input checked="" type="checkbox"/>
Eco/Solvent	<input checked="" type="checkbox"/>	Flexographic *	<input type="checkbox"/>
Canon UVgel	<input checked="" type="checkbox"/>	UV Flexographic	<input type="checkbox"/>
Latex	<input checked="" type="checkbox"/>		

To achieve the best possible print quality, please make sure that the correct media profile or printer settings are used. Profiles can be obtained from our Distributors or can be downloaded from [www.mactac.com/graphics](http://www.mactac.com/graphics). Printer, heater settings and media profiles can also be downloaded from some O.E.M. or software manufacturer's websites.

## Durability

The outdoor durability of the unprinted film positioned vertically is up to 10 years. The location of the graphic and how the graphic is positioned could greatly reduce the durability because of extreme UV and outdoor exposure, which will affect the warranty.

## Marine Graphics

Marine applications have different requirements and therefore different expectations. Graphics manufactured using Mactac's wrap vinyl products are warranted to maintain acceptable appearance for one year from date of application. Marine graphics applied under the water line are not warranted.

## Mactac Open Image® Warranty

Mactac requires the registration of a completed and signed Inspection Report TA2108 for each vehicle wrap in the unlikely event of a future claim. This report identifies any potential problem areas and clearly defines the obligations between the applicator and the vehicle owner. A completed copy of the inspection report and the appropriate vehicle template must be on file at Mactac prior to application. The inspection report is available upon request by emailing [mactagraphics@mactac.com](mailto:mactagraphics@mactac.com). Registration acknowledges that your company has received the Application Guide TA2501 as well as reviewed the Open Image Warranty statement and agree to all the requirements and limitations outlined in the documents.

## Shelf Life

2 years from Date of Manufacture when stored at 60/77°F (15/25°C) and 50% relative humidity in the original package.

## Limitations

- 1) The user is responsible for determining the product's suitability, including adhesion and if needed, removal characteristics when used in applications other than listed specifically in this Performance Guide.
- 2) If there are any questions about applications, please contact your Mactac sales representative to discuss your requirements for recommendations.
- 3) If this is a printed Performance Guide it is an uncontrolled document. Please check the Mactac website for the latest, most up-to-date version.

The media profiles are provided solely as a customer resource. Print environments, the individual nature of printing systems, inks and software can significantly affect output. It is the customer's responsibility to determine the suitability of any profile for use in their specific print environment.

## Recommendations

Always test your combination of Gruv Slideable, the inks, overlamine and substrate prior to commercial use.

1. **Printing Conditions:** Print in environmentally controlled rooms at  $\pm 73^{\circ}\text{F}$  ( $23^{\circ}\text{C}$ ) and 50% RH. The material needs to acclimate to the room 24 hours prior to use. The maximum allowable ink saturation is 270%.
2. **Printing with UV ink, both inkjet and Screen, will significantly reduce the elongation of this film and may result in cracking or lifting out of the deeper recesses and is not a warranty failure.**
3. **Drying Step:** It is **critical** the GVS1029S print is properly dried prior to laminating or application. We strongly recommend leaving the print *open to the air* (not rolled up in a tube) for a minimum of 24 hours prior to lamination or application. Residual solvents in the vinyl and adhesive will negatively affect the bubble free properties of the adhesive and can result in a significant build or loss in adhesion resulting in potential substrate or graphic failure and/or more residual adhesive being left behind upon removal. Additional hot air drying or IR drying will speed up the drying process and shorten the overall drying time.
4. **Laminating Conditions:** If the printed graphic is likely to be exposed to corrosive liquids, smoke, fumes, and highly polluted areas or there is a likelihood of scratching, it is highly recommended to laminate with **Permacolor® Rayzor™** overlaminating films.
5. **Not recommended surfaces include, but not limited to:** rubber and plastic, aged paint (chalking) and metals (corrosion or oxidation), improperly cured paint, surfaces with poor paint-to-surface adhesion, over existing graphics that must remain upon removal, oily surfaces, unpainted wood, etc.
6. **Transportation Conditions:** To allow for easy transportation, the GRUV series can be rolled up, with the image out, with a minimum diameter of 6 inches (15cm). When the image is not protected by an overlamine, make sure the print is completely dry and protected in a plastic bag. During transportation or storage, avoid exposing them to extreme temperature and humidity changes.

- *Values given are typical and are not necessarily for use in specification.*

**CALL 1-800-321-8834 for additional product information**

**IMPORTANT NOTICE:** The information given and the recommendations made herein are based on our research and are believed to be accurate, but no guarantee of their accuracy or completeness is made. In every case, user shall determine before using any product in full scale production, or in any way, whether such product is suitable for user's intended use for their particular purpose under their own operating conditions. User assumes all risk and liability whatsoever in connection with their use of any product. The products discussed herein are sold without any warranty as to merchantability or fitness for a particular purpose, or any other warranty, express or implied. No representative of ours has any authority to waive or change the foregoing provisions, and no statement or recommendation not contained herein shall have any force of effect unless in an agreement signed by the officers of seller and manufacturer. Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent without authority from the owner of the patent. The following is made in lieu of all warranties, express or implied: Seller's and manufacturer's only obligation shall be to replace or credit such quantity of the product proved to be defective at its discretion.

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# TECHNICAL ASSISTANCE

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## Mactac GRUV Series Vehicle Wrap Application Instructions

Version #3 (0725)  
Approved by NDG

Thank you for your interest in **Mactac's GRUV®** digital wrap media. Our micro-structured air egress technology provides the best opportunity for a successful application.

1) Our **Gruv GV729** Permanent and Removable products are best suited for *flat to moderately curved* surfaces normally found in a typical vehicle wrap. This 2.-mil vinyl film, combined with our 2-mil cast LF3600 series overlaminating film, is easy to handle, fast to apply and brilliant as a final product. Recommended for flat to simple curves such as:

- a. P.O.P.
- b. Exterior and interior graphics
- c. Buses / Trains
- d. Flat to slightly curved automotive partial wraps.

2) **Gruv Slideable cast GV1029S** is also suited for *flat and moderately curved* surfaces but is exceptional on *complex surfaces*. The 2-mil cast vinyl film, when combined with our 1.5-mil cast, gloss and matte, RAYZor (LF3648G gloss and LF3638 matte) overlaminating films are one of the thinnest, most conformable, film/laminate combinations on the market. This results in an easy to handle, highly conformable product. Recommended for two and three-dimension curves such as:

- a. Everything above plus;
- b. Fleet
- c. Moderate to complex automotive wraps

Questions? Please contact your Mactac Sales Representative.

### Preparing the Media for Application:

1. Did you select the correct media for your application? **GV729** can be used for outdoor applications on flat to moderately curved surfaces for up to seven years. **GV1029S** is for more complex surfaces and full wraps.
2. Is the media within proper shelf-life and has it been stored in a reasonably controlled environment (ideal is 60° - 80°F @ 50% relative humidity)?
3. Was the correct media profile used to match the printer, ink, RIP and Mactac media?
4. Was the media allowed to dry, open to the air (not rolled up) for 24 hours prior to being laminated?
5. Was Mactac's Permacolor RAYZor overlaminating film used to protect the GRUV print media?

### Pre-application Planning (Application Checklist):

Prior to application, plan the steps for a successful wrap by using the following checklist:

1. The ideal location for an installation is indoors in a controlled environment. If this is not possible, protect the surface from changes in temperature, moisture, wind and dust as these will affect the integrity of the application.
2. All trim items that can safely be removed should be prior to the wrap. This includes: license fixtures, antennas, name plates, lighting fixtures, etc.
3. Inspect the vehicle and fill out the proper inspection sheet (TA2108) and send it to [mactacgraphics@mactac.com](mailto:mactacgraphics@mactac.com). This is required to qualify for the Mactac Vehicle Wrap Warranty. This helps you identify

potential points of failure such as: poor paint, rust, dents, nicks, scratches, seams, silicon seals, and rubber window gaskets. The adhesive is designed to adhere to the painted vehicle surface; it does not stick to silicone, rubber, etc. The material must be trimmed around these areas!

4. Conduct a tape test with 610-tape to ensure the paint is sound. Note: areas that have been repainted chipped, or show rust may result in paint damage upon graphic removal and these areas must be noted on the vehicle inspection report.
5. The surface of the vehicle must be cleaned 24 hours prior to application and kept indoors to allow drying. If not possible, critical areas, like seams and rivets must be re-dried prior to application. Some of the modern finishes and finish enhancers like waxes and paint conditioners require using Xylene (a.k.a. Zylol) as a cleaner to remove. Be sure to follow directions on the can and to use Personal Protection Equipment. Ref: Mactac document TA2032 for complete cleaning recommendations.
6. Just prior to application, the vehicle should be wiped down with isopropyl alcohol. Wipe with a wet rag and then towel off with a lint free dry rag, do not simply allow evaporation. Pay special attention to edges, seams, around moldings and gaskets and where objects were removed. Use compressed air or a heat gun to ensure dryness.
7. The recommended surface temperature of the vehicle for the application must be above 60°F and below 80°F.
8. Lay out your graphics and tape to the vehicle to ensure everything lines up correctly.

### Tool Kit:

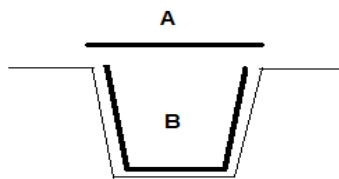
- A temperature adjustable industrial heat gun or propane torch (be very careful with a propane torch as it's very easy to burn the application surface!)
- No-touch temperature gauge
- A hard and soft squeegee, or a hard squeegee with a buffer
- A **sharp** knife and many replacement blades
- Tape measure and positioning tape
- Air release tool (straight pin)
- Rivet brush
- Cotton gloves
- 610 tape for snap tape test
- Masking tape
- And a helper (if possible)!

### Application:

1. Application begins at the back of the vehicle for vertical panels and from the bottom up for horizontal panels. This allows for all overlaps to face the back or the bottom which prevents wind and rain from causing a premature failure. Seams should have a ¼ to ½ inch overlap.
2. Use firm pressure on the squeegee to apply the media to the surface, starting at the high points in the middle and working out toward the edges.
3. For channels, wherever possible lay the media through the channel rather than bridging and

stretching the media. Any vinyl film (cast or calendered) can exhibit shrinking or tenting when overstretched or overheated.

- In many cases it is not possible to work through the entire complex curve. In this case bridging is the only option. **Calendered films** can be stretched 120% up to 150% into recesses. **With an overlaminate**, it can only be stretched up to 80% before memory failure occurs. **Cast films can be stretched up to 150% into recesses. However, with an overlaminate (RAYZor), the combination can be stretched only up to 120% max.** Areas being stretched any further must be cut to relieve tension. To calculate, take the surface length (B) of the recess and divide it by the bridged length (A) of the recess then multiply by 100.



- In some difficult areas, a thin layer of an adhesive promoter or acrylic spray primer can enhance adhesion. Be sure to use the primer sparingly and allow it to completely cure according to the directions on the can, prior to graphic application. A small test prior to use is recommended. *Use of a primer will result in adhesive being left behind in these areas and is not considered a reason for a warranty claim.*
- To properly bridge a gap, apply the film to the flat areas first as indicated above. Use heat to soften the film, somewhere around 120°F. Immediately stretch the film into the groove, **starting at the middle of the groove and working out to both sides.** Sometimes using a wrap glove instead of a squeegee will work better. Since the film cools quickly, it is

important to work in small areas and continue to heat the film as your work moves along. Finally, after the film has been applied, to eliminate the stresses created from stretching, you **must** heat the film to a higher temperature, somewhere between **180° and 200°F**. Move the heat source slowly. Now that the film has been applied you are also heating the body of the vehicle and it takes more heat to achieve the final temperature requirement. The colder the vehicle body is the more heat required to get the film up to a minimum of 180°F. Using a no-touch temperature gauge is strongly recommended to ensure this very important step is done correctly.

- Edges, seams and trim should now be cut and re-squeegeed to ensure good adhesion. It is a very good idea to also use high heat along these areas to speed up the adhesive build (this is to overcome the repositionability we built into the adhesive for ease of application) and ensure a good final bond. Do not wrap films around 180° turns as this will most likely result in failure. Do not wrap films under the edges of the car or into areas that do not clean well.
- For over rivets, digital media with an overlaminate will tent and this is not considered a reason for failure. To apply, use the same technique as the bridging described above, apply the film over the flat areas, bridging the rivet head. Using an air release tool or pin, (do NOT use a knife blade as this will result in a cut propagation issue), poke multiple holes around the rivet head to release the air, then using heat and a rivet brush work the film down. Finally apply high heat to release any tension stresses and to 'super-activate' the adhesive to a quick high strength bond. The only proven way to

eliminate tenting around rivets with an overlaminated film is to completely cut around the rivet head after application. Rivet head cutters are available from your sign distributor.

9. Mactac's GRUV Digital media employs air egress technology that allows air to flow easily in all directions. This will minimize the need to pop bubbles. However, it is still possible to get an occasional bubble due to our adhesive having very small channels which will completely wet out during the application process. Should a bubble appear use an air release tool or pin to prick the bubble. Do NOT use a knife as this starts a tear which can result in a failure.

### Tips and Tricks for Successful Applications

1. Know your surface and its limitations (gaskets, rust, channels)
2. Fill out and submit the vehicle inspection report as **required** for warranty coverage.
3. Provide a controlled environment and a clean vehicle.
4. Always use a sharp knife for trimming (snap-off or replace blades frequently).
5. Use an air release tool, not a knife, to relieve air bubbles.
6. Heated media applied to cold metal will cool quickly. Apply enough heat to do the job correctly and work in small areas.
7. Use heat to soften the film prior to stretching.
8. Use heat to relax the film after it has been stretched into the channels. This also allows the adhesive to build to a high bond quickly.
9. Seams and edges are common failure points. Be sure that edges are clean and

dry. Cut all seams and then heat and re-burnish all edges to insure a good bond.

10. Do not over-heat or over-stretch the graphic media. Channels that result in the film being stretched too far must be cut.
11. After all the film has been applied, go back and using a heat gun, apply heat to the graphic to a high temperature, **180° to 200°F**, (use a hand-held thermometer to make sure you reach the minimum temperature!) in the areas the vinyl has been stretched to relieve stresses created by stretching. In the case of the **cast films**, this step not only relieves stresses but creates a new memory in the film.
12. If possible, allow the vehicle to remain indoors overnight for the adhesive to set up before being exposed to the elements.
13. **Trimming and Finishing Windows:** Window trimming needs special care depending on the type of window you are marking:
  - a) Contact with Rubber Window Seals will cause the adhesive to fail. Therefore, graphics need to be trimmed off the rubber seals by 1/8 inch minimum.
  - b) Windows with beveled edges need to have the graphic trimmed away from the edge at a 45° angle to eliminate a hard edge that is easily peeled back.

### Removal:

1. **Removing GRUV:** Heat the vinyl to approx. 160° - 180°F using a heat gun or propane (be careful not to burn the vinyl or the substrate). Pull off the film in small pieces. Listen to the sound of the vinyl as it's pulled off. The noise level will increase as the vinyl and adhesive cools. At a certain level (experience is the best teacher) you will know when it is time to

re-heat. This will help you prevent paint failure and adhesive residue as you pull the graphic off. Any adhesive residue can be removed using a towel soaked in alcohol or other commercially available adhesive remover. *Be sure to follow manufacturer's directions and use personal protective gear.*

mactacgraphics@mactac.com.

***It is the graphic printer's responsibility to ensure the necessary signatures are obtained and submitted to Mactac for warranty consideration.***

### **Application Examination Checklist**

All vehicles must be inspected prior to application to identify any possible problem areas. These are areas that will result in adhesion problems or areas that may result in paint damage upon graphic removal. Note the areas on the inspection report and have it signed by the installer and the vehicle owner. These noted problem areas will not be covered under any Mactac warranty.

- 1) Inspect vehicle and locate any potential 'problem' areas.
- 2) Locate and mark the correct template where there is chipped paint, rust spots, dents, deep scratches, etc.
- 3) Note any areas where the vehicles have been re-painted. Check these areas for paint anchorage using a strip of an aggressive tape and a squeegee.
- 4) Confirm surface temperature and record.
- 5) Submit completed inspection report to

**IMPORTANT NOTICE:** The information given and the recommendations made herein are based on our research and are believed to be accurate, but no guarantee of their accuracy or completeness is made. In every case, user shall determine before using any product in full scale production, or in any way, whether such product is suitable for user's intended use for their particular purpose under their own operating conditions. User assumes all risk and liability whatsoever in connection with their use of any product. The products discussed herein are sold without any warranty as to merchantability or fitness for a particular purpose, or any other warranty, express or implied. No representative of ours has any authority to waive or change the foregoing provisions, and no statement or recommendation not contained herein shall have any force of effect unless in an agreement signed by the officers of seller and manufacturer. Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent without authority from the owner of the patent. The following is made in lieu of all warranties, express or implied: Seller's and manufacturer's only obligation shall be to replace or credit such quantity of the product proved to be defective at its discretion.

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www.Mactac.com

TA2108

Vehicle Application Inspection Report



Mactac® Vehicle Application Inspection Report

Job Description:

\_\_\_\_\_  
\_\_\_\_\_

Graphics Printer:

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Contact/Phone #: \_\_\_\_\_  
Purchased Media From: \_\_\_\_\_  
\_\_\_\_\_

Graphics Installer:

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Contact/Phone #: \_\_\_\_\_

Vehicle Owner:

Company/Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Contact/Phone #: \_\_\_\_\_

Vehicle Inspection: attach additional sheets for more vehicles.

Vehicle Make & Model: \_\_\_\_\_  
Vehicle VIN #: \_\_\_\_\_  
Did vehicle pass pre-inspection test? \_\_\_\_\_  
List problem areas: \_\_\_\_\_  
Date of installation: \_\_\_\_\_  
Films used: \_\_\_\_\_  
Coverage (full/partial) \_\_\_\_\_  
(Attach photos)

Signatures:

Printer: \_\_\_\_\_  
Graphics Installer: \_\_\_\_\_  
Vehicle Owner: \_\_\_\_\_  
Date: \_\_\_\_\_

Please return to MACTac Graphics:

Mactac Graphics  
[mactacgraphics@mactac.com](mailto:mactacgraphics@mactac.com)  
c/o Graphics Technical Marketing  
Manager  
Subject line: Vehicle Wrap warranty  
inspection report

**TA2108**

**Vehicle Application Inspection Report**



**Vehicle Inspection:**

Vehicle Make & Model: \_\_\_\_\_

Vehicle VIN #: \_\_\_\_\_

Did vehicle pass pre-inspection test? \_\_\_\_\_

List problem areas: \_\_\_\_\_

Date of installation: \_\_\_\_\_

Films used: \_\_\_\_\_

Coverage (full/partial) \_\_\_\_\_

(Attach photos)

**Vehicle Inspection:**

Vehicle Make & Model: \_\_\_\_\_

Vehicle VIN #: \_\_\_\_\_

Did vehicle pass pre-inspection test? \_\_\_\_\_

List problem areas: \_\_\_\_\_

Date of installation: \_\_\_\_\_

Films used: \_\_\_\_\_

Coverage (full/partial) \_\_\_\_\_

(Attach photos)

**Vehicle Inspection:**

Vehicle Make & Model: \_\_\_\_\_

Vehicle VIN #: \_\_\_\_\_

Did vehicle pass pre-inspection test? \_\_\_\_\_

List problem areas: \_\_\_\_\_

Date of installation: \_\_\_\_\_

Films used: \_\_\_\_\_

Coverage (full/partial) \_\_\_\_\_

(Attach photos)

**Vehicle Inspection:**

Vehicle Make & Model: \_\_\_\_\_

Vehicle VIN #: \_\_\_\_\_

Did vehicle pass pre-inspection test? \_\_\_\_\_

List problem areas: \_\_\_\_\_

Date of installation: \_\_\_\_\_

Films used: \_\_\_\_\_

Coverage (full/partial) \_\_\_\_\_

(Attach photos)

Please return to MACTac Graphics:  
Mactac Graphics  
[mactacgraphics@mactac.com](mailto:mactacgraphics@mactac.com)  
c/o Graphics Technical Marketing Manager  
Subject line: Vehicle Wrap warranty inspection report

## GV1029S and GV729 Fleet Vinyl Graphic Removal

Mactac's GRUV print medias are uniquely designed to remove cleanly for up to five years with some heat assist. Laminated graphics are much easier to remove due to the added strength of the laminating film. Non-laminated or UV clear coated graphics have a weaker overall strength and may be slightly more difficult to remove as the face may tear more frequently.

### STEP 1) Ideal temperature for removing the film:

- 1) The vehicle should be at between **50°F and 110°F**
- 2) If necessary, pull the vehicle into a warm area or use an area heater.

### STEP 2) Removing the film:

- 1) **Too much heat makes removal more difficult.** Over **120°F** may result in the vinyl tearing into small pieces and adhesive transfer. Ideal temperature for removal: **90° - 110°F**.
- 2) Working in a 3' x 3' area or less, warm the film up to the desired temperature.
- 3) Lift one edge and pull slowly and evenly away from the application surface at a 90° or less, angle.
- 4) If corrugations are involved, working parallel to the corrugations, instead of perpendicular makes removal much easier.

**Hint:** Professionals suggest scoring the vinyl along the corrugations and removing the film in narrow widths, thus reducing the stress on the film and resulting in a nice easy and clean removal.

- 4) Continue working in relatively small areas to best control the heat, making sure not to overheat the films, until all the graphics have been removed.

### STEP 3) Removal of any residual adhesive:

- 1) MACtac vinyl films are designed for clean removability when the previous steps are properly followed. Occasionally there may be some small amounts of adhesive residue left behind which can be removed with isopropyl alcohol or other chemical designed just for this purpose.
- 2) Metallic films like gold, silver, Sparkle Metallic and reflective films tear easily and chemical assistance can help.  
**Hint:** If chemicals are desired, MACtac recommends using non-toxic, environmentally safe and biodegradable, *CrystalTek™ Vinyl-Off, Adhesive-Off or Reflective-Off*. ([www.crystaltek.us.com](http://www.crystaltek.us.com))
- 3) If you choose to use other vinyl or adhesive removers use **Caution:** Some of the chemicals may be harmful to the surface of the vehicle. We recommend a test to determine suitability first.
- 4) Follow the chemical manufacturer's guidelines for personal protection, ventilation, use and disposal.

**OTHER OPTIONS:** Some alternate adhesive removal products on the market include:

- 1) *'Vinyl Erasers'* - These are wheels that attach to electric drills and 'rub' the vinyl off without harming the surface underneath. These are usually very good tools for small jobs like stripes. Because the 'Erasers' wear down fairly rapidly, larger jobs could get expensive.
- 2) *Power washing:* For smaller jobs or those where most of the adhesive has come off with the vinyl, power washing is a simple solution

### STEP 4) Final surface cleaning:

Once the entire adhesive residue is gone, be sure to wash the area again to remove any traces of cleaner or adhesive residue prior to applying your next graphic (refer to MACtac's 'Surface Preparation' bulletin for additional

information). If you're not sure if it's clean enough, wash it one more time. A little extra care here will save problems in the future.

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