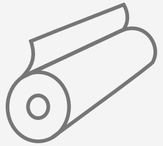
How to do vehicle wrapping using self-adhesive vinyl with HP Latex 2700 and HP Latex 2700 W Printer Series

This document will explain how to create and print vehicle wrapping on self-adhesive vinyl, including lamination and installation.

How to do vehicle wrapping using self-adhesive vinyl

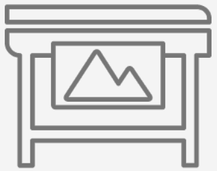
What you will need

- Before printing
  - What you will need
  - Preparing the substrate
  - Preparing the job
- Printing
  - The printing process
- After printing
  - Post-print finishing
  - Installation



Self-adhesive vinyl or PVC-free films

SW tools (RIP, edition, etc.)



Printer

Cutting device

Film laminate (optional)

Film laminator (optional)

Plastic Squeegee with low friction sleeve

How to do vehicle wrapping using self-adhesive vinyl

Preparing the substrate

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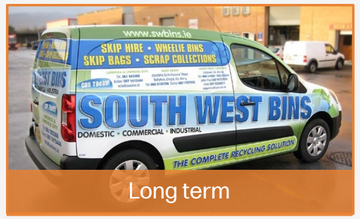
1. Choose the right substrate

Make your decision based on your needs

- Firstly, understand the requirements of your application.
- Most film manufacturers (3M, Avery, Orafol, etc.) have huge portfolios of wrap films classified by **usage**, **type of surface**, **type of adhesive,** and **raw material**.
- Choose the appropriate **laminate** for your film. Follow the manufacturers recommendations.

a) Usage:



Long term

Short-term promo graphics

b) Type of surface:

Flat


3D surfaces

c) Type of adhesive:

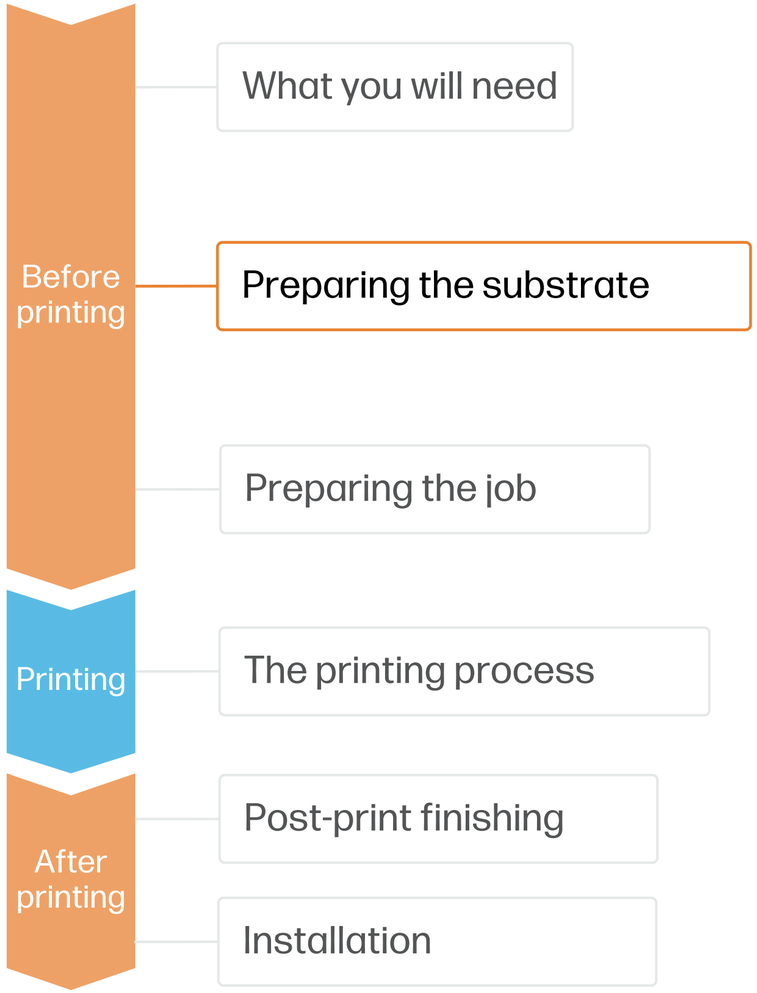
- **Repositionable:** For short-term graphics and easy application.
- **Removable:** The most common.
- **Permanent:** Not highly recommended for vehicles.

NOTE: Most wrap films have bubble-free adhesive technologies.

d) Raw material:

- **Self-adhesive vinyl:** The most common.
- **PVC-free self-adhesive films:** A greener alternative, most brands have their PVC-free range.

Preparing the substrate



2. Substrate presets

Make your decision based on your needs

- Check that the material you are going to use has its own substrate preset:
  a) On the **web,** in the HP PrintOS Media Locator: www.printos.com/ml/#/medialocator
  b) On the **Internal Print Server** online search (Substrate Library)
  c) On the **web,** from the substrate vendor's or RIP vendor's websites
- Download and install.

NOTE: If you cannot find the substrate presets, you can always use the **generic presets for self-adhesive vinyls** that are already installed in your printer. If you need to fine-tune some settings, clone the existing generic preset and modify it, or create a new one with the **Add new substrate** function on the front panel.

TIP: Learn how to customize your profile by enrolling on the available trainings HP Latex 2700/2700 W Printer series. Basic or Advanced certifications

Preparing the job

1. Software for designing and editing

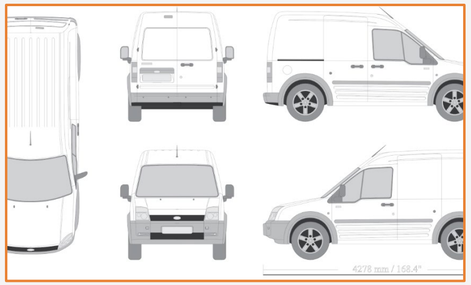
Tools such as Adobe Illustrator, Photoshop, and InDesign help you design and edit jobs and adapt them to your needs.

Make your decision based on your needs

2. Adapt design to vehicle geometry

Especially for full wraps, **templates** of the vehicle are needed.

Search online for the best supplier of car and vehicle templates, some might offer free files.



TIP: Save each part in a separate file, and name it properly to indicate which part of the vehicle it corresponds to.

3. White ink designs

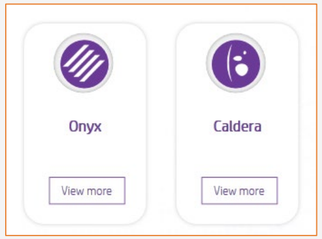
In some cases, transparent films are used when it is desired to preserve the vehicle color.

NOTE: To work with white ink layers, learn how to create it with Illustrator and Photoshop by enrolling on the available trainings HP Latex 2700/2700 W Printer series White ink overview, White ink modes or White ink maintenance tasks.

4. RIPs

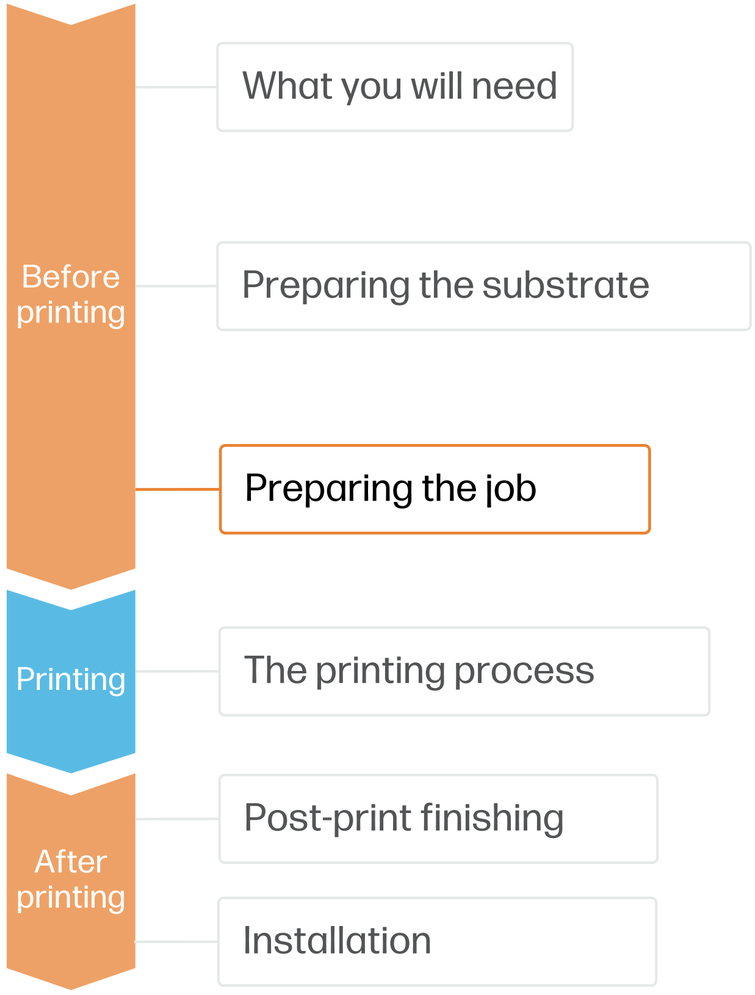
ONYX and CALDERA, RIPs have been certified for HP Latex 2700/2700 W series printers.

All these RIPs have specific options for job editing.



NOTE: Please refer to the specific trainings on RIPs available at the PrintOS Learn App.

Preparing the job



5. RIP processes

Make your decision based on your needs

A. Substrate & Printmode selection

- Choose the substrate type (self-adhesive vinyl), then select the specific substrate you have loaded on the printer or a generic preset.
- Next, choose the print mode: **6p mode** is the recommended mode for car wrapping applications; for higher image quality, choose **8p** print mode; if productivity is key for your job, then **4p** can be used.

B. Image size & tiling

- Modify the image size, if required, to adapt it to the car parts that will be wrapped.
- If tiling, select the number of tiles and the size of the overlap (normally 25 mm).

C. Finishing: cutting marks & other factors

- In the RIP, select the automatic cutter you will use for cutting your jobs, and configure the cutting marks for that cutter: trim box, placement, and type of barcode.
- The RIP will detect the cutting path thanks to the named Spot Color in your file.
- If graphics are going to be **laminated**, select a print mode with overcoat at 0dpp.

NOTE: Each RIP has different ways to set cutting marks. Please refer to the specific RIP manuals.

NOTE: To work with white ink layers, learn how to create it with Illustrator and Photoshop by enrolling on the available trainings HP Latex 2700/2700 W Printer series White ink overview, White ink modes or White ink maintenance tasks.

Preparing the job

6. Tips for tiling applications

Two critical requirements for tiling applications are the **color consistency** and **length consistency** tile-to-tile.

Contiguous tiles with the same background solid color may show differences in color between the right side of the first tile and the left side of the second tile.

Also, non-uniform dimensional stability of substrates, e.g. specifc banners, can lead to differences in length side-to-side. Also, the dimensions of the print will not be correct when expansion or shrinkage of substrates occurs.

A. Color consistency tile-to-tile

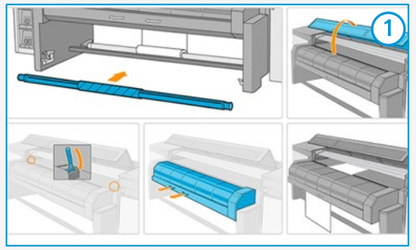
- Ensure that your environmental conditions are suitable for best print quality: RH 40-60%, Temp. 20-25ºC.
- Choose print modes of **4p or higher**, with the lowest density possible.
- Avoid printing with a **cold printer**; warm it up by printing a short job in advance: A **nozzle health check** is enough to warm up the printer.
- Invert alternate tiles, from the RIP feature.

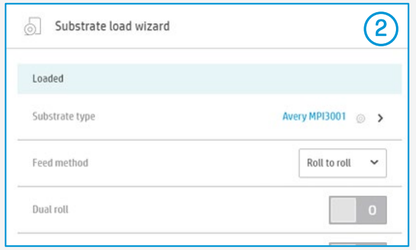
B. Length consistency tile-to-tile

- Ensure that the substrate-advance sensor is enabled in the RIP's substrate preset.
- Start printing with substrate already attached to the output spindle.
- Invert alternate tiles, from the RIP feature.
- Tile together areas with similar amounts of ink. If this is not possible, print the areas with different amounts of ink as different jobs and modify the length of the job with less ink in the RIP to match its size with the job with high ink content.
- Print a sample and adjust the size of the image in the RIP accordingly.

The printing process

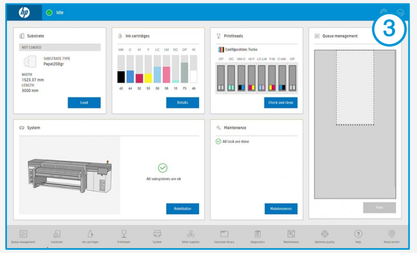
1. Load the roll into the printer using the roll-to-roll configuration, if you need help the wizard in the IPS will guide you through this process.

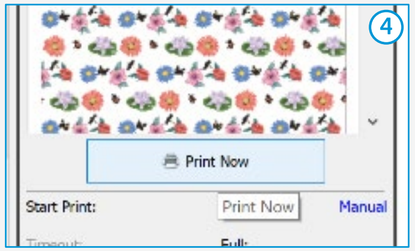




2. **Select the right media preset**
If your media is new, select the **Generic Self-Adhesive Cast Vinyl** preset.

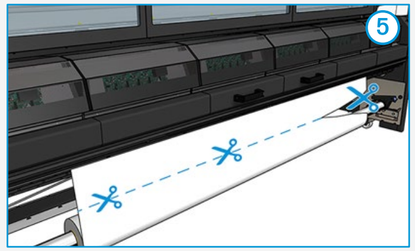
3. **Check print IQ status**
Perform the printhead nozzle check and printhead alignment.





4. **Send job to print from RIP**
   - Check the RIP has synchronized the loaded substrate with the printer.
   - Select the correct printmode and set any other settings (copies, placements, etc.).
   - Click **Send to print**.

5. **Cut & retrieve printed roll**
This can be done manually.



TIP: Before cutting the printed job, advance the substrate so you protect the printed roll when unloaded.

For further information, click on the following link to see the video to learn about how to load a roll into the printer here

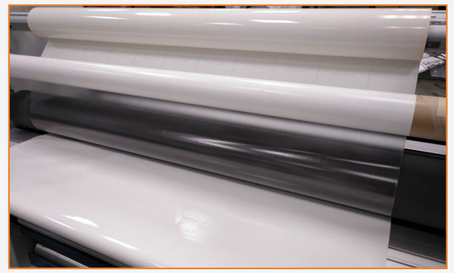
Post-print finishing

1. Lamination (optional)

Film lamination is recommended for almost all vehicle wrap applications.

Use the film laminate recommended by the self-adhesive vinyl manufacturer.

Follow the lamination settings (speed, pressure, and temperature) specific for the self-adhesive vinyl+laminate combination.



IMPORTANT!: 3M MCS and Avery ICS warranties refer to specific film+laminate combinations.

TIP: Remember to select a print mode with NO overcoat when laminating, or check the option **Optimize for lamination** in the RIP's printer settings.

2.Cut

To cut the graphics automatically, you can use XY cutters or flat-bed contour cutters.

Except for some decals, most jobs will be cut with a "cut through" cutting type.

Installation

1. Prior to installation

1 **Prepare the surface**
- Be sure the surface is **clean and dry.**
- Consider the presence of rivets, joints, or other elements on the surface.

2 **Test the adhesion**

Test your vinyl on the surface you intend to install the graphics on.

3 **Vinyl instructions**

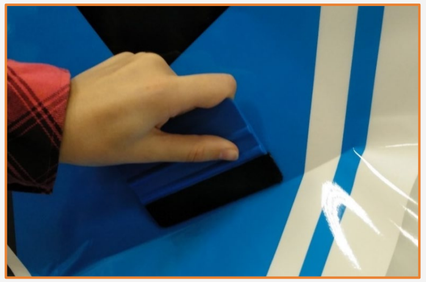
In all cases, follow the vinyl manufacturer's instructions.

2. Installation on smooth surfaces or curvy elements

Try to avoid the use of application fluids (e.g. water or soap solutions).

Apply the graphic using a squeegee with one edge protected with felt; this will avoid damaging the graphic.

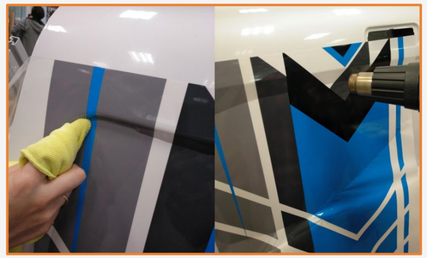
TIP: Self-adhesive vinyls with air-release adhesive systems are much easier to install and avoid the presence of bubbles. Dot patterned adhesive systems don't require the use of a squeegee.



3.Installation on irregular surfaces

Rivets, grooves, or complex curves, are examples of irregularities present on vehicles.

Special tools are need to apply the film on these areas: e.g. rivet brush, heat gun, etc.



NOTE: Take into consideration the stretching capabilities of your film + laminate construction. Do not exceed the stretch capability.

TIP: Some film manufacturers' instructions: 3M instructions , AveryDennison instructions

Remarks

- Flexible inks that dry just after printing, ready for instant lamination.
- No need to use the HP Overcoat Latex Ink when laminating.
- The new HP Latex inks are ideal for safe indoor applications. The newest HP Latex Inks are UL ECOLOGO and UL GREENGUARD GOLD certified, and conform to the Zero Discharge of Hazard Chemicals (ZDHC) manufacturing restricted substances list v1.1.
- With the HP Latex 2700 and 2700 W Printer series, you can print on cast self-adhesive vinyl at speeds of up to 69 m^2/h (743 ft^2/h).
- Compatible with PVC-free wrap films.
- 3M and Avery Denninson provide application warranties for customers using their products in conjunction with HP Latex printers.

Learn more at:

- HP Latex Knowledge Center
- Learn with HP

Certifications:

ROADMAP TO ZERO
Level 1- Zero Discharge of Hazardous Chemicals (ZDHC)[1]

ECOLOGO
Inks meet stringent health and environmental criteria[2]

GREENGUARD GOLD
Unrestricted, full room. No-wait installation or lamination[3]

ICS Warranty Program

3M™ MCS™ Warranty

[1]**Zero Discharge of Hazardous Chemicals.** Applicable to HP Latex Inks. The ZDHC Roadmap to Zero Level 1 demonstrates that an ink conforms to or meets the standards of the ZDHC Manufacturing Restricted Substances List (ZDHC MRSL) 1.1, a list of chemical substances banned from intentional use during production. ZDHC is an organization dedicated to eliminating hazardous chemicals and implementing sustainable chemicals in the leather, textile, and synthetics sectors. The Roadmap to Zero Program is a multi-stakeholder organization which includes brands, value chain affiliates, and associates, that work collaboratively to implement responsible chemical management practices. **See** roadmaptozero.com.

[2]**Applicable to R Series and 700/800 Printer series HP Latex Inks. UL ECOLOGO® Certification to UL 2801** demonstrates that an ink meets a range of multi-attribute, lifecycle-based stringent criteria related to human health and environmental considerations **(see** ul.com/EL**).** HP is the only printing company with UL ECOLOGO® Certified inks in the "Printing Inks and Graphics Film" product category, **see** spot.ul.com/main-app/products/catalog/**.**

[3]**Applicable to HP Latex Inks. UL GREENGUARD Gold Certification to UL 2818** demonstrates that products are certified to UL's GREENGUARD standards for low chemical emissions into indoor air during product usage. Unrestricted room size—full decorated room, 33.4 m^2 (360 ft^2) in an office environment, 94.6 m^2(1,018 ft^2) in a classroom environment. For more information, **visit** ul.com/gg **or** greenguard.org**.**

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