How to do textile applications with HP Latex 700 and HP Latex 800 Printer Series

This document will explain how to work on different types of textiles, frontlits, backlits, and interior decoration.

A deep dive training about **HP Latex 700/800 Printer series – Textile applications** are available in the Learn App from your PrintOS account. See more details in this article.

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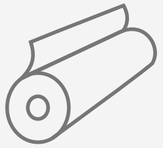
How to do textile applications

What you will need

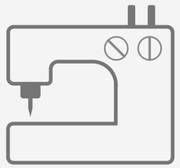
- **Before printing**
  - What you will need
  - Preparing the substrate
  - Preparing the job
- **Printing**
  - The printing process
- **After printing**
  - Post-print finishing
  - Installation



Textile substrates

SW tools (RIP, Adobe tools, etc.)

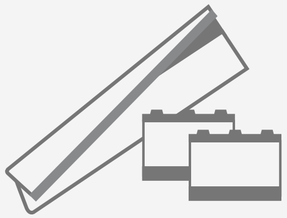
Printer



Sewing machine

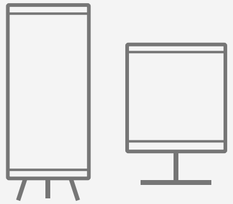
Cutting device

Silicone edge (optional)



Textile kit; ink collector, foams and output platen protector

Loading accessory (optional)



Display material (frames, light boxes, flags, retractable banners)

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1. Choose the right substrate

- Firstly, understand the requirements of your application. There are different types of textile substrates based on their construction and their final application:

Make your decision based on your needs

Softsignage			Interior decoration
Applications	Frontlits	Backlits	Cushions & pillows
Substrate material	Mostly substrates 100% polyester		Natural fibers (cotton, linen) Polyester textiles
Fabric finish	Coated Uncoated	Coated Treated	Treated

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2. Durable soft signage textiles

One important property of printed textiles used in applications like retail PoP and exhibition graphics is their **“dry rub”** performance. The standard used to measure the dry rub test is **ISO 105-X12.**

A. Importance of dry rub resistance

Textiles with good dry rub test results are suitable for **sewing, finishing, and transporting.** Further, they are easily installable without being damaged. HP is constantly analyzing new materials to add to the numbers of textiles that are excellent for use with **HP Latex Inks.**

B. Testing method and classification

Dry rub resistance is measured according to ISO 105-X12, using the Taber Linear Abraser with the crock tool and cotton fabric as abrader.

The colorfastness of the prints has been evaluated. **Textiles with good or excellent results are scored as a 4 or 5, respectively.**

Textiles printed with HP Latex Technology with a dry rub performance equal to or greater than a 4 are a good fit for Soft Signage applications and are classified as Durable Textiles.

Durable Textiles are identified in the PrintOS Media Locator with the following logo:

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3. Substrate presets

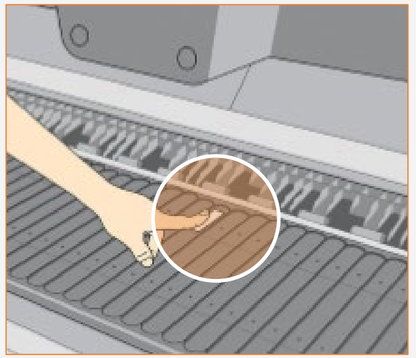
- Check that the material you are going to use has its own substrate preset:
  a) On the **web**, in the HP PrintOS Media Locator: www.printos.com/ml/#/medialocator
  b) On the printer's **front panel** online search (Substrate Library)
  c) On the **web**, from the substrate vendor's or RIP vendor's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

NOTE: If you cannot find the substrate presets, you can always use the **generic textile** or **generic backlit textile** presets 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 training HP Latex 700/800 Printer series – Advanced main tasks and maintenance routines on the Learn with HP website.

4. Substrate porosity

- It's very **important to know the porosity of your fabric,** approximately whether it is porous or non-porous.
  a) If porous, it is necessary to install the ink collector accessory on the printer.
- How to check the porosity of your textile substrate:
  1. Stick a piece of white vinyl on the printer platen.
  2. Print your test file with the printmode you are going to use to print your job.
  3. After printing, unload the substrate and check the piece of vinyl.
     - If it shows ink marks, then the fabric is porous and an ink collector is required.



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Preparing the job

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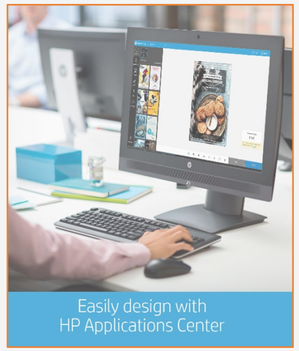
1. Software for designing and editing

Tools such as HP Application Center (HP WallArt and Hp Signage Suite), Adobe Illustrator, Photoshop, and InDesign help you design and edit jobs and adapt them to your needs.

Make your decision based on your needs

A. HP WallArt and HP Signage Suite



Easily design with HP Applications Center

HP WallArt and HP Signage Suite are part of HP Applications center, a complete package of tools to boost your business.

There is a specific application for creating wallcovering jobs.

EXPAND YOUR KNOWLEDGE: For further detailed information regarding the HP Applications center and how to log in for the first time, view the available **webinar** in this link!

How does it work?

1

Join the platform

Simple, easy sign-in with your HP printer serial number

2

Choose web app

Select the standalone decorative web apps you want to produce and allow your customers to create and visualize the design, with a simulation for each unique environment.

3

Manage orders

Manage production efficiently with automatic, reliable, print-ready PDF generation, as well as customer, order, and content management tools.

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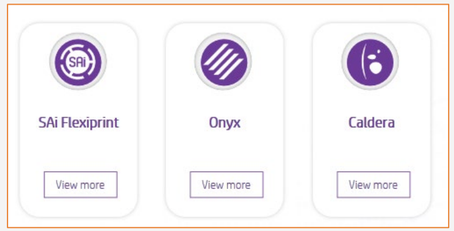
2. RIP processes



ONYX, CALDERA, and SAi RIPs have been certified for HP Latex 700/800 Printers series.

Make your decision based on your needs

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

A. Substrate & Printmode selection

- Choose the substrate type (Textile), then select the specific substrate you have loaded on the printer, or a generic preset.
- Next, choose the printmode:

Substrate	Printmode
Frontlits	14p170ink or 18p200ink.
Backlits	14p200ink or 18p260ink
Interior decoration	12p130ink or 14p 150ink

B. Image size & tiling

- Modify the image size to adapt it to your specific display.

Silicone edges. Normally 1.5cm wide silicone edge is sewn and inserted in the box rail. Scale the image or apply bleed accordingly at the for edges.

Velcro strips.
Used in frontlits; in this case the image matches the display size.

C. Finishing: cutting marks & other

- Select the automatic cutter you will use for cutting your jobs.
- Configure the cutting marks for that cutter: trim box, placement, and type of barcode.
- Add **labels** to identify each tile.

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

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Load the substrate | Ink collector & loading accessory

1. **Ink collector (optional)**

   Be sure you have installed the ink collector when the fabric is porous.

2. **Install output platen protector (OPP)**

   If printing more than 10 m^2 per day, HP recommends using the OPP.

3. **Select loading options: loading accessory**

   a) Select Manual feed & deskew.

   b) Select Loading accessory.

4. **Load accessory**

   a) Insert the loading accessory up to the end of the platen and open the flags.

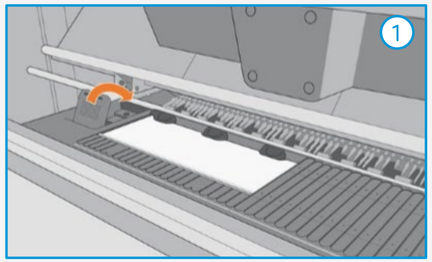
   b) Insert the leading edge of the substrate under the flaps.

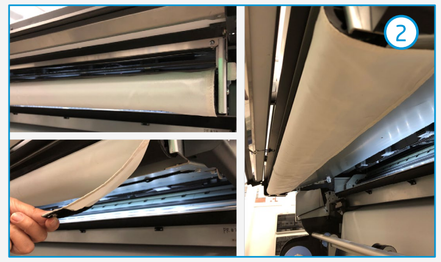
5. **Load substrate**

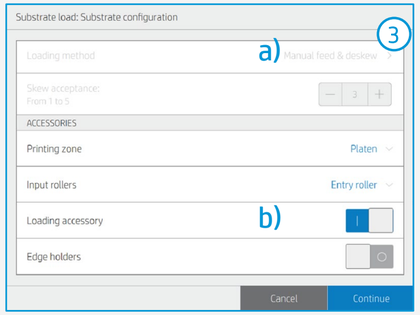
   Insert the loading accessory + substrate into the printer's substrate path and proceed like normal loading.

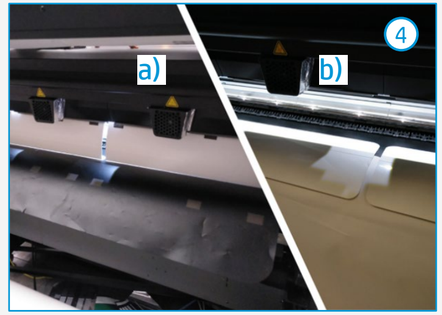
6. **Remove loading accessory**

   Once the curing module is lowered, use the front panel to advance the substrate until it falls from the curing module. Then remove the loading accessory.

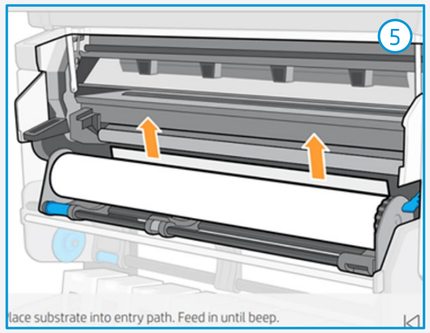


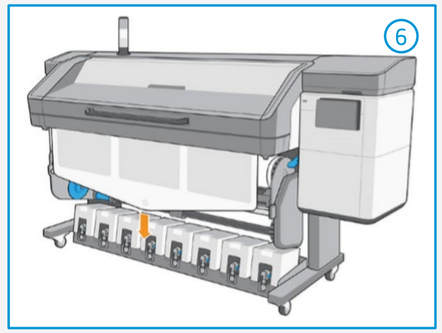






TIP: Before loading the substrate, check the printing side of your fabric: usually, the print side is on the inside in most fabrics for digital printing.





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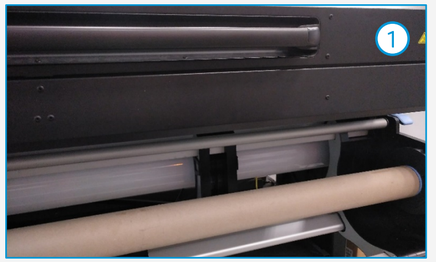
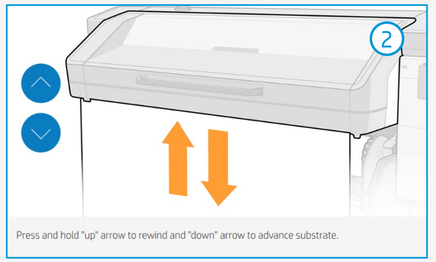
Load the substrate | Connect to the take-up reel (TUR)

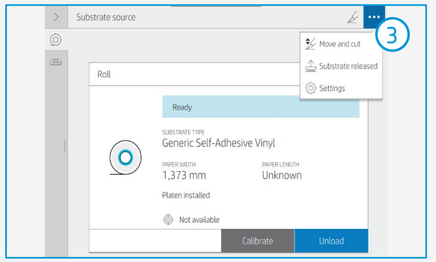
1. **Prepare the TUR**
   Attach an empty core on the TUR.



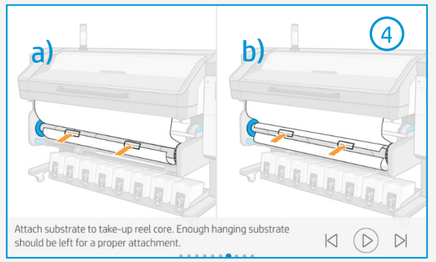


2. **Move substrate**
   Move enough substrate to be able to wind a couple of turns.

3. **Release substrate from pinches**
   For better alignment with the TUR core.

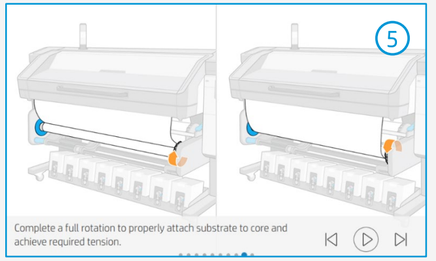


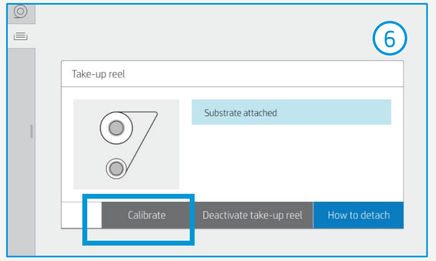
4. **Attach substrate to the TUR**
   You can attach the substrate so that the printed side is in (a) or out (b) (out is most common).



5. **Activate the TUR**
   Complete a full rotation of the TUR.

6. **Calibrate the TUR**
   Select **calibrate** on the front panel.





TIP: **TUR is mandatory** when printing on textiles.

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1. **Load the roll**
   As indicated in previous sections.

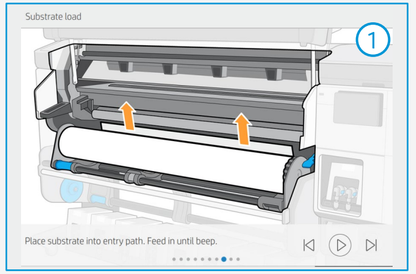
2. **Select the right substrate preset**
   If your substrate is new or not in the list, select a **generic** from **Textile.**

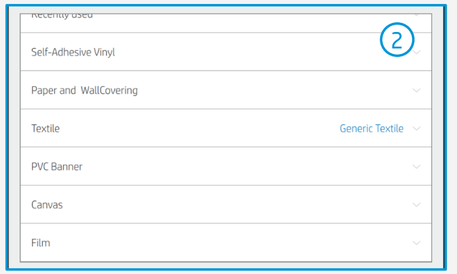
3. **Attach the substrate to the TUR**
   Follow the instructions shown on the previous page.

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

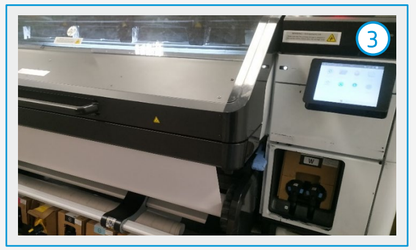
5. **Send job to print from RIP**
   Check the RIP has **synchronized** the loaded substrate with the printer.
   Select the correct printmode and set any other settings (copies, placements, etc.).
   Click **Send to print**.

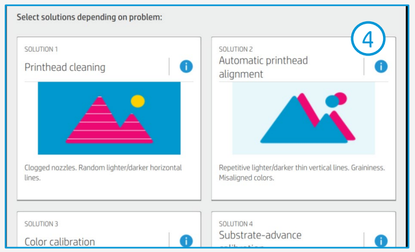
6. **Cut & retrieve printed roll**
   Textiles must be cut manually.
   Printer's cutter is disabled for textiles.



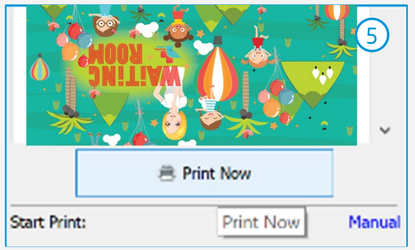


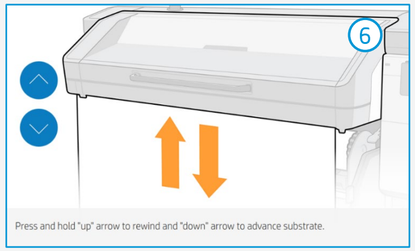
TIP: If new settings are required, you can **Add new substrate**, or **clone** the generic and modify it.





TIP: Perform these diagnostics on white self-adhesive vinyl before loading your textile substrate.





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

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Once printed, what else?

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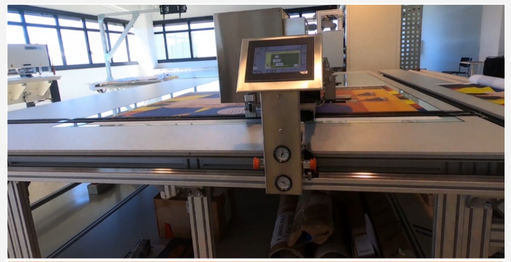
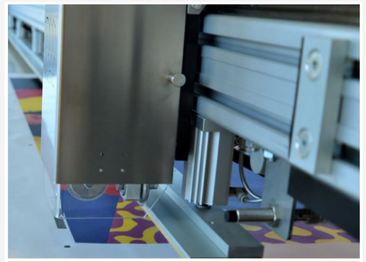
1. Cutting

HP Latex prints are compatible with all standard techniques. However, some techniques are more suitable for particular materials than others.



Ultrasound
Polyester fabrics



Pressure knife cutter
- Polyester fabrics
- Natural fiber fabrics

TIP: If your fabric tends to **fray** at the edges, you can always **sew** them.

2. Sewing elements

In order to mount the fabric on metal frames, light boxes, or frontlit displays, two common solutions are silicone edges (SEG) and Velcro strips.

SEG

Velcro

NOTE: When working with **backlit fabrics**, avoid crinkle, friction with hard surfaces, and folding the fabric. Latex prints can be damaged during finishing operations. Although not visible with front light, defects may appear when back lighted.

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Tips for home decoration fabrics

1. Substrates

Not all fabrics can be categorized as **“washable”** after being printed with HP Latex 700 and HP Latex 800 Printer Series.

Media vendor	Substrate
Premex Duravibe	5014 Optic Satin Latex coated
	5966 Optic Twill Latex coated

NOTE: The fabrics listed here have a **special top-coating** that is **activated by heat and pressure,** and thus raises the washing resistance of the printed fabrics.

2. Heat fixation for washing resistance

Printed fabrics need to undergo a heat-fixation process after printing to achieve good resistance to **washing***. Use the following parameters:

Temperature	175°C ±5°C (347°F ± 40ºF)
Time	80 seconds

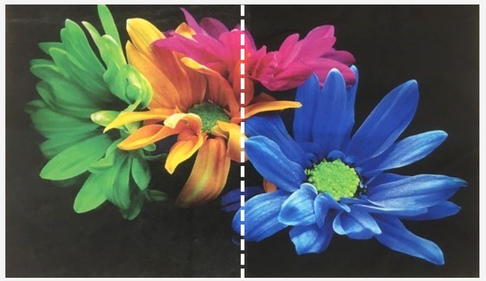
3. Heat fixation methods

There are several types of heat presses available on the market:

- Clamshell heat presses
- Hot air heat presses
- Infrared heat presses
- Heat-fixation units (electrically heated)
- Calender rotary heat presses

NOTE: * Washing resistance is evaluated by washing the fabrics insideout, in a domestic washing machine, throughout 5 washing cycles (cold water, no spin dry, 1h cycle and line-dried).

Result after washing



4. Washing recommendations

1h	Max. 30ºC	(0-400 rpm)	Air-drying

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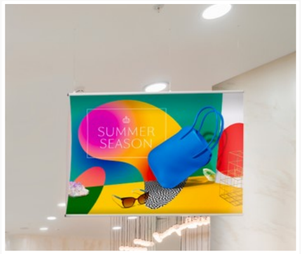
1. Handling

- Avoid crinkle, friction with hard surfaces, and folding the fabric.
- Some latex prints can be damaged during finishing operations. Although not visible with front light, defects may appear when back lighted.
- Roll the fabric on a core with print side inwards to avoid folding marks.

2. Different display possibilities



Hanging posters

Roll-ups

Backlit

SEG frame

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How to do textile applications

Remarks

- Print onto polyester and cotton fabrics, with or without an inkjet coating.
- Trouble-free printing onto porous textiles, with the HP Ink Collector.
- The new HP Latex inks are ideal for indoor decoration applications since they are certified: Roadmap to Zero Level 1 – Zero Discharge of Hazardous Chemicals (ZDHC), UL Ecologo, UL GREENGUARD Gold certified.
- With HP Latex 700 and 800 printer series, you can print onto textiles at speeds of up to 20m²/h.

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]

[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 m² (360 ft²) in an office environment, 94.6 m²(1,018 ft²) in a classroom environment. For more information, visit ul.com/gg or greenguard.org.

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