HP Latex 500 Printer Series

User Guide

Table of contents

1 Introduction

Welcome to your printer

Your printer is a color inkjet printer designed for printing high-quality images on flexible substrates. Some major features of the printer are shown below:

- Odorless, water-based latex inks in six colors plus optimizer

- No special ventilation required

- 775 ml ink cartridges for the HP Latex 560, 3 liter ink cartridges for the HP Latex 570

- Sharpest print quality, smooth transitions, and fine details with 1200 real dpi

- Consistent and repeatable print quality at every print speed

- Prints are completely dry and ready for finishing and delivery

- Print on a wide range of substrates—including most low-cost, uncoated, solvent-compatible substrates

- A range of HP recyclable substrates is available

- Consider un-laminated use with scratch resistance comparable to hard solvent inks on SAV and PVC banners

- Durable prints with outdoor display permanence up to three years unlaminated, five years laminated

- Hundreds of ready-made substrate presets easily available

To send print jobs to your printer, you will need Raster Image Processor (RIP) software, which should be run on a separate computer. RIP software is available from various different companies.

Printer models

	HP Latex 560	HP Latex 570
Supplied with the printer	HP Latex 500 Ink Collector	HP Latex 500 Ink Collector
	HP Latex Substrate-Loading Accessory	HP Latex Substrate-Loading Accessory
	HP Latex 300/500 User Maintenance Kit	HP Latex 300/500 User Maintenance Kit
	HP Latex 500 Wiper Roller	HP Latex 500 Wiper Roller
		HP Latex 500 series Beacon
Optional accessories	HP Latex 300/500 User Maintenance Kit	HP Latex 300/500 User Maintenance Kit
	HP Latex 500 Ink Collector	HP Latex 500 Ink Collector
	HP Latex 500 Wiper Roller	HP Latex 500 Wiper Roller
	HP Latex 500 series Beacon	
Consumables	HP 831 Latex Printheads	HP 831 Latex Printheads
	HP 831 Latex Ink Cartridges	HP 831 and 871 Latex Ink Cartridges
	HP 831 Latex Maintenance Cartridge	HP 831 Latex Maintenance Cartridge

Documentation

The following documents can be downloaded from http://www.hp.com/go/latex560/manuals/ or http://www.hp.com/go/latex570/manuals/:

- Introductory information
- Printer assembly instructions
- User guide
- Legal information
- Limited warranty

The Quick Response (QR) code images found in some parts of this guide provide links to additional video explanations of particular topics. For an example of such an image, see .

Safety precautions

Before using your printer, read the following safety precautions to make sure you use the equipment safely.

You are expected to have the appropriate technical training and experience necessary to be aware of hazards to which you may be exposed in performing a task, and take appropriate measures to minimize the risks to yourself and to other people.

General safety guidelines

- There are no operator-serviceable parts inside the printer except those covered by HP's Customer Self Repair program (see http://www.hp.com/go/selfrepair/). Refer servicing of other parts to qualified service personnel.
- Turn off the printer and call your service representative in any of the following cases:
    - The power cord or plug is damaged.
    - The curing enclosures are damaged.
    - The printer has been damaged by an impact.
    - There is any mechanical or enclosure damage.
    - Liquid has entered the printer.
    - There is smoke or an unusual smell coming from the printer.
    - The printer has been dropped or the curing module has been damaged.
    - The printer is not operating normally.
- Turn off the printer in either of the following cases:
    - During a thunderstorm
    - During a power failure
- Take special care with zones marked with warning labels.

Electrical shock hazard

⚠ **WARNING!** The internal circuits of curing zones, curing boards, and built-in power supply operate at hazardous voltages capable of causing death or serious personal injury.

The printer uses two power cords. Unplug both power cords before servicing the printer.

To avoid the risk of electric shock:

- The printer must be connected to earthed mains outlets only.

- Do not attempt to dismantle the curing modules.

- Do not remove or open any other closed system covers or plugs.

- Do not insert objects through slots in the printer.

Heat hazard

The curing subsystems of the printer operate at high temperatures and can cause burns if touched. To avoid personal injury, take the following precautions:

- Do not touch the internal enclosures of the printer's curing zones.

- Let the printer cool down when accessing the internal curing zone and output platen in case of a substrate jam.

- Let the printer cool down before performing some maintenance operations.

Fire hazard

The curing subsystems of the printer operate at high temperatures. To avoid the risk of fire, take the following precautions:

- The customer is responsible for meeting the printer's requirements and the Electrical Code requirements according to the local jurisdiction of the country where the equipment is installed. Use the power supply voltage specified on the nameplate.

- Connect the power cords to dedicated lines, each protected by a branch circuit breaker according to the information detailed in the site preparation guide. Do not use a power strip (relocatable power tap) to connect both power cords.

- Use only the power cords supplied by HP with the printer. Do not use a damaged power cord. Do not use the power cords with other products.

- Do not insert objects through slots in the printer.

- Take care not to spill liquid on the printer. After cleaning, make sure all components are dry before using the printer again.

- Do not use aerosol products that contain flammable gases inside or around the printer. Do not operate the printer in an explosive atmosphere.

- Do not block or cover the openings of the printer.

- Do not attempt to dismantle or modify the curing modules.

- Ensure that the operating temperature of the substrate recommended by the manufacturer is not exceeded. If this information is not available, ask the manufacturer. Do not load substrates that cannot be used at an operating temperature above 125°C (257°F).

- Do not load substrates with auto-ignition temperatures below 250°C (482°F). If this information is not available, printing must be supervised at all times. See note below.

> **NOTE:** Test method based on EN ISO 6942:2002; *Evaluation of materials and material assemblies when exposed to a source of radiant heat, method B*. The test conditions, to determine the temperature when the substrate starts ignition (either flame or glow), were: Heat flux density 30 kW/m², copper calorimeter, K type thermocouple.

Mechanical hazard

The printer has moving parts that could cause injury. To avoid personal injury, take the following precautions when working close to the printer.

- Keep your clothing and all parts of your body away from the printer's moving parts.

- Avoid wearing necklaces, bracelets, and other hanging objects.

- If your hair is long, try to secure it so that it will not fall into the printer.

- Take care that sleeves or gloves do not get caught in the printer's moving parts.

- Avoid standing close to the fans, which could cause injury and could also affect print quality (by obstructing the air flow).

- Do not touch gears or moving rolls during printing.

- Do not operate the printer with covers bypassed.

- While loading substrate, ensure that no-one else is close to the printer.

Light radiation hazard

Light radiation is emitted from the illumination of the print zone. This illumination is in compliance with the requirements of the exempt group of IEC 62471:2006, *Photobiological safety of lamps and lamp systems*. However, you are recommended not to look directly at the LEDs while they are on. Do not modify the module.

Chemical hazard

See the safety data sheets available at http://www.hp.com/go/msds/ to identify the chemical ingredients of your consumables. Sufficient ventilation should be provided to ensure that potential airborne exposure to these substances is adequately controlled. Consult your usual air-conditioning or EHS specialist for advice on the appropriate measures for your location.

For more detailed information, see the "Ventilation" and "Air conditioning" sections of the site preparation guide, available from http://www.hp.com/go/latex500/manuals/.

Ventilation

Ensure that the room in which the system is installed meets local environmental, health, and safety (EHS) guidelines and regulations.

Adequate ventilation needs to be provided to ensure that potential exposure is adequately controlled. Consult the Safety Data Sheets available at http://www.hp.com/go/msds/to identify chemical ingredients of your ink consumables. Levels of certain substances in your environment are dependent on workspace variables you control, such as room size, ventilation performance, and duration of equipment use. Consult your EHS specialist for advice on the appropriate measures for your location.

Air conditioning

In addition to fresh air ventilation, to avoid health hazards, consider maintaining workplace ambient levels by ensuring the climatic operating conditions specified in this document (see Environmental specifications on page 189) to avoid operator discomfort and equipment malfunction.

Air conditioning in the work area should take into account that the equipment produces heat. Typically, the printer's power dissipation is: 3.7 kW (12.7 kBTU/h).

Air conditioning should meet local environmental, health, and safety (EHS) guidelines and regulations.

NOTE: The air conditioning units should not blow air directly onto the printer.

Heavy substrate hazard

Special care must be taken to avoid personal injury when handling heavy substrates.

- Handling heavy substrate rolls may require more than one person. Care must be taken to avoid back strain and/or injury.

- Consider using a forklift, pallet truck, or other handling equipment.

- When handling heavy substrate rolls, wear personal protective equipment including boots and gloves.

- When loading rolls, remember to use the loading accessories (loading table and lifter).
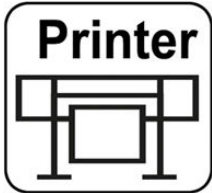
Ink handling

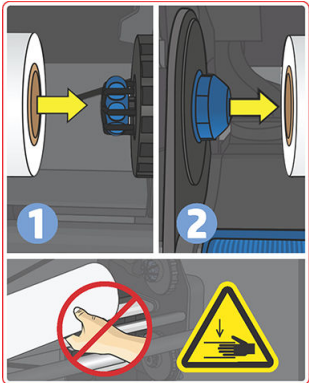HP recommends that you wear gloves when handling ink system components.
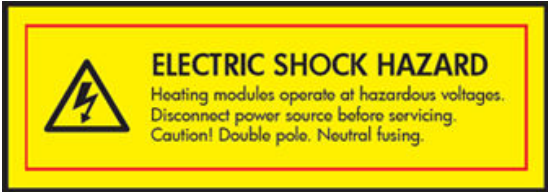
Warnings and cautions

The following symbols are used in this manual to ensure the proper use of the printer and to prevent the printer from being damaged. Follow the instructions marked with these symbols.

⚠ **WARNING!**   Failure to follow the guidelines marked with this symbol could result in serious personal injury or death.

⚠ **CAUTION:**   Failure to follow the guidelines marked with this symbol could result in minor personal injury or damage to the printer.

Warning labels

Label	Explanation
Printer	Printer label. To identify the printer's power cord.
Curing	Curing label. To identify the curing power cord.
ELECTRIC SHOCK HAZARD. Heating modules operate at hazardous voltages. Disconnect power source before servicing. Caution! Double pole. Neutral fusing. 设备必须连接到接地的电源插座 Equipment must be connected to earthed mains outlet only. Conectar el producto a red de alimentación con toma de tierra. Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan. Apparatet må tilkoples jordet stikkontakt. Apparaten skall anslutas till jordat uttag. Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord. 非维修人员请勿打开机盖 需要维修时请找专业人员服务 No operator serviceable parts inside. Refer servicing to qualified service personnel. No hay piezas reparables por el usuario en el interior. Reparaciones: contactar con personal de servicio autorizado. Before starting, read and follow the operating and safety instructions. Avant de commencer, lisez et suivez les instructions de fonctionnement et de sécurité. Lesen und befolgen Sie bitte die Bedienungs- und Sicherheitsanweisungen, bevor Sie starten. Antes de empezar, lea y siga las instrucciones sobre funcionamiento y seguridad. 开始之前，请阅读并遵循以下操作和安全说明 開始之前，請閱讀並遵守以下操作和安全說明	Electric shock hazard. Heating modules operate at hazardous voltages. Disconnect power source before servicing. **CAUTION:** Double pole. Neutral fusing. Equipment to be connected to earthed mains outlet only. Refer servicing to qualified service personnel. Disconnect all power cords before servicing. No operator serviceable parts inside the printer. Before starting, read and follow the operating and safety instructions. This label is located on the e-box.

| Label	Explanation
	Risk of burns. Do not touch the curing zone or the output platen of the printer: they could be hot.
	This label is located on the front of the curing module and on the bottom part of the output platen.
	Crush risk. When you move the substrate input/output from the load position to the print position, there is a risk of crushing your hand between the substrate input/output and the stand. Ensure that no-one is near the printer when you move the substrate input/output.
	This label is located on the right side plate of the substrate input/output.
	Crush risk. Be careful with your fingers when moving the tension bar to the park position: you could crush your fingers against the side covers of the substrate input/output.
	This label is located on the right and left sides of the tension bar and behind the arms of the tension bar.
	Crush risk. Be careful when loading rolls: your hand could be crushed between the roll and the substrate input structure.
	This label is located on the substrate input structure.
	You are recommended to wear gloves when handling the maintenance cartridge, the platen, the ink collector, the condensates and the condensation system components.
	This label is located on the maintenance cartridge.
	Electric shock hazard. Heating modules operate at hazardous voltages. Disconnect all power sources before servicing.
	This label is located on the curing control PCA enclosure. For service personnel only.
	Electric shock hazard. The printer has two input power cords. Power supplies operate at hazardous voltages. Disconnect all power cords before servicing.
	This label is located internally, close to the print-zone heating-coils enclosure between fans. For service personnel only.

Label	Explanation
	Hazardous moving parts. Rotating fan blades. Keep hands clear.
	These labels are located internally, close to the print-zone fans: one near the vacuum fan, one near the aerosol fan, and one on each side of the curing fans cover. For service personnel only.
⚠ WARNING ⚠ 警告 **HAZARDOUS AREA** HEATING MODULES OPERATE AT HAZARDOUS VOLTAGES. **ELECTRIC SHOCK HAZARD** EQUIPMENT HAS INPUT POWER CORDS. DISCONNECT ALL POWER CORDS BEFORE SERVICING. DOUBLE POLE, NEUTRAL FUSING. EQUIPMENT TO BE CONNECTED TO EARTHED MAINS OUTLET ONLY	Hazardous area. Heating modules operate at hazardous voltages. Electric shock hazard. Equipment has two input power cords. Disconnect all power cords before servicing. Power supplies operate at hazardous voltages. Double pole, neutral fusing. Equipment to be connected to earthed mains outlet only. This label is located in the scan and air-curtain heater control enclosure. For service personnel only.
	The contents of the condensation collector should not be dumped down the drain, but should be disposed of in accordance with local regulations and site operation. The waste profile datasheet contains the required information for correct disposal; this document is located here: https://hplatexknowledgecenter.com/applications/wasteprofiles/. This label is located on the condensation collector.
	Do not drink the contents of the condensation collector. You can obtain condensation-collector waste information here: https://hplatexknowledgecenter.com/applications/wasteprofiles/. This label is located on the condensation collector.

📝 **NOTE:** The final label position and its size on the printer may vary slightly, but should always be visible and close to the potential risk area.

Main printer components

The following views of the printer illustrate its main components.

Front view (560)
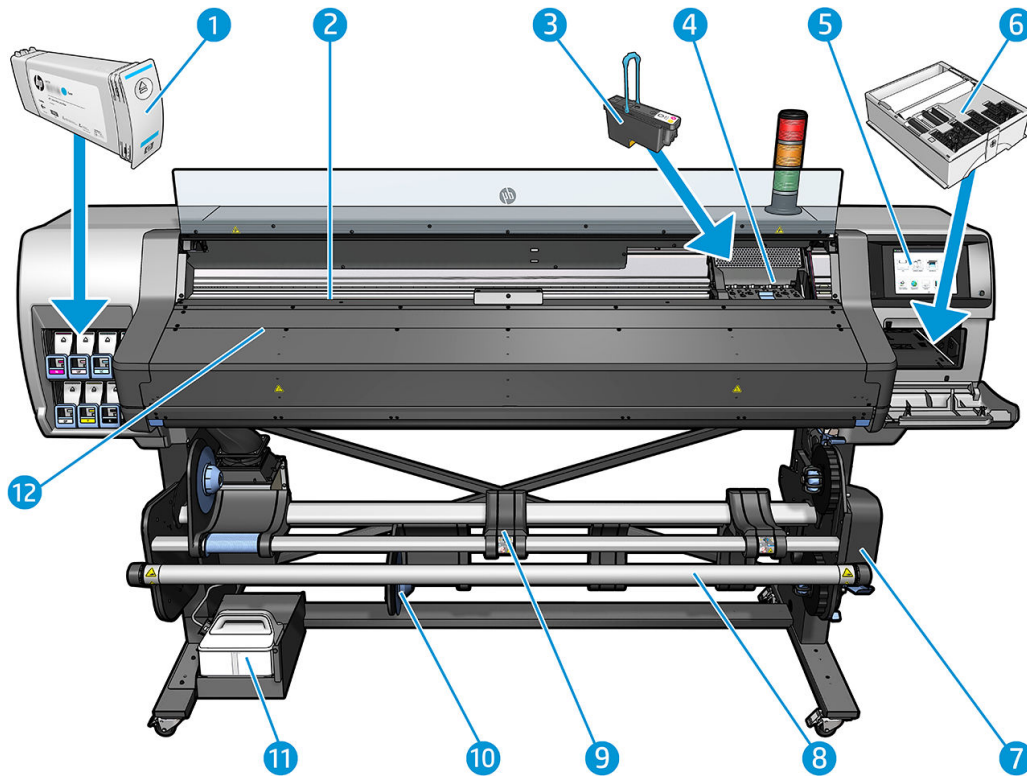
1.	Ink cartridge	
2.	Platen	
3.	Printhead	
4.	Printhead carriage	
5.	Front panel	
6.	Maintenance cartridge	

7.	Take-up-reel motor	
8.	Tension bar	
9.	Take-up reel	
10.	Loading table	
11.	Condensation collector	
12.	Curing module	

Front view (570)
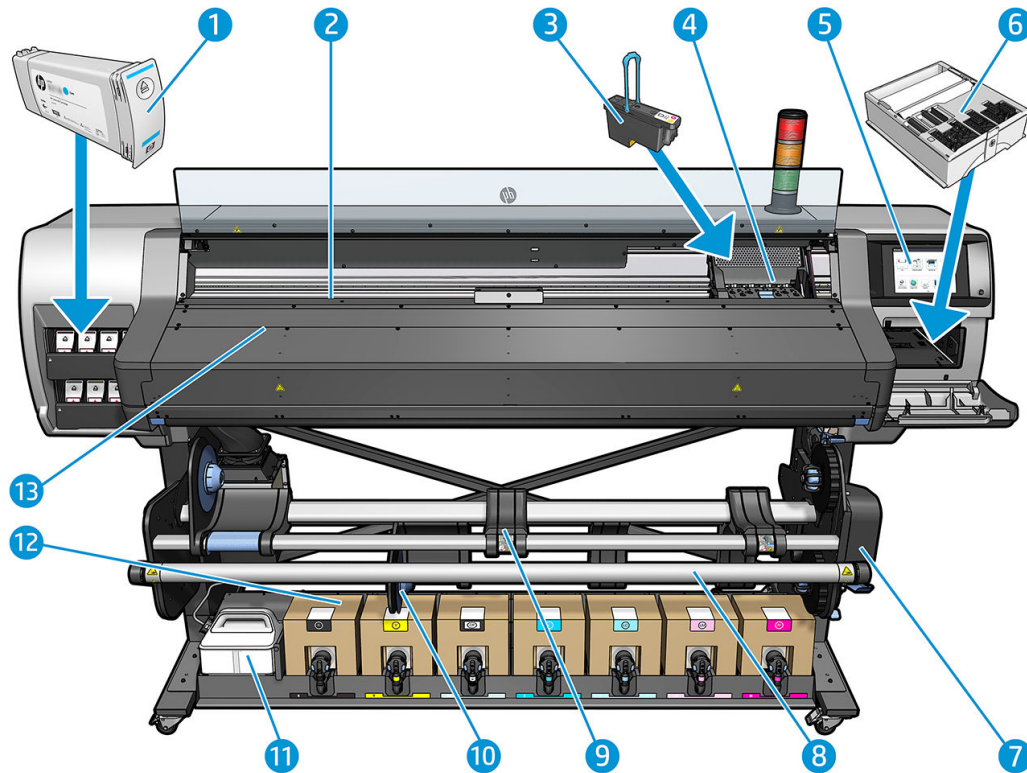
1. Intermediate tank
2. Platen
3. Printhead
4. Printhead carriage
5. Front panel
6. Maintenance cartridge
7. Take-up-reel motor

8. Tension bar
9. Take-up reel
10. Loading table
11. Condensation collector
12. Ink cartridge
13. Curing module

Rear view
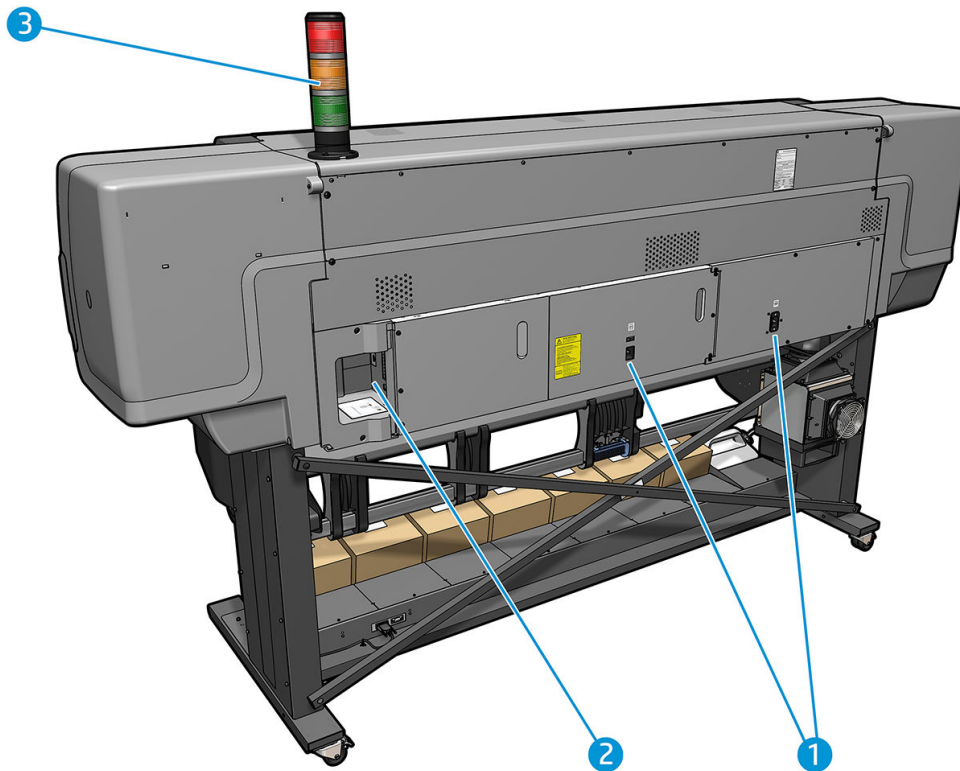
1. Power switch and power socket

2. Sockets for communication cables and optional accessories

3. Beacon

Loading accessory

The loading accessory helps you to load some substrate types that are difficult to load without it. See Loading accessory on page 63.

Beacon

The beacon provides a simple indication of printer status that is visible from a distance, so that you can easily see whether it is working normally. If there is a problem, the beacon color gives some indication of what kind of problem it is.

To install the beacon, see the printer assembly instructions.

Beacon color	Meaning
Green	Printer ready (may or may not have substrate loaded)
Blinking green	Printing without any warning if a 3-liter ink cartridge is out of ink
Yellow	3-liter ink cartridge not present or out of ink, window open, or maintenance cartridge cover open

| Beacon color	Meaning
Blinking yellow	3-liter ink cartridge not present or out of ink while printing
Red	There is a problem that prevents printing: printhead cleaning roll exhausted or not present, intermediate tank or ink cartridge not present or out of ink, out of paper, window open, maintenance cartridge cover open, or printer engine failed
Blinking red	No case
All lit	Printer is temporarily engaged in an internal workflow, such as replacing the maintenance cartridge
All blinking	Printer is starting up

You can enable and disable the beacon from the icon on the front panel.

Front panel

Introduction to the front panel

The front panel is a touch-sensitive screen with a graphical user interface; it is located on the front right of the printer. It gives you complete control of your printer: from the front panel, you can view information about the printer, change printer settings, perform calibrations and tests, and so on. The front panel also displays alerts (warning and error messages) when necessary.
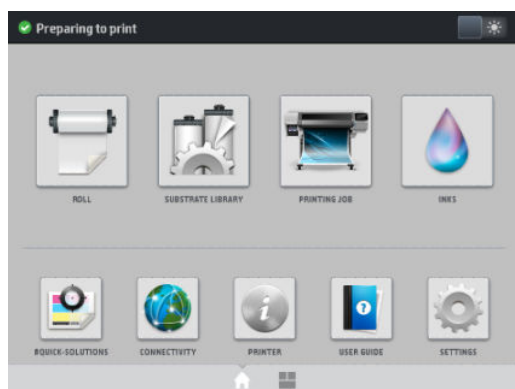
There is an alternative home screen that you can see by sliding your finger across the screen to the left. It summarizes the status of the ink cartridges, the substrate, and the current print job.
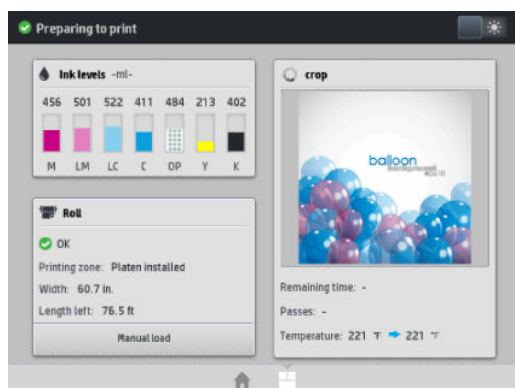
The front panel has a large central area to display dynamic information and icons. On the left and right sides you can see up to four fixed icons at different times. Normally they are not all displayed at the same time.

Left and right fixed icons

- Press [home icon] to return to the home screen.

- Press [?] to view help about the current screen.

- Press [back icon] to go back to the last-visited screen. This does not discard any changes made in the current screen.

- Press [X icon] to cancel the current process.

Home screen dynamic icons

The following items are displayed only on the home screen.

- At the top left of the screen is a message showing the printer status or the most important current alert. Press this message to see a list of all current alerts, with an icon indicating the severity of each alert. You can press an alert to get help in solving the problem.

  [icon] OMAS not reading. Clean it or disable from RIP
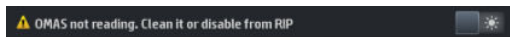
- At the top right, press [icon] to turn on or off the print-zone illumination light.

- Press [icon] to view substrate status and perform substrate-handling operations.

- Press [icon] to open the Substrate Library and access the extensive online library of substrate presets.

- Press [icon] to view information about the job that is currently printing.

- Press [icon] to view ink-supply status and perform ink-cartridge and printhead operations.

- Press [icon] for quick solutions to common problems.

- Press [icon] to view network and Internet status and change related settings.

- Press [icon] to view information about the printer.

- Press [icon] for help.

- Press [icon] to view and change printer settings in general.

If the printer is left idle for some time, it goes into sleep mode and switches off the front-panel display. To change the time that elapses before sleep mode, press [icon] , then **Setup** > **Front panel options** > **Sleep mode wait time**. You can set a time between 5 and 240 minutes; the default is 20 minutes.

The printer wakes from sleep mode and switches on the front-panel display whenever there is some external interaction with it.

Information about specific uses of the front panel can be found throughout this guide.

Change the language of the front panel

Two methods are available to change the language that is used for the front-panel menus and messages.

- If you can understand the current front panel language, go to the front panel and press ![icon], then **Setup** > **Front panel options** > **Language**.

- If you cannot understand the current front panel language, start with the printer turned off. Turn it on. As soon as the ![icon] icon appears, press it for a few seconds. When all icons have appeared on the front panel, press ![icon] followed by ![icon]. The front panel blinks briefly.

Whichever method you used, the language selection menu should now appear on the front panel.

Press the name of your preferred language.

View or set the date and time

To view or set the printer's date and time, go to the front panel and press ![icon], then **Setup** > **Front panel options** > **Date and time options**.

Set time before standby

When there are no more jobs to print, or you want to pre-warm the printer (**Prepare printing** option in the RIP), the printer´s curing heaters remain on for the specified time and temperature in case another job arrives or in case you need to avoid any print-quality problem that could be caused by an incorrect temperature in the print zone. To choose how long the heaters will stay on in this situation, go to the front panel and press ![icon] then **Substrate** > **Substrate handling options** > **Curing standby duration**. You can select from 5 to 120 minutes.

The curing temperature during this standby period is set automatically by the printer.

Change the sleep mode setting

If the printer is left turned on but unused for a certain period of time, it automatically goes into sleep mode to save power. The default period of time it waits is 25 minutes. To change the time the printer waits before it goes into sleep mode, go to the front panel and press ![icon], then **Setup** > **Front panel options** > **Sleep mode wait time**. Enter in minutes the wait time that you want, then press **OK**.

Change the loudspeaker volume

To change the volume of the printer's loudspeaker, go to the front panel and press ![gear icon], then **Setup** > **Front panel options** > **Speaker volume**, and select **Off**, **Low**, or **High**.

Turn audio alerts on or off

To turn the printer's audio alerts on or off, go to the front panel and press ![gear icon], then **Setup** > **Front panel options** > **Enable audio alert** or **Disable audio alert**. By default, audio alerts are enabled.

Change the front panel display brightness

To change the brightness of the front-panel display, press ![gear icon], then **Setup** > **Front panel options** > **Display brightness**, then select a value by moving the scroll bar. Press **OK** to save the value.

Change the units of measurement

To change the units of measurement that appear on the front panel, press ![gear icon], then **Setup** > **Front panel options** > **Unit selection**, then **English** or **Metric**.

The units of measurement can also be changed in the Embedded Web Server. See .

Restore factory settings

To restore the printer settings to their original values as set in the factory, go to the front panel and press ![gear icon], then **Setup** > **Resets** > **Restore factory settings**. This option restores all of the printer settings except the Gigabit Ethernet settings and substrate presets.

Check printer status

The front panel and the Embedded Web Server both display the status of the printer, the loaded substrate, and the ink system.

Check the status of the ink cartridges

You can see the ink levels in your ink cartridges by pressing ![ink drop icon] on the front panel's home screen.
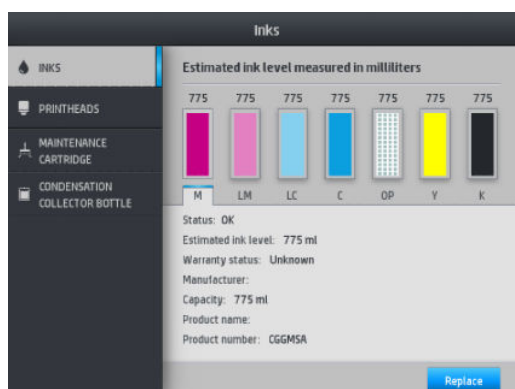
For more details about any particular ink cartridge, press the rectangle representing that cartridge. The following information is shown.

- Status

- Estimated ink level

- Warranty status

- Manufacturer

- Capacity

- Product name

- Product number

- Serial number

- Expiration date

- Supported ink cartridges

These are the possible ink cartridge status messages that you can see on the front panel:

- **OK:** The cartridge is working normally, with no known problems.

- **Missing:** There is no cartridge present, or it is not correctly connected to the printer.

- **Low:** The ink level is low.

- **Very low:** The ink level is very low.

- **Empty:** The cartridge is empty.

- **Reseat:** You are recommended to remove the cartridge and then reinsert it.

- **Replace:** You are recommended to replace the cartridge with a new cartridge.

- **Expired:** The cartridge's expiration date has passed.

- **Incorrect:** The cartridge is not compatible with this printer. The message includes a list of compatible cartridges.

- **Non-HP:** The cartridge is used, refilled, or counterfeit.

You can also view the status of the ink cartridges in the Embedded Web Server. See .

Check the status of a printhead

The printer automatically checks and services the printheads after each print. Follow these steps to get more information on your printheads.

1. On the front panel's home screen, press .
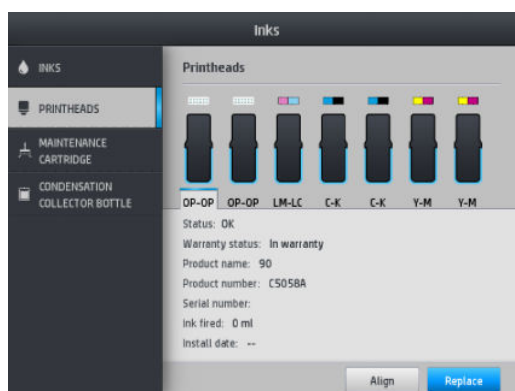
2. Select the printhead for which you want to see information.

3. The front panel shows the following information:

   ● Status

   ● Warranty status

   ● Product name

   ● Product number

   ● Serial number

   ● Ink fired

   ● Install date

These are the possible printhead status messages that you can see on the front panel:

● **OK:** The printhead is working normally, with no known problems.

● **Missing:** There is no printhead present, or it is not correctly installed in the printer.

● **Reseat:** You are recommended to remove the printhead and then reinsert it. If that fails, clean the electrical connections (see Clean the electrical connections on a printhead on page 155). If that fails, replace the printhead with a new printhead (see Replace a printhead on page 149).

● **Replace:** The printhead is failing. Replace the printhead with a working printhead (see Replace a printhead on page 149).

● **Replacement incomplete:** The printhead replacement process has not completed successfully; restart the replacement process and let it finish completely.

● **Remove:** The printhead is not a suitable type for use with your printer.

● **Non-HP ink:** Ink from a used, refilled, or counterfeit ink cartridge has passed through the printhead. See the limited warranty document provided with your printer for details of the warranty implications.

You can also use the Embedded Web Server to check the printhead status and the warranty status. See Access the Embedded Web Server on page 24.

Check the file system

It is possible to check the integrity of the file system on the printer's hard disk, and automatically correct any errors. You are recommended to do this about once every six months, or if you notice any trouble in accessing files on the hard disk.

To execute the file system check, go to the front panel and press ⚙, then **Preventive maint. tasks** > **File system check**.

If the printer is aware of damage to the file system, for instance after a severe software problem, it may start a file system check automatically. This can take about ten minutes.

Printer alerts

The above image is a QR code containing a link to a video; see .

The printer can communicate two types of alerts:

- **Errors:** When the printer is unable to print.

- **Warnings:** When the printer needs attention for an adjustment, such as a calibration, preventive maintenance, or ink cartridge replacement.

- **Advice:** When a firmware update is available or the downloaded firmware is ready to be installed.

Printer alerts appear in the front panel and in the Embedded Web Server.

- **Front-panel display:** The front panel shows the alerts in the upper left part of the screen (notification bar).
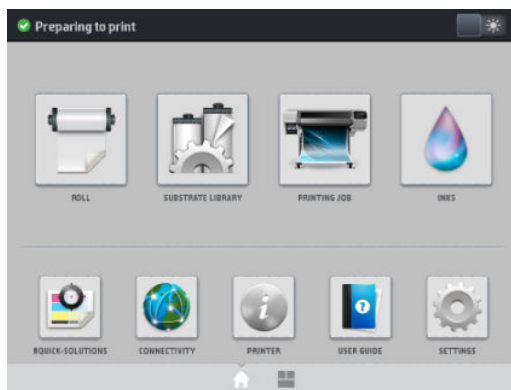
Only one alert is shown at a time. If you press the notification bar, all the current printer alerts are shown. The list of alerts can be folded back by pressing or sliding up the bottom row of the list.
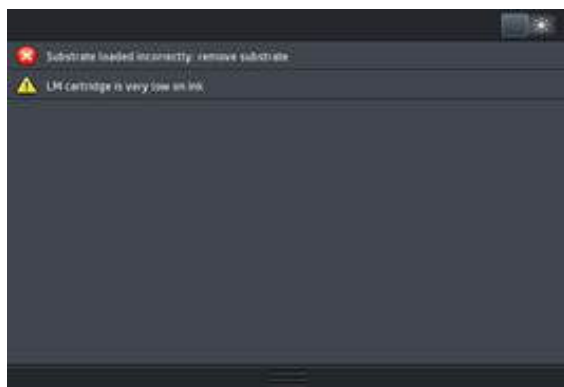
Clicking an alert opens the application that could help to resolve it. Firmware update advice is dismissed when entering the Printer application. Once dismissed, there won't be any reminder later on about the same advice (in the case of firmware updates, a new notification appears when there a new firmware release becomes available).

- **Embedded Web Server:** The Embedded Web Server shows only one alert at a time, which is judged to be the most important.

An alert may require you to perform a maintenance operation; see [Hardware maintenance on page 145](#).

The following alerts require a service engineer:

- **Service Maintenance Kit 1**
- **Service Maintenance Kit 3**

Printer states

The printer may be in any one of the following states; some of them require waiting.

- **Ready (cold)**: The printer is powered on but has not printed yet, and the heaters are not turned on.
- **Preparing to print**: The printer is warming up the heaters and preparing the printheads to print. This takes 1 to 7 minutes.
- **Ready for substrate**
- **Ready for side A/B**
- **Printing**
- **Printing side A/B**
- **Drying**: This takes 1.5 to 6 minutes.
- **Finishing**: The printer is cooling down and preparing for stand-by. This takes 0.5 to 5 minutes.

HP Latex 560 and 570 printers offer a new option called "continuous printing", which you can enable or disable from your certified RIP software; it is enabled by default.

Without continuous printing, the printer cures each job separately and then winds the substrate back into the print zone before starting to print the next job in the queue. This adds time to the printing process. Continuous printing saves time by continuing to print the next job in the queue without stopping (tailgating).

Notes

- The same print mode and resolution must be used for all jobs in the RIP queue selected for continuous printing, to optimize the overall curing time.
- Job status reporting might be affected when using continuous printing mode.
- For jobs with automatic cutting selected, the printer will cut instead of applying continuous printing.

Change margins

The printer margins determine the area between the edges of your image and the edges of the substrate. The printer with ink collector is capable of printing with no side margins (full bleed).

The side margins for a particular print job are selected in the RIP software; if the job exceeds the substrate width, it will be clipped.

The front panel offers additional settings for the top and bottom margins: see Margins on page 187. These settings apply only to single prints when the cutter is not in use. The top and bottom margins are not applied during double-sided printing.

To set the top margin at the front panel, press [icon], then **Substrate** > **Substrate handling options** > **Extra top margin**.

To set the bottom margin at the front panel, press [icon], then **Substrate** > **Substrate handling options** > **Extra bottom margin**.

NOTE: The extra top/bottom margin set in the front panel is applied in addition to the top/bottom margin selected in the RIP.

NOTE: The side margins can be adjusted in the RIP.

Request the printer's internal prints

The internal prints provide various kinds of information about your printer. Request these prints from the front panel, without using a computer.

Before requesting any internal print, make sure that substrate is loaded and that the **Ready** message appears on the front-panel display.

To print an internal print, press [icon], then **Setup** > **Internal prints**, then select the type of internal print that you want.

The following internal prints are available:

- Usage report: Shows estimates of the total number of prints, number of prints by substrate family, number of prints by print-quality option, and total amount of ink used per color. The accuracy of these estimates is not guaranteed.

- Service information: Provides information that service engineers require.

Check lifetime usage statistics

There are two ways of checking your printer's usage statistics.

NOTE: The accuracy of the usage statistics is not guaranteed.

- From the Embedded Web Server, go to the **Main** tab and select **History** > **Usage**. See Embedded Web Server on page 23.

- From the front panel, press [icon], then **Setup** > **Internal prints** > **User information prints** > **Print usage report**.

HP Latex Mobile

Your printer supports a new application called HP Latex Mobile, which marks a new era of smart printers. This app enables you to receive helpful consumables alerts while remotely monitoring your printer and job status on your smartphone or tablet. It also compiles metrics related to ink and substrate usage and productivity that you can view from your tablet. Print with greater confidence, especially as you no longer have to worry about the status of print jobs while you're away from the printer.

NOTE: HP Latex Mobile is compatible with Android 4.1.2 or later and iOS 7 or later, and requires the printer and the smartphone or tablet to be connected to the Internet.

Rely on alerts to tell you when attention is needed

No more wondering what's going on with your printer while you're away:

- Alerts keep you informed about supplies, the substrate path, and situations when the printer is not ready.

- Return to your printer and take action once you've been alerted.

Know the status of your printer while you're away from it

HP Latex Mobile offers insight into printer activity and ink and substrate usage:

- Follow printer activity remotely and gain an awareness of your printer at all times.

- Stay abreast of ink levels and the amount of substrate remaining to avoid surprises and respond accordingly.

- Use your tablet to view metrics. Email that information to your computer for more details of ink and substrate usage as well as productivity per printer or job. Use it to improve planning and operations.

Remotely keep tabs on print jobs
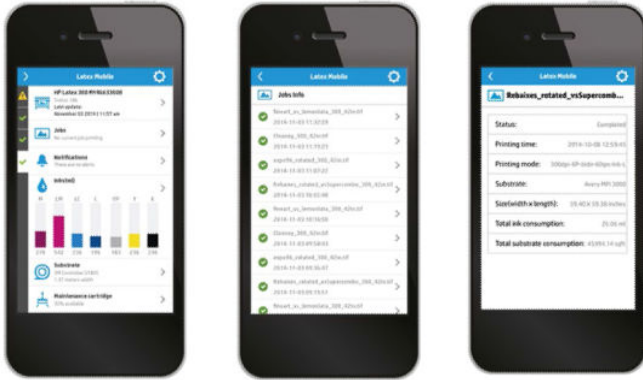
HP Latex Mobile enables you to monitor job completion and job history:

- Track print jobs through to completion.

> **NOTE:** Printer updates occur roughly every five minutes during the printing process and every several hours when the printer is idle. Under certain circumstances, printer updates may be delayed—when system errors occur, for certain substrate jams, in the case of a power outage—in which case the app dashboard display shows the last known printer status.

- Monitor printed jobs through the job history.

How to add a printer to your mobile device

1. Open the HP Latex Mobile app on your mobile device.

2. Select **Add new HP Latex Printer**.
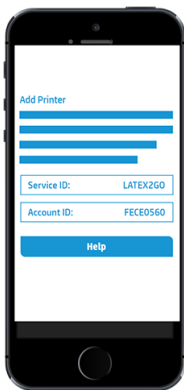
3. Make a note of the Service ID and Account ID.

4. Go to the printer's front panel and press ⚙, then **Setup** > **Customer Involvement Program**.

5. Continue until you see the options **Yes, I want to participate**, **Also send the printer's serial number**, and **Also send data to printer services**. Select them all.

6. Register a new service and enter the Service ID and Account ID from your mobile device.

7. Press **Continue** and **Accept** until the registration is finished.

Alternatively, you can use the Embedded Web Server instead of the front panel.

1. In the Embedded Web Server, select the **Customer Involvement Program** tab.

2. Check **Yes, I want to participate (send anonymous data only)**.

3. Check **Also send the printer's serial number**.

4. Check **Also send data to printer services**.

5. Check **Register for a new service**.

6. Enter the Service ID and Account ID from your mobile device and click **Register**.

7. The next screen tells you that the HP Latex to Go service will send status data from the printer to the connected devices through the Internet. Click **Accept**.

Embedded Web Server

Introduction to the Embedded Web Server

The Embedded Web Server is a Web server running inside the printer. You can use it to obtain printer information, manage settings and presets, align printheads, upload new firmware and troubleshoot problems. Service engineers can use it to retrieve internal information that helps to diagnose printer problems.

You can access the Embedded Web Server remotely by using an ordinary Web browser running on any computer. See .

The Embedded Web Server window displays five separate tabs. Buttons near the top of each page provide access to online help and supplies reordering.

Main tab

The **Main** tab provides information about the following items.

- Substrate, ink, printhead and maintenance status

- Temperature of the curing module

- Substrate and ink usage and accounting

Setup tab

The **Setup** tab enables you to complete these tasks.

- Specify printer settings such as units of measurement and refresh date
- Specify network and security settings
- Set the date and time
- Update firmware
- Align printheads
- Upload substrate presets
- Configure e-mail notifications

Networking tab

The **Networking** tab enables you to change the printer's networking configuration.

Support tab

The **Support** tab offers various kinds of help with your printer.

- Browse helpful information from a variety of sources
- Troubleshoot problems
- Access HP links for technical support with your printer and accessories
- Access service support pages that show current and historical data on the usage of your printer

Customer Involvement Program tab

The **Customer Involvement Program** tab enables you to sign up for the Customer Involvement Program and configure your participation.

Access the Embedded Web Server

Use the Embedded Web Server to view printer information remotely through an ordinary Web browser running on any computer.

The following browsers are known to be compatible with the Embedded Web Server:

- Internet Explorer 8 and later for Windows
- Safari 6 and later for Mac OS X
- Mozilla Firefox 36 and later
- Google Chrome 40 and later

To use the Embedded Web Server on any computer, open your Web browser and type the printer's IP address in the browser's address bar. The printer's IP address appears on the printer's front panel, after pressing the icon.

If you follow these instructions but fail to open the Embedded Web Server, see .

Change the language of the Embedded Web Server

The Embedded Web Server functions in the following languages: English, Portuguese, Spanish, Catalan, French, Italian, German, Simplified Chinese, Traditional Chinese, Korean, and Japanese. It uses the language that you specified in your Web browser options. If you specify a language that it cannot support, it functions in English.

To change the language, change your Web browser's language setting. For example, in Chrome, **Settings**, **Language** (in the advanced settings view), make sure that the language you want is at the top of the list in the dialog box; or, in Internet Explorer version 8, go to the **Tools** menu and select **Internet Options** > **Languages**. Make sure that the language you want is at the top of the list in the dialog box.

To complete the change, close and reopen your Web browser.

Restrict access to the printer

From the Embedded Web Server, you can select **Setup** > **Security** to set an administrator password. Once set, this password must be given in order to perform the following printer functions.

- Clear accounting information.

- Update the printer's firmware.

- Change security settings.

- View protected printer information.

- Change Internet connection settings.

- Change some networking settings.

- Configure the Customer Involvement Program.

- Run connectivity troubleshooting tests.

For more information, see the Embedded Web Server's online help.

If you forget the administrator password, you can delete the current password from the front panel: press ,

then **Setup** > **Connectivity** > **Advanced** > **Embedded Web Server** > **Reset EWS password**.

Join the Customer Involvement Program

You can activate or deactivate the Customer Involvement Program from the Embedded Web Server or from the printer's front panel.

NOTE: From the front panel, press , then **Setup** > **Customer Involvement Program**.

The Customer Involvement Program is a statistical printer-usage tracking system. It may also be used to determine eligibility for certain usage-based reward programs, or to monitor the device in connection with optional services such as proactive cartridge replacement, pay-per-use contracts, or support agreements (availability varies by product, region, and country). See the Customer Involvement Program tab of the Embedded Web Server for details on the data collected and HP's use of the data. Once the Customer Involvement Program is enabled, your printer will automatically send 'usage snapshots' to HP through the Internet approximately once a week, for as long as the Customer Involvement Program remains enabled. The snapshot files are collected on a repository server, then automatically processed to extract the relevant data, which are stored in a usage database. Sending the data does not interfere with the normal operation of your printer, and does not require attention of any kind. You can stop participating at any time, in which case data transmissions stop immediately.
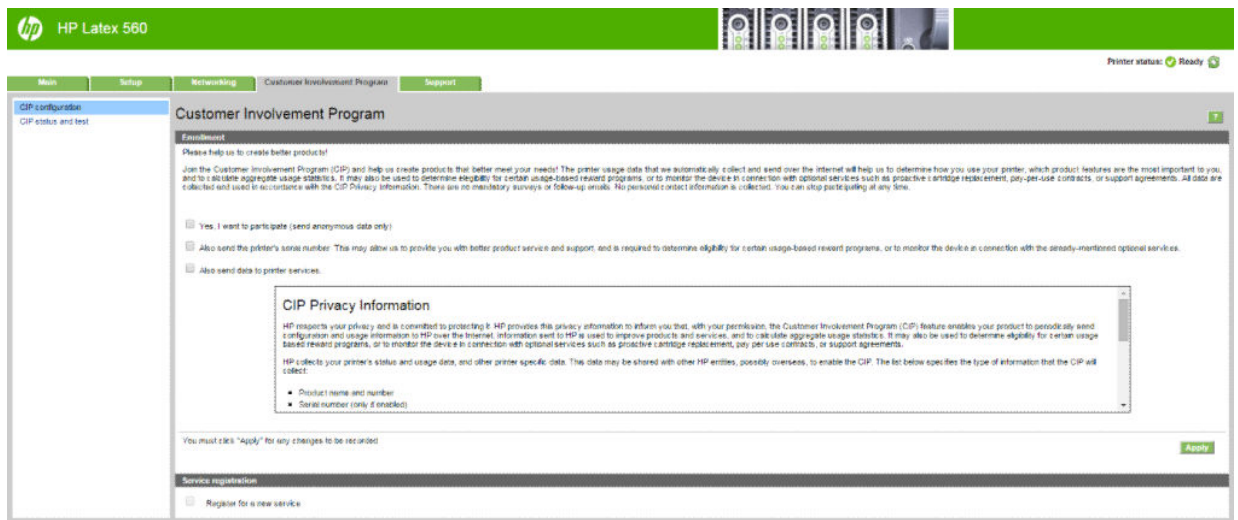
The **CIP configuration** page of the **Customer Involvement Program** tab is where you can start, stop, or change your participation in the Customer Involvement Program. By default, only anonymous usage data are sent to HP, but you have the option to include the printer's serial number. This may be necessary for certain programs or services, and may allow us to provide you with better product service and support. Once you have made any changes to the settings, click the **Apply** button to apply them.

If the Customer Involvement Program was enabled before clicking the **Apply** button, a connectivity test is automatically made to determine whether Customer Involvement Program data can be successfully delivered to HP.
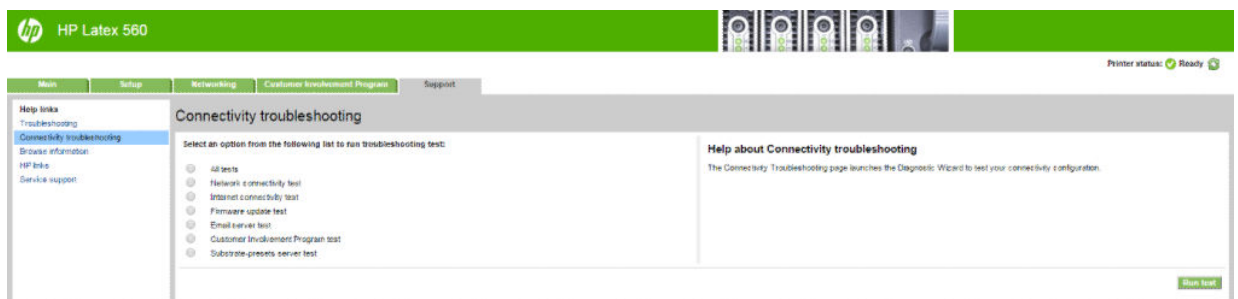
If the test completes successfully, configuration is complete and you can proceed to any other Embedded Web Server page, or close the browser window. If the test fails, follow the instructions to try to identify and fix the problem.

The **CIP status and test** page of the **Customer Involvement Program** tab can be used to check the current status (enabled or not, anonymous data or not), and to run a connectivity test to check that Customer Involvement Program data can be successfully delivered to HP.

Check printer status

The front panel and the Embedded Web Server both display the status of the printer, the loaded substrate, and the ink system.

Check the status of the ink system

1. Access the Embedded Web Server (see Access the Embedded Web Server on page 24).

2. Go to the Supplies page on the **Main** tab.

The Supplies page shows you the status of the loaded substrate, the ink cartridges, the printheads, the heater, and the maintenance cartridge.

The traffic light shows whether maintenance is required.

For further information, click **Click to view details**.

Request email notification of specific error conditions

1. In the Embedded Web Server (see), go to the Email Server page on the **Setup** tab and ensure that the following fields are correctly filled in:

    ●   **SMTP server**. This is the IP address of the outgoing mail server (Simple Mail Transfer Protocol [SMTP]) that processes all email messages from the printer. If the mail server requires authentication, email notifications will not work.

    ●   **Printer email address**. Each email message that the printer sends must include a return address. This address does not need to be a real, functional email address, but it should be unique, so that recipients of the message can identify the printer that sent it

2. Go to the Notification page, which is also on the **Setup** tab.

3. Click the **New** icon to request new notifications, or click the **Edit** icon to edit notifications that have already been set up. Then specify the email addresses to which notifications are sent, and select the incidents that result in notification messages.

Get accounting information

There are various different ways of getting accounting information from your printer.

●   View printer usage statistics for a particular job, see .

●   View printer usage statistics for the whole lifetime of the printer, see .

●   Request accounting data by email. The printer sends data in XML at regular intervals to a specified email address; the data may be interpreted and summarized by a third-party application, or displayed as an Excel spreadsheet. See .

●   Use a third-party application to request printer status, printer usage or job accounting data from the printer through the Internet. The printer provides data in XML to the application whenever requested. HP provides a Software Development Kit to facilitate the development of such applications.

By default, user names are not included in accounting information. If you would like to include them, check the box **Show user name in job accounting** in the **Security** menu.

Check usage statistics for a job

You can use the Embedded Web Server to check usage statistics for a particular job: go to the **Main** tab and select **History** > **Accounting**.

📝 **NOTE:** The accuracy of the usage statistics is not guaranteed.

Check lifetime usage statistics

There are two ways of checking your printer's usage statistics.

📝 **NOTE:** The accuracy of the usage statistics is not guaranteed.

- From the Embedded Web Server, go to the **Main** tab and select **History** > **Usage**.

- From the front panel, press ⚙, then **Setup** > **Internal prints** > **User information prints** > **Print usage report**.

Request accounting data by email

1. Obtain the IP address of the outgoing mail server (SMTP) from your IT department; this is required in order to send email messages.

2. Ensure that the outgoing email server is configured to enable relaying of email messages that the printer will send.

3. Open your Web browser and connect to the printer's Embedded Web Server.

4. Select the **Setup** tab.

5. From the Configuration menu in the left-hand column, select **Date & Time**.

6. Ensure that the printer's date and time have been set correctly.

7. From the Configuration menu, select **Email server**.

8. Enter the IP address of the outgoing mail server (SMTP).

9. Specify an email address for the printer. The latter does not need to be a valid email address, because the printer will not receive messages; but it should have the form of an email address. It serves to identify the printer when it sends email messages.

10. From the Configuration menu, select **Printer settings**.

11. Set **Send accounting files** to Enabled.

12. Set **Send accounting files to** to the email address (or addresses) to which you want the accounting information sent. This may be an address that you have created specifically to receive automatically generated messages from the printer.

13. Set **Send accounting files every** to the frequency with which you want the information sent, choosing a specific number of days or prints.

14. You may want to set **Exclude personal information from accounting email** to **On**, so that the accounting messages will not contain personal information. If this option is **Off**, information such as user name, job name, and account ID will be included.

When you have completed the above steps, the printer will send accounting data by email with the frequency that you specified. The data are provided in XML and can easily be interpreted by a third-party program. The data provided on each print job include when the job was submitted, when the job was printed, the printing time, the

type of image, the number of pages, the number of copies, the paper type and size, the amount of each color of ink used and various other attributes of the job. Accounting data are also provided on scan and copy jobs.

You can download an Excel template from HP's Web site (http://www.hp.com/go/designjet/accounting/) that will enable you to display the XML data more readably in the form of a spreadsheet.

Analysis of the accounting data will enable you to bill customers precisely and flexibly for the use of your printer. You can, for instance:

- Bill each customer for the total amount of ink and paper used by that customer over a particular period.

- Bill each customer separately per job.

- Bill each customer separately for each project, broken down by job.

Connectivity and software instructions

Connection method

Your printer can be connected in the following way.

Connection type	Speed	Maximum cable length	Other factors
Gigabit Ethernet	Fast; varies according to network traffic	Long (100 m=328 ft)	Requires extra equipment (switches)

NOTE: The speed of any network connection depends on all the components that are used in the network, which can include network interface cards, hubs, routers, switches, and cables. If any one of these components cannot operate at high speed, you will have a low-speed connection. To get the expected performance from your printer, you should use equipment that supports 1000TX Full Gigabit. The speed of your network connection can also be affected by the total amount of traffic from other devices on the network.

Connect the printer to your network

The printer is able to configure itself automatically for most networks, in a similar way to any computer in the same network. The first time you connect it to a network, this process may take a few minutes. If necessary, see Advanced network configuration on page 31.

Once the printer has a working network configuration, you can check its network address from the front panel: press .

Network configuration

For more details about the current network configuration, go to the front panel and press , then

Connectivity > **Network connectivity** > **Gigabit Ethernet** > **Modify configuration**. From here it is possible, though not normally necessary, to change the settings manually; this can also be done remotely using the Embedded Web Server.

TIP: You may find it helpful to print out the full printer network configuration on paper. This can be done from the front panel: press , then **Internal prints** > **Service information prints** > **Print connectivity configuration**. If you do not print out the full network configuration, consider making a note of the printer's IP address and network name.

If you accidentally misconfigure the printer's network settings, you can restore the network settings to their factory values from the front panel: press ⚙, then **Connectivity** > **Network connectivity** > **Advanced** > **Restore factory settings**. Then you must restart the printer. This automatically provides a working network configuration for most networks. The printer's other settings remain unchanged.

Using IPv6

Your printer supports almost all network connectivity features using IPv6, just as it does using IPv4. To make full use of IPv6, you may need to connect your printer to an IPv6 network in which there are IPv6 routers and servers.

In most IPv6 networks, the printer will configure itself automatically as follows, and no user configuration is necessary:

1. The printer assigns itself a link-local IPv6 address (which starts with "fe80::").

2. The printer assigns itself stateless IPv6 addresses as indicated to it by any IPv6 routers on the network.

3. If no stateless IPv6 addresses can be assigned, the printer will try to obtain IPv6 addresses using DHCPv6. It will also do so if the routers instruct it to do so.

The stateless and DHCPv6 IPv6 addresses can be used to access the printer, and in most IPv6 networks this will be appropriate.

The link-local IPv6 address works only in the local subnet. Although it is possible to access the printer using this address, it is not recommended.

It is possible to assign a manual IPv6 address to the printer, using the front panel or the Embedded Web Server. It is also possible to disable IPv6 completely in the printer. However, it is not possible to disable IPv4 in the printer, and therefore it is not possible to configure the printer as IPv6-only.

NOTE: In typical IPv6 use, your printer will have multiple IPv6 addresses, although it has only one IPv4 address.

TIP: You are recommended to give a name to the printer. You can do this from the front panel or (more easily) from the Embedded Web Server.

TIP: You will generally find it easier to use IPv4 unless you have a specific need to use IPv6.

Microsoft Windows Vista, Microsoft Windows Server 2008, later versions of Windows, and the new HP Printing and Imaging devices have IPv6 enabled by default. For further information on IPv6, see http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00840100/c00840100.pdf. This document discusses how name resolution plays a fundamental role in Dual-Stack transition methods. Using the name resolution algorithm in Windows, the document goes through various network environments and studies how the introduction of routable IPv6 addresses will affect network applications. It also discusses DHCPv6, SLAAC and the impact to DNS, and makes some recommendations.

Connect the printer to the Internet

To connect to the Internet, go to the front panel and press ⚙, then **Connectivity** > **Connectivity wizard**. The connectivity wizard also checks that the printer's firmware is up to date. Normally you need to run the wizard only once, when first setting up the printer.

An Internet connection is needed for various printer functions described in this guide, such as the Embedded Web Server.

RIP software installation

Install the RIP software by following the instructions provided with the software.

RIP software uses the following ports for printer communication and job submission, so you must ensure that your RIP host system can connect to these ports: 80, 8085, 8086, 8090, 9100.

Advanced network configuration

You will probably not need to read this section, but the information is provided as it may be useful in some cases.

The printer provides a single RJ-45 connector port for a network connection. In order to meet Class B limits, the use of shielded I/O cables is required.

The embedded Jetdirect print server supports connection to IEEE 802.3 10Base-T Ethernet, IEEE 802.3u 100Base-TX Fast Ethernet and 802.3ab 1000Base-T Gigabit Ethernet compliant networks. When connected and powered on, the printer auto-negotiates with your network to operate with a link speed of 10, 100, or 1000 Mbps, and to communicate using full- or half-duplex mode. However, you can manually configure the link using the printer's front panel, or through other configuration tools once network communication is established.

The printer can support multiple network protocols simultaneously, including TCP/IPv4 and TCP/IPv6. For security, it includes features to control IP traffic to and from the printer.

Verify correct operation

1. Print an IO Configuration page to check for status messages.

2. In the upper section of the IO Configuration page, look for the status message **I/O Card Ready**.

3. If **I/O Card Ready** appears, the print server is operating properly. Proceed to the next section.

    If a message other than **I/O Card Ready** appears, try the following:

    a. Turn the printer off and then on again to re-initialize the print server.

    b. Check that the status indicator lights (LEDs) are providing proper status.

    > 📝 **NOTE:** See Troubleshooting on page 32 for link configuration and troubleshooting information.

See the *HP Jetdirect Print Servers Administrator's Guide* for your print server model to interpret and troubleshoot other messages.

Preconfigure network settings if required

If your network requires that you configure network settings before you add the printer to your network systems, you can do so now.

However, in most cases, you can skip this section. Instead, you can proceed directly to the next section to install the printer on your network computer systems. The network installation software will allow you to configure basic network settings and add the printer to your system configuration.

Tools for preconfiguration

The following tools can be used to preconfigure your network settings.

*   The front panel

*   The Embedded Web Server

*   You can use an advanced configuration method, such as BootP, DHCP, Telnet, or the arp and ping commands. For instructions, see the *HP Jetdirect Print Servers Administrator's Guide* for your print server model.

After the printer is configured with network settings, the configuration values are saved and maintained even after it is turned off and on again.

Troubleshooting

IO Configuration page

The IO Configuration page provides comprehensive print server status. It is an important diagnostic tool, especially if network communications are not available. For a description of messages that may appear on the IO Configuration page, see the *HP Jetdirect Print Servers Administrator's Guide* for your print server model.

LEDs

The printer has status lights (LEDs) that indicate the link status and network activity.

- When the green light is on, the printer has successfully linked to the network.

- When the yellow light is blinking, there is network transmission activity.

Link troubleshooting

If the printer does not successfully connect to the network:

- Both LEDs will be off.

- **LAN Error – Loss of Carrier** will be indicated on the IO Configuration page.

If a link failure is indicated, try the following:

- Check cable connections.

- Print an IO Configuration page and check link settings.

Item	Description
Port Config	If the printer is properly linked, this item has one of the following values:
	– **10BASE-T HALF**: 10 Mbps, half-duplex
	– **10BASE-T FULL**: 10 Mbps, full-duplex
	– **100TX-HALF**: 100 Mbps, half-duplex
	– **100TX-FULL**: 100 Mbps, full-duplex
	– **1000TX FULL**
	If the printer is not properly linked, one of the following messages will appear:
	– **UNKNOWN**: The printer is in an initialization state.
	– **DISCONNECTED**: A network connection has not been detected. Check network cables. Reconfigure the link settings, or restart the printer.
Auto Negotiation	Indicates whether auto-negotiation for link configuration is on or off.
	– **ON** (default): The printer will attempt to automatically configure itself onto the network at the proper speed and communication mode.
	– **OFF**: You must manually configure the link speed and communication mode using the front panel. Your settings must match those of the network for proper operation.

Reset network parameters

Network parameters (for example, the IP address) can be reset to factory default values by a cold reset: turning the printer off and on again. After a cold reset, print an IO Configuration page to confirm that factory-reset values have been assigned.

⚠ **CAUTION:** A factory-installed HP Jetdirect X.509 certificate will be saved over a cold reset to factory default values. However, a Certificate Authority (CA) certificate that has been installed by the user to validate a network authentication server will not be saved.

Menu items

Menu item	Sub-menu item	Sub-menu item	Values and Description
TCP/IP	Host Name		An alphanumeric string, up to 32 characters, used to identify the device. This name is listed on the HP Jetdirect configuration page. The default host name is NPIxxxxxx, where xxxxxx is the last six digits of the LAN hardware (MAC) address.
	IPV4 Settings	Config Method	Specifies the method that TCP/IPv4 parameters will be configured on the HP Jetdirect print server. **Bootp**: Use BootP (Bootstrap Protocol) for automatic configuration from a BootP server. **DHCP** (default): Use DHCP (Dynamic Host Configuration Protocol) for automatic configuration from a DHCPv4 server. If selected and a DHCP lease exists, **DHCP Release** and **DHCP Renew** menus are available to set DHCP lease options. **Auto IP**: Use automatic link-local IPv4 addressing. An address in the form 169.254.x.x is assigned automatically. **Manual**: Use the **Manual Settings** menu to configure TCP/IPv4 parameters.
		DHCP Release	This menu appears if **Config Method** was set to **DHCP** and a DHCP lease for the print server exists. **No** (default): The current DHCP lease is saved. **Yes**: The current DHCP lease and the leased IP address are released.
		DHCP Renew	This menu appears if **Config Method** was set to **DHCP** and a DHCP lease for the print server exists. **No** (default): The print server does not request to renew the DHCP lease. **Yes**: The print server requests to renew the current DHCP lease.
		Manual Settings	(Available only if **Config Method** is set to **Manual**) Configure parameters directly from the printer control panel: **IP Address**: The unique IP address of the printer (n.n.n.n). **Subnet Mask**: The subnet mask for the printer (n.n.n.n). **Syslog Server**: The IP address of the syslog server (n.n.n.n) used to receive and log syslog messages. **Default Gateway**: The IP address (n.n.n.n) of the gateway or router used for communications with other networks. **Idle Timeout**: The time period, in seconds, after which an idle TCP print data connection is closed (default is 270 seconds, 0 disables the timeout).

Menu item	Sub-menu item	Sub-menu item	Values and Description
		Default IP	Specify the IP address to default to when the print server is unable to obtain an IP address from the network during a forced TCP/IP reconfiguration (for example, when manually configured to use BootP or DHCP).
			Auto IP: A link-local IP address 169.254.x.x is set.
			Legacy: The address 192.0.0.192 is set, consistent with older HP Jetdirect devices.
		Primary DNS	Specify the IP address (n.n.n.n) of a Primary DNS Server.
			NOTE: This item appears only if **Manual** configuration is a higher priority than **DHCP** in the **Config. Precedence** table, configured through the embedded Web server.
		Secondary DNS	Specify the IP address (n.n.n.n) of a Secondary Domain Name System (DNS) Server.
			NOTE: This item will appear only if **Manual** configuration is a higher priority than **DHCP** in the **Config. Precedence** table, configured through the embedded Web server.
	IPV6 Settings	Enable	Use this item to enable or disable IPv6 operation on the print server.
			Off: IPv6 is disabled.
			On (default): IPv6 is enabled.
		Address	Use this item to manually configure an IPv6 address.
			Manual Settings: Use the **Manual Settings** menu to enable and manually configure a TCP/ IPv6 address.
			Enable: Select this item and choose **On** to enable manual configuration, or **Off** to disable manual configuration.
			Address: Use this item to type a 32 hexadecimal digit IPv6 node address that uses the colon hexadecimal syntax.
		DHCPV6 Policy	**Router Specified**: The stateful auto-configuration method to be used by the print server is determined by a router. The router specifies whether the print server obtains its address, its configuration information, or both from a DHCPv6 server.
			Router Unavailable: If a router is not available, the print server should attempt to obtain its stateful configuration from a DHCPv6 server.
			Always: Whether or not a router is available, the print server always attempts to obtain its stateful configuration from a DHCPv6 server.
		Primary DNS	Use this item to specify an IPv6 address for a primary DNS server that the print server should use.
			NOTE: This item will appear only if **Manual** configuration is a higher priority than **DHCP** in the **Config Precedence** table, configured through the embedded Web server.
		Secondary DNS	Use this item to specify an IPv6 address for a secondary DNS server that the print server should use.
			NOTE: This item will appear only if **Manual** configuration is a higher priority than **DHCP** in the **Config Precedence** table, configured through the embedded Web server.

Menu item	Sub-menu item	Sub-menu item	Values and Description
	Proxy Server		Specifies the proxy server to be used by embedded applications in the device. A proxy server is typically used by network clients for Internet access. It caches Web pages, and provides a degree of Internet security, for those clients.
			NOTE: If your local network has a proxy server, check that you have configured it correctly in your HP Latex network settings at the printer's front panel.
			To specify a proxy server, enter its IPv4 address or fully-qualified domain name. The name can be up to 255 octets.
			For some networks, you may need to contact your Independent Service Provider (ISP) for the proxy server address.
	Proxy Port		Type the port number used by the proxy server for client support. The port number identifies the port reserved for proxy activity on your network, and can be a value from 0 to 65535.
Information	Print Sec Page		**Yes**: Prints a page that contains the current security settings on the HP Jetdirect print server.
			No (default): A security settings page is not printed.
Security	Secure Web		For configuration management, specify whether the embedded Web server will accept communications using HTTPS (Secure HTTP) only, or both HTTP and HTTPS.
			HTTPS Required: For secure, encrypted communications, only HTTPS access is accepted. The print server will appear as a secure site.
			HTTP/HTTPS optional: Access using either HTTP or HTTPS is permitted.
			NOTE: The factory default setting depends on the print server model.

Menu item	Sub-menu item	Sub-menu item	Values and Description
	Reset Security		Specify whether the current security settings on the print server will be saved or reset to factory defaults.
			No (default): The current security settings are maintained.
			Yes: Security settings are reset to factory defaults.
Link Speed			The link speed and communication mode of the print server must match the network. The available settings depend on the device and installed print server. Select one of the following link configuration settings:
			CAUTION: If you change the link setting, network communications with the print server and network device might be lost.
			Auto (default): The print server uses auto-negotiation to configure itself with the highest link speed and communication mode allowed. If auto-negotiation fails, either 100TX HALF or 10TX HALF is set depending on the detected link speed of the hub/switch port. (A 1000T half-duplex selection is not supported.)
			10T Half: 10 Mbps, half-duplex operation.
			10T Full: 10 Mbps, Full-duplex operation.
			100TX Half: 100 Mbps, half-duplex operation.
			100TX Full: 100 Mbps, full-duplex operation.
			100TX Auto: Limits auto-negotiation to a maximum link speed of 100 Mbps.
			1000TX Full: 1000 Mbps, full-duplex operation.

Embedded services

Key networking services embedded in the printer are listed below. For the latest features and services, visit http://www.hp.com/go/jetdirect.

- Configuration and Management

  - BootP/DHCP (IPv4 only)

  - DHCPv6

  - TFTP (IPv4 only)

  - Web Proxy (Automatic/Manual cURL)

  - LLMNR

  - Telnet (IPv4 only)

  - SNMP (v1, v2c, v3) agents

  - Bonjour (for Mac OS X)

  - FTP (File Transfer Protocol)

- Embedded Web Server, HTTP (TCP port 80)

- Embedded Web Server, HTTPS (TCP port 443)

- Printing

    - Raw IP printing (HP-proprietary TCP ports 9100, 9101, 9102)

- Security

    - SNMP v3

    - SSL/TLS

    - Firewall

Turn the printer on and off

To turn on the printer, ensure that the power switch at the rear of the printer is turned on, then press the power button beside the front panel.

You can leave the printer on without wasting energy. Leaving it on improves response time. When the printer has not been used for a certain period of time, it saves power by going into sleep mode. Pressing the power button returns it to active mode, and it can resume printing immediately.

To tun off the printer, the normal and recommended method is to press the power button.

When you turn off the printer this way, the printheads are automatically stored with the maintenance cartridge, which prevents them from drying out.

However, if you plan to leave the printer turned off for a long period of time, you are recommended to turn it off using the power button, and then also turn off the power switch at the rear.
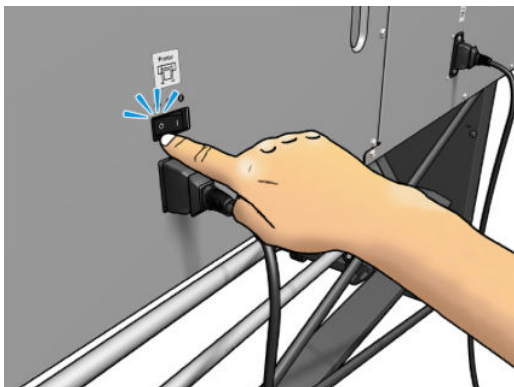
To turn it back on later, use the power switch at the rear. If the printer does not start automatically, press the power button.

When the printer is turned on, it takes 2–3 minutes to initialize itself.

Restart the printer

In some circumstances you may be advised to restart the printer.

1. Turn off the printer by pressing the power button and then turning off the power switch at the rear of the printer.

2. Wait for at least 10 seconds.

3. Turn on the power switch at the rear of the printer.

4. If the front panel does not activate, press the power button.

2 Useful links

Visit the HP Latex Knowledge Center at http://www.hp.com/communities/HPLatex, where you can find detailed information about our HP Latex products and applications, and use the forum to discuss anything related to the business.

Product documentation: http://www.hp.com/go/latex560/manuals/ or http://www.hp.com/go/latex570/manuals/

Videos about how to use the printer: http:/www.hp.com/supportvideos/ or http://www.youtube.com/HPSupportAdvanced

Information about software RIPs, applications, solutions, inks, and substrates: http://www.hp.com/go/latex560/solutions/ or http://www.hp.com/go/latex570/solutions/

Substrate presets: http://www.hp.com/go/mediasolutionslocator (see HP Media Locator on page 93)

HP Support: http://www.hp.com/go/latex560/support/ or http://www.hp.com/go/latex570/support/

Embedded Web Server: Use the printer's IP address (see Access the Embedded Web Server on page 24)

When you need help

In most countries, support is provided by HP support partners (usually the company that sold you the printer). If this is not the case in your country, contact HP Support on the Web as shown above.

Help is also available to you by telephone. What to do before you call:

- Review the troubleshooting suggestions in this guide.

- Review your RIP's documentation, if relevant.

- Please have the following information available:

  - The printer you are using: the product and serial numbers

    > **NOTE:** This information is available from the front panel: press . You may also find it on a label at the rear of the printer.

  - If there is an error code on the front panel, note it down; see Front-panel error codes on page 180

  - The RIP you are using, and its version number

  - If you have a print-quality problem: the substrate reference, and the name and origin of the substrate preset used to print on it.

  - The service information report (see Service information on page 40)

Telephone number

Your HP Support telephone number is available on the Web: please visit http://welcome.hp.com/country/us/en/wwcontact_us.html.

Customer Self Repair

HP's Customer Self Repair program offers our customers the fastest service under either warranty or contract. It enables HP to ship replacement parts directly to you (the end user) so that you can replace them. Using this program, you can replace parts at your own convenience.

Convenient, easy to use

- An HP Support Specialist will diagnose and assess whether a replacement part is required to address a defective hardware component.

- Replacement parts are express-shipped; most in-stock parts are shipped the very same day you contact HP.

- Available for most HP products currently under warranty or contract.

- Available in most countries.

For more information about Customer Self Repair, see http://www.hp.com/go/selfrepair/.

Service information

The printer can produce on request a list of many aspects of its current status, some of which may be useful to a service engineer trying to fix a problem. There are two different ways to request this list:

- In the Embedded Web Server (see Access the Embedded Web Server on page 24), select the **Support** tab and then **Service support** > **Printer information**. You are recommended to request the whole list (select **All pages**).

- From any computer with Internet access, enter the URL of your printer into a Web browser, followed by /hp/device/webAccess/allServicePlot.htm. For instance, if the URL of your printer is **http://123.123.123.123**, enter:

    http://123.123.123.123/hp/device/webAccess/allServicePlot.htm

If you need to send the list by email, you can save the page as a file from your Web browser, and later send the file. Alternatively, from Internet Explorer you can send the page directly: select **File** > **Send** > **Page by email**.

3 Handle the substrate and troubleshoot substrate issues

Overview

You can print on a wide variety of printing materials, all of which are referred to in this guide as substrates.

Substrate tips

Choosing the correct substrate for your needs is an essential step in ensuring good print quality.

Here are some tips about substrate usage.

- To print on textile substrates, in most cases you should use the ink collector and loading accessory. See Ink collector on page 58.

- Using the take-up reel with some substrates, such as textiles, may give the printer better control of the substrate and is likely to improve print quality. See Take-up reel on page 72.

- Allow all substrates to adapt to room conditions, out of the packaging, for 24 hours before using them for printing.

- Handle film and photo substrates by the edges, or wear cotton gloves. Skin oils can be transferred to the substrate, leaving fingerprint marks.

- Keep the substrate tightly wound on the roll throughout the loading and unloading procedures. To make sure that the roll stays tightly wound, consider using tape to stick the leading edge of the roll to the core just before removing the roll from the printer. You can keep the roll taped during storage. If the roll starts to unwind, it can become difficult to handle.

  NOTE: The use of tape to stick the leading edge of the roll to the core is especially important for heavy substrates, because the inherent stiffness of the substrate can cause it to loosen and unwind from the core.

- Print quality could be impaired if you use a substrate that is unsuitable for your image.

- Make sure that the appropriate print-quality setting is selected in the RIP.

- Whenever you load a roll, the front panel prompts you to specify the substrate type that you are loading. For good print quality, it is essential to specify this correctly. Check that the substrate name is the same in the front panel and in the RIP.

  If the names are not the same, press ![icon] on the front panel, then **Substrate library** > **Change loaded substrate**; or change the substrate in the RIP.

- Do not pull the printed substrate while the printer is printing: this can cause severe print-quality defects.
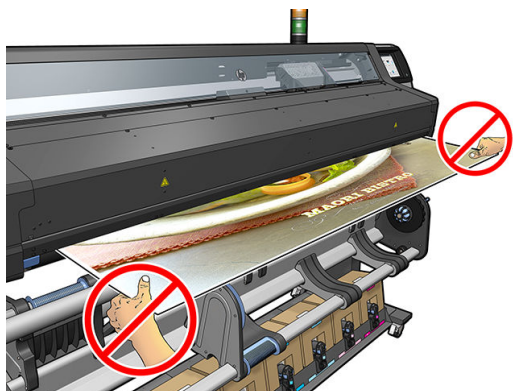
- When printing a series of jobs, do not let the printed substrate obstruct the output path: this can cause severe print-quality defects.

- For more substrate tips, see Load a roll into the printer on page 51 and Assisted manual load on page 66.

⚠ CAUTION: Removing the substrate from the printer manually without using the front panel could damage the printer. Do this only when necessary to clear a substrate jam.

Supported substrate categories

Substrate category	Substrate types	Generic substrate names
Self-Adhesive Vinyl	Cast self-adhesive vinyl	Generic Self-Adhesive Vinyl
	Calendered self-adhesive vinyl	Generic Self-Adhesive Vinyl Vivid
	Perforated self-adhesive vinyl	
	Transparent self-adhesive vinyl	
	Reflective self-adhesive vinyl	
Textile	Polyester textile and fabric	Generic Textile
	Textile banner	Generic Canvas & Coated Textiles
	Backdrops	
	Textile mesh with liner	
	Frontlit textile, with liner if porous	
	Backlit textile, with liner if porous	
	Canvas	
	Flag and voile with liner	
	Cotton textile	
	Self-adhesive textile	

Substrate category	Substrate types	Generic substrate names
PVC Banner	Frontlit banner	Generic PVC Banner
	Backlit banner	Generic Backlit PVC Banner
	Scrim banner	
	Scrimless banner	
	Mesh banner with liner	
	Blockout banner	
	Truck curtain banner or tarpaulin	
PP and PE Film and Banner	Polypropylene (PP) film	Generic PP & PE Synthetics
	Synthetic paper (such as Yupo)	
	Tyvek	
	Coated PE/HDPE (polyethylene) banner	
PET Film	Polyester (PET) backlit film	Generic Polyester Film
	Polyester (PET) frontlit film	Generic Backlit Polyester Film
	Polyester (PET) grey-back film	
Paper	Coated paper	Generic Paper
	Uncoated paper	Generic Coated Paper
	Photo paper	Generic Backlit Paper
	Photorealistic paper	
	Blue-back paper	
	Self-adhesive paper	

Supported HP substrates

Key to application categories

1. Trade show and event displays

2. Backlit displays

3. Fleet graphics and vehicle wraps

4. Signage

5. Window graphics

6. POP and retail displays

7. Posters and photo enlargements

8. Textiles (fabric printing)

9. Billboards

10. Art reproductions

11. Banners

12. Interior decorations

Substrates	Application categories											
	1	2	3	4	5	6	7	8	9	10	11	12
HP banners												
HP HDPE Reinforced Banner 203 microns (8 mil) • 180 g/m² • 45.7 m (150 ft)	•					•					•	
HP Everyday Matte Polypropylene, 3-in Core 203 microns (8 mil) • 120 g/m² • 61 m (200 ft)	•					•	•				•	
HP self-adhesive materials												
HP Air Release Adhesive Gloss Cast Vinyl Without liner: 165 microns (6.5 mil) • 155 g/m² • 45.7 m (150 ft) With liner: 406 microns (16 mil) • 288 g/m² • 45.7 m (150 ft)	•		•	•								
HP One-view Perforated Adhesive Window Vinyl Without liner: 165 microns (6.5 mil) • 155 g/m² • 50 m (164 ft) With liner: 406 microns (16 mil) • 288 g/m² • 50 m (164 ft)			•		•	•						
HP Permanent Gloss Adhesive Vinyl Without liner: 121 microns (4.8 mil) • 150 g/m² With liner: 266 microns (10.5 mil) • 280 g/m² 45.7 m (150 ft) and 91.4 m (300 ft)	•			•		•						
HP Permanent Matte Adhesive Vinyl Without liner: 121 microns (4.8 mil) • 150 g/m² With liner: 266 microns (10.5 mil) • 280 g/m² 45.7 m (150 ft) and 91.4 m (300 ft)	•			•		•						

Substrates	Application categories											
	1	2	3	4	5	6	7	8	9	10	11	12
HP Premium Removable Gloss Adhesive Vinyl Without liner: 96 microns (3.8 mil) • 136 g/m² • 45.7 m (150 ft) With liner: 284 microns (11.2 mil) • 298 g/m² • 45.7 m (150 ft) REACH	•			•		•						
HP Everyday Adhesive Matte Polypropylene, 3-in Core Without liner: 180 microns (7.1 mil) • 120 g/m² • 30.5 m (100 ft) With liner: 215 microns (8.5 mil) • 298 g/m² • 30.5 m (100 ft)	•			•		•					•	
HP films												
HP Backlit Polyester Film 220 microns (8.7 mil) • 285 g/m² • 30.5 m (100 ft)	•	•				•	•					
HP fabrics												
HP Light Fabric 381 microns (15 mil) • 218 g/m² • 45.7 m (150 ft) REACH CONFIDENCE IN TEXTILES	•					•		•			•	•
HP papers and photographic papers												
HP PVC-free Wall Paper 177 microns (7 mil) • 175 g/m² 30.5 m (100 ft) and 91.4 m (300 ft) FSC ColorPRO TECHNOLOGY GREENGUARD CE	•						•					•
HP PVC-free Durable Smooth Wall Paper 431 microns (17 mil) • 290 g/m² • 30.5 m (100 ft) REACH FSC ColorPRO TECHNOLOGY GREENGUARD CE	•						•					•
HP PVC-free Durable Suede Wall Paper 431 microns (17 mil) • 290 g/m² • 30.5 m (100 ft) REACH FSC ColorPRO TECHNOLOGY GREENGUARD CE	•						•					•

Substrates	Application categories											
	1	2	3	4	5	6	7	8	9	10	11	12
HP PVC-free Durable Linen Wall Paper 431 microns (17 mil) • 290 g/m² • 30.5 m (100 ft) REACH / FSC / ColorPRO TECHNOLOGY / GREENGUARD / CE	•						•					•
HP White Satin Poster Paper 165 microns (6.5 mil) • 136 g/m² • 61 m (200 ft) FSC / recycle	•	•				•	•		•			
HP Premium Poster Paper 228 microns (9 mil) • 200 g/m² • 61 m (200 ft) FSC / recycle	•					•	•					
HP Blue Back Billboard Paper 165 microns (6.5 mil) • 123 g/m² • 80 m (262 ft)						•		•	•			
HP Universal Heavyweight Coated Paper, 3-in Core 172 microns (6.8 mil) • 131 g/m² (33 lbs) • 61 m (200 ft) FSC / recycle						•	•					
HP Super Heavyweight Plus Matte Paper, 3-in Core 264 microns (10.4 mil) • 210 g/m² (55 lb) • 61 m (200 ft) FSC / recycle	•					•	•					
HP Professional Gloss Photo Paper 248 microns (9.8 mil) • 275 g/m² • 30.5 m (100 ft) FSC	•					•	•					•
HP Professional Satin Photo Paper 248 microns (9.8 mil) • 275 g/m² • 30.5 m (100 ft) FSC	•					•	•					•
HP Everyday Satin Photo Paper 187 microns (7.4 mil) • 180 g/m² • 30.5 m (100 ft) FSC	•					•	•					•

Substrates	Application categories											
	1	2	3	4	5	6	7	8	9	10	11	12
HP canvas materials												
HP Premium Satin Canvas 462 microns (18.2 mil) • 381 g/m² • 22.9 m (75 ft)	●					●	●			●		
HP Everyday Satin Canvas 444 microns (17.5 mil) • 340 g/m² • 22.9 m (75 ft)	●					●	●			●		

- For detailed information on the HP large-format printing materials portfolio, and to order, see http://HPLFMedia.com.

- For substrate solutions with ColorPRO technology, see http://ColorPROtechnology.com/.

- HP PVC-free Wall Paper printed with HP Latex Inks is rated A+ according to *Émissions dans l'air intérieur*, which provides a statement of the level of emission of volatile substances in indoor air posing health risks if inhaled—on a scale from A+ (very low emission) to C (high emission).

- HP PVC-Free Wall Paper and HP PVC-free Durable Smooth Wall Paper printed with HP Latex Inks are UL GREENGUARD GOLD Certified. See http://www.greenguard.org/.

- HP PVC-Free Wall Paper and HP PVC-free Durable Smooth Wall Paper printed with HP Latex Inks meet AgBB criteria for health-related evaluation of VOC emissions of indoor building products. See http://www.umweltbundesamt.de/produkte-e/bauprodukte/agbb.htm.

HP trademark code FSC CO17543. See http://fsc.org.

HP large-format substrate take-back program availability varies. Some recyclable HP substrates can be recycled through commonly available recycling programs. Recycling programs may not exist in your area. See http://www.hp.com/recycle/ for details.

Products marked with **REACH** do not contain substances listed as SHVC (155) per Annex XIV of the EU REACH directive (published on June 16, 2014) in concentrations exceeding 0,1%. To determine the status of SVHC in HP products, see the HP REACH Declaration published at HP Printing Products and Consumable Supplies. Logo source: Copyright European Chemical Agency.

Products marked with CE carry CE certification according to European Standard EN15102.

Porous substrates

Porous substrates may be used with the printer and the ink collector, with which you must use the take-up reel.

Printing on porous substrates is optimized by using the loading accessory and checking the option in the Load Substrate screen.

To check the porosity of your substrate, proceed as follows.

1. If the printer has any substrate loaded, unload it.

2. Cut a piece of self-adhesive vinyl white gloss 15 × 50 mm (0.6 × 2 in) in size.

3. Stick it to the platen as shown.
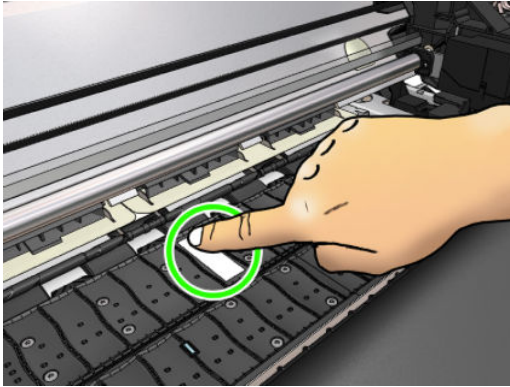
4. Load the substrate that you want to check.

5. Open your RIP software.

6. Download the test file from inside the printer: **http://**_printerIP_**/hp/device/webAccess/images/ Ink_trespassing_check.pdf**, where _printerIP_ is the IP address of your printer.

7. Print the test file using the number of passes and substrate preset that you intend to use in future with this substrate (or a similar profile in terms of ink limit).

8. Unload the substrate.

9. Remove the strip of self-adhesive vinyl from the platen.
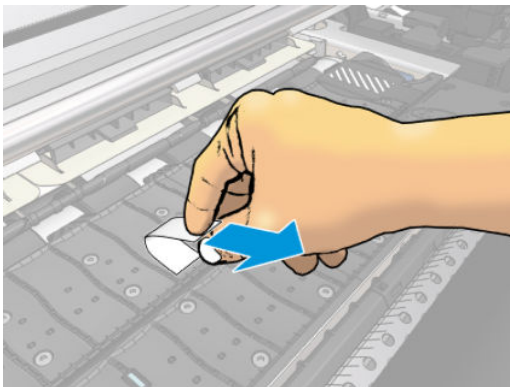
10. Look at the self-adhesive vinyl you have taken from the platen.

    ●   If the strip is completely white (has no ink on it), the tested substrate is non-porous and can be used without the ink collector.

    ●   If there some ink on the strip, the tested substrate is porous and should be used with the ink collector.

11. Clean the platen: see Clean the platen on page 164.

Load a roll into the printer

TIP: To load a roll of textile substrate, see Loading accessory on page 63; and remember to use the ink collector if the substrate is porous (which textiles usually are).

TIP: When loading very thin or very thick substrates, or substrates with a tendency to curl, you should follow the manual loading procedure to reduce the risk of substrate jams and printhead crashes; see Assisted manual load on page 66.

1. For roll diameters greater than 200 mm, remove the loading table spacers.
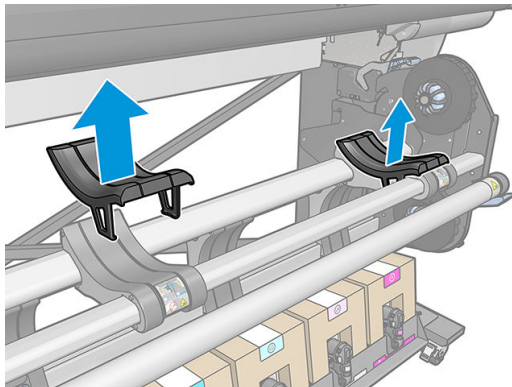
2. For rolls with a core diameter of 2 inches, install the 2 inch hub kit.

   a. Remove the central screw (manually or using a flat screwdriver) on both sides.
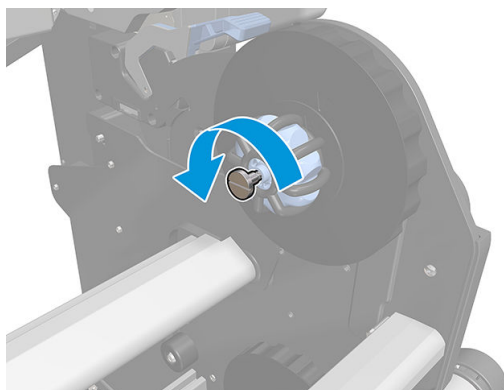
b. Remove the right and left hub 3 inch assemblies.
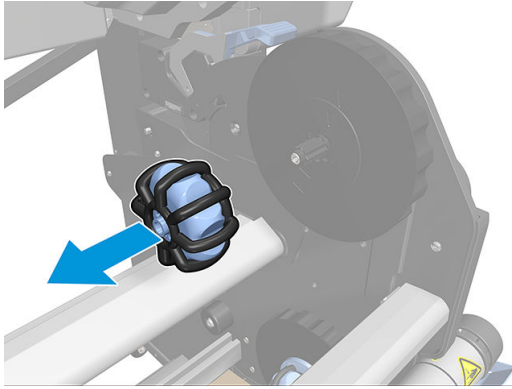
c. Install the right and left hub 2 inch assemblies.

d. Install the central screws (manually or using a flat screwdriver) on both sides.

3. Put the roll onto the table.
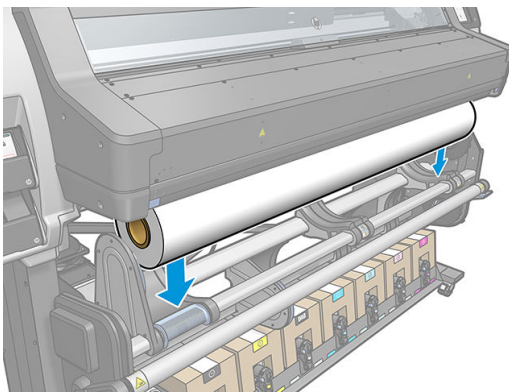
4. Insert the roll onto the right-hand hub.

☼ **TIP:** If the roll is heavy, use the lifter accessory. See .
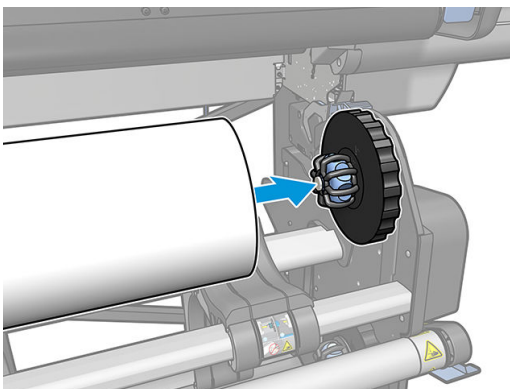
5. Lift the left-hand side of the roll and insert the left-hand hub. Press to ensure that it is tightly inserted.
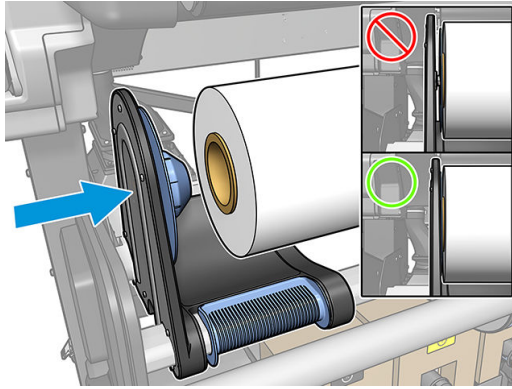
6. At the printer's front panel, press , then **Load**.
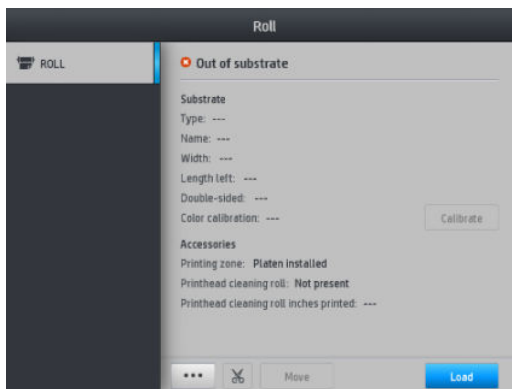
Alternatively, press , then **Substrate** > **Substrate load** > **Load roll**.

7. Open the curing door when requested by the front panel.
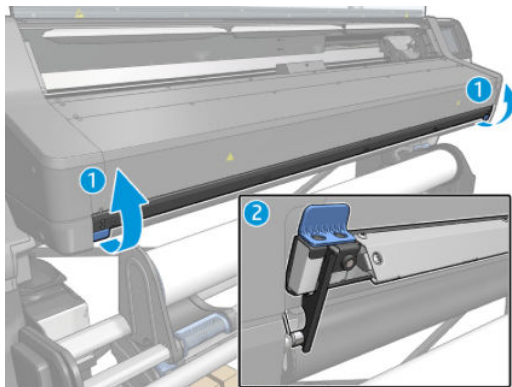
8. The load configuration screen appears.

    ●   Skew acceptance: The available values are between 1 and 5, default 3. The printer automatically tries to correct the skew, then warns you if the skew is still over the limit you have set; but you can choose to continue loading.

    ●   Length tracking: If you check the box and give the length of your roll, the printer calculates the spare paper when printing and reports the remaining length. See <u>Substrate length tracking on page 82</u>.

    ●   Double-sided: May be **Off**, **Side A**, or **Side B**. See <u>Double-sided printing on page 79</u>.

- Print zone: Choose **Platen** or **Ink collector**. See Ink collector on page 58.

- Use loading accessory for textile, flimsy, or high-friction substrates: See Loading accessory on page 63.

- Assisted manual load for very rigid or curly substrates: See Assisted manual load on page 66.

- Use edge holders: See Edge holders on page 68.

- Wiper roller for substrates with print-quality issues due to surface contamination: See Wiper roller on page 78.

When you have made your choices, instructions are displayed.

9. Insert the leading edge of the substrate into the printer's substrate path.

⚠ **WARNING!** Take care not to insert your fingers with the substrate.

The printer beeps when it detects and accepts the leading edge of the substrate.
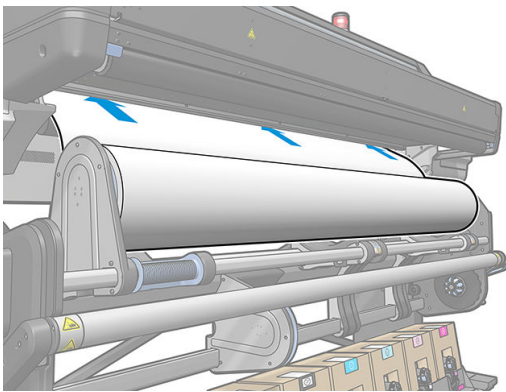
10. Select the category and name of the substrate you are loading.
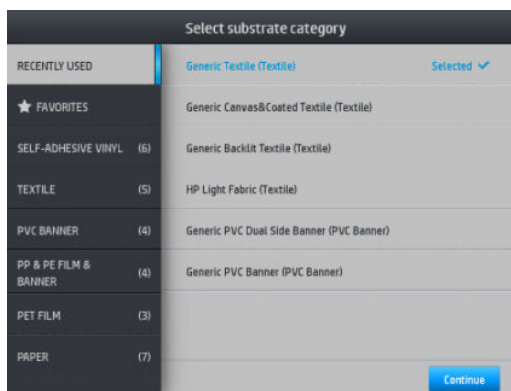
You can also search by favorites, or you can access any substrate category and select **None of these, I'll create or search for it later**: by accessing the substrate library after completing the loading procedure. See Substrate presets on page 91.

📝 **NOTE:** You should select the same substrate name that you are using in your RIP software.

11. The printer checks the substrate in various ways and may ask you to correct problems with skew or tension. In case of a problem during this process, lifting the window will pause the load procedure and release the substrate so that you can correct its position manually.

12. Wait until the substrate emerges from the printer.
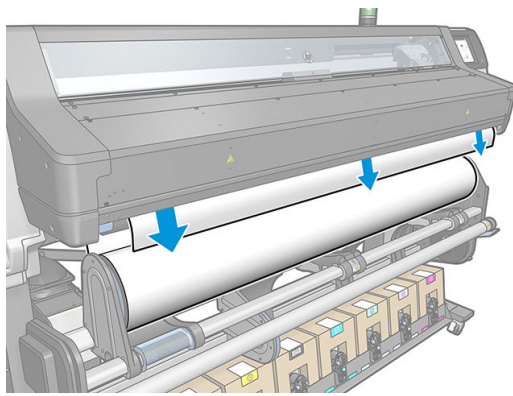
WARNING! Take care not to touch the curing zone or the platen, which may be hot.

Risk of burns

For more safety information, please see Safety precautions on page 3

NOTE: If you have an unexpected problem at any stage of the substrate loading procedure, see Substrate cannot be loaded successfully on page 83.

13. If you have chosen double-sided printing and side B—see Double-sided printing on page 79—the printer will look for the black reference line at this point. If it fails to find the line, it will ask a few questions.

14. The printer calibrates the substrate advance.

15. The printer indicates that it is ready for printing.
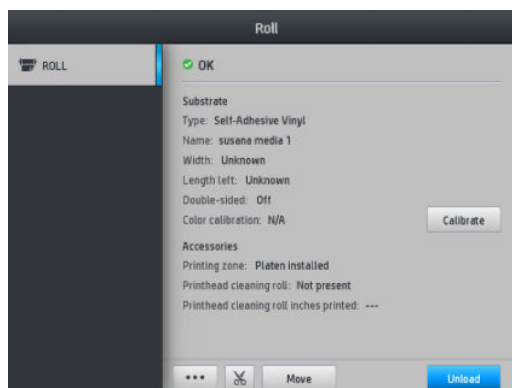
16. Rotate the substrate pivot system inside the printer.
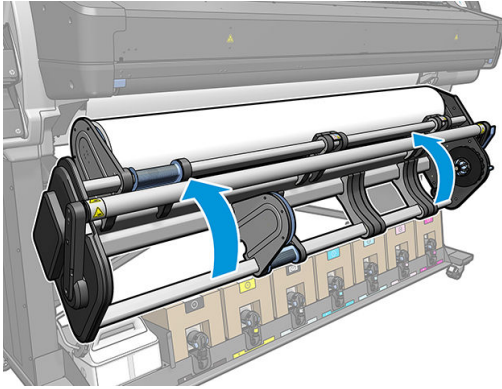
Lifter accessory

The lifter accessory helps you to load heavy rolls into the printer.

When loading the roll:

1. Check that the lifter is unscrewed.

2. Install the lifter from the bottom, pressing the latch vertically.
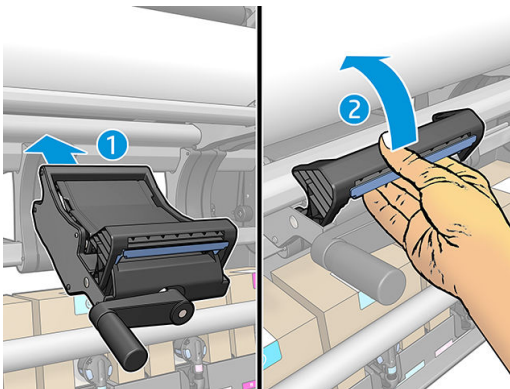
3. Move the handle to screw and lift the right side of the roll until it is aligned with the right hub.
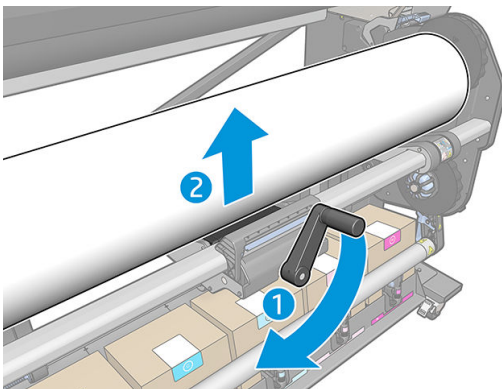
4. Position the roll on the right.
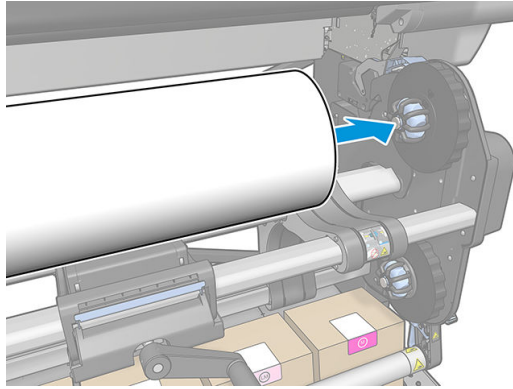
5. Move the handle to unscrew (lower) the lifter.
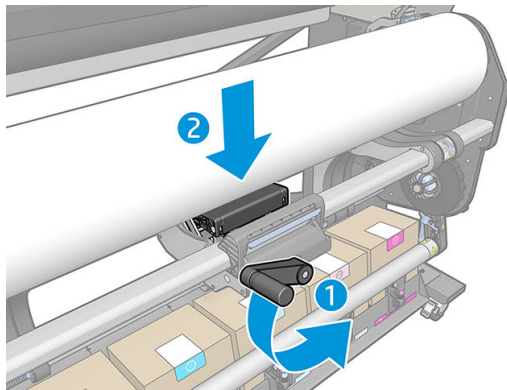
6. Move to the left.
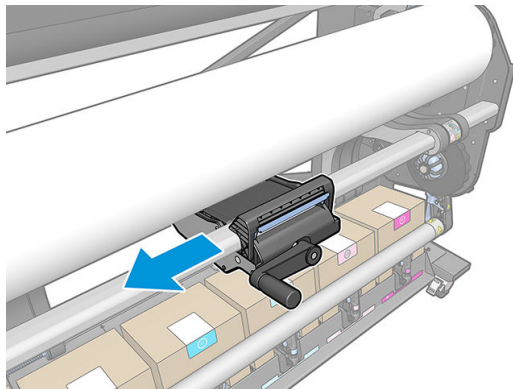
7. Move the handle to screw, and lift the left side of the roll until it is aligned with the left hub.
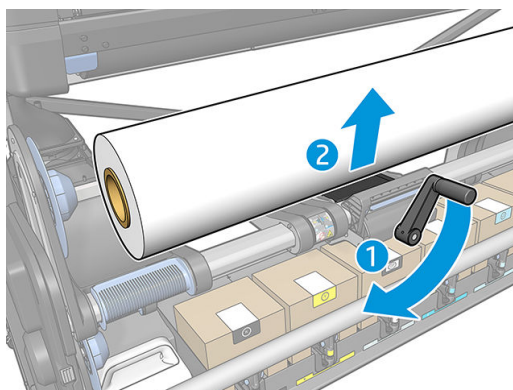
8. Move the left hub into the roll core.
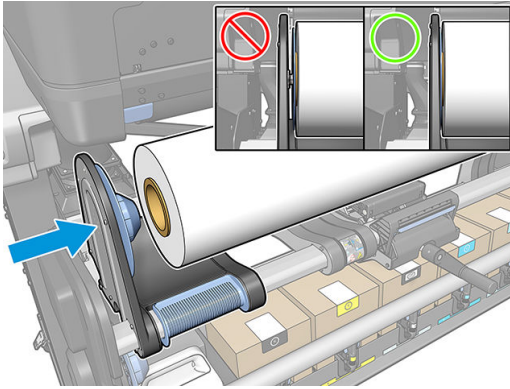
9. Move the handle to unscrew (lower the lifter).
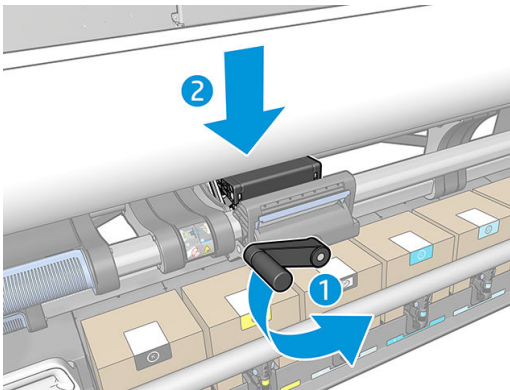
10. Remove the lifter by pressing the latch vertically.
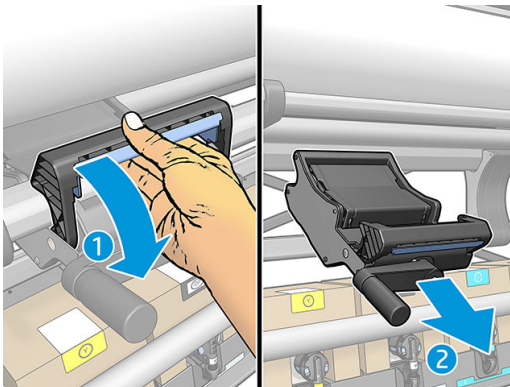
Ink collector

The ink collector should be used instead of the platen in the following cases:

- Whenever you intend to print on a porous substrate. See Porous substrates on page 49.

- Whenever you intend to print to the edges of the substrate without leaving any margin (full bleed printing).

The platen and the ink collector both come in two parts (left and right). To install the ink collector, first unlock and remove the two parts of the platen. Then install the two parts of the ink collector in their place.

The ink collector comes with blue consumable parts that should be attached to the ink collector. They can be attached before or after installing the ink collector in the printer; but before loading any substrate. To attach

these parts, put them vertically into the ink collector and press until the two snaps on each part have clicked into place.

☆ **TIP:** You are recommended to use the take-up reel with the ink collector. See Take-up reel on page 72.

⚠ **WARNING!** Avoid moving parts. Handle fragile parts with care. You are recommended to wear gloves.

Moving part	Fragile	Wear gloves

For more safety information, please see Safety precautions on page 3

Install the ink collector

1. The platen and the ink collector both come in two parts (left and right). Unlock the platen using the two blue locks, located at the left and right of the printer.

2. Remove the inter-platen label.
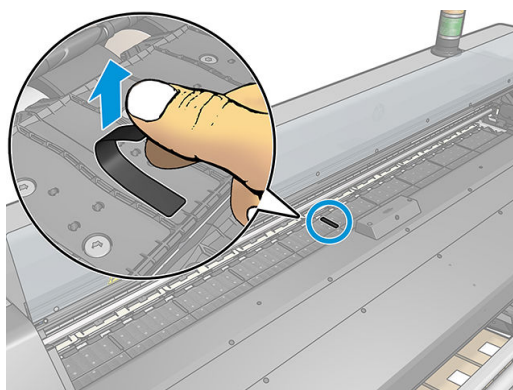
3. Remove both parts of the platen in the same way.
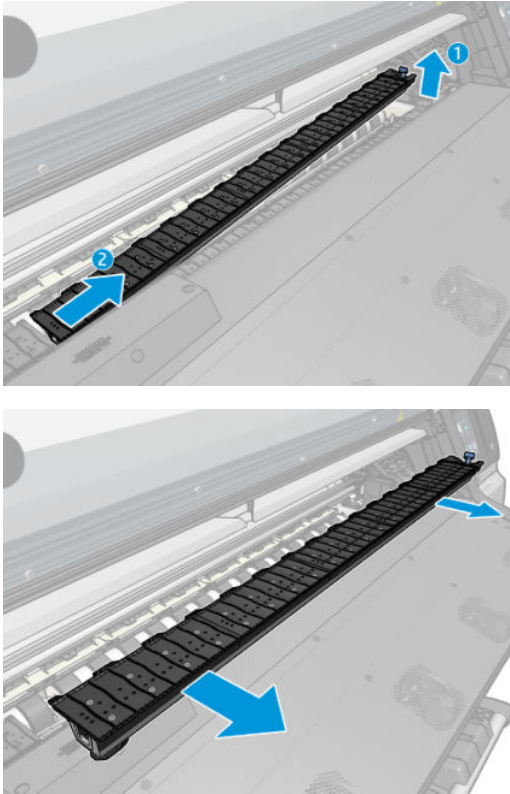
4. Place the two parts of the ink collector into the printer.
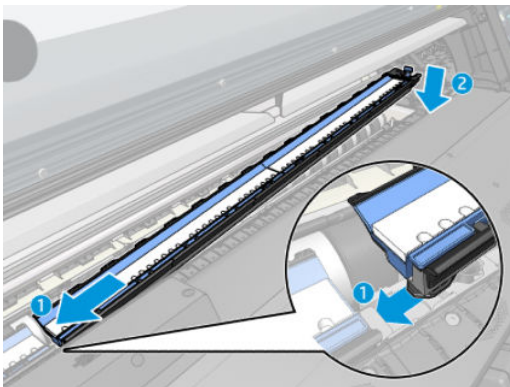
5. Ensure that the locks are locked and that there is no obstruction in the printing path.
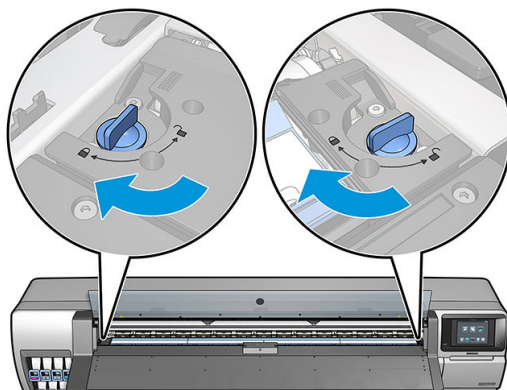
6. Install the output platen protector.

a. Open the curing door.
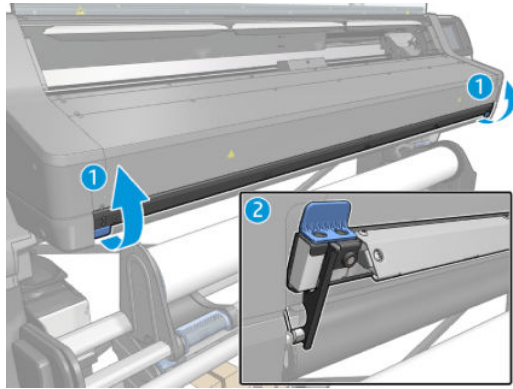
b. Insert an output platen protector on one side of the output platen.
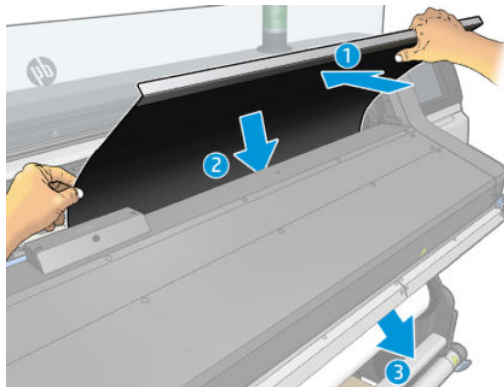
c. Insert the tabs between the plastic piece and the metal.
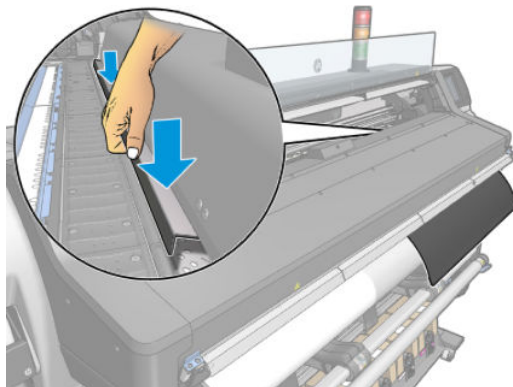
d. Make sure the platen protector is well positioned and straight.
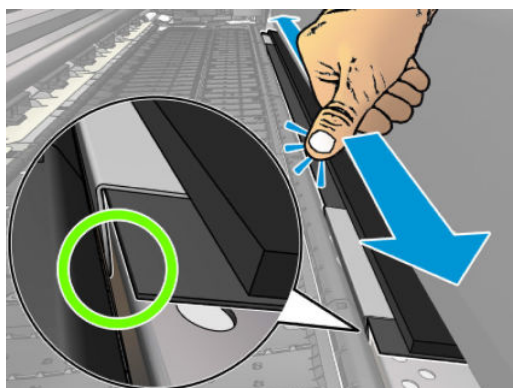
e. Do the same on the other side of the output platen.
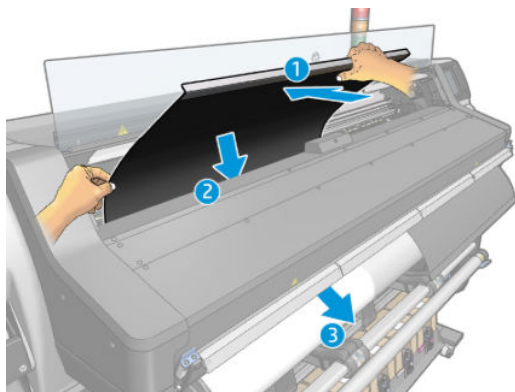
f. Attach the Velcro to the underside of the curing system.
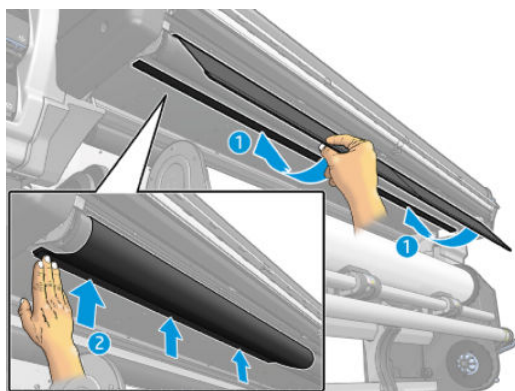
Follow the same method to reinstall the platen when required.

When reinstalling the platen, attach one of the black stickers, provided in the maintenance kit, between the two halves. This will prevent a local shift of color when printing.
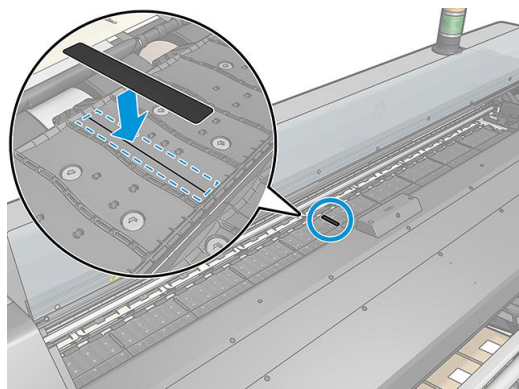
Replace the blue ink collector consumables

The length of substrate that you can print with the same ink collector consumables depends on the porosity of the substrate and the quantity of ink used on the print. If you see that the substrate is dirty when printing, stop printing and change the ink collector consumables. Failure to do so could cause some parts of the printer to malfunction.

1. You are recommended to wear the gloves that are included in the kit.

2. Press both snaps with your thumbs and lift the ink collector consumables vertically out of the printer.

3. Dispose of the dirty ink collector consumables.

4. Ensure that the ink collector is clean. If not, clean it with a damp cloth.

5. Place the new ink collector consumables into the printer vertically, starting on the right. You will hear a click when the snaps have been inserted.
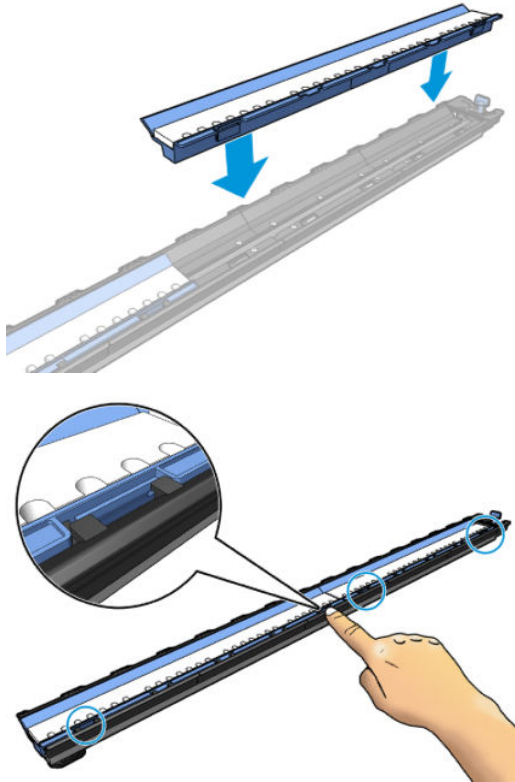
Loading accessory

The loading accessory is designed to help in loading banner/textile/mesh substrates. It is recommended when loading such substrates, but not obligatory.

**NOTE:** The edge holders can be used whether or not you decide to use the loading accessory.

1. Before loading the substrate, check the **Use loading accessory** box in the Load Configuration screen on the front panel, so that you will have the correct loading sequence, and to set the correct mechanical settings for thin substrates.
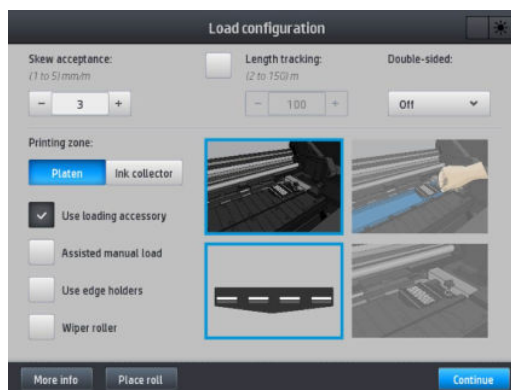
2. Lay the textile loading accessory on the curing module.
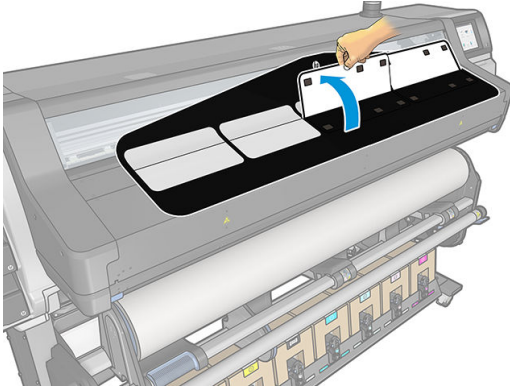
3. Pull some of the substrate from the roll and place the leading edge under the magnetized white flaps of the loading accessory.
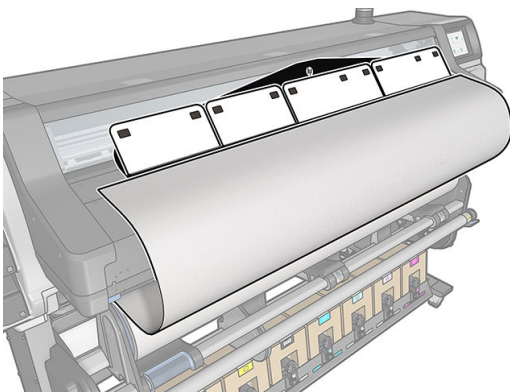
4. Flip the white flaps back to cover the leading edge of the substrate. The black patches are magnetic and grip the substrate.
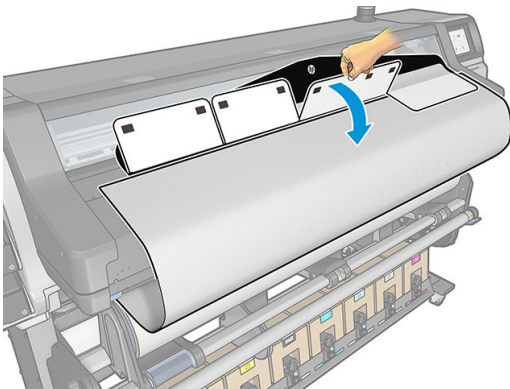
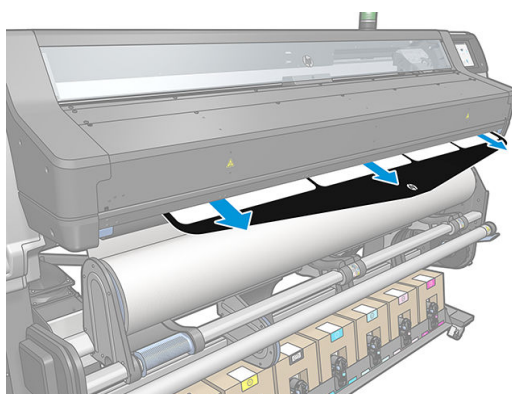5. Feed the loading accessory into the substrate input.
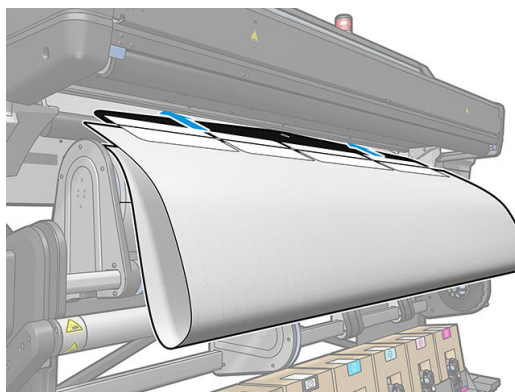
6. The loading accessory passes through the printer's substrate path with the substrate.

⚠ WARNING! Take care not to touch the curing zone or the platen, which may be hot.

Risk of burns

For more safety information, please see Safety precautions on page 3

7. Select the category and name of the substrate you are loading.
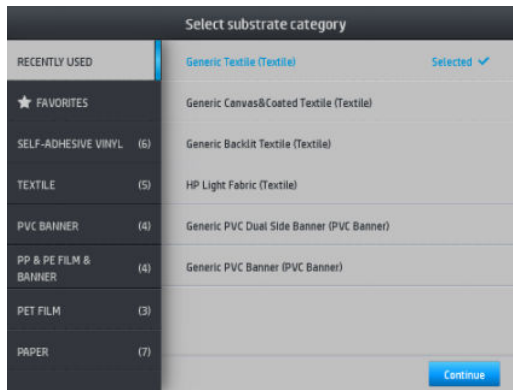
NOTE: You should select the same substrate name that you are using in your RIP software.

TIP: When loading very thin substrates, always select the substrate type as **Banner** to minimize the vacuum pressure applied while loading; when loading very thick substrates, always select the substrate type as **HP Coated Paper** (in the Paper category) to maximize the vacuum pressure. After loading and before printing, go to the front panel and change to the correct type for the substrate you are loading:

press [icon], then **Substrate** > **Change loaded substrate**.

8. After passing through the printer, the loading accessory can be removed by hand.
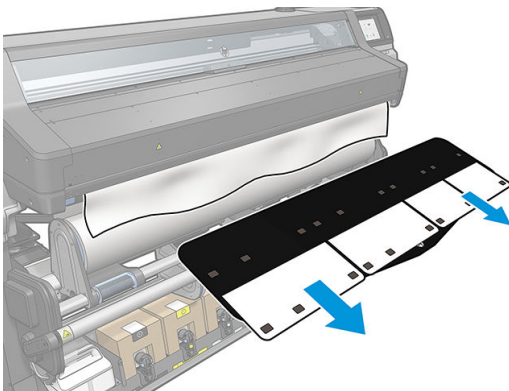
9. The printer does not check for skew when a porous or thin substrate is loaded with the loading accessory option checked. Follow the instructions in to minimize skew.

10. If you are loading transparent substrate without opaque borders, you are asked to enter the width of the substrate and the distance of the right edge from the printer's side plate (as indicated by the ruler on the front of the curing module).

11. If you have chosen double-sided printing and side B, the front panel may ask a question if the reference line is not found. See .

12. The printer calibrates the substrate advance.

NOTE: You are recommended to use the take-up reel; however, it is not obligatory.

Assisted manual load

The assisted manual load procedure should be used in the following cases:

● The substrate is unusually thin or unusually thick.

● The substrate has ragged edges.

- The substrate tends to curl at the edges.

- The printing side of the substrate faces outwards.

In other cases, you are recommended to use the normal loading procedure. See Load a roll into the printer on page 51.

To start the assisted manual load procedure, you need to have a roll loaded on the pivot table rewinder.

The normal minimum substrate width is 23 inches (584 mm). To load substrates down to a minimum width of 10 inches (254 mm), go to the front panel and press ![icon], then **Substrate** > **Substrate handling options** > **Enable narrow substrate**. With this option, print quality is not guaranteed.

1. Start the substrate loading procedure as usual (see Load a roll into the printer on page 51), and make sure to check the **Assisted manual load** box in the load configuration screen.
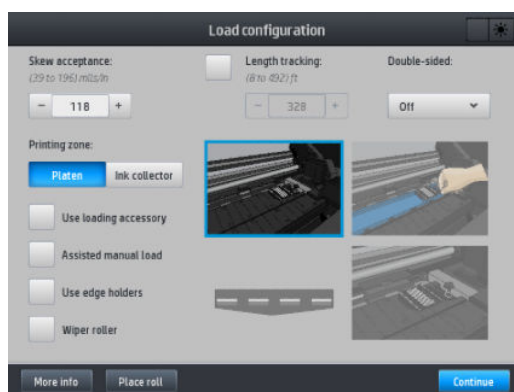
You can alternatively launch the manual load from the **Substrate** box in the front panel screen that you can see by sliding your finger to the left.

2. Carefully insert the leading edge of the substrate above the input roller, making sure the substrate remains taut during the process. Avoid rewinding the substrate manually, unless the printer asks you to do so.

3. Continue to feed the substrate until it reaches the printing platen. Open the window to help pull the substrate through, and keep feeding the substrate at least until the leading edge is at the same height as the substrate roll. Align the right edge of the substrate with the right edge of the roll.

⚠ **WARNING!** Do not touch the printer's curing enclosure: the internal surfaces could be hot. Also beware of getting your fingers trapped in the substrate path.


| Risk of burns | Risk of trapped fingers |

For more safety information, please see Safety precautions on page 3

💡 **TIP:** If the substrate you are using tends to curl, keep feeding the substrate until the edge is out of the printer. You are also recommended to use the take-up reel, or to disable the cutter from the front panel if not using the take-up reel.

4. Select the category and name of the substrate you are loading.
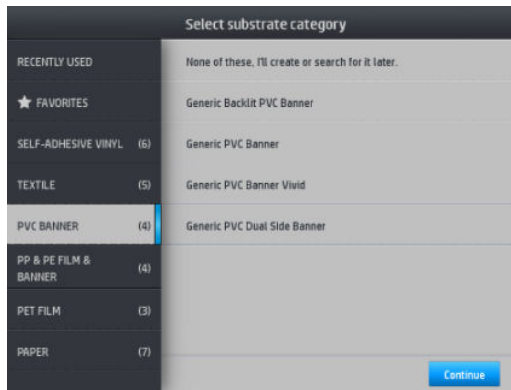
The rest of the assisted load procedure is the same as in the normal load procedure. See .

Edge holders

The edge holders are designed to prevent the edges of the substrate from rising while printing is in progress. They are recommended only when the edges of the substrate tend to lift up and touch or damage the printheads. They can be used with the platen or with the ink collector. When not in use, they should be stored outside the printer.

If they are needed often, they can be stored inside the printer, to the left and right of the print platen, to avoid substrate jams when loading the next substate.

📝 NOTE: The edge holders extend 7 mm over the edge of the substrate. You should set a minimum left and right margin of 7 mm (0.3 in) in the RIP when using edge holders, otherwise the printer could try to print on the edge holders.

If you choose to use them, you should move them into position when prompted by the front panel (this prompt appears when the **Use edge holders** checkbox has been checked). Open the window, place the edge holders, then close the window.

The edge holders should be placed on the platen so that they overlap the left and right edges of the substrate. Align the dotted line on the edge holder with the lateral edge of the substrate.

⚠ WARNING! Avoid moving parts. Handle fragile parts with care. You are recommended to wear gloves.
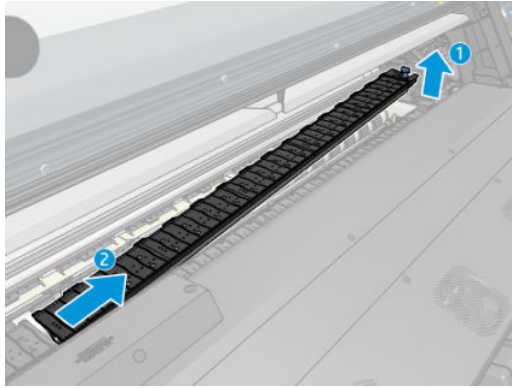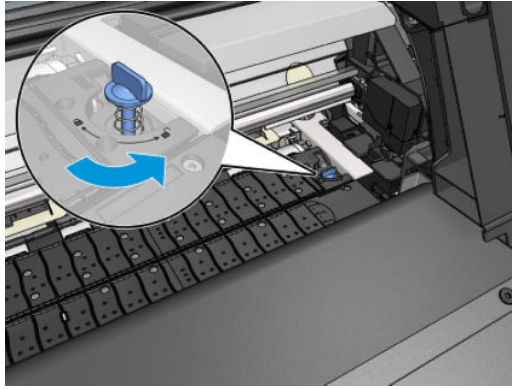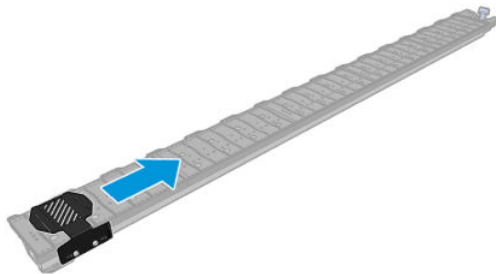

| Moving part | Fragile | Wear gloves |

For more safety information, please see
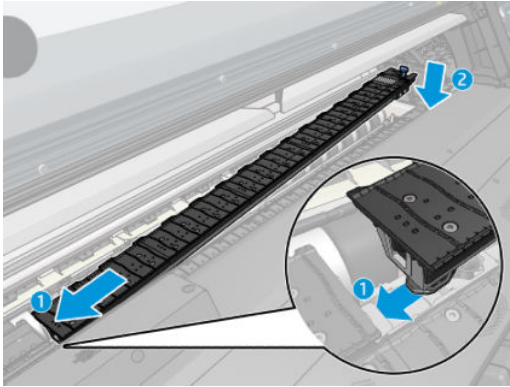
Place edge holders

1. Remove the platen module or ink collector on one side of the printer.

2. Slide the edge holder onto the platen module or ink collector, and adjust its position: on the left, as far to the left as possible; on the right, as far to the right as possible.
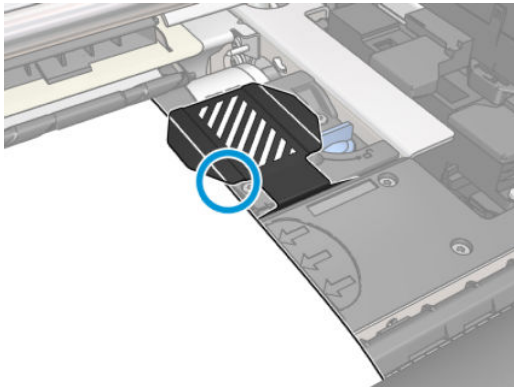
3. Put back the platen module or ink collector with the edge holder in place.

4. Repeat with the platen module or ink collector on the other side.

Align the substrate

When the substrate has been loaded, align it with the dotted line on the edge holder. Misalignment could result in a substrate jam, or damage to the substrate or to the printheads.
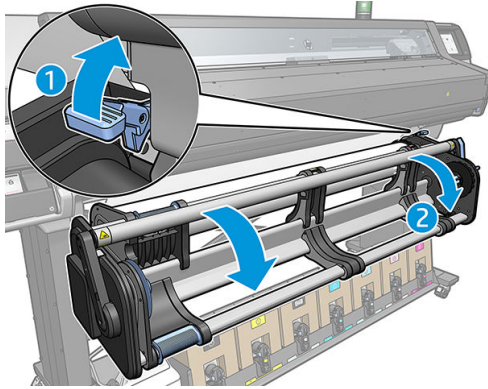

Unload a roll from the printer

1. If you used the take-up reel during printing, unload the printed roll from the take-up reel. See .
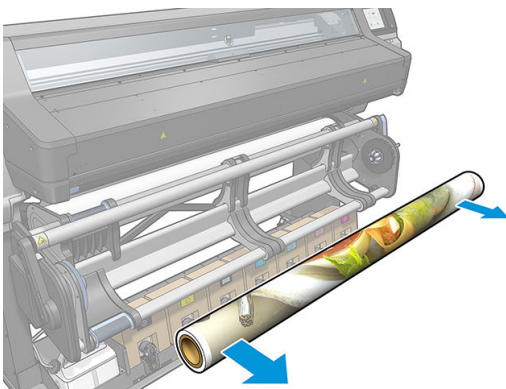
2. Rotate the pivot system so that the input roll is accessible.

3. On the printer's front panel, press , then **Unload**.

   Alternatively, you can press , then **Substrate** > **Unload substrate**.

4. If the printer has been tracking the length of the substrate, the front panel displays the remaining length so that you can note it for future reference. See Substrate length tracking on page 82.
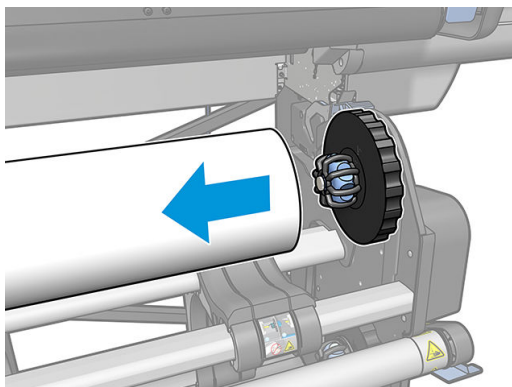
   Press **OK** to continue.

5. When the printer has rewound the roll, remove the left hub from the roll.

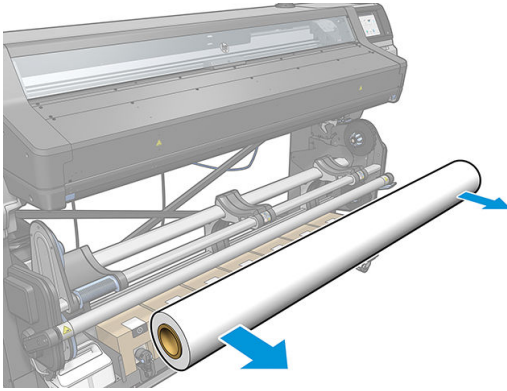   ☀ **TIP:** If the roll is heavy, use the lifter accessory. See Lifter accessory on page 56.
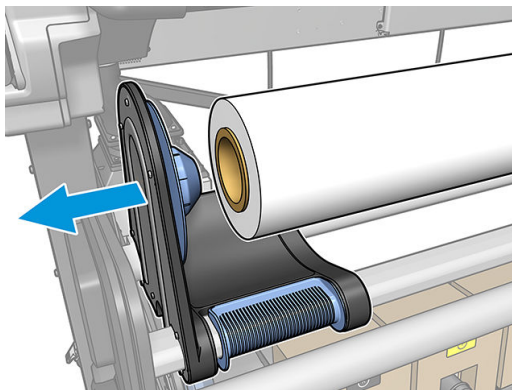
6. Remove the roll from the right hub.

7. Remove the substrate from the loading table.

Take-up reel

Tension bar

When in use, the take-up reel requires a dangling loop of substrate weighed down by a tension bar. The tension bar can be moved with the take-up reel lever or by using the **Move paper** or **Rewind paper** options in the front panel.

Load a roll onto the take-up reel

NOTE: The take-up reel is enabled once the pivot system is rotated and the tension bar is placed into its working position.

NOTE: Close the curing door whenever the front panel prompts you to do so.

1. Load a core onto the take-up reel. Insert it first onto the right hub.
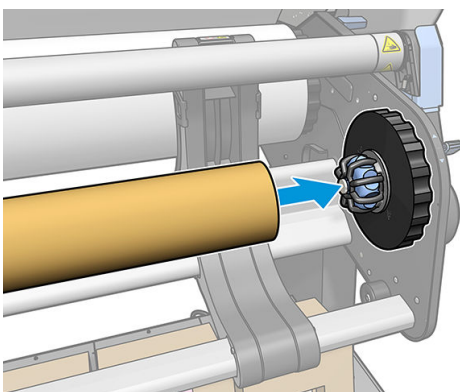
2. Insert the left hub into the core. Press laterally to ensure that it is tightly inserted.

3. Advance the substrate until it reaches the take-up reel core. Ensure that the tension bar is at the back position.
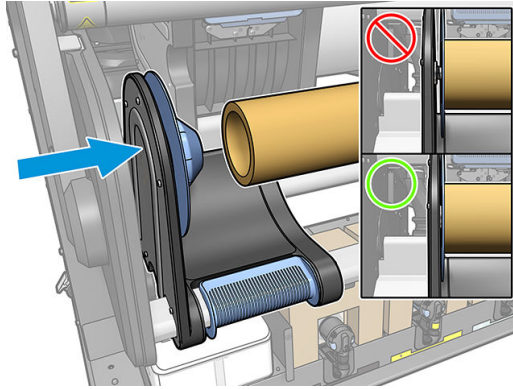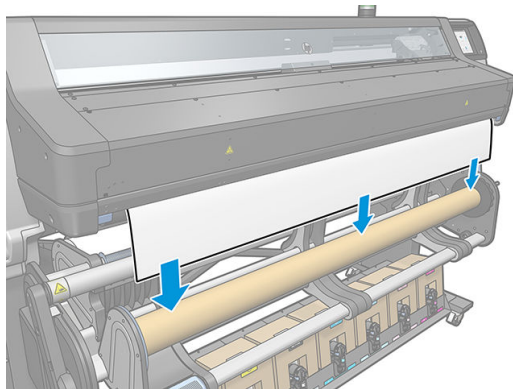

4. Pull down the center of the substrate's leading edge to straighten the substrate. Do not attempt to pull more substrate out of the printer.

5. Adjust the position of the core on the take-up reel so that it is aligned with the substrate.

6. Tape the leading edge of the substrate to the core in the center, then at each side. Make sure that the substrate is straight.
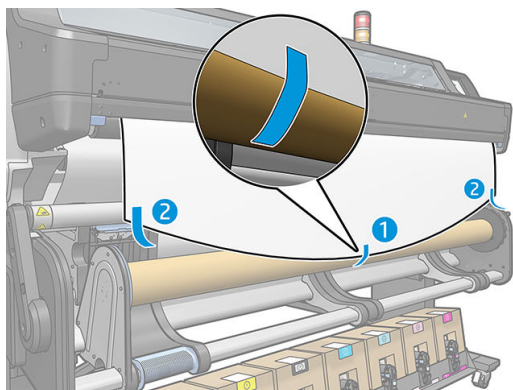
NOTE: Depending on whether you want to print the images facing in or out, place the tape accordingly.

7. Press the button on the front panel to advance the substrate, creating a loop.
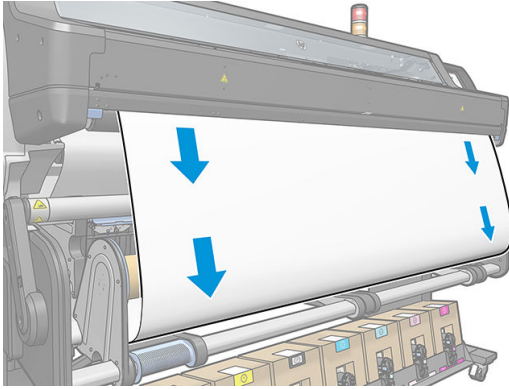
8. Move the blue lever on the take-up reel motor to rotate the reel one full turn. This will help to support the weight of the tension bar.

    Rotate the reel in the appropriate direction to print the images facing in or out.
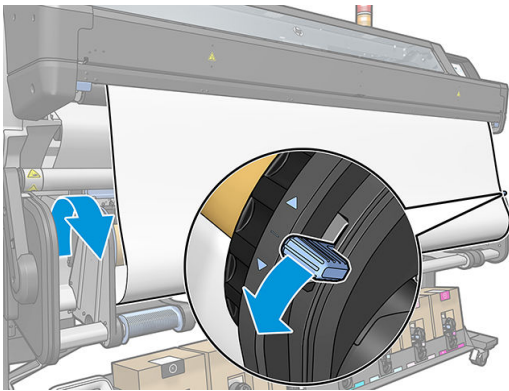
9. Press the button on the front panel to advance the substrate again.
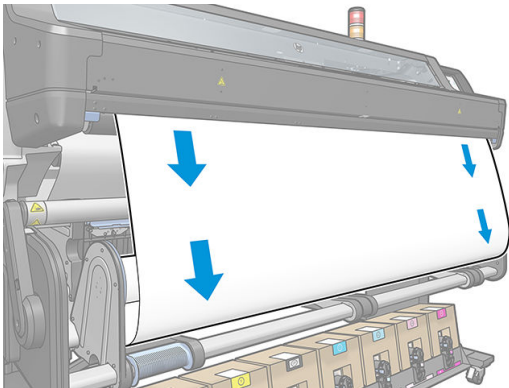
10. The winding direction follows the blue lever winding direction.
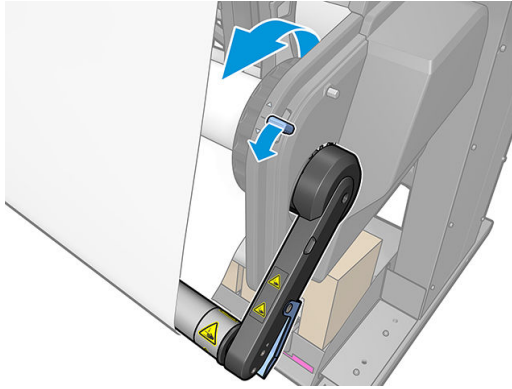
11. Gently lower the tension bar, unlocking it from the holding position.
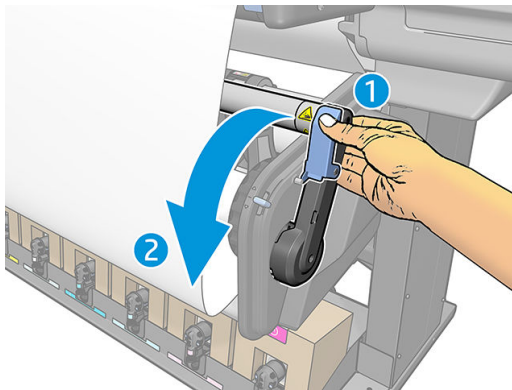
12. The following image shows how the printer looks when it is operating. As substrate is fed from the printer, it drops down to the tension bar, then down again to the take-up reel.
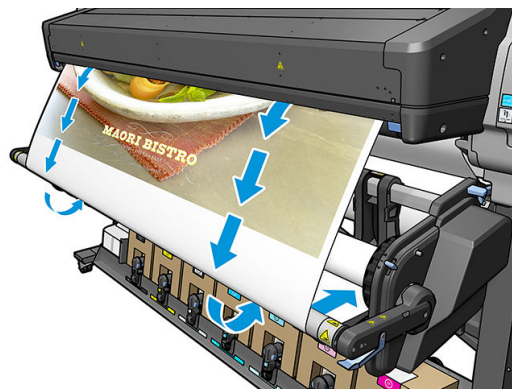
Unload the take-up reel

⚠ **WARNING!** Take care not to get your fingers trapped.

Risk of trapped fingers

For more safety information, please see Safety precautions on page 3

1. On the printer's front panel, press ![icon], then **...**, then **Take-up reel**.

   The printer allows you to move the substrate to facilitate cutting.

2. Remove the tension bar, lifting it into the resting position.
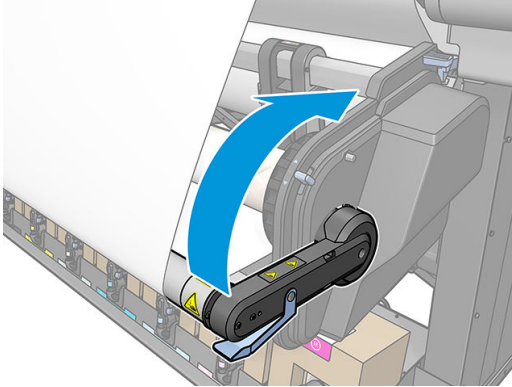
3. Use the blue winding lever on the take-up reel motor to wind the excess substrate around the take-up reel.
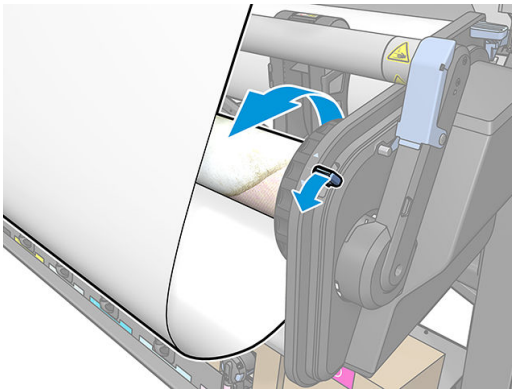
4. Cut the substrate with scissors.
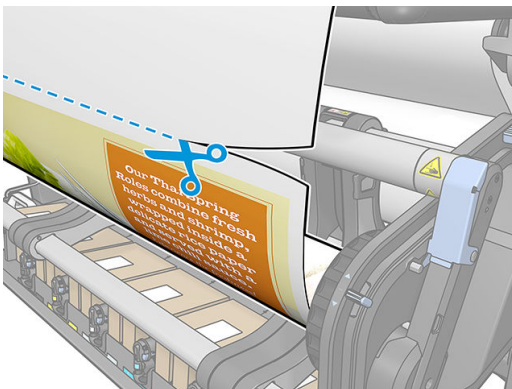
5. While holding the substrate, use the winding button on the take-up reel motor to wind the remainder of the substrate around the take-up reel.
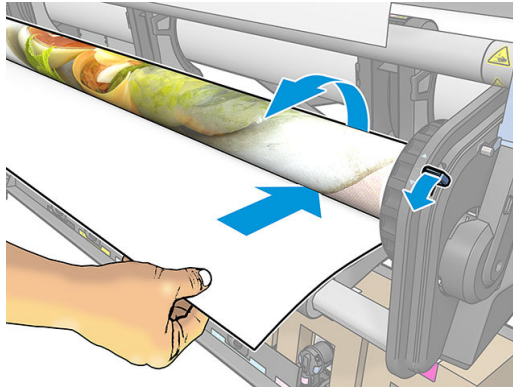
6. Remove the left hub from the roll, resting the roll on the table.
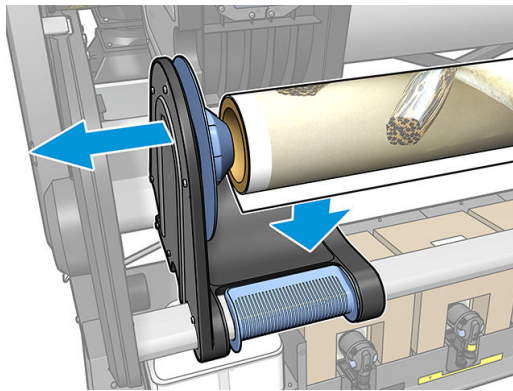
7. Remove the roll from the right hub.
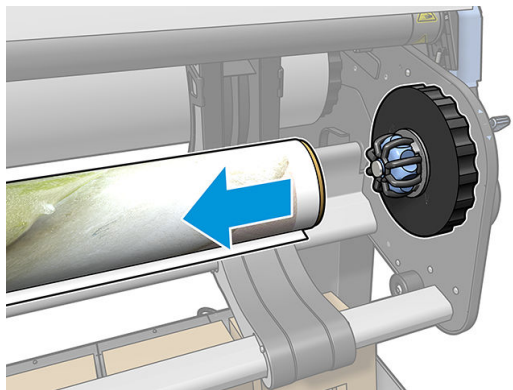
8. Remove the roll from the printer.
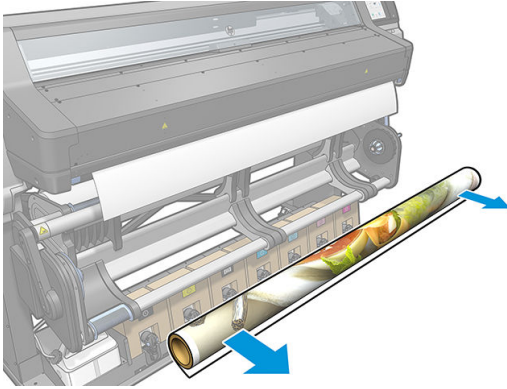
Wiper roller

The wiper roller is designed to wipe the printable surface of banner and vinyl substrates, to improve the quality of the surface before printing.

Installation

1. Before loading the substrate, remove the smooth black input roller.
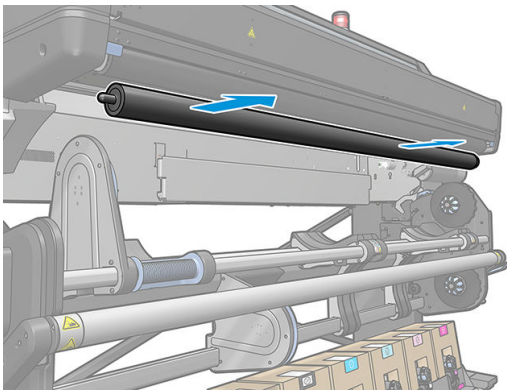
2. Insert in its place the wiper roller, covered in foam, with the gear on the right-hand side.
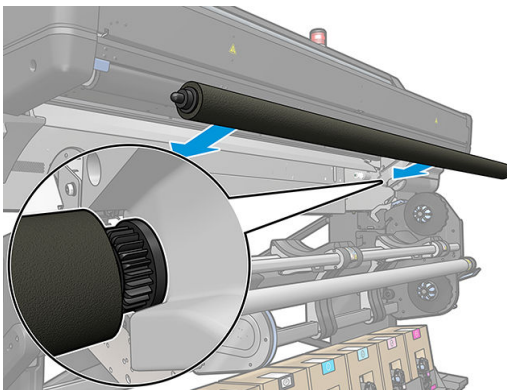
3. The printer detects that the wiper roller is in use, and displays it as available in the Substrate and Loading screens. It also displays the length of substrate that has been printed using the wiper roller.

4. Continue with the usual substrate loading procedure.

Tips

- After loading, the first 300 mm of substrate between the wiper roller and the print zone has not been wiped. You can add that distance as a top margin in your RIP, or you can move the substrate back and forth from the **Substrate** menu to wipe that area before printing.

- To obtain the most benefit from the wiper roller, ensure that the pivot table is in the inner position, so that the substrate has maximum contact with the wiper roller.

- For some vinyl substrates, you can optimize performance by increasing the input tension to 30 N·m in your substrate preset. See <u>Modify a substrate preset on page 95</u>.

- If the wiping is not effective enough, consider either using a slower print mode or adding delays between passes in the substrate presets to allow more passes of the roller per substrate advance.

Replacement

- The wiper roller foam does not last indefinitely and should be replaced after extended use. The printer tracks the length of substrate wiped by the roller, and displays a warning when replacement is due.

- Extract the right end cap with the gear from the old roller, and insert the gear into the replacement unit.

- Then reset the **Replace wiper roller** counter in the printer's front panel.

Double-sided printing

The printer can be used to print on both sides of the substrate, in the following way.

> **NOTE:** The print should be at least 28 cm (11 in) wide, otherwise the printer will not be able to find the reference line when printing the second side.

Outline

1. Tell the printer or the RIP that you intend to print on both sides.

   Double-sided printing can be selected in your RIP software or at the printer's front panel. The RIP setting takes precedence: if double-sided printing is explicitly turned on or off in the RIP software, the front panel setting is ignored.

2. The printer prints the content that you want to appear on the first side. After each job, the printer prints a black reference line that is used to align the matching job on the second side.

3. After all side A jobs have been printed, cut and unload the substrate.

4. Reload the cut substrate upside down and starting at the end. The reference line marking the end of the first side should be face down and near the leading edge.

5. The printer finds the reference line, and uses it to start printing the second side in the right place.

> **NOTE:** If you try to move the substrate while printing on either side, the front panel asks for confirmation, because any such movement prevents correct alignment between the two sides.

Double-sided printing in detail

1. Load the substrate in the normal way for the substrate you are using.

2. Optionally, select the side to print in the Double Side menu on the Load Configuration screen.

   If the RIP supports double-sided printing, select double-sided printing in your RIP software.

   > **NOTE:** The automatic cutter and the extra top/bottom margin are both disabled during double-sided printing.

3. Send one or more jobs to be printed on the first side. Before printing the first job, the printer may advance the substrate by about 0.5 m (20 in) so that the second side can be completely cured. After each job, the printer prints a black reference line that is used to align the matching job on the second side.

    NOTE: The chance of visible misalignment between the two sides increases with the length of the job. For this reason, in double-sided printing you are recommended not to print any single job that is longer than 3 m (10 ft). Visible misalignment may also be caused by skew.

4. After printing all side A jobs, advance the substrate a little by going to the front panel and pressing

    , then **Move substrate**.

    ●   If you plan to attach the substrate to the take-up reel before printing the second side, advance the substrate enough to achieve this.

    ●   If you plan to attach the substrate to the take-up reel while printing the second side, advance the substrate about 10 cm (4 in).

5. Cut the substrate, either manually or by going to the front panel and pressing , then **Cut**. Before cutting, ensure that the total length of the cut substrate is more than 2 m (6 ft 7 in), otherwise you may be unable to load it successfully.

    NOTE: The **Cut** command will not work if the cutter is disabled: that is, if , **Substrate** > **Substrate handling options** > **Cutter** is set to **Off**.

6. Press , then **Substrate unload**.

7. Reload the substrate with the already-printed side facing up as it enters the printer, and with the reference line near the leading edge. Reload if necessary until the printer finds less than 1 mm/m skew.

    TIP: Although it is not strictly necessary, you may find it quicker to use the manual loading procedure as an initial approximation, and then allow the printer to find the reference line more accurately. See Assisted manual load on page 66. If you use only the automatic loading procedure, the printer may take some time to find the reference line.

8. Select side B from the Double Side menu in the Load Configuration screen, so that the printer will search for the black reference line when the substrate is loaded.

    NOTE: If enable autoline detection is off, the automatic search is disabled, and the printer asks you to find the correct position manually.

9. The printer searches for the reference line on the substrate. If it fails to find it, the front panel asks you to move the substrate using the **Rewind substrate** and **Advance substrate** keys until the reference line is aligned with the permanent line on the platen. You may find it useful to mark where the reference line is on the other side of the substrate.
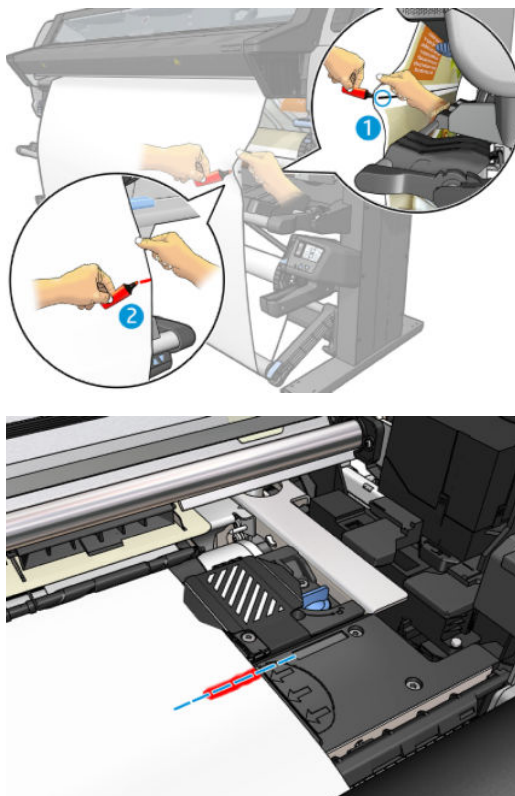
View information about the substrate

On the front panel's home screen, press .

The following information appears on the front panel, if any substrate is loaded.

Substrate section

- The substrate type

- The substrate name

- The substrate width in millimeters (estimated by the printer)

- The remaining length of the substrate, if known, and whether length tracking is set to **Manual** in the loading configuration screen

- Whether double-sided printing is selected

- The color calibration status and a button to launch color calibration

Accessories section

- The printing zone (platen or ink collector)

- The wiper roller status

– **Ready**: The wiper roller is loaded and ready for use.

– **Recommended to change**: The wiper roller is loaded but has passed its expected lifetime: more than 1800 m (70866 in) printed. It may not work correctly.

– **Not present**: The wiper roller is not installed.

- Wiper roller meters/inches printed

The **More actions** button allows you to launch the following actions:

- Wiper roller replacement

- Take-up reel instructions

If no substrate is loaded, the message **Out of substrate** appears.

The same information appears on the Embedded Web Server's Supplies page.

Change substrate width and right edge position

If the substrate edges are not correctly found by the printer, they can be changed from the front panel by pressing ⚙, then **Substrate** > **Substrate handling options** > **Substrate width**.

TIP: Bear in mind that automatic edge detection will not be attempted again until the next substrate load.

Substrate length tracking

The substrate length tracking feature enables you to keep track of how much substrate remains on the roll.

1. When the roll is first loaded onto the printer, you have the option (in the Load Configuration screen) to enter the length of substrate on the roll. The amount of substrate that is subsequently used is then tracked.

2. When the substrate is unloaded, the front panel displays the amount remaining so that you can note it for future reference.
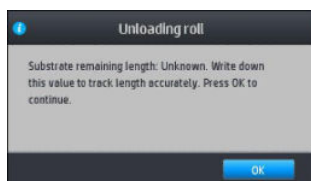
Cut substrate

This option is available from the printer's front panel. If you press 🖨, then the scissors icon, the printer normally advances the substrate 150 mm (5.9 in) and cuts it.

NOTE: If the cutter is disabled (🖨, then **Substrate handling options** > **Cutter** > **Off**), the printer advances the substrate but does not cut it.

NOTE: Some banners and textiles cannot be cut.

Bypass job start safety

The job start safety mode is activated by default so that the leading edge of the substrate does not crash under the curing system. To deactivate it (not recommended), press ![gear icon], then **Substrate** > **Substrate handling options** > **Bypass job start safety**.

If you are using the take-up reel, the job start safety mode is automatically deactivated to increase productivity.

Job start safety mode advances the leading edge of some substrate categories until it reaches the end of the curing module after loading and cutting. Deactivating the job start safety mode for these substrates means that they will print with the same margins as other substrates.

Store the substrate

The following are tips for storing substrate:

- Always keep unused rolls wrapped in the plastic wrap to prevent discoloration and dust accumulation. Rewrap partially used rolls if they are not being used.

- Do not stack rolls.

- Allow all substrates to adapt to room conditions out of the packaging for 24 hours before printing.

- Handle film and glossy substrates by the edges or wear cotton gloves. Skin oils can be transferred to the substrate, leaving fingerprint marks.

- Keep the substrate tightly wound on the roll throughout the loading and unloading procedures. If the roll starts to unwind, it can become difficult to handle.

Substrate cannot be loaded successfully

Here are some suggestions to try if you cannot load the substrate successfully.

- Reread the loading instructions, and make sure that you are following them. See Handle the substrate and troubleshoot substrate issues on page 41.

- When loading a textile substrate, remember to use the loading accessory, and select **Use loading accessory** in the configuration screen.

- If automatic loading is unsuccessful, try assisted manual loading instead.

- The substrate might be loaded at an angle (skewed or mislocated). Make sure that the right edge of the substrate is aligned with the roll on the input module.

- The substrate might be crumpled or warped, or have irregular edges. See Substrate is deformed or wrinkled on page 86.

- If the substrate jams in the substrate path to the platen, the leading edge of the substrate might not be straight or clean. Remove the initial 2 cm (1 in) of substrate from the roll and try again. This might be necessary even with a new roll of substrate.

Substrate is mispositioned
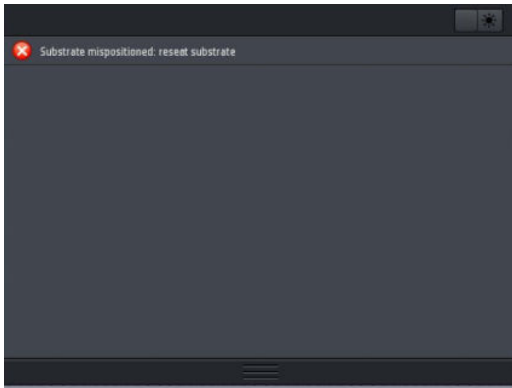
If you see the above display on the front panel, proceed as follows:

1. Press ![gear icon], then **Substrate** > **Release substrate**.

2. Feed the substrate until it hangs in front of the printer, and align the right edge with the input roll.

3. Press **OK**.

Substrate has jammed

When a jam occurs, the **Possible substrate jam** message usually appears in the front panel, with one of several error codes (see Front-panel error codes on page 180).
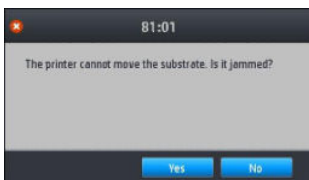
If you are trying to load a very thin or very thick substrate, or a textile, remember to follow the special procedure for loading such substrates. See Loading accessory on page 63.

Check the substrate path

This problem can occur when a roll has finished and the end of the roll is stuck to the cardboard core. If this has happened, cut the end of the roll away from the core. Then feed the substrate through the printer, and load a new roll.

Otherwise:

1. Turn off the printer at the front panel, then also switch off the power switch at the rear.

2. Open the printer window.
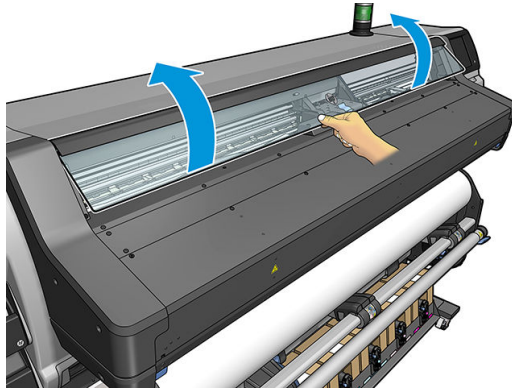
3. Cut the substrate where it enters the printer, and rewind the input roll.

4. Try to move the printhead carriage out of the way.
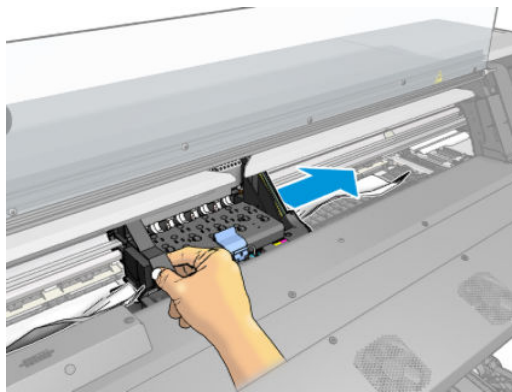
5. Carefully remove as much as possible of the jammed substrate from the top of the printer. Cut the substrate if necessary. The pinchwheels should have lifted to simplify clearing the jam. If this has not happened, restart the printer with the window open to force the pinchwheel movement and the release of the substrate.
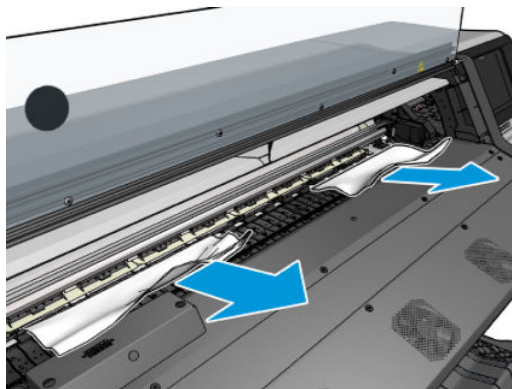
⚠ CAUTION: Try to avoid pulling the substrate out through the input path, because this reverses the normal direction of movement, and could damage printer parts.

⚠ WARNING!   Do not touch the printer's curing enclosure, which could be hot.

	Risk of burns
For more safety information, please see Safety precautions on page 3	

6. Make sure that there are no pieces of substrate left in the printer. In particular, check in and under the curing module, and in the substrate path.

7. Close the window.

8. Turn on the printer.

9. Reload the roll.

10. If some substrate continues to cause an obstruction within the printer, it can often be cleared by loading a rigid substrate type into the printer.

11. If you find that you have print-quality problems after a jam, try realigning the printheads. See Align the printheads on page 146.

Avoiding substrate jams while printing

Substrate jams may be caused by loading the substrate with too much skew: do not ignore the warning message that appears during the loading procedure in this case.

They may also be caused by not enough vacuum suction in the printing zone. If you decide to increase the suction, do not exceed the following limits: 20 mmH$_2$O for banners and 50 mmH$_2$O for other substrate families.

If you experience jams only at the beginning of a print, try the following suggestions.

* Disable the automatic cutter.

* Go to the front panel and press , then **Substrate handling options** > **Extra bottom margin** and **Extra top margin**. Set both margins to 100 mm. If that is not enough, try higher values.

* Increase the vacuum level in steps of 10 mmH$_2$O. Do not exceed the following limits: 20 mmH$_2$O for banners and 50 mmH$_2$O for other substrate families.

* Increase the number of passes.

* Make sure that the substrate is stored in the same room in which the printer is located.

* Try using the substrate edge holders.

* Make sure the curing door is open while loading. See Load a roll into the printer on page 51.

    When starting to print, ensure that the curing door remains open until the substrate is out of the curing module or the take-up reel is connected, except:

    – For certain substrates that are able to leave the curing zone successfully.

    – When the take-up reel is connected before printing.

Substrate is deformed or wrinkled

If your substrate is deformed or wrinkled by the curing process, change the temperature settings before printing the next job, and advance the substrate, using the **Move substrate** option in the front panel's **Substrate** menu, so that the next job will be printed on undamaged substrate.

If the problem appears only at the beginning of the print, try the following suggestions.

- Disable the automatic cutter.

- Go to the front panel and press , then **Substrate handling options** > **Extra bottom margin** and **Extra top margin**. Set both margins to 100 mm. If that is not enough, try higher values.

- Increase the vacuum level in steps of 10 mmH$_2$O. Do not exceed the following limits: 20 mmH$_2$O for banners and 50 mmH$_2$O for other substrate families.

- Increase the number of passes.

- Make sure that the substrate is stored in the same room in which the printer is located.

Substrate has shrunk or expanded

During the printing process, some substrates may shrink, while others may expand. If this happens, the dimensions of the print will not be correct.

As a general rule, you can expect the following percentages of shrinkage:

- Banner: less than 2%

- Self-adhesive vinyl: less than 0.5%

- Backlit: less than 0.5%

- Paper: less than 0.5%

- PP & PE synthetics: less than 1%

The framing problem may be solved by printing a sample and adjusting the size of the image in the RIP. You may reuse this value for all your future prints with the same substrate, although special care must be taken when using banners, as the shrinkage may vary up to 1% depending on the amount of ink used in the print.

You can expect the following variations from one print to another:

- Banner: less than 0.3%

- Self-adhesive vinyl: less than 0.1%

- Backlit: less than 0.05%

- Paper: less than 0.1%

- PP & PE synthetics: less than 0.4%

To solve the tiling problem and improve the repeatability of the printed size, you are recommended to ensure that the substrate-advance sensor is enabled in the RIP's substrate preset, as this will improve the stability of the prints over time. You are also recommended to 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.

Some RIPs may provide a scaling option that allows you to compensate easily for substrate shrinkage or expansion; see your RIP documentation.

If you experience tiling issues when using the take-up reel, try loading the take-up reel with the printed side inwards to reduce the deformations, or print without the take-up reel if possible.

Another option is to change the tension-bar working force. Some papers are sensitive to front tension. Using the take-up reel with the printed side outside will provide more front tension. Using the take-up reel with the printed side inside will provide less front tension.

The tension-bar working force can be changed after pressing ⚙ then **Substrate** > **Substrate handling options**.

Substrate has bow deformation

The following substrates may suffer from bow deformation during printing, as a result of which the print will appear curved.

- Self-adhesive vinyl substrates (some specific calendared vinyls only)
- Cellulose-based poster papers with no backing nor coating, including HP Photorealistic

This deformation may be particularly noticeable in the following applications.

- Printing images that will later be cut automatically or manually. When there is bow deformation, cutters that are aligned on the sides may lose alignment in the center.
- Poster printing, if the poster is framed or mounted on a straight surface.

The example below shows an original image, the substrate suffering from bow deformation, and the resulting print, also suffering from bow deformation.
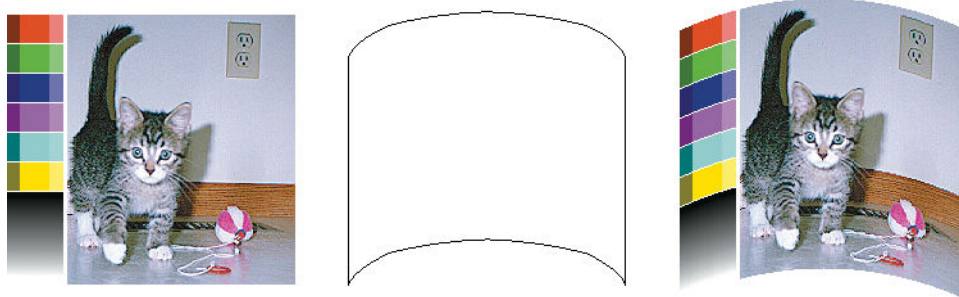
You can compensate for this effect and restore the original shape of your image: select a correction value from −6 to +6 in your RIP or in the substrate library. To apply the correction in your RIP, please refer to your RIP documentation.

The chosen value should represent the vertical distance that the centre of the substrate has moved with respect to the left and right edges. If the deformation moves the center of the substrate in the direction of substrate advance, the correction value should be negative; if in the reverse direction, the correction value should be positive. In practice, the required correction value is normally negative.

💡 TIP: You can use the diagnostic image provided in **http://***IPaddress***/hp/device/webAccess/diagnostic/ StraightnessOptimizationPlot.pdf** (where *IPaddress* is the IP address of your printer) to help you to determine the correct value to apply.

Automatic cutter does not work

The automatic cutter is turned off in any of the following cases.

- When it has been manually disabled from the RIP or from the front panel. To disable the cutter from the front panel, press ⬛ , then **Substrate handling options** > **Cutter** > **Off**.
- When printing on textiles, PVC banners, or any other substrate types that it cannot cut, the RIP disables the cutter.
- When the take-up reel is enabled.

- During double-sided printing (side A or B).

- When printing internal prints (see [Request the printer's internal prints on page 20](#)).

Take-up reel substrate jam

If the substrate is severely damaged on the take-up reel, do not use the printer's cutter to cut and remove the substrate. Instead, cut the substrate manually as close as possible to the printer window, then remove the roll.

If the problem remains after removing the substrate jam, unload the take-up reel from the front panel and load it again.

4 Substrate settings

Substrate presets

Each substrate type has its own characteristics. To obtain the best print quality, the printer has to adapt its printing parameters to each different substrate type. For example, some may need more ink and some may require higher temperatures for curing. A specification of the correct printing parameters for a particular substrate type is called a *substrate preset*.

The substrate preset contains a color profile in International Color Consortium (ICC) format, which describes the color characteristics of the combination of printer, inks, and substrate. It also contains information about other parameters (such as curing temperature, vacuum pressure, and substrate-advance compensation) that are not directly related to color. Substrate presets (also known as Open Media System or OMES packages) are installed in the printer, and automatically copied to supported RIP software whenever it is connected to the printer.
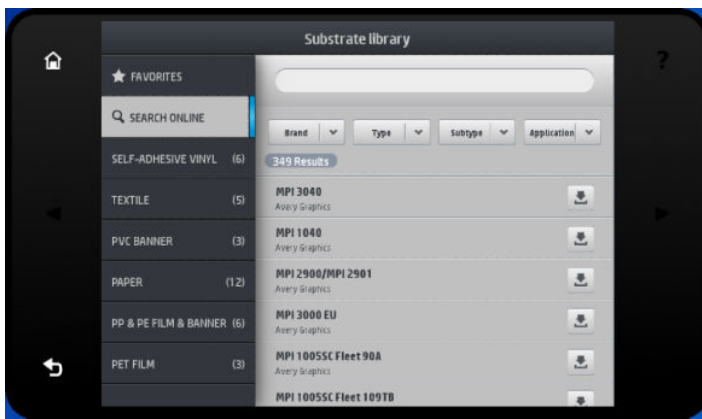
The printer comes with substrate presets for the most commonly used generic substrates. Some presets may come preinstalled in your printer (such as HP Vinyl presets); use them only with the substrates for which they were created. For other substrates, presets named Generic are recommended over other preinstalled presets. However, the best performance can be achieved only with presets made specifically for your substrate. There are various ways to obtain more presets:

- Use the **Online search** function on the front panel or the HP Media Locator on the Web to browse, search, and download a specific preset for your substrate.

- Download a preset from the RIP vendor's website, or from the substrate vendor's website.

- Use a generic preset designed for your substrate category, even though it is not fine-tuned for the specific substrate type. Bear in mind that generic substrate settings cannot be modified; instead, the preset can be cloned and then modified.

- Clone (copy) a preset for a similar substrate, and edit it as necessary.

- Create a new preset, starting from scratch, using the **Add new** button.

If you can find a ready-made preset for your specific substrate, you are recommended to use it.

Online search

You can search online for a substrate preset by using the **Online search** function within the Substrate Library front-panel menu. The printer connects to the HP Media Locator database on the Internet and allows you to search all available substrate presets for your particular printer model, including HP and third-party substrate brands. Hundreds of different substrate presets may be available, and the database of substrate presets is continuously updated and expanded. You will always get the most up-to-date content in this way.

When the printer is connected to the database (this may take a few seconds), a list of all available substrate presets for your printer model is displayed. You can browse the list by scrolling it, and get details on any preset by pressing its name. Besides browsing, there are two additional ways to look for presets: free-text search and filters.

- Free-text search allows you to type in any text using an on-screen virtual keyboard; all substrate presets containing that text in any part of their name or description will be displayed. For example, if you search for "vinyl" then substrate descriptions such as "self-adhesive vinyl" or "vinyl banner" will match and be displayed. The search is case-insensitive; that is, "vinyl" will match both "vinyl" and "Vinyl".

- Filters are available for brand, type, sub-type, and application. When a value is selected for a given filter, only the matching substrate presets will be displayed. For example, if you select "HP" from the brand filter, only HP substrate presets will be displayed. The effect of using more than one filter is to narrow the search to the combination of the filter settings. For example, if you choose "HP" from the brand filter and "Self-Adhesive Vinyl" from the Type filter, only substrate presets for HP Self-Adhesive Vinyl substrates are displayed.
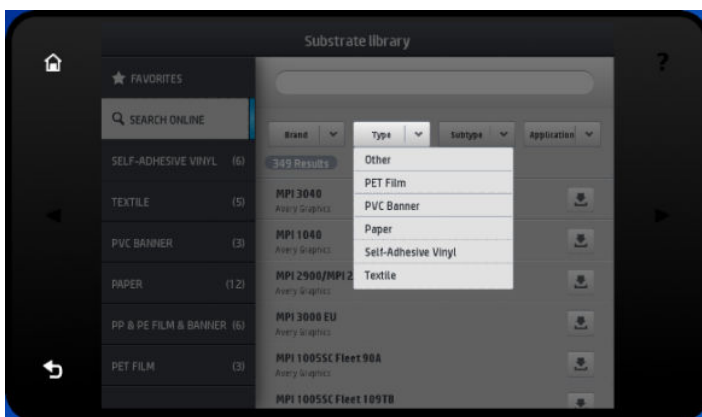
Once you have located the substrate preset of your choice, pressing its download icon will queue it for automatic download and installation in the background. You can select as many substrate presets as you want for download and installation (they will be processed in the order that they were selected). You can return to another part of the Media Manager or another front panel screen at any time after queuing presets for download, and this will not interrupt the download and installation process.
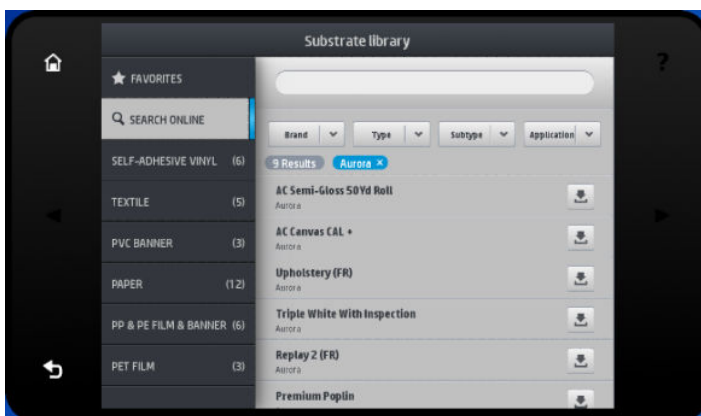
Once a substrate preset has been downloaded in the background, it is checked and installed on the printer's hard disk. During checking and installation, a full-screen message is shown on the front panel. This message disappears when checking and installation is complete.

The new substrate preset now appears in the Substrate Library together with all previously installed and factory-provided presets, and is ready for use.

Some supported RIPs may implement a similar online substrate-preset search function accessing the same HP Media Locator database. Whether you use the printer's front panel search or RIP-based search does not matter: the end result is the same. Supported RIP software synchronizes its substrate preset list with the printer, so that printer and RIP will always have the same list.

HP Media Locator

The HP Media Locator database of substrate presets can also be accessed from a Web browser by visiting http://www.hp.com/go/mediasolutionslocator. This provides access to the database for different regions, printer models, applications, suppliers, substrate types, and so on.

When you have located the substrate preset of your choice, you can download it to your computer. To install the preset into the printer with which you want to use it, use the printer's Embedded Web Server. Navigate to the **Setup** > **Substrate presets management** > **Import** screen.
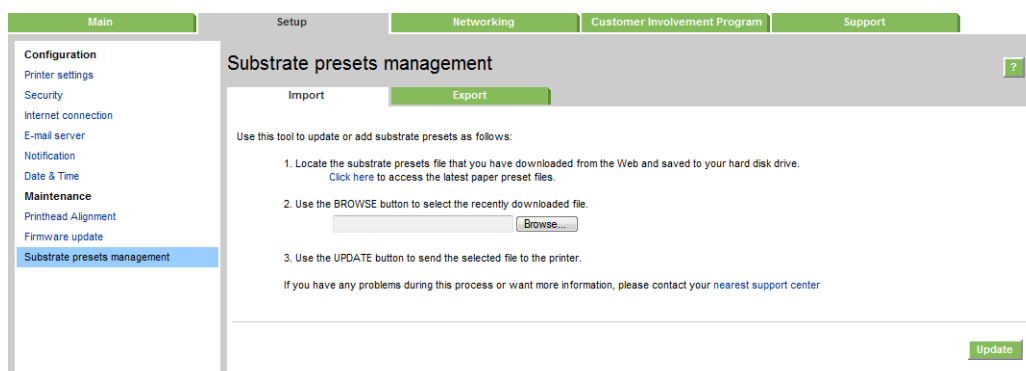
Click **Browse** to browse to the substrate preset file that you have previously downloaded to your computer, then click **Update** to install the preset in your printer.

The Embedded Web Server also allows you to export one or more substrate presets from your printer for use with another printer of the same model. To export more than one substrate preset at a time, click the substrate presets you want to export while pressing the Ctrl key. All exported presets will be saved in the same **paperpresets.oms** file.

When importing a previously exported substrate preset, you may see a message warning you that the package is not signed (only packages downloaded from the HP Media Locator internet database are digitally signed, as a form of authentication); you can either ignore the warning and continue with the installation, or abort the installation.

If you get an error message while exporting:

- Check that you have enough disk space available.

- Check whether importing multiple substrate presets will exceed the maximum permitted for the printer (10 presets).

Generic presets
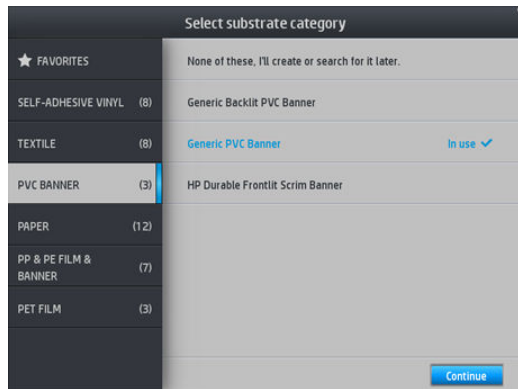
Generic presets are each designed for a whole substrate category, rather than for a particular substrate type. They cannot be edited, erased, saved, color-calibrated or ICC profiled; but they can be cloned. Therefore, if you would like to modify a generic preset in any way, you should first clone it and then work on the clone, which is fully editable.

The printer provides generic presets for the supported substrate categories: see Supported substrate categories on page 44.

Clone a substrate preset

You may wish to clone and edit a preset for various reasons:

- To assign a name of your own choice to the preset

- To adjust the preset to the precise characteristics of your substrate

- To adjust the preset to your intended use of the substrate, which may range from highest-quality printing to fast production output.

To clone a substrate preset, follow these steps:

1. Select a preset in the Substrate Library.

2. Click **Clone** to clone the preset, and enter a name for the new preset.
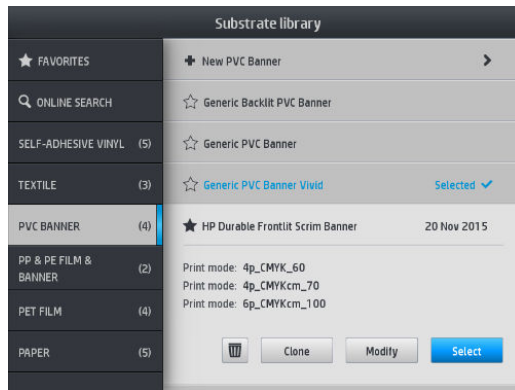
Modify a substrate preset

You can modify a preset by pressing **Modify**.

Then click the ✏ icon of the print mode that you want to modify; or click **Add new print mode**. You can delete or change the name of any print mode; although you should keep at least one print mode.
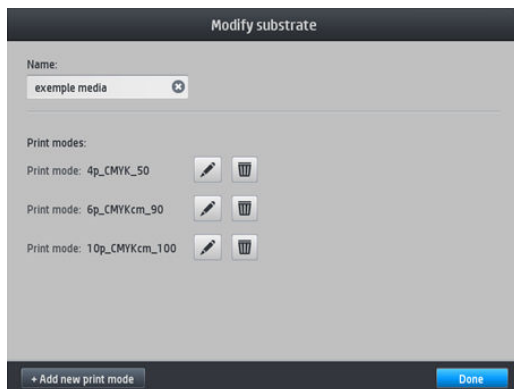
📝 **NOTE:**   You can define up to six print modes.

📝 **NOTE:**   The number of passes in an existing print mode cannot be changed. If you want to change the number of passes, create a new print mode.

📝 **NOTE:**   You are not allowed to create two print modes with the same number of passes, the same efficiency mode, and the same color saturation.

To change the values, you must print a test plot. Check it and choose the number in the pull-down color-saturation menu that matches your preferences in terms of curing and drying. If none of the options are good enough, try changing the temperature and reprint. You can also change the substrate advance settings.
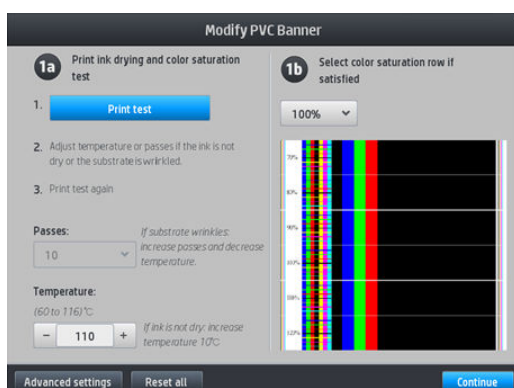
Add a new substrate

If you cannot find a ready-made preset for your substrate, and prefer not to use a generic preset or edit an existing preset, you can make your own preset from scratch.

The Add New Substrate wizard guides you to work out the best settings for your substrate. It first requests some information about the substrate and your intended use of it, then prints some test prints and asks you to evaluate them. From this information, it creates the new preset.

1. Ensure that the printer is in the Ready state.

2. Stop the job queue.

3. Load your new substrate, selecting the most similar substrate when asked to do so; or select **None of these**.

4. When the substrate has been loaded, go to the Substrate Library on the front panel, and choose the substrate category in the left column of the Substrate Library screen (**PVC BANNER** in this example), then click **+ New PVC banner** at the top of the right column.
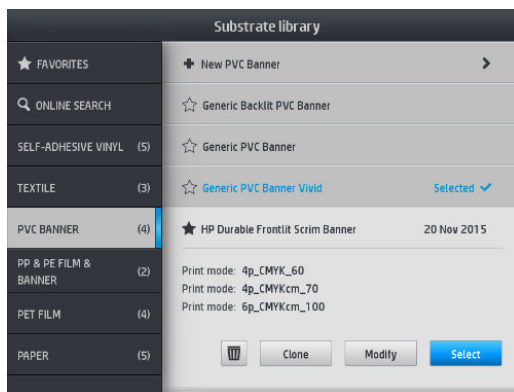
5. Your new preset will be based on a generic preset; If there are multiple generic presets in that category, the front panel asks you to choose one of them.
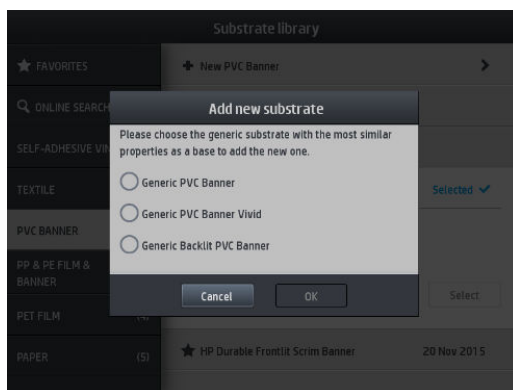
6. The front panel guides you through the subsequent steps to create your new preset.
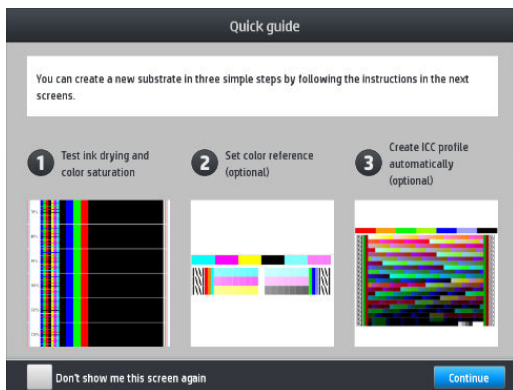
7. The following screen is displayed:
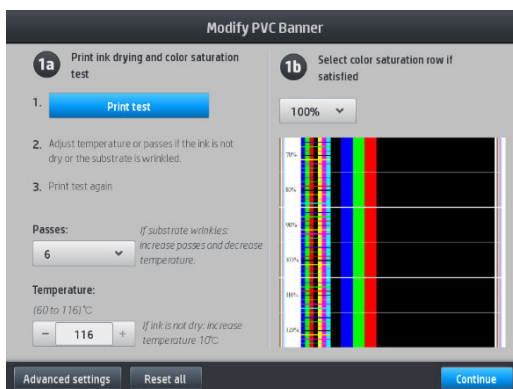
8. Press the blue button to produce the ink drying and color saturation test print; then continue adjusting the settings and printing again until you are satisfied with the result.

NOTE: You can omit this step if you already know the settings that you want to use.

9. If you cannot reach a satisfactory result, you may want to press **Advanced settings** and try adjusting those settings, which are intended for people who understand their implications.

To go back to the previous screen, press [icon].
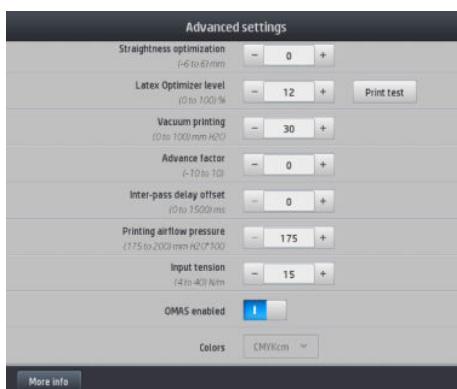
- Straightness compensation: Allows you to compensate for barrel-shaped substrate deformation. The value represents the distance that the centre of the substrate has moved with respect to the left and right edges. See Substrate has bow deformation on page 88.

- Latex optimizer level: If you have bleed or coalescence, you can increase the optimizer level until you see a significant impact on gloss or color saturation.

  You can press the **Print test** button to print the advanced optimizer test and select the best optimizer level for your substrate.

- Vacuum printing: Sets the vacuum value in the print zone to hold the substrate flat. Increase if the substratre suffers from crashes or smears, decrease if you see banding or graininess.

- Advance factor: Use only when printing without the substrate-advance sensor, to increase or decrease the substrate advance in each carriage pass.

- Inter-pass delay offset: The time delay between passes to allow for smoother drying. Increase the delay if you have seen banding on your prints.

- Input tension: Substrate rewinder tension, increase in case of wrinkled substrate in the print zone.

- OMAS enabled: Automatic substrate-advance tracking and correction. Disable only if advised to do so on the front panel at loading time.

- Colors: Print four (CMYK) or six (CMYKcm) colors.

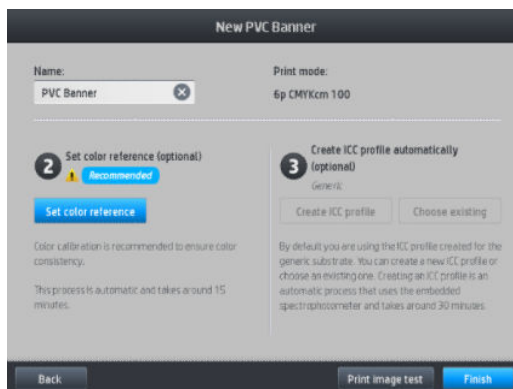- Leading edge release: Enable this setting to advance the leading edge of the paper, if a specific substrate is likely to crash under the curing module.

10. When you have finished, press **Continue** to perform color calibration.

11. Enter your substrate name and click **Set color reference**. See Color calibration on page 101.

12. After the automatic color calibration process has completed, we recommend using the generic ICC profile; alternatively, you can choose to create a new profile or to copy a profile already assigned to a different print mode for this substrate (if there are any such profiles). The **Create ICC profile** button is disabled until color calibration is complete. See ICC profiles on page 106.

Change settings while printing

You can use the front panel to adjust the following settings while printing.

- To change temperature, vacuum, inter-pass delay offset, and substrate-advance settings while printing, press **Adjustments** in the front panel's print job screen, and choose the setting that you want to adjust. The changes that you make take effect immediately, but they are not saved: the next job will use the settings in the substrate preset as usual.

  You can use the **Save** button to save settings, and the **Reset** button to restore the last saved settings.

  📝 **NOTE:** The **Save** button is not available for a generic or non-editable preset.

- To change substrate advance calibration while printing (in case of banding): press **Adjustments** > **Adjust substrate advance**. The changes that you make take effect immediately, but they are not saved for the next job. See also .

  To make permanent substrate-advance changes, use the RIP or front panel to modify the substrate preset.

Temperature profile

Many of the main and advanced substrate settings are related to temperature control, since this is a critical area for correct printing results with latex inks on a wide variety of substrates.

📝 **NOTE:** There is a delay between making a change and seeing the results. See the front panel for actual temperature checking.

📝 **NOTE:** If you selected English units of measurement, you may notice some discrepancies, as the printer works in Celsius and makes the conversion.

Select the number of passes

Increasing the number of passes will tend to improve the print quality but reduce the speed of printing.

📝 **NOTE:** The following table is for the normal ink limit unless otherwise indicated.

Category	Substrate name	Available print modes		
Banner	Generic PVC Banner	4p4c-60	4p6c-70	6p6c-100
	Generic PVC Banner Vivid	12p6c-170		
	Generic PVC Banner Double Side	10p6c-90		
	Generic Backlit PVC Banner	12p6c-170	16p6c-185	
Self-adhesive vinyl	Generic Self-Adhesive Vinyl	6p6c-100	10p6c-110	
	Generic Self-Adhesive Vinyl Vivid	12p6c-150	16p6c-185	

Category	Substrate name	Available print modes		
	Generic Backlit Self-Adhesive Vinyl	20p6c-260		
	Generic Self-Adhesive Monomeric	8p6c-90	10p6c-100	
Paper	Generic Paper	6p4c-70	6p6c-100	10p6c-110
	Generic Coated Paper	6p6c-90	10p6c-110	
	Generic Coated Paper Vivid	12p6c-150	16p6c-170	
	Generic Backlit Paper	12p6c-130	20p6c-170	
PP & PE film & banner	Generic PP & PE Synthetics	12p6c-80	16p6c-90	
	Generic Backlit PP & PE Synthetics	16p6c-150	20p6c-185	
PET film	Generic Polyester Film	6p6c-80	8p6c-100	10p6c100
	Generic Backlit Polyester Film	16p6c-170	20p6c-185	
Textile	Generic Textile	12p6c-150	16p6c-200	20p6c-230
	Generic Backlit Textile	16p6c-200	20p6c-230	
	Generic Canvas & Coated Textile (Satin Canvas)	10p6c-110	12p6c-120	

Key

- **XXp:** Number of passes
- **XXc:** Number of colors
- **XXX:** Ink density

NOTE: More specific settings for many substrates from different vendors are available in the HP Substrate Finder at http://www.hp.com/go/latexmediafinder/.

NOTE: After selecting the number of passes in the Add New Print Mode screen, make sure to reset your print mode to default category values for that print mode.

Tips

- 1 to 2 passes provide lower print quality. Also, the color gamut will be slightly reduced, as total ink is limited to allow for curing.

- 1200 dpi print resolution is available in the 18-pass print mode only. If you intend to use it, ensure that you have a specific substrate preset for this print mode, because reusing others may not deliver the expected print quality.

- For fast layout proofing on low-cost substrates, a low-ink 2-pass print mode has been enabled. It is recommended for paper-based substrates only, as curing may not work correctly for other substrate types in this mode.

Delete a substrate preset

You can delete substrate presets that you have added yourself, but not those that were supplied with the printer.

To do so, just press the ▥ icon in the Substrate Library screen.
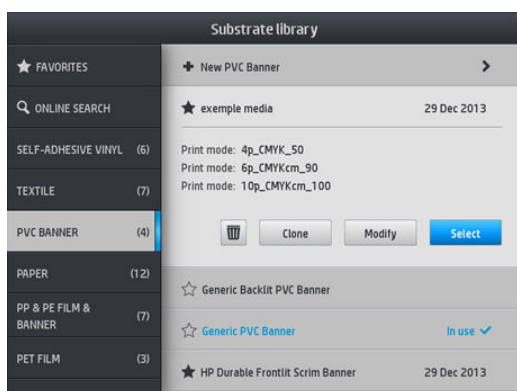
If you delete a preset, you will lose the reference to that substrate in the usage and accounting information. Instead of the name of the substrate, from that moment on you will see "Deleted substrate" in the usage and accounting information.

Faster printing

The obvious way to increase speed is to reduce the number of print passes, although this will tend to reduce print quality. Bear in mind the following considerations.

- With fewer than 8 passes, you may see an increase in grain.

- With fewer than 6 passes, the printer is more sensitive to substrate-advance problems, and you may need to reduce the ink quantity to improve print quality.

- As you reduce the number of passes, the best curing temperature may be more difficult to find, and may be more sensitive to the ambient temperature and humidity.

Here are some other suggestions for increasing the speed of printing.

- Concatenating prints saves time, because one can be printed while another is being cured.

- Disable the cutter: Press , then **Substrate handling options** > **Cutter** > **Off**. With most substrates, this saves some time at the end of the printing process.

NOTE: Printing a single job for more than 2 hours can reduce the life of the printheads.

See also .

Color calibration

The purpose of color calibration is to produce consistent colors with the specific printheads, inks, and substrate that you are using, and in your particular environmental conditions. After color calibration, you can expect to get very similar prints from your printer on different occasions.

Each substrate must be calibrated independently.

NOTE: Color calibration may not work correctly with non-HP ink.

There are cases in which a substrate may not be calibrated, in which cases the **Calibrate** and **Reset** options are not available:

- The loaded substrate has a generic preset.

- The loaded substrate has a preset that is not editable.

- The loaded substrate is not suitable for color calibration.

Color calibration can be launched from the front panel, after pressing **Modify preset**, or when adding a new substrate.

In outline, the process consists of the following steps.

1. A calibration target is printed.

2. The colors on the calibration target are measured automatically.

3. The calibration target measurements are compared with an internal reference to calculate the necessary calibration tables for consistent color printing on the substrate in use.

Factory default calibration tables are used whenever color calibration has never been run. The first time color calibration is run, the current printing color is taken as a reference, and factory default calibration tables continue to be used. This means that, after the first color calibration, the printed colors do not change, but are recorded as the reference for future calibrations. Subsequent color calibrations compare calibration target colors with the recorded reference, in order to calculate new calibration tables for consistent color printing on that particular substrate type.

From the front panel, you can delete the current calibration reference and table, leaving the factory default calibration table active, as if that particular substrate had never been calibrated. Press [icon], then **Image quality maintenance** > **Color calibration** > **Reset to factory**.

Color calibration as described above is not recommended for the following substrate types. It may be possible to calibrate some of these substrates by using an external color measurement device, driven by an external RIP.

- Non-opaque substrates such as clear film and backlit substrates.

- Substrates with an uneven surface, such as perforated vinyl and punched-window substrates.

- Porous substrates that require the use of the ink collector.

Substrates suitable for color calibration include even-surfaced adhesive vinyls (neither punched nor perforated), PVC banners, and papers.

The color calibration test chart is printed using a fixed print mode with a high number of passes and fixed curing and drying settings to ensure printing consistency. However, parameters affecting substrate advance should be fine-tuned, and printheads should be aligned, before starting color calibration for the first time.

To start color calibration of the loaded substrate from the front panel, select [icon], then **Image quality maintenance** > **Color calibration** > **Calibrate**. Color calibration can also be run while adding a new substrate (see).

📝 NOTE: Only substrates at least 61 cm (24 in) wide can be calibrated.

The calibration process is fully automatic and can be performed unattended after you have loaded substrate of the type you wish to calibrate. The process takes about 15 minutes and consists of the following steps:

1. The color calibration test chart is printed, which contains patches of different densities of each ink used in your printer.
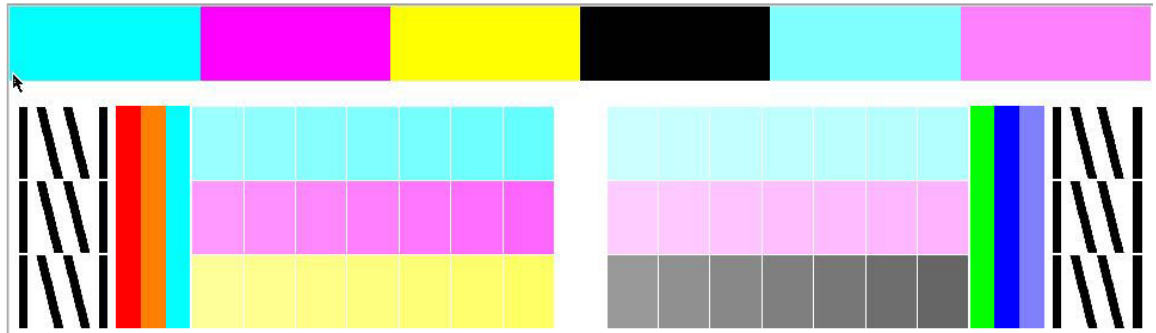
2. The test chart is scanned by the HP Embedded Spectrophotometer. If the scan cannot be completed successfully, a message is displayed on the front panel; see Front-panel error codes on page 180.

3. From the measurements made by the spectrophotometer, the printer calculates the necessary correction tables to apply to your print jobs, for consistent color printing on that substrate type.

Calibration should be done in any of the following circumstances:

● Whenever a new substrate type is introduced that has not yet been calibrated.

● Whenever you notice excessive color differences between prints. Such color differences are mainly caused by aging and wear of the printheads, installing new printheads, and changes in substrate characteristics between one roll and another.

You can check the color calibration status of your substrate by pressing on the front panel.

● **Recommended** status indicates that this substrate has never been calibrated. In this case, the factory-default color tables will be applied to print jobs, as there is no reference state defined. After one or more color calibrations have been performed, pressing the **Reset** button returns the status to Recommended.

● **OK** status indicates that a color calibration has been performed successfully at least once on this substrate, and therefore a color reference state is defined.

● **Obsolete** status indicates that the last color calibration may be out of date. For instance, color calibration status is set to Obsolete whenever a printhead is replaced. The color reference state remains defined.

● **N/A** indicates that this substrate cannot be color-calibrated.

NOTE: Generic substrates cannot be color-calibrated, although such substrates may be suitable for color calibration. You can color-calibrate clones of most generic substrates.

TIP: If color calibration fails, it is worth trying again.

TIP: If the first color calibration of a new substrate fails, press the **Reset** button before trying again.

Color consistency between different HP Latex 500 series printers

It is possible to cross-calibrate color between two or more printers for particular substrates. After cross-calibrating a given substrate, you can expect to get very similar prints from either printer when using the same substrate.

1. Choose printer A to be the reference printer, and use it to perform color calibration on the substrate in question. See Color calibration on page 101.

2. Export the calibrated substrate preset. See HP Media Locator on page 93.

3. Import the substrate preset of step 2 into printer B. See HP Media Locator on page 93.

4. Color-calibrate the preset with printer B.

5. Colors printed with printer A and printer B, on that substrate, should now be very similar.

6. To add more printers (C, D, and so on), proceed as you did with printer B.

Color emulation of other printer models

You can set up an HP Latex 500 series printer to emulate the colors printed by another printer that belongs to a different family, such as the HP Latex 36x/37x, 1500, or 3000 series.

The emulation process is done by importing a source (XXXX series) substrate preset into the destination (500 series) printer, that was created, color-calibrated, and ICC-profiled in the source printer. The original or source substrate preset contains a number of paper modes and a color-calibration reference.

A new substrate preset is then added to the destination substrate library that keeps the same name as the source substrate preset, suffixed by **Emulated**. This destination preset contains the paper modes that are the closest equivalent to the source ones in terms of ink density and number of passes. Color emulation between source and destination, for the given substrate material, can then be achieved by performing color calibration and profiling of the destination substrate preset.

If the source substrate preset has not been color-calibrated, it can still be imported into the destination printer. A translated set of paper modes will still be created, but color emulation of the source printer cannot be optimized.

Color emulation between printers of different models is based on the same principle as color consistency between printers of the same model; that is, exporting a source color-calibrated substrate preset and then importing it and color-calibrating it in a destination printer. When the printer model is the same, most printing settings and color resources are implicitly matched, such as printing engine, mechanical settings, paper mode and associated ICC profiles. However, when emulating the colors of a different printer model, you are advised to follow these recommendations:

- Use the same substrate type in both source and destination printer (this is also recommended between printers of the same model).

- Choose a paper mode in the destination substrate preset that is as close as possible to the active paper mode in the source substrate preset.

- Use the same workflow in your RIP software to print to the source and destination printers.

☆ TIP: The best color emulation can be achieved by setting relative colorimetric rendering intent in the RIP for printing to both source and destination printers.

- Choose ICC profiles in the source and destination paper modes that are both made with the same type of spectrophotometer and profiling software. For example, either use ICC profiles made with external software using a brand A spectrophotometer in both cases, or ICC profiles made with the HP Embedded Spectrophotometer and internal ICC profiler in both cases.

Emulating an HP Latex 36x/37x printer

To set up a new substrate preset in an HP Latex 560/570 printer that provides color emulation of a source substrate preset in a HP Latex 36x/37x printer:

1. Using the source HP Latex 36x/37x printer, select the desired substrate preset. Refer to the printer's own documentation whenever necessary.

2. Perform color calibration.

3. Create an ICC profile for each paper mode to be emulated, using the HP Embedded Spectrophotometer.

4. Use the Embedded Web Server to export the calibrated and profiled substrate preset.

5. Using the destination HP Latex 560/570 printer, import the new substrate preset.

6. After a successful import, a confirmation popup window appears in the front panel. Press **OK** to continue.

7. Go to the substrate library, and select the just-created emulation substrate preset by pressing the **Select** button.

8. Press the **Modify** button to see the color emulation status of the preset. The initial color emulation status is **Not ready**.

9. Press **Start color calibration**. After a successful color calibration, the color calibration status changes to **OK**, and the color emulation status changes to **Ready**.
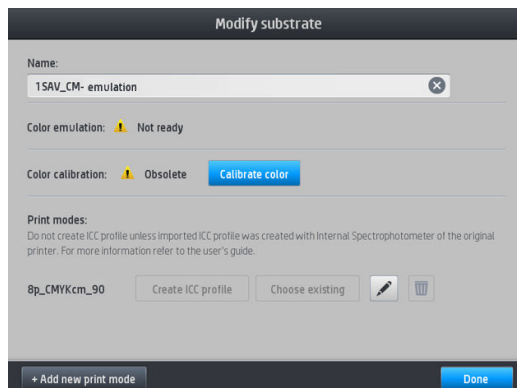
10. Press **Create ICC profile** for every paper mode that you want to use for color emulation.

11. Press **Done** to finish the process.

☆ TIP: To emulate the same source printer on several HP Latex 560/570 destination printers, you can export the newly created preset from the HP Latex 560/570, and then import it into other HP Latex 560/570 printers. See Color consistency between different HP Latex 500 series printers on page 103.

📝 NOTE: Only firmware versions higher than **NEXUS_00_06_02.xx.fmw** are supported.

📝 NOTE: If the source substrate has not been color-calibrated, it still can be imported into the HP Latex 560/570 printer. A confirmation window appears. Color emulation status is fixed at **Not ready**.

Emulating an HP Latex 15xx or 3xxx printer

To set up a new substrate preset in an HP Latex 560/570 printer that provides color emulation of a source substrate preset in a HP Latex 15xx or 3xxx printer:

1. Using the source printer, select the desired substrate preset. Refer to the printer's own documentation whenever necessary.

2. Perform color calibration.

3. Use the Internal Print Server to export the calibrated substrate preset.

4. Using the destination HP Latex 560/570 printer, import the new substrate preset.

5. After a successful import, a confirmation popup window appears in the front panel. Press **OK** to continue.

6. Go to the substrate library, and select the just-created emulation substrate preset by pressing the **Select** button.

7. Press the **Modify** button to see the color emulation status of the preset. The initial color emulation status is **Not ready**.

8. Press **Start color calibration**. After a successful color calibration, the color calibration status changes to **OK**, and the color emulation status changes to **Ready**.
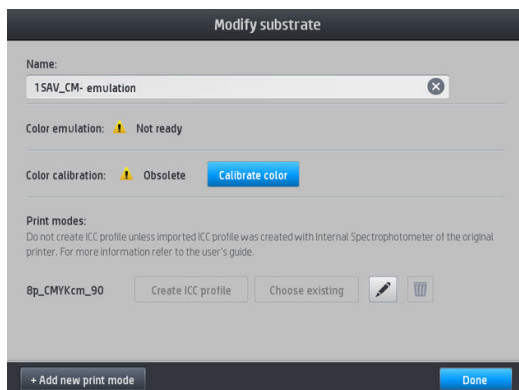
9. *Do not* press **Create ICC profile**. ICC color profiles must be created externally; see step 11.

10. Press **Done** to finish the process.

11. Create the ICC profiles that are needed for printing, in both the source and the destination printers. They should be created using the same external spectrophotometer and external profiling software in both cases. Most RIP applications support stand-alone spectrophotometers for creating ICC profiles.

☼ **TIP:** This process, based on an external spectrophotometer, can also be used for color matching the HP Latex 36x/37x printer and the HP Latex 560/570.

TIP: To emulate the same source printer on several HP Latex 560/570 destination printers, you can export the newly created preset from the HP Latex 560/570, and then import it into other HP Latex 560/570 printers. See Color consistency between different HP Latex 500 series printers on page 103.

✐ **NOTE:** If the source substrate has not been color-calibrated, it still can be imported into the HP Latex 560/570 printer. A confirmation window appears. Color emulation status is fixed at **Not ready**.

ICC profiles

Color calibration provides consistent colors, but consistent colors are not necessarily accurate. For instance, if your printer prints all colors as black, its colors may be consistent but they are not accurate.

In order to print accurate colors, it is necessary to convert the color values in your files to the color values that will produce the correct colors from your printer, your inks, your print mode, and your substrate. An ICC profile is a description of a printer, ink, print mode, and substrate combination that contains all the information needed for these color conversions.

These color conversions may be performed by your Raster Image Processor (RIP), if it offers that possibility; they are not performed by the printer. For further information on the use of ICC profiles, see the documentation for your application software and for your RIP.

In addition to the ICC profiles used for printing, you may wish to calibrate and profile your monitor (display device), so that the colors you see on the screen relate more closely to those that you see on your prints.

Generating color profiles with the HP Embedded Spectrophotometer

It is possible to create an ICC profile automatically for a given substrate and print mode, when adding or editing a substrate. See and .

After pressing the **Create ICC profile** button the following process takes place:

1. A profiling test chart is printed on the loaded substrate using the selected print mode.

2. The printed test chart is measured with the HP Embedded Spectrophotometer.

3. The color measurements are related to the target colorant values by the printer's firmware to generate the ICC profile.

4. The ICC profile is stored in the substrate preset for that print mode.
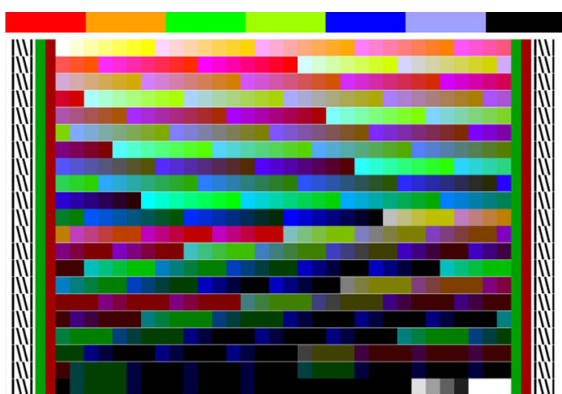
NOTE: Although color profiles obtained in one particular print mode can be reused when printing with other print modes, the most accurate color reproduction can only be achieved if profiling is made with exactly the same print mode that is used for printing. For example, if you use a color profile obtained with a 12-pass standard print mode, you may see some color difference when you use it to print with an 8-pass speed print mode.

TIP: To test the just-created ICC profile on the internal test image, press the **Print Test Image** button.

The following image is printed with the just-created ICC profile applied to it.
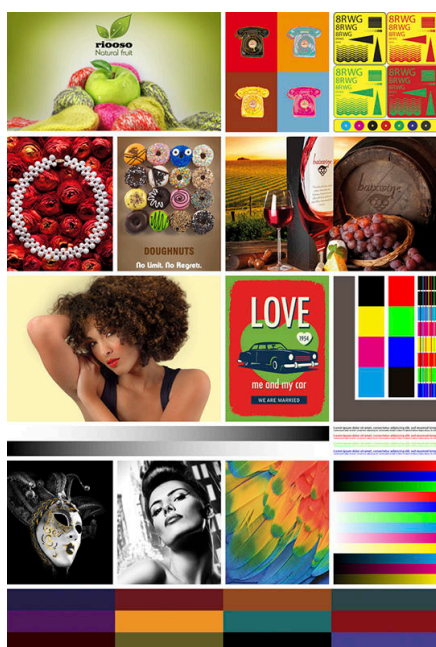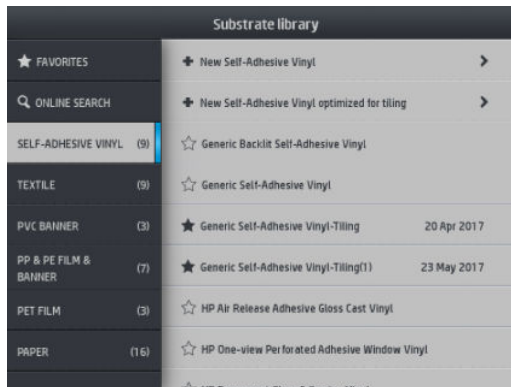
Improve color consistency when tiling

The easiest way for to improve color consistency when tiling is by using an optimize for tiling substrate.

1. In the substrate library, select the substrate family to optimize for tiling.

    NOTE: This option is only available for substrate families that can support it (SAV, Banner and WallPaper).
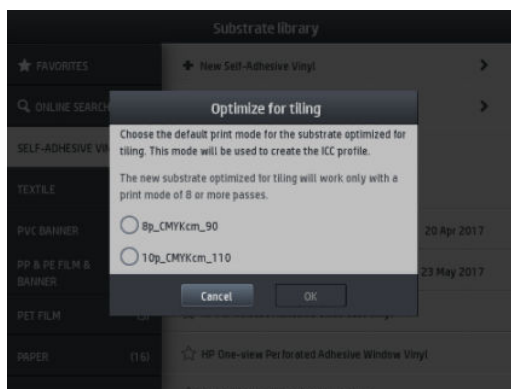

2. Select the **new family substrate optimized for tiling**.

3. Select the substrate with the closest properties as a base.
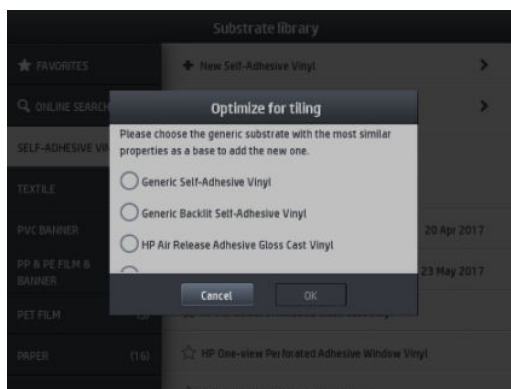
4. Select the print mode to create the ICC profile.

    NOTE: The number of passes cannot be lower than 8, only profiles higher than 8 will appear. If none of your profiles has 8 or higher, a default appears.

5. Set the color reference and create the ICC profile.
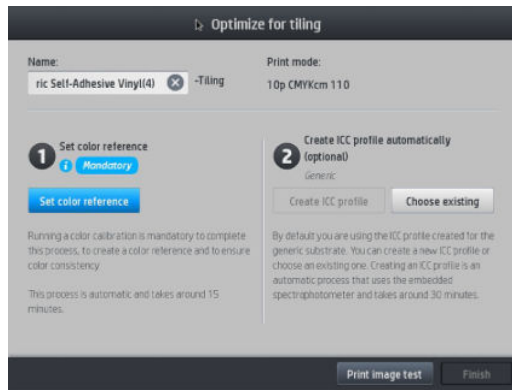
IMPORTANT: Color calibration is mandatory for this kind of print mode.

NOTE: A Tiling suffix is added to the name of the substrate, you edit the name, but cannot erase the suffix.

6. Substrate can be exported from one printer to another. For using the imported profile, we recommend you run a color calibration in the new printer.

IMPORTANT: Tiling substrates may not import with old firmware.

5 Troubleshoot print-quality issues

General printing advice

Use the following approach when you have any print-quality problem:

- Make sure that the substrate type that you select on the front panel, and in your RIP software, is the same as the substrate type that is loaded in the printer. Make sure that the substrate type has been calibrated (including substrate-advance, printhead, and color calibration).

  ⚠ **CAUTION:** If you have the wrong substrate type selected, you could experience poor print quality and incorrect colors, and perhaps even damage to the printheads.

- Make sure that you are using the correct substrate preset for your substrate, with the correct ICC profile, or that you have followed the correct procedure to generate a new substrate preset (see Add a new substrate on page 96).

- Make sure that you are using appropriate print-quality settings in your RIP software.

- Make sure that your environmental conditions (temperature, humidity) are in the recommended range. See Environmental specifications on page 189.

- Make sure that your ink cartridges have not passed their expiration dates. See Maintain the ink cartridges on page 129.

- Avoid touching the substrate while printing is in progress.

- Trying to print jobs with a lot of ink in fast modes (commonly 6 passes or below) may result in not-completely-dry output and/or other print-quality problems. Consider using modes with higher passes when printing with a lot of ink, or increase the curing temperature. Note that increasing the curing temperature may deform your substrate (see Substrate is deformed or wrinkled on page 86).

Quick solutions application

This application can help you to adjust the printer when it is not performing as expected.

You can start the application by pressing on the front panel.

The application has four sections with different purposes:

- **Generic solutions**: This section has generic solutions to readjust the printer. Each generic solution is a set of actions launched all in one.

- **Test plots**: All available test plots can be run from this section.

- **Maintenance routines**: Maintenance routines for various printer assets are available in this section.

- **Image problems**: This section contains potential image problems that can be seen when the printer is wrongly adjusted. For each problem, there is a list of possible actions that can help to solve the problem. The actions are in order of likely effectiveness.

Improve print quality

If you still experience print-quality problems after using the Quick solutions application on page 111, you can follow a more hands-on print-quality troubleshooting procedure, by printing, interpreting, and performing corrective actions.

1. Printhead status plot

The printhead status plot consists of patterns that are designed to highlight printhead reliability problems. It helps to determine whether any printhead is experiencing clogging or other problems.
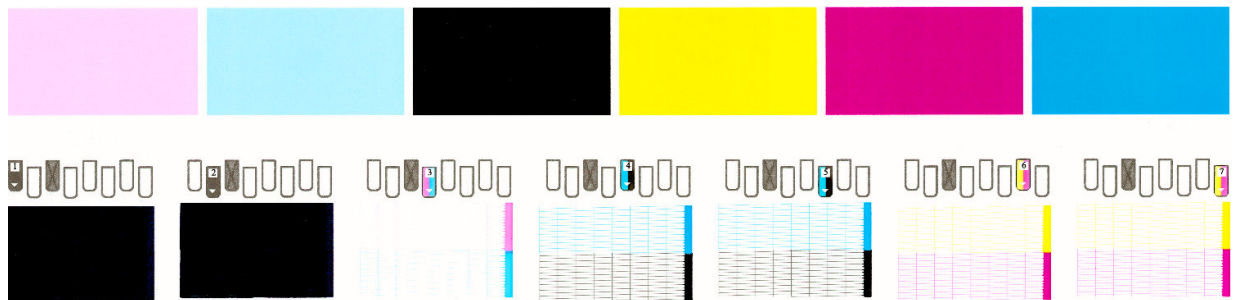
To print this plot, go to the front panel and press ![icon]. Vinyl, preferably gloss at least 24 inches wide, is recommended for maximum visibility. Other substrate types may not show enough detail to see the optimizer dashes clearly.

The plot consists of small dashes, one for each nozzle on each printhead.

For each individual colored pattern, check that most of the dashes are present. If the first area fills have banding, compare with the respective color in dashes below.

Corrective action

1. Clean any faulty printheads. See Clean (recover) the printheads on page 146. Then reprint the printhead status plot to see whether the problem has been solved.

2. If the problem persists, clean the printheads again, and reprint the printhead status plot to see whether the problem has been solved.

3. If the problem continues to persist, replace any persistently faulty printheads. See Replace a printhead on page 149.

2. Advanced optimizer check plot
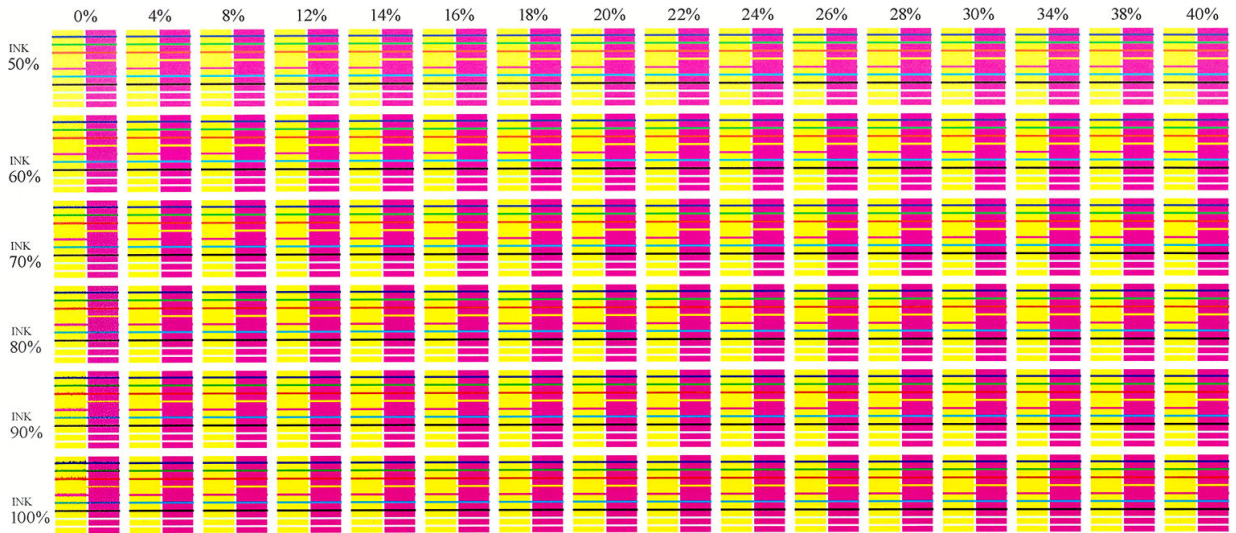
This plot helps you to adjust your use of optimizer. Some substrates require more or less optimizer, depending on the coating, the amount of ink, and the number of passes. It may even vary from roll to roll. You can print this plot for each print mode and check which pattern looks best.

When not enough optimizer is used, the shape of an image may be unclear, and you may also see bleed and grain. Choose the best-looking image at each ink density and modify the optimizer level accordingly in the print mode.

To print the advanced optimizer check plot:

1. Go to the front panel and press .

2. Select the loaded substrate and press the **Modify** button.
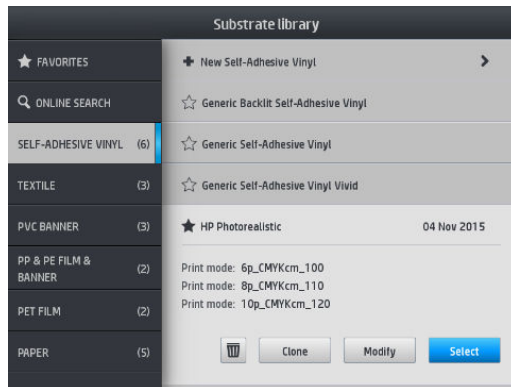
3. Edit any available print mode, or add a new one.
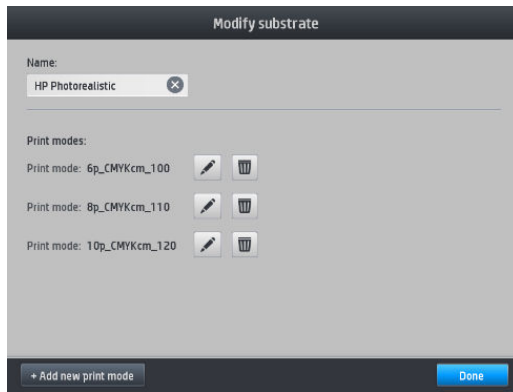
4. Press the **Advanced settings** button.
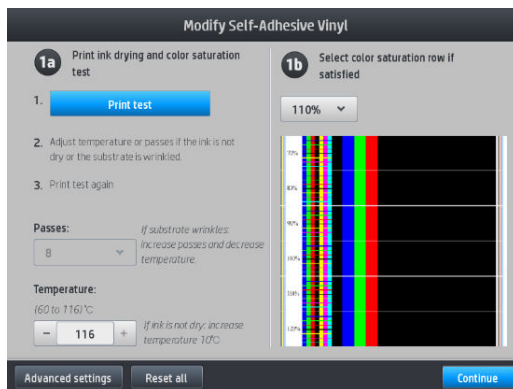
5. Press the **Print test** button beside the Latex Optimizer level setting. Then the optimizer plot is printed with the available ink densities with the selected print mode.
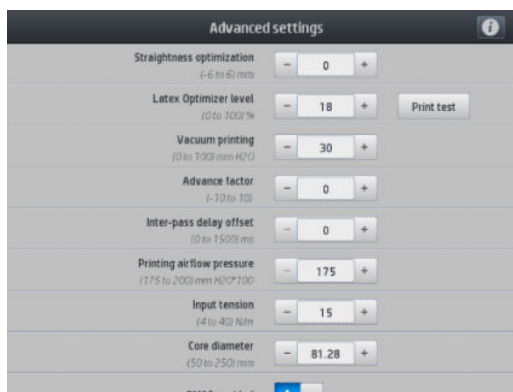
3. Printhead alignment status plot

To print the printhead alignment status plot:

1. Use the same substrate type that you were using when you detected a problem. Or consider using vinyl gloss substrate for better visibility of the optimizer in particular.

2. Go to the front panel and press .
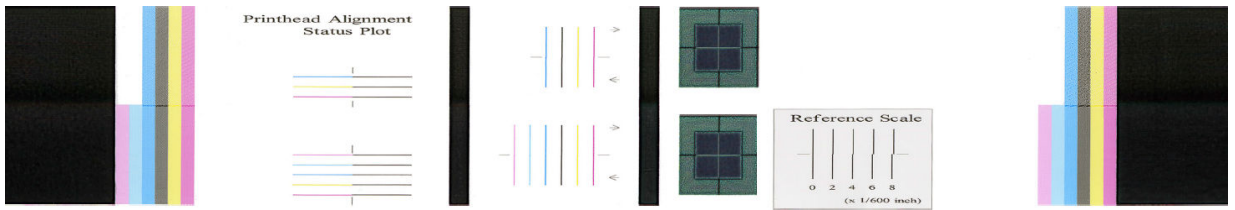
Check the continuity of the thin diagnostic lines on the alignment status plot. In one section, colored lines are printed in line with black lines to test the alignment from one color to another. In a another section, colored lines are printed such that one half is made with a forward pass and one half is made with a reverse pass to test the alignment between the two directions. In both sets of patterns, printhead misalignment will be visible as a step in the line at its center (marked with a short black line).

Bear in mind that small misalignments may not cause any print-quality defects. The printing process is designed to hide the effects of small amounts of misalignment. The reference scale can be used to quantify the amount of misalignment; errors below 4/600 inch are unlikely to cause print-quality defects.

The optimizer fluid is transparent and cannot usually be seen directly. The fluid can be seen on some substrates (such as self-adhesive vinyl) when printed in conjunction with the colored inks. The cross pattern that is printed above the reference scale is printed in this way and c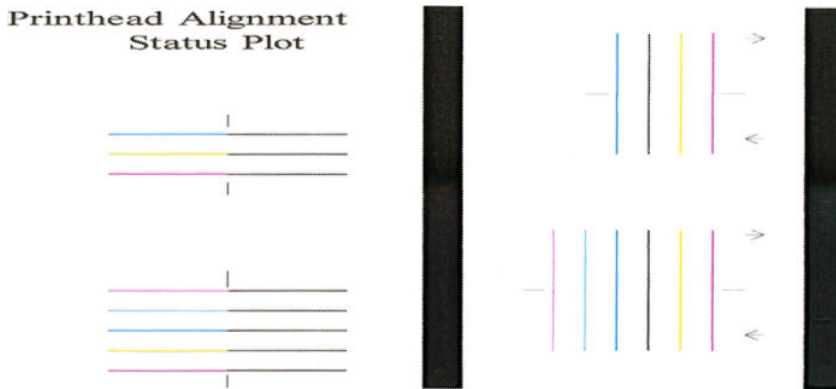an be used to evaluate the alignment of the optimizer on some substrates. In a well-aligned system, the light-colored cross at the center of the pattern will be aligned with the four black lines at the sides of the pattern. The following figure shows how this pattern will appear on the substrates on which it is visible. This sample is slightly misaligned.
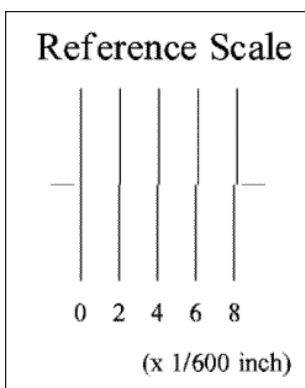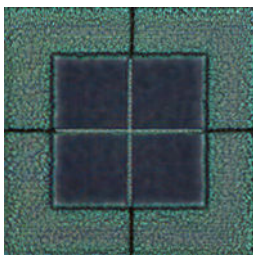
If the printheads are misaligned or you feel unsure about them—for example, because a substrate crash occurred—then align the printheads. See .

4. Substrate-advance check plot

To fine-tune the quality of your print, you may need to adjust the rate at which the substrate advances. The substrate advance determines the placement of dots on the substrate. If the substrate is not advanced correctly, light or dark bands appear in the printed image and the grain in the print may increase.

You can modify the substrate advance from the RIP or front panel with the Substrate Advance parameter in the substrate preset.

To print the substrate-advance check plot:

1.   Use the same substrate type that you were using when you detected a problem.

2.   Check that the selected substrate type is the same as the substrate type that is loaded into the printer.

3.   Go to the front panel and press ![icon].

The substrate-advance check plot consists of several columns with a number at the bottom of each one. Locate the lightest of the columns and enter its number into the Substrate Advance parameter for the current substrate preset. The value chosen in this example should be "−6".
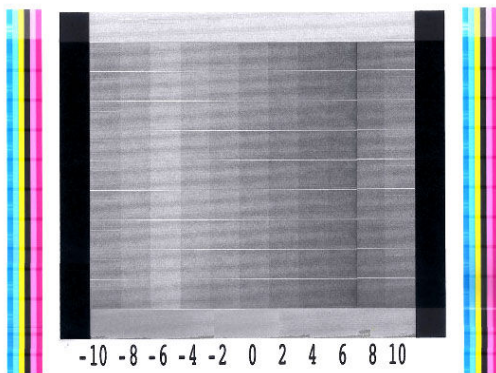
NOTE: Minor substrate-advance problems (±2 around the 0 value) are unlikely to result in any print-quality problem, especially with print modes of more than 8 passes.

Substrate advance adjustment while printing

If you are using no more than six passes, you can fine-tune the substrate advance while printing: press ![icon],

then **Adjustments** > **Adjust substrate advance**. Select a value of change from −10 mm/m to +10 mm/m (or mils/inch). To correct light banding, decrease the value. To correct dark banding, increase the value.

If you are using eight passes or more, a wrong advance adjustment will not produce banding but graininess, which is harder to assess visually. Therefore, in this case you are recommended to use only the adjustment plot.

When you have chosen a value and pressed **OK**, the rest of your job will be printed with that value, but it will be reset to zero at the end of the job. Add the value found to the Substrate Advance value in the preset to print all future jobs with the new setting.

What to do if problems persist

If you still experience print-quality problems after applying the advice in this chapter, here are some additional tips to consider:

●   Try selecting a higher print-quality option in your RIP software, by increasing the number of passes.

●   Check that your printer firmware is up to date. See .

- Check that you have the correct settings in your software program.

- Call your service representative. See .

Most-common print-quality problems

Graininess

An image is said to be grainy when it contains perceptible grain, giving it a mottled appearance.

If you see this kind of problem:

- The printheads may be misaligned. This is likely if you have not aligned the printheads for a long time, or if there has been a substrate jam. Align the printheads if necessary (see Align the printheads on page 146). You can check whether it is necessary by using the printhead alignment status plot (see 3. Printhead alignment status plot on page 114).

- Graininess may be attributable to substrate-advance problems. Try fine-tuning the substrate advance; see 4. Substrate-advance check plot on page 116.

- In particular, if you are printing with eight or more passes, the substrate advance may need fine adjustment. See 4. Substrate-advance check plot on page 116.

- Use a higher number of passes: you will probably see less grain with ten or more passes.

- Some vinyl and banner rolls may have a defective coating (perhaps caused by age), which can cause uneven and grainy area fills, especially when printing with too few passes. Try the following solutions:

  - Go to your substrate library on the front panel or in your RIP. Select your print mode and increase the amount of optimizer in the the advanced settings. See Add a new substrate on page 96.

  - Clean the optimizer printhead.

  - Use the wiper roller accessory (see Wiper roller on page 78).

  If these suggestions do not solve your problem, consider changing to another roll.

Horizontal banding

Try the following remedies if your printed image suffers from added horizontal lines as shown (the color may vary).

- If you are using a print mode with six or fewer passes, try increasing the number of passes. Some degree of banding can be expected with few passes.

- If bands affect all colors across the width of the printed image, the cause is probably a substrate advance problem. Use the front panel to adjust the substrate advance on the fly (see Substrate advance adjustment while printing on page 116). If you have dark bands, increase the substrate advance; if you have light bands, decrease it. When you find the right adjustment, store the value in the front panel for future prints on the same substrate.

  Another cause could be a fiber attached to one of the printheads. Turn off the printer, then remove the printheads one at a time and remove any fibers that you see attached to them.

- If bands affect only some colors, the cause could be a defective printhead.

  - Check the banding in area fills; if you can identify the defective printhead, clean it. See Clean (recover) the printheads on page 146.

  - Print the printhead status plot (see 1. Printhead status plot on page 112). If necessary, clean the printheads. See Clean (recover) the printheads on page 146.

  - Sometimes a single cleaning action may not completely clean every nozzle. Print the status plot and consider cleaning again.

  - Align the printheads (see Align the printheads on page 146). If necessary, align them manually.

  - Print the printhead status plot again. Identify the printhead with the greatest number of blocked nozzles, and replace it.

    NOTE: The optimizer printhead is unlikely to cause this kind of problem.

- If bands affect most of the colors, the printheads could be misaligned. This is likely if you have not aligned the printheads for a long time, or if there has been a substrate jam. Align the printheads if necessary (see Align the printheads on page 146). You can check whether it is necessary by printing the printhead alignment status plot (see 3. Printhead alignment status plot on page 114).

- If banding occurs mostly in black areas, create a new color profile using pure black and not a mixture of other colors. See your RIP documentation.

- Due to the printhead servicing routines while printing, some fibers or small amounts of ink may be deposited on a nozzle, causing it to fail temporarily. This is very unlikely and may just cause a couple of isolated bands. It is also very unlikely for this to be repeated within the same or subsequent print jobs. However, if you notice it, try cleaning the printheads (see Clean (recover) the printheads on page 146).

If the problem persists, call your service representative (see When you need help on page 39).

Vertical banding

Different kinds of vertical bands may appear, for different reasons.

- Regular vertical bands matching the shape of the platen may be seen on paper-based substrates and in general on thin substrates in medium-density area fills such as grays or violets. Try the following suggestions to mitigate this problem:

  - Align the printheads. See Align the printheads on page 146.

  - Reduce the vacuum level in steps of 5 mmH$_2$O when printing on vinyl. Do not exceed the lower limit of 10 mmH$_2$O for vinyls or 25 mmH$_2$O for papers to avoid crashes and/or smears. Consider using the substrate edge holders to avoid lateral crashes. See Edge holders on page 68.

  - Consider using the take-up reel, for better control of the substrate.

  - This kind of banding is less visible when the printer is stable at high temperature (after more than half an hour of continuous printing). You can help to avoid visible banding by modifying the printing queue so that vulnerable or important prints are printed later; or by pre-warming the printer by using the option available in your RIP.

- Thin vertical dark bands, typically seen in the first 150–200 mm of the print in high-density area fills or in backlit applications

  - Reduce the ink quantity if possible.

  - Disable the cutter.

  - When using backlit and synthetic substrates, decrease the vacuum level to values around 5–15, depending on the substrate thickness. More vacuum is normally applied to thick substrates and less to thin substrates.

  - Increase the number of passes.

  - If applicable, use the RIP to group jobs together, so that printer temperatures remain more stable between jobs.

- Thick vertical band not coinciding with the shape of the platen; can be seen on vinyl or backlit substrates with dense area fills such as green or orange

  - Press ⚙, then **Image quality maintenance** > **Printzone airflow**, and change the option from **High** (default) to **Low**. Graininess level may increase with the **Low** option, so you are recommended to revert to **High** when finishing the job.

- Irregular or isolated vertical bands with abnormal levels of graininess

  - Increase the vacuum level in steps of 5 mmH$_2$O. Do not exceed the following limits: 20 mmH$_2$O for banners and 50 mmH$_2$O for other substrate families.

  - In backlit applications, increase the number of passes to 20, maintaining the vacuum level below 20 mmH$_2$O.

  - If the banding appears only at the beginning of the print, disable the cutter and advance the substrate manually about 100–150 mm before the first print.

  - If the banding appears in the center of the print, check that the platen sticker joining the removable print zones is present. You can find spare stickers in the printer maintenance kit.

Print is deformed into a curved shape

This may occur as a result of substrate bow deformation. See Substrate has bow deformation on page 88.

Misaligned colors
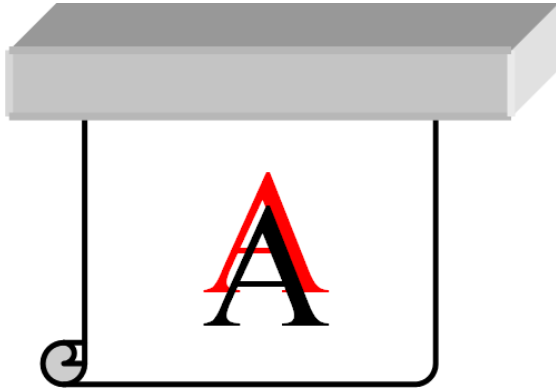
If the colors are misaligned in any direction, the printheads may be misaligned. This is likely if you have not aligned the printheads for a long time, or if there has been a substrate jam. Align the printheads if necessary (see Align the printheads on page 146). You can check whether it is necessary by printing the printhead alignment status plot (see 3. Printhead alignment status plot on page 114).

Color variation and text-line correction

If some printhead nozzles are in use while others in the same printhead are not, water evaporates slowly from the ink in the unused nozzles, making the color more intense. Thus, in such cases you may notice variations in color intensity in areas where the color of the image should be constant.

If you notice such a problem, there are various possible solutions.

1. If you notice the variation in intensity near one side of the print, try rotating the image by 180 degrees before printing. This may solve the problem in some cases, as all the nozzles are refreshed whenever they enter the service station between passes.

2. Use your RIP to add lateral color bars on the side of the plot that is close to the ink supplies. The color bars are designed to exercise all the printhead nozzles, to prevent the problem from occurring.

📝 NOTE: Not all RIPs provide this option.

3. Add lateral color bars to the image, manually, before printing. In this case, you can either use the standard colors, or decide to include a particular color in which you have noticed the problem. The recommended width of each color bar is 3 mm.

If text, lines, or light solid areas are rough or blurred, try the following suggestions:

- The printheads may be misaligned.This is likely if you have not aligned the printheads for a long time, or if there has been a substrate jam. Print the printhead alignment status plot (see 3. Printhead alignment status plot on page 114), and align the printheads if necessary (see Align the printheads on page 146).

- The optimizer printhead may have blocked nozzles. You can check this by printing the printhead status plot (see 1. Printhead status plot on page 112).

- Water evaporates slowly from the ink in the unused nozzles, so the first drops of ink are ejected with lower velocity. This may happen, for example, in nozzles not used during a whole printed swath, causing the text or lines to be rough or blurred. You are recommended to go through steps 1 to 4 as described above.

- If a light area is close to the edge while printing on a thin substrate, ensure that the substrate is loaded with the substrate edge on a rib of the platen to avoid local blurring. Alternatively, try rotating the image so that the affected area is not at the edge of the substrate.

Black areas look hazy

If black areas look hazy or not sufficiently black, try these suggestions.

- Increase the number of passes.

- Laminate the print.

- Substrate presets are designed to achieve consistent and reliable print quality on a broad range of substrates. However, you may want to consider investing in the color management process, using external tools and/or experts, to get specific results. The best dark colors on gloss vinyls and other substrates are normally obtained when using as much black and as little composite as possible when creating the ICC profile.

Ink smears

Ink smears may be seen on the print for the following reasons.

- The substrate is skewed. Do not ignore the warning message that appears during the loading procedure if there is significant skew.

- The substrate is not flat in the print zone. Try the following possible solutions.

- Increase the vacuum level in steps of 5 mmH$_2$O.

- Reduce the curing temperature. You will probably need to increase the number of passes in order to achieve adequate curing.

- Check whether there are fibers on the printheads.

If the problem appears only at the sides of the print, because the edges are uneven or the substrate is curled upward at the sides, consider using the edge holders (see Edge holders on page 68).

If the problem appears only at the beginning of the print, try the following suggestions.

- Increase the top margin of your print to give more room at the leading edge. Alternatively, or additionally, increase the bottom margin to provide a non-deformed leading edge for the next print. See Change margins on page 19.

- Increase the vacuum level in steps of 5 mmH$_2$O. Do not exceed the following limits: 20 mmH$_2$O for banners, 45 mmH$_2$O for vinyl, and 60 mmH$_2$O for other substrates. If the vacuum level is too high, you may see an increase in graininess due to too much friction between the rear surface of the substrate and the platen while advancing the substrate during printing; you may also see vertical bands matching the contours of the print platen.

- Increase the number of passes.

- Make sure that the substrate is stored in the same room in which the printer is located.

📝 NOTE: Several substrates are sensitive to ambient conditions (temperature and humidity): if the ambient conditions are outside the recommended range, this may affect loading and printing.

Uneven appearance in area fill

Subtle color differences may be seen in high-density area fills on some substrates if they are stored partially covered after printing. In the period immediately after printing, such substrates should be stored either totally covered or totally uncovered. It may be advisable to avoid prolonged face-to-face contact between two prints. This problem tends to disappear if the substrate is left uncovered for some time.

Alternatively, especially with vinyls and banners, some individual rolls may have a defective coating; for instance, the coating may have aged. This can cause uneven area fills in light areas. In this case, try using the wiper roller; if that fails, try a new roll.

Ink is oily or smudges when touched

There are various different circumstances in which these symptoms can be seen.

- When the symptoms can be seen only at the start of the first print after the printer has been idle for some time (especially when the start of the print uses a lot of ink)

  This may be just a temporary problem: try reprinting, and perhaps slightly reduce the ink limits. It may be worth adjusting the print queue so that the first job is not difficult to cure (uses a lot of ink).

- When the symptoms can be seen only in certain parts of the print that use a lot of ink

  Increase the curing temperature, decrease the overall ink quantity, increase the number of passes, and/or modify the inter-pass delay offset (in the RIP or front panel) to allow better drying on consecutive passes.

- When the symptoms appear after reducing the number of passes

  Increase the curing temperature, decrease the overall ink quantity, and/or modify the inter-pass delay offset (in the RIP or front panel) to allow better drying on consecutive passes.

- When the oily finish appears minutes or hours after printing

Store the print face-up and uncovered; the effect normally disappears after a while.

📝 **NOTE:** If you decrease the overall ink quantity, you may notice less color saturation.

Dimensions of the print are wrong

As the substrate is heated during the curing process, some substrates will shrink (and some may expand) after the image has been printed. This may be inconvenient if the print has to be framed or if several prints are to be to be tiled one next to the other.

See Substrate has shrunk or expanded on page 87.

Tiling issues

The most common problems when printing tiles are as follows.

- Color variation tile-to-tile

  In some cases, 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. This is a common issue of inkjet printers (both thermal inkjet and piezo inkjet), where there are slight color variations as the swath advances.

  To improve color consistency side-to-side and tile-to-tile, try adding color bars at the side of the print. These can be set from the RIP.

  Since the biggest color differences are between the left edge and the right edge, the effect may sometimes be seen when putting two tiles together. This issue can easily be overcome by inverting alternate tiles, which has the effect of placing the right side of the first tile next to the right side of the second tile and the left side of the second tile next to the left side of the third, so all contiguous areas have been printed in the same point of the swath and, hence, have the same color. This is a feature that all RIPs have available.

- Dimensional variations from tile to tile

  Some specific banner substrates may not have uniform dimensional stability when printing very long tiles. The result is that the length of the tile may be different between the left and the right side (for instance, a 9-meter-long tile may be about 1 cm longer on the right than on the left side). While this is not noticeable with individual plots, it affects the alignment between panels in tiling applications. Substrate types that show this behavior tend to show it constantly along the roll. So, when present, this issue can easily be overcome by inverting alternate tiles as described above.

- Length consistency

  When using the take-up reel, you can get better length consistency by loading it with the printed side inside. See Substrate has shrunk or expanded on page 87.

  You can also change the tension-bar working force. Some papers are sensitive to front tension. Using the take-up reel with the printed side outside will provide more front tension. Using the take-up reel with the printed side inside will provide less front tension.

  The tension-bar working force can be changed after pressing ⚙ then **Substrate** > **Substrate handling options**.

  – Self-Adhesive Vinyl usually requires lower front tension.

  – Paper may require higher front tension

Other settings that can affect length consistency:

- Temperature: The higher the temperature, the more the substrate tends to deform. If you observe substrate deformation after printing, lowering the temperature can help to reduce the deformation.

- Vacuum: High levels of vacuum can help to control the substrate in the print zone, but when the level is too high it can also affect the substrate advance. Therefore reducing the vacuum can help to improve length consistency. Take into account that, when the take-up reel is used, less vacuum is needed.

● In bidirectional printing, minor differences in tone may be noticed on close inspection

This happens because the drying times are not the same across the scan axis. Adding a small inter-pass delay offset of about 0.5–1 second may give better results.

6   Ink system

HP Latex 560 ink system

Ink cartridges

The printer's seven ink cartridges provide magenta, light magenta, black, yellow, light cyan, cyan, and optimizer ink to the printheads. Each cartridge has a capacity of 775 ml.

Ink cartridges require no maintenance or cleaning, but must be shaken before installation. High-quality printing results continue even when the ink levels are getting low.

HP Latex Optimizer enables high quality at high speed. HP Latex Optimizer consists of positively-charged (cationic) polymers suspended in a colorless, water-based ink vehicle. It reacts with the ink pigments, which are negatively-charged (anionic), to immobilize them rapidly on the print surface. This produces sharp text and image detail by suppressing feathering and color bleed especially at high productivity levels.

HP Latex Optimizer also enables the drying and curing process of the HP Latex inks to operate at lower temperatures and to be more energy-efficient, which has the additional benefits of allowing wide substrate support and reduced power consumption.

⚠ **CAUTION:** Avoid touching pins, leads, and circuitry when handling ink cartridges because these elements are sensitive to electrostatic discharge. Such devices are called ESD-sensitive devices. See Glossary on page 192. Electrostatic discharges are one of the main hazards to electronics products. This type of damage can reduce the life expectancy of the device.

Printheads

The printheads deposit ink on the substrate. Each ink cartridge, except the optimizer cartridge, is connected to two printheads.

The printheads are extremely durable and do **not** need to be replaced every time an ink cartridge is replaced. They provide excellent results even when the ink cartridges contain a low level of ink.

To maintain optimum print quality, the printheads are automatically tested at regular intervals, and automatically serviced when necessary. This takes a little time and can occasionally delay printing.
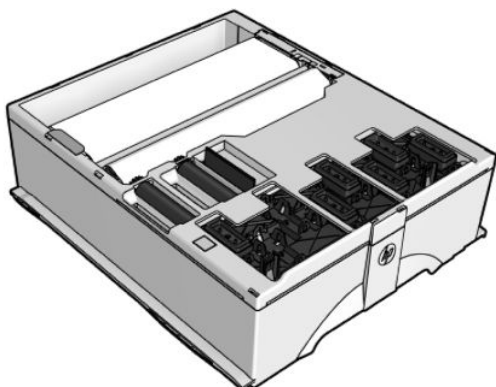
When a printhead eventually needs to be replaced, the front panel will display a message.

⚠️ **CAUTION:** Avoid touching pins, leads, and circuitry when handling printheads because these elements are sensitive to electrostatic discharge. Such devices are called ESD-sensitive devices. See Glossary on page 192. Electrostatic discharges are one of the main hazards to electronics products. This type of damage can reduce the life expectancy of the device.

CAUTION: If you want to remove a printhead from the printer and preserve it for later use, reinstall the cap and plug, but never install a clear optimizer cap or white plug on a non-optimizer printhead. Optimizer printheads have clear caps and white plugs, while the other printheads have orange caps and plugs. Installing the wrong cap and plug can cause irrecoverable printhead damage.

Maintenance cartridge

The maintenance cartridge cleans and maintains the printheads, and seals the printheads when they are not in use to prevent them from drying out. It is also used to store waste ink.

📝 **IMPORTANT:** Keep the maintenance cartridge horizontal when removing it, to avoid spilling ink.

The cartridge contains a roll of cloth, which is used to clean the printheads. You are notified when 92% of the roll has been used, after which the cartridge should continue to function for about another 140 m² (1500 ft²) of printed area. A new roll lasts for about 1850 m² (20000 ft²) of printed area.

📝 **NOTE:** These figures can vary considerably depending on the image density, the print mode, and the ambient temperature. The cloth will be exhausted much faster with a high-density print, many passes, and a hot environment.

📝 **NOTE:** The maintenance cartridge is checked to detect end of roll when the printer is turned on and at the end of each print job.

The printer will refuse to start a print job if it detects the end of the cleaning roll. You should then replace the maintenance cartridge with a new one.
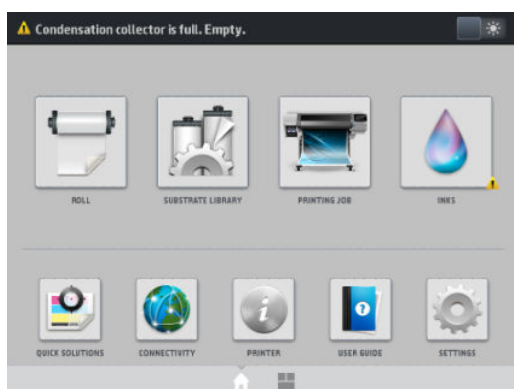
Condensation collector

Vapors from high-productivity printing are condensed in the condensation collector for convenient disposal, avoiding uncontrolled condensation on windows, floors, walls, substrate, and so on.

The contents of the condensation collector should not be dumped down the drain, but should be disposed of in accordance with local regulations and site operation. The waste profile datasheet contains the required information for correct disposal; this document is located here: https://hplatexknowledgecenter.com/applications/wasteprofiles/.

The condensation collector should be replaced or emptied in the following situations:

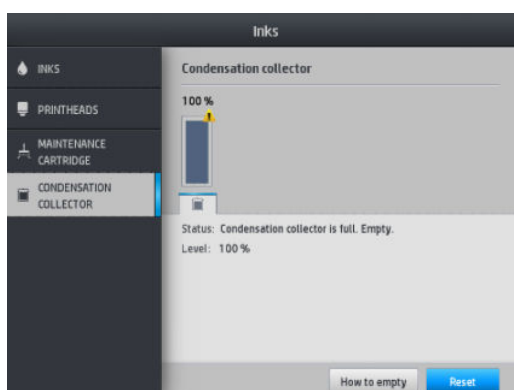- The printer shows a condensation collector alert on the front panel.

- The condensation collector has reached its capacity: see the level indicator on the collector.

NOTE: The volume of condensation collected may vary depending on usage mode, room temperature, and humidity. This means that the condensation level shown on the front panel may not match the level inside the condensation collector.

Replace or empty the condensation collector

1. At the front panel, press , then the **Condensation collector** tab at the left of the screen.

2. Information appears on the level of condensation in the collector. Press the **How to empty** button, and the front panel will explain how to proceed.

3. When the collector has been emptied, remember to reset the counter by pressing the **Reset** button.

4. The front panel asks you to confirm that the condensation collector level will be reset. Press **OK** to confirm.

Safe mode

Under certain conditions, including printer operation outside of environmental specifications, and when a used, refilled, or counterfeit ink cartridge has been detected, the printer will operate in 'safe' mode. HP is unable to warrant the performance of the printing system when operated outside of environmental specifications or when a used, refilled, or counterfeit ink cartridge is installed. Safe mode is designed to protect the printer and the printheads from damage due to unexpected conditions, and is in operation when the icon is displayed on the front panel. For optimal performance, use Original HP ink cartridges. HP Latex printing systems, including Original HP inks and printheads, are designed and engineered together to provide uncompromising print quality, consistency, performance, durability, and value—with every print.

NOTE: This printer is not designed to use continuous ink systems. To resume printing, remove the continuous ink system and install genuine HP (or compatible) ink cartridges.

NOTE: The printer's ink cartridges are designed to be used until they are empty. Refilling cartridges before they are empty could cause the printer to fail. If this happens, insert a new cartridge (genuine HP or compatible) to continue printing.

Ink system tips

For best results, always follow these guidelines:

- Follow the instructions on the front panel during installation.

- Allow the printer and the maintenance cartridge to clean the printheads automatically.

- Avoid unnecessary removal of the ink cartridges and printheads.

- The ink cartridges should never be removed while the printer is printing. They should be removed only when the printer is ready for you to replace them. The front panel guides you through the replacement procedure.

- Make sure that you comply with all applicable laws and regulations when disposing of ink system consumables.

NOTE: Shake the ink cartridges and printheads vigorously before installing them.

Maintain the ink cartridges

During the normal lifetime of a cartridge, no specific maintenance is required. You should replace a cartridge when it has reached its expiration date. See the ink cartridge information on the front panel for the expiration date.

Replace an ink cartridge

Ink cartridges should be replaced for the following two reasons:

- The ink cartridge is very low and you want to replace it with a full cartridge for unattended printing. You can use the remaining ink in the first cartridge at a more convenient time.

- The ink cartridge is empty or faulty, and you must replace it to continue printing.

NOTE: If an ink cartridge runs out of ink while printing, the front panel prompts you to replace the ink cartridge, the job is paused and will resume afterwards. This pause may affect the print quality of the job.

CAUTION: The procedure to remove an ink cartridge must be initiated from the front panel. Do not remove an ink cartridge until the front panel prompts you. If you remove an ink cartridge incorrectly, the printer may subsequently reject that cartridge.

CAUTION: Remove an ink cartridge only if you are ready to insert another one.

CAUTION: Observe precautions when handling ink cartridges because they are ESD-sensitive devices. Avoid touching pins, leads, or circuitry.

⚠ **WARNING!** Make sure that the printer wheels are locked (the lever is pressed down) to prevent the printer from moving.
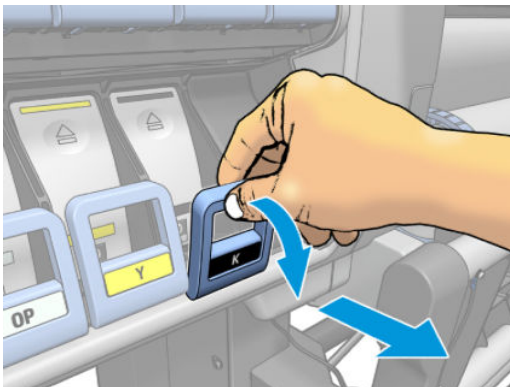
Remove an ink cartridge

1. On the printer's front panel, press ![droplet icon], then **Replace ink cartridges**.

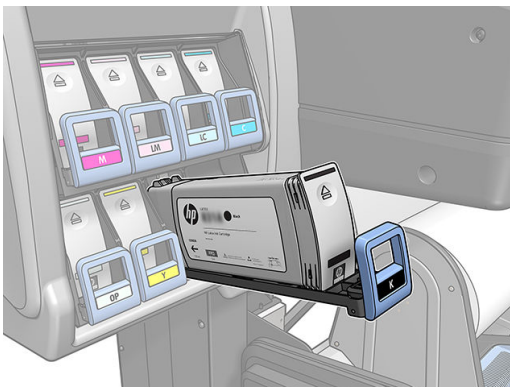   Alternatively, press ![settings icon], then **Ink** > **Replace ink cartridges**.

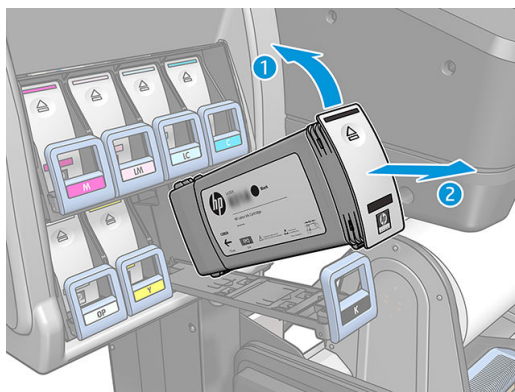2. Grip the blue tab in front of the cartridge that you want to remove.

3. Pull the blue tab down and then pull it outwards, towards you.

4. The cartridge comes out, in its drawer.

5. Lift the cartridge out of its drawer.

> **NOTE:** Avoid touching the end of the cartridge that is inserted into the printer, because the connection might be coated with ink.

> **NOTE:** If necessary, store a partially-used ink cartridge in the same position as if it were inserted in the printer. Avoid using a partially-used cartridge that has been stored on its end.

6. The front-panel display identifies the missing ink cartridge.
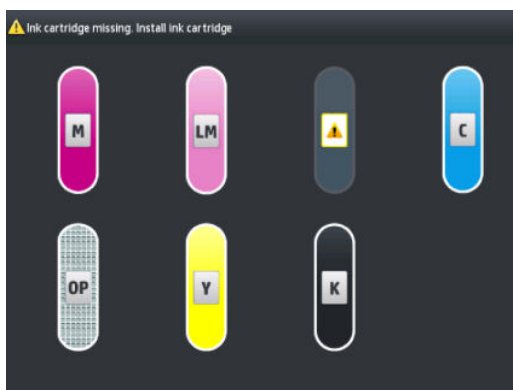
Insert an ink cartridge

1. Pick up the new ink cartridge and find the label that identifies the ink color. Hold the ink cartridge so that you can see the label at the top of the side that is facing you.

2. Check that the colored label above the empty slot in the printer matches the color of the label on the cartridge.

3. Shake the cartridge vigorously for about 15 seconds.
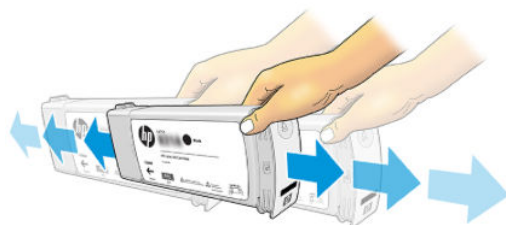
4. Insert the ink cartridge into the cartridge drawer.

5. Slide the drawer and cartridge into the slot until they lock into position.
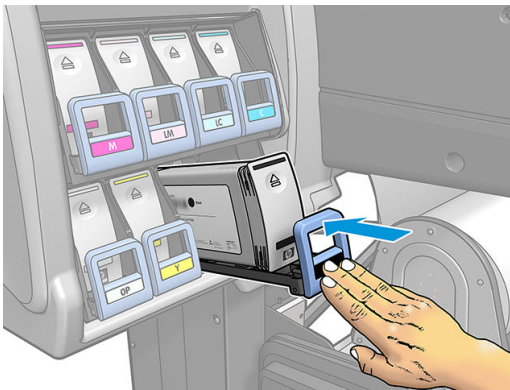
6. The front-panel display confirms that all cartridges have been correctly inserted.
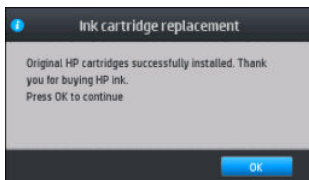
Refilled and non-HP ink cartridges

HP recommends that you replace an empty cartridge with a new HP cartridge.

The use of refilled or non-HP ink cartridges has several disadvantages:

- If printer failure or damage is attributable to the use of a non-HP or refilled ink cartridge, HP will charge its standard time and materials charges to service the printer for the particular failure or damage, even if the printer is within its warranty period.

- If failure or damage to printheads, ink cartridges, or other ink supplies is attributable to the use of non-HP, expired or refilled ink cartridge, HP is not responsible for the cost of replacement.

- Print quality may be impaired.

- The printer will be unable to estimate the ink level in the cartridge, and will report it as empty.

If you decide to use refilled or non-HP ink cartridges, you will need to follow these instructions to make the printer use a cartridge that it believes to be empty.

CAUTION: Running completely out of ink can damage the printheads. Damage attributable to printing with empty ink cartridges is not covered under the warranty. Forcing the printer to accept empty cartridges will empty the ink delivery system as well. Once emptied, ink must be used to refill the system and reprime the printhead when a new ink cartridge is installed.

1. Install the cartridge in the printer (see).

2. The front panel will complain that the cartridge is empty, and the cartridge removal process will start. Press ❌ to stop this automatic process.

3. On the front panel's home screen, press **Ink information** to display the following screen.
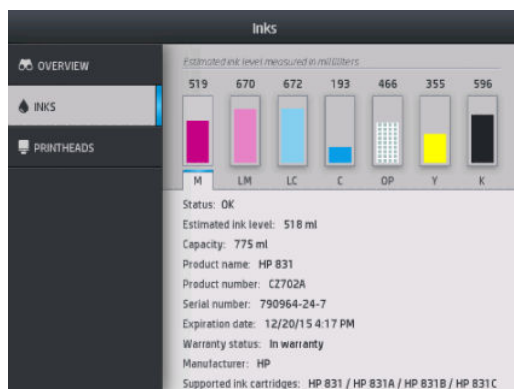
4. Press any cartridge to see more detailed information.

5. On the right-hand side of the front panel, press the following sequence: ❌, ❌, ❓, ❓. These icons are not illuminated; but, if you press them successfully, the front panel displays a series of warning messages. In response to each message, press **Cancel** to cancel the process, or **OK** to confirm that you wish to continue.

6. When you have pressed **OK** in response to all warning messages, the front panel gives the usual ink cartridge status display, but the cartridge is shown as empty with a warning sign.

Cannot insert an ink cartridge

1. Check that you have the correct type of cartridge (model number).

2. Check that the colored label on the cartridge is the same color as the label on the slot.

3. Check that the cartridge is correctly oriented, the arrow on the front of the ink cartridge should face upwards.

CAUTION: Never clean inside the ink cartridge slots.

HP Latex 570 ink system

The printer uses 3 liter ink cartridges and 775 ml intermediate tanks.

Intermediate tanks

The 775 ml ink cartridges used by the HP Latex 560 are used by the HP Latex 570 as permanent intermediate tanks.

The printer now has seven intermediate tanks: magenta, light magenta, black, yellow, light cyan, cyan, and optimizer.

⚠ CAUTION: Avoid touching pins, leads, and circuitry when handling ink cartridges because these elements are sensitive to electrostatic discharge, which can reduce the life expectancy of the cartridges. Such devices are called ESD-sensitive devices.

📝 IMPORTANT: The intermediate tanks cannot be transferred to be used as ink cartridges in another printer.

📝 NOTE: An intermediate tank must contain at least 500 ml of ink, otherwise it will be internally marked as 'stop refilling'. See Stop refilling an intermediate tank on page 144.

Ink cartridges

The printer's seven large ink cartridges provide magenta, light magenta, black, yellow, light cyan, cyan, and optimizer ink to the printheads. Ink cartridges store the ink and are connected through the intermediate tanks to the printheads, which deposit the ink on the substrate.
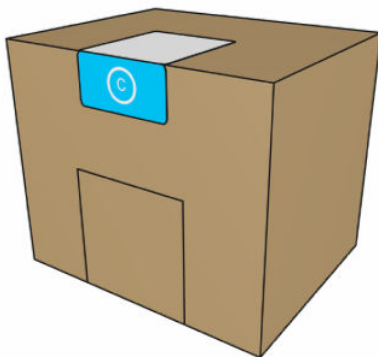
Each cartridge contains 3 liters of HP Latex ink, and consists of a bag within a recyclable cardboard box.

⚠ CAUTION: Observe precautions when handling ink cartridges because they are ESD-sensitive devices. Avoid touching pins, leads, and circuitry.

Excessive pressure on a cartridge can cause ink leaks. Avoid putting pressure on cartridges while they are connected to the printer. In particular:
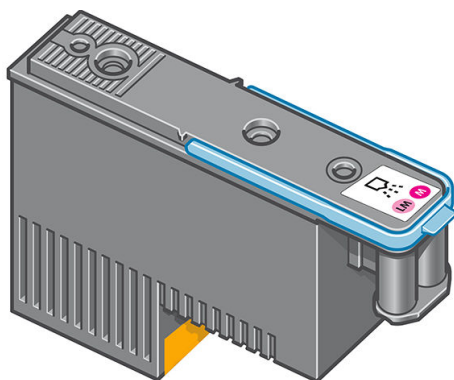
- Always disconnect cartridges from the printer before handling them.

- Never place anything heavy—more than 1 kg (2.2 lb)—on top of a cartridge.

- Take care not to drop a cartridge.

- Do not try to force the last of the ink out of an almost-empty cartridge by pressing the ink bag inside the cartridge.

Ink cartridges require no maintenance or cleaning, but you must follow the instructions on the label before installation. High-quality printing results continue even when the ink levels are getting low.

⚠ **CAUTION:** Non-genuine or altered cartridges or intermediate tanks are not supported by the printer; if they are detected, printing is stopped.

Printheads

The printheads deposit ink on the substrate. Each printhead, except the optimizer printhead, is connected to two ink cartridges.

The printheads are extremely durable and do **not** need to be replaced every time an ink cartridge is replaced. They provide excellent results even when the ink cartridges contain a low level of ink.

To maintain optimum print quality, the printheads are automatically tested at regular intervals, and automatically serviced when necessary. This takes a little time and can occasionally delay printing.
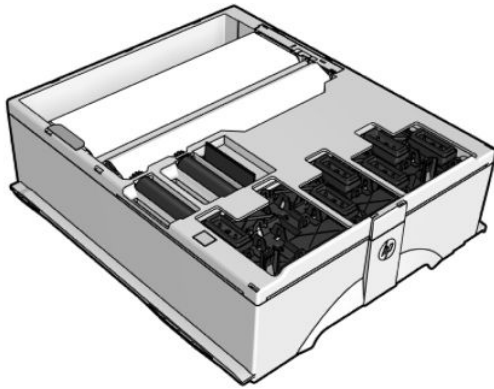
When a printhead eventually needs to be replaced, the front panel will display a message.

⚠ **CAUTION:** Avoid touching pins, leads, and circuitry when handling printheads because these elements are sensitive to electrostatic discharge. Such devices are called ESD-sensitive devices. Electrostatic discharges are one of the main hazards to electronics products. This type of damage can reduce the life expectancy of the device.

CAUTION: If you want to remove a printhead from the printer and preserve it for later use, reinstall the cap and plug, but never install a clear optimizer cap or white plug on a non-optimizer printhead. Optimizer printheads have clear caps and white plugs, while the other printheads have orange caps and plugs. Installing the wrong cap and plug can cause irrecoverable printhead damage.

Maintenance cartridge

The maintenance cartridge cleans and maintains the printheads, and seals the printheads when they are not in use to prevent them from drying out. It is also used to store waste ink.

IMPORTANT: Keep the maintenance cartridge horizontal when removing it, to avoid spilling ink.

The cartridge contains a roll of cloth, which is used to clean the printheads. You are notified when 92% of the roll has been used, after which the cartridge should continue to function for about another 140 m² (1500 ft²) of printed area. A new roll lasts for about 1850 m² (20000 ft²) of printed area.

NOTE: These figures can vary considerably depending on the image density, the print mode, and the ambient temperature. The cloth will be exhausted much faster with a high-density print, many passes, and a hot environment.

NOTE: The maintenance cartridge is checked to detect end of roll when the printer is turned on and at the end of each print job.

The printer will refuse to start a print job if it detects the end of the cleaning roll. You should then replace the maintenance cartridge with a new one.

Condensation collector

Vapors from high-productivity printing are condensed in the condensation collector for convenient disposal, avoiding uncontrolled condensation on windows, floors, walls, substrate, and so on.

The contents of the condensation collector cannot be dumped down the drain, but should be disposed of in accordance with local regulations and site operation. HP can provide a typical Waste Profile Datasheet to assist you with disposal decisions.

The condensation collector should be replaced or emptied in the following situations:

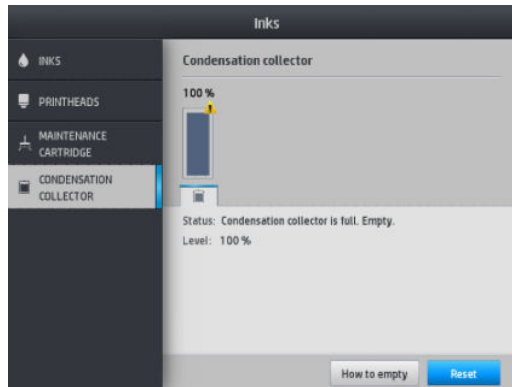● The printer shows a condensation collector alert on the front panel.

● The condensation collector has reached its capacity: see the level indicator on the collector.

NOTE: The volume of condensation collected may vary depending on usage mode, room temperature, and humidity. This means that the condensation level shown on the front panel may not match the level inside the condensation collector.

Replace or empty the condensation collector

1. At the front panel, press , then the **Condensation collector** tab at the left of the screen.

2. Information appears on the level of condensation in the collector. Press the **How to empty** button, and the front panel will explain how to proceed.

3. When the collector has been emptied, remember to reset the counter by pressing the **Reset** button.

4. The front panel asks you to confirm that the condensation collector level will be reset. Press **OK** to confirm.

Check the status of the large ink cartridges

You can see the ink levels in your ink cartridges by pressing on the front panel's home screen.
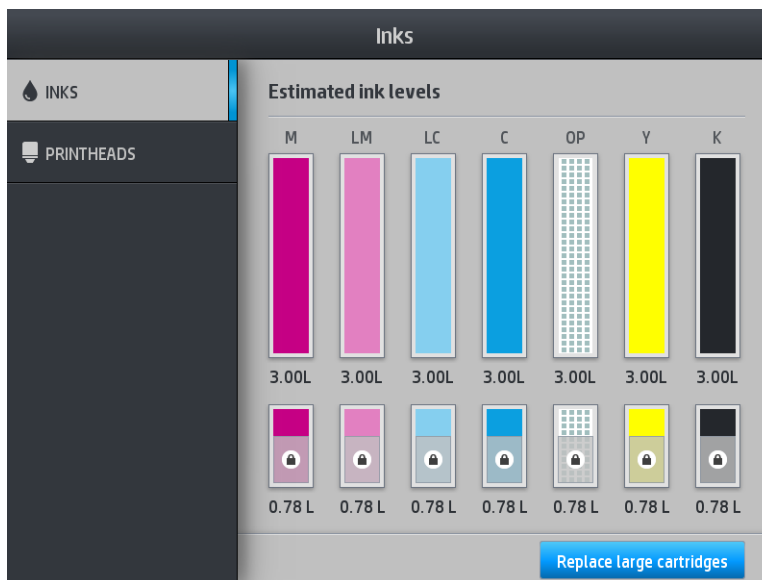
When grayed out, the 3 liter cartridge is refilling and cannot be used.

The area marked with a padlock cannot be normally be used, to preserve the ink in the intermediate tank. But you can use the **Stop refilling** option to unlock this ink. See Stop refilling an intermediate tank on page 144.

For more details about any particular ink cartridge or intermediate tank, press the corresponding rectangle. The following information is shown.
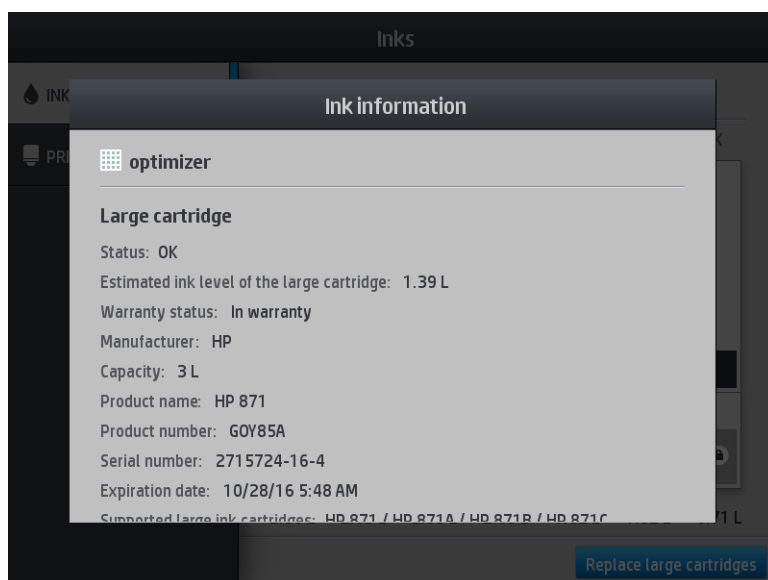
These are the possible large cartridge and intermediate tank status messages that you can see on the front panel:

- **OK:** The cartridge is working normally, with no known problems.

- **Missing:** There is no cartridge present, or it is not correctly connected to the printer.

- **Low:** The ink level is low.

- **Very low:** The ink level is very low.

- **Empty:** The cartridge is empty.

- **Reseat:** You are recommended to remove the cartridge and then reinsert it.

- **Replace:** You are recommended to replace the cartridge with a new cartridge.

- **Expired:** The cartridge's expiration date has passed.

- **Incorrect:** The cartridge is not compatible with this printer. The message includes a list of compatible cartridges.

- **Almost end of life:** The cartridge is near the end of its lifespan.

- **End of life:** The cartridge has reached the end of its lifespan, and should be changed whenever you have emptied it with **Stop refilling**.

Ink system tips

For best results, always follow these guidelines:

- Follow the instructions on the front panel during installation.

- Avoid unnecessary removal of the ink cartridges and intermediate tanks.

- The intermediate tanks should never be removed while the printer is printing. They should be removed only when the printer is ready for you to replace them. The front panel guides you through the replacement procedure.

- Avoid removing a cartridge while it is refilling an intermediate tank.

Make sure that you comply with all applicable laws and regulations when disposing of ink system consumables.
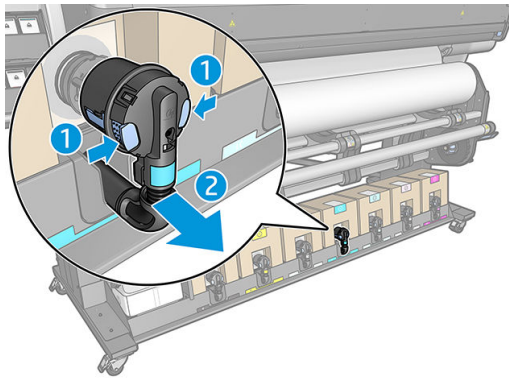
Replace an ink cartridge

During the normal lifetime of a cartridge, no specific maintenance is required. You should replace a cartridge when it has reached its expiration date (18 months of life), or when the printer requests it. See the ink cartridge information on the front panel for the expiration date.

Remove an ink cartridge

1. On the printer's front panel, press ![drop icon], then **Replace large cartridges**.

    Alternatively, press ![gear icon], then **Ink supplies** > **Replace large cartridges**.

2. Disconnect the cartridge connector by pressing the tabs on each side of it and pulling it gently away from the cartridge.

3. Remove the empty cartridge from the printer.

Insert an ink cartridge

> 📝 **NOTE:** The ink cartridge is supplied in an insulating bag; do not open it until you are ready to use the cartridge.

1. Check that the new cartridge is of the correct color.

2. Place the cartridge on a flat surface and turn it four times (rotating it through 360 degrees) as indicated on the label, to ensure that the ink is well mixed before use.
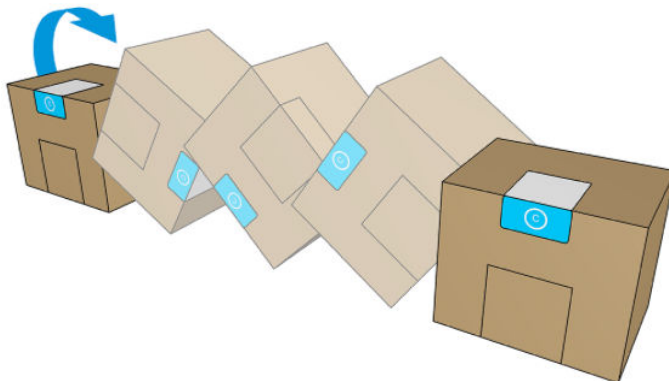
3. Tear off the square and fold it inside the handle.

4. Put the new cartridge into its correct place on the printer.
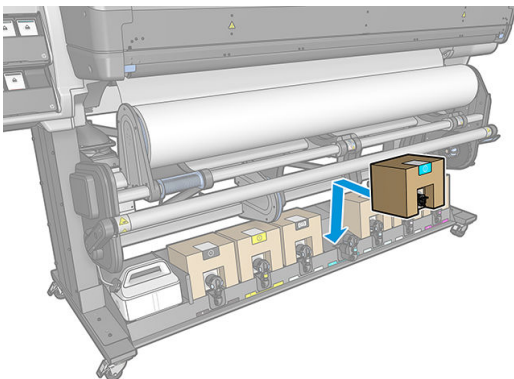
5. Check that the rubber part around the needle in the cartridge connector is clean. Clean gently with a cloth if necessary.

6. Connect the connector to the cartridge.
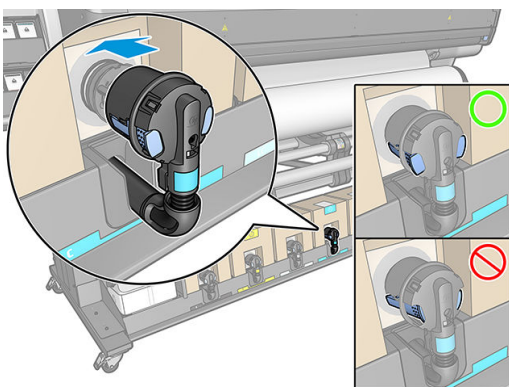
Replace an intermediate tank

Intermediate tanks should be replaced for the following reasons:

- The printer notifies you that the intermediate tank has reached the end of its life and will not be refilled. When it runs out of ink, it must be replaced.

  📝 **NOTE:** The pause to replace the tank may affect the print quality of the job.

- You want to continue printing without replacing an empty large ink cartridge. In this case, you must declare it in the front panel, and you will need to replace the intermediate tank with a new one when it, too, becomes empty. See .

⚠ **WARNING!** Make sure that the printer wheels are locked (the brake lever is pressed down) to prevent the printer from moving.

⚠ **CAUTION:** The procedure to remove an intermediate tank must be initiated from the front panel. Do not remove an intermediate tank until the front panel prompts you. If you remove an intermediate tank incorrectly, the printer may subsequently reject that tank.

CAUTION: Remove an intermediate tank only if you are ready to insert another one.

CAUTION: Observe precautions when handling intermediate tanks because they are ESD-sensitive devices. Avoid touching pins, leads, or circuitry.

📝 **NOTE:** You cannot replace an intermediate tank while it has a padlock icon displayed on the front panel. You must press **Replace intermediate tanks** as described below to remove the padlock.
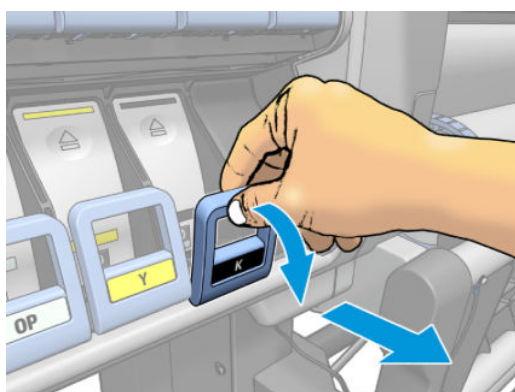
Remove an intermediate tank

1. On the printer's front panel, press ⚙, then **Ink supplies** > **Replace intermediate tanks**.

2. Remove the locking piece.

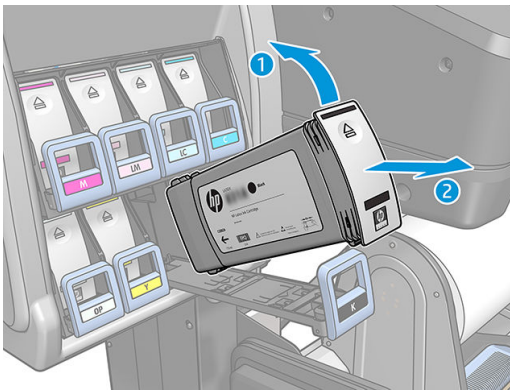3. Grip the blue tab in front of the intermediate tank that you want to remove.

4. Pull the blue tab down and then pull it outwards, towards you.

5.	The intermediate tank comes out, in its drawer.

6.	Lift the intermediate tank out of its drawer.

NOTE:	Avoid touching the end of the intermediate tank that is inserted into the printer, because the connection might be coated with ink.

Insert an intermediate tank

Remember that you should insert an HP Latex 831 cartridge as an intermediate tank, unaltered and containing more than 500 ml of ink.

1.	Pick up the new intermediate tank and find the label that identifies the ink color. Hold the tank so that you can see the label at the top of the side that is facing you.

2.	Check that the colored label above the empty slot in the printer matches the color of the label on the intermediate tank.

3.	Shake the intermediate tank vigorously for about 15 seconds.
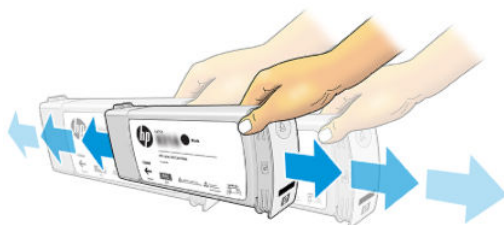
4. Insert the intermediate tank into the drawer.
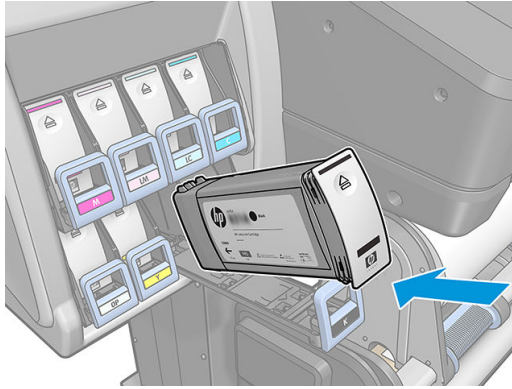
5. Slide the drawer and intermediate tank into the slot until they lock into position.
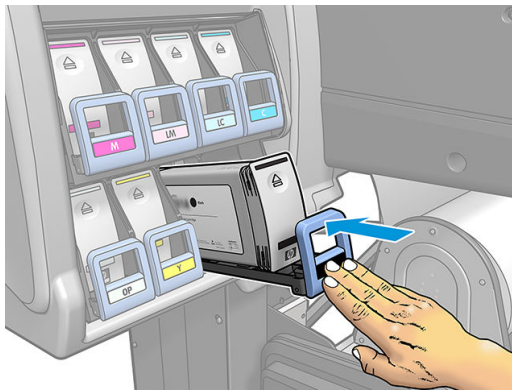
6. Place the locking piece.

7. The front panel warns that intermediate tanks cannot be used in another printer. Acknowledge the warning.

Refill an intermediate tank manually

If the ink in the intermediate tank is not enough to complete the job, the job is not paused; the intermediate tank is refilled from the ink cartridge while printing continues. If you foresee that the ink in the cartridge plus the ink in the intermediate tank will not be enough to complete a job, you may want to insert a new cartridge. To force a transfer of the remaining ink in the cartridge to the intermediate tank, press , then **Force manual refill**.

Any intermediate tank with an ink level lower than 82% will be refilled if its cartridges are connected and functional.

NOTE: Manual refilling of intermediate tanks should be performed when the printer is in **Ready** status and not performing any printing or maintenance operation.

Stop refilling an intermediate tank

If a large cartridge runs out of ink, and you want to continue printing using the remaining ink in the intermediate tank without replacing the large cartridge, press [icon], then **Stop refilling intermediate tank** and select the color.

The large cartridge will stop refilling the selected intermediate tank. Once the intermediate tank is completely empty, it must be replaced and cannot be used again.

NOTE: In this mode, the printer does not use the 3 liter cartridge at all.

The intermediate tank must be replaced by a genuine HP 831 cartridge of corresponding color, unaltered and containing more than 500 ml of ink. If this option is selected, the intermediate tank will be internally marked as 'stop refilling' and the status (see Check the status of the large ink cartridges on page 137) will be one of the following:

- Intermediate tanks won't be refillable anymore: You can continue printing while there is ink in the intermediate tank.

- Intermediate tank is empty: You need to replace the intermediate tank to continue printing as there is no ink.

- Intermediate tank error: An error has occurred and you need to replace the intermediate tank.

Cannot insert an ink cartridge or intermediate tank

1. Check that you have the correct type of cartridge or tank (model number).

2. Check that the colored label on the cartridge or tank is the same color as the label on the slot.

3. Check that the cartridge or tank is correctly oriented, the arrow on its front should face upwards.

CAUTION: Never clean inside the intermediate tank slots.

7 Hardware maintenance

For the tasks in this chapter, you may need the User Maintenance Kit that was provided with your printer.

- [Clean (recover) the printheads](#)
- [Align the printheads](#)
- [Front panel recommends reseating or replacing a printhead](#)
- [Replace a printhead](#)
- [Cannot insert a printhead](#)
- [Clean the electrical connections on a printhead](#)
- [Replace the maintenance cartridge](#)
- [Cannot insert the maintenance cartridge](#)
- [Clean and lubricate the carriage rod](#)
- [Clean the encoder strip](#)
- [Clean the platen](#)
- [Clean the substrate-advance sensor window](#)
- [Clean the exterior of the printer](#)
- [Move or store the printer](#)
- [Service maintenance](#)

Clean (recover) the printheads

[QR code image]

Periodic printhead cleaning is performed automatically, as long as the printer is kept turned on. However, you should clean the printheads if you are experiencing poor print quality and cannot resolve the issues by other methods. This ensures that there is fresh ink in the nozzles and helps to prevents nozzle clogs.

If you have printed the printhead status plot (see 1. Printhead status plot on page 112), you know which colors are failing. Clean any printhead that is not performing adequately. If you are not sure which printheads to clean, clean all of the printheads.

NOTE: A small number of blocked nozzles are unlikely to have any visible effect on your prints, as the printer has been designed to compensate for this problem during multi-pass printing.

To clean the printheads (which often enables them to recover from problems), go to the printer's front panel and press [icon], then select which printheads you want to clean. You can clean all of the printheads or only some of them. Select from the following options:

- Print test plot
- Clean all
- Clean LM–LC
- Clean K–C
- Clean M–Y
- Clean OP

Cleaning all printheads takes about 5 minutes. Cleaning any two printheads takes about 3 minutes.

NOTE: Cleaning all printheads uses more ink than cleaning a single pair.

Align the printheads

The printer performs printhead alignment whenever printheads are replaced. If no substrate is loaded when a printhead is replaced, the printer will perform the alignment the next time you load substrate.

You may also be recommended to align the printheads to solve a print-quality problem.

Automatic alignment

First make sure that you have a roll of opaque, white substrate loaded in the printer. Colored substrates, glossy canvas, coarse textiles, and transparent materials such as translucent bond, clear film, tracing substrate and vellum are not suitable for automatic printhead alignment. For these substrates, you should align the printheads manually (see Manual alignment on page 147) or perform the automatic alignment on a supported substrate first, then change to the special substrate. Alignment settings are retained through substrate changes until a new printhead alignment is performed.

The HP Latex Optimizer can be aligned only on certain substrates such as self-adhesive vinyl. The pattern varies according to the substrate.

To request printhead alignment from the front panel (if the alignment is not performed automatically), press

 .

To request printhead alignment from the Embedded Web Server, select the **Setup** tab, then select **Printhead alignment** > **Automatic printhead alignment** > **Print**.

The process takes about 11 minutes and starts immediately, unless an image is currently being printed. If a print job is in progress, the alignment will be done as soon as the current print job is finished.

Manual alignment

To request a manual printhead alignment from the front panel, press .

To request manual printhead alignment from the Embedded Web Server, select the **Setup** tab, then select **Printhead alignment** > **Manual printhead alignment** > **Print**.
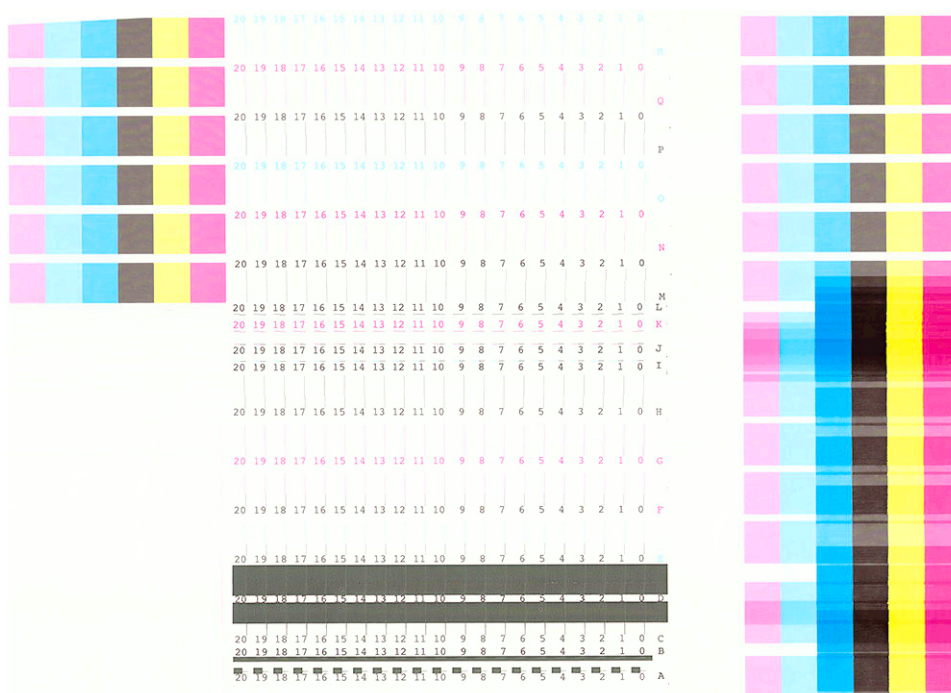
The printer prints 18 rows labelled from A to R. Inspect the print and write down the number of the straightest line in each row (for example, A:9).

Patterns A, B, C, and D are used to align the HP Latex Optimizer. These will be visible only on certain substrates, such as self-adhesive vinyl. If the best alignment pattern cannot be determined, the default value of 10 should be used.

Detail of pattern A

Detail of pattern B

Detail of pattern C

Detail of pattern D

When you have made notes on each row, enter the correction values into the front panel or the Embedded Web Server.

To enter the correction values in the front panel, press , then **Image-quality maintenance** > **Align printheads** > **Manual printhead alignment** > **Enter correction values**. Enter each value into the window labelled with the same letter as the corresponding pattern.

To enter the correction values in the Embedded Web Server, select the **Setup** tab, then select **Printhead alignment** > **Manual printhead alignment**, and enter each value into the window labelled with the same letter as the corresponding pattern.

Front panel recommends reseating or replacing a printhead

1. Remove the printhead and check that it is free from physical damage and from ink stains on the electrical connections.

2. If necessary, clean the electrical connections between the printhead and the carriage. See Clean the electrical connections on a printhead on page 155.

3. Reinsert the printhead into the carriage and check the front panel message.

4. If the problem persists, insert a new printhead.

Replace a printhead

Remove a printhead

1. On the printer's front panel, press , then **Replace printheads**.

2. The carriage moves to the removal position.

   CAUTION: If the carriage remains in the removal position for more than 3 minutes without inserting or removing any printheads, it will attempt to return back to its home position to the right.

   CAUTION: Observe precautions when handling printheads because they are ESD-sensitive devices. Avoid touching pins, leads, or circuitry.

3. When the carriage has stopped moving, the front panel prompts you to open the printer window.
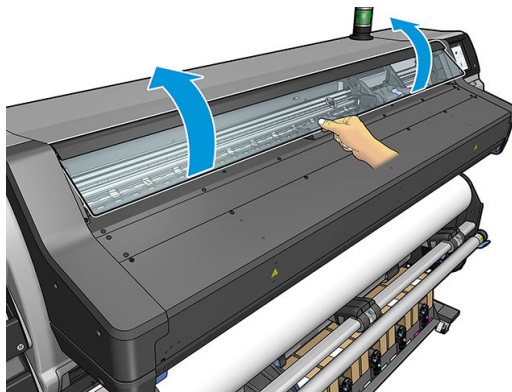
4. Locate the carriage on the right side of the printer.
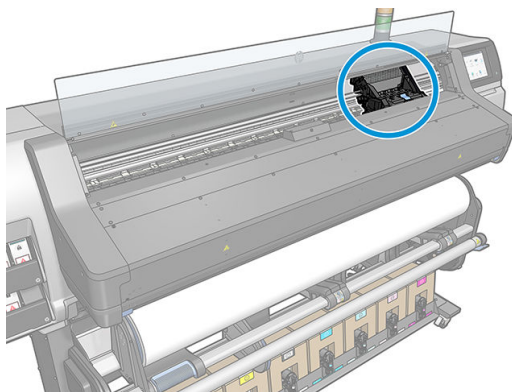
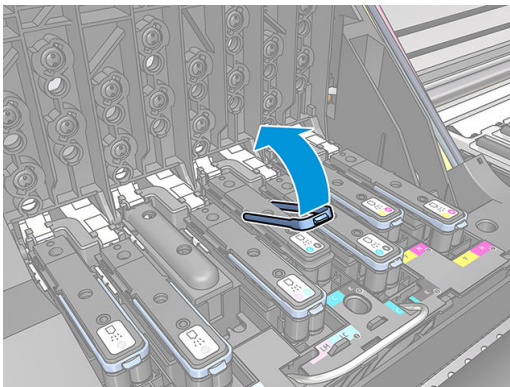   **CAUTION:** Avoid touching the printer's curing enclosure, which may be hot.

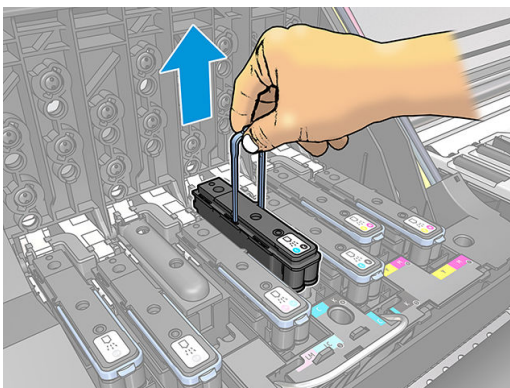5. Pull up and release the latch on top of the carriage.
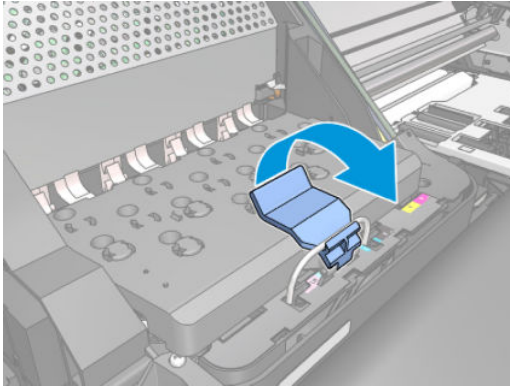
6. Lift up the cover. This provides access to the printheads.
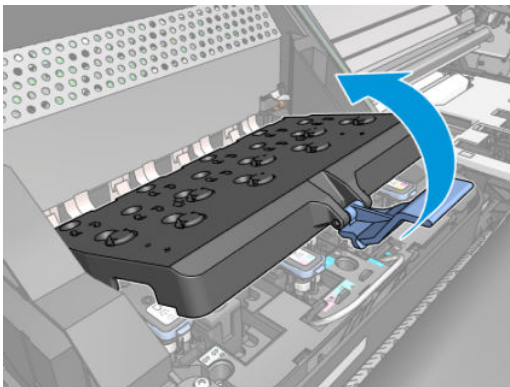
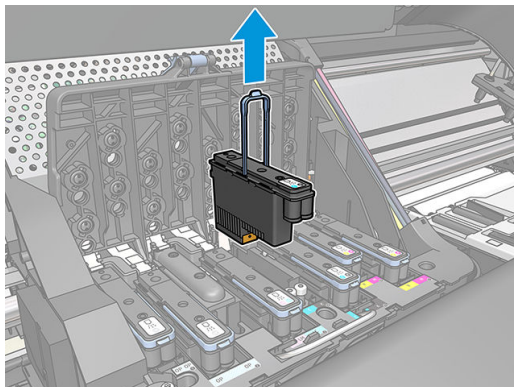7. To remove a printhead, lift up the blue handle.

8. Using the blue handle, gently disengage the printhead.

9. Gently pull the blue handle upward until the printhead is released from the carriage.

⚠ CAUTION: Do not pull abruptly. That action can damage the printhead.

⚠ CAUTION: If you want to preserve the old printhead for later use, reinstall the cap and plug, but never install a clear optimizer cap or white plug on a non-optimizer printhead. Optimizer printheads have clear caps and white plugs, while the other printheads have orange caps and plugs. Installing the wrong cap and plug can cause irrecoverable printhead damage.

10. The front-panel display identifies the missing printhead.
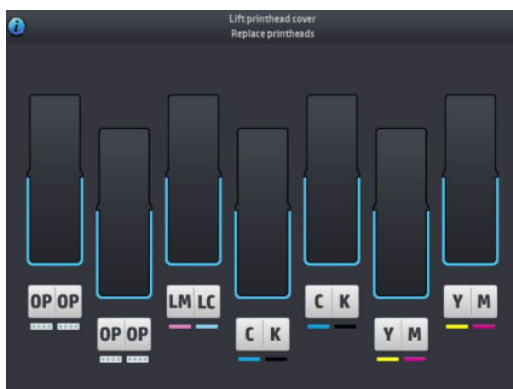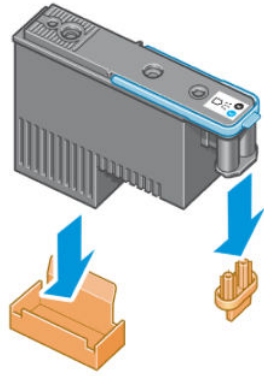

Insert a printhead

1. If the printhead is new, shake it vigorously before removing the protective caps. Hold the printhead upright (with the protective caps facing down) and shake the printhead vigorously in a smooth up and down motion for about 15 seconds.
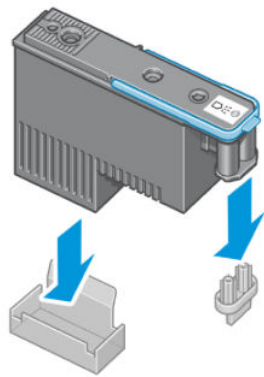
📝 NOTE: Be careful not to strike the printhead against anything while shaking it, because this could cause damage.
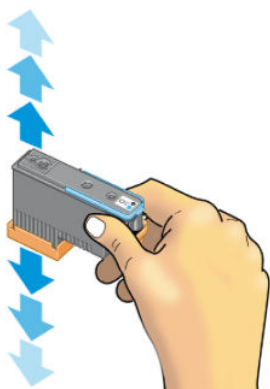
2. Remove the orange protective caps by pulling them down.

> 📝 **NOTE:** The optimizer protective caps are white or transparent.

3. The printhead is designed to prevent you from accidentally inserting it into the wrong slot. Check that the colored label on the printhead matches the colored label of the carriage slot into which the printhead is to be inserted.

4. Insert the new printhead into its correct slot in the carriage.

> ⚠ **CAUTION:** Insert the printhead slowly and vertically, straight down. It can be damaged if you insert it too quickly, or at an angle, or if you rotate it as you insert it.
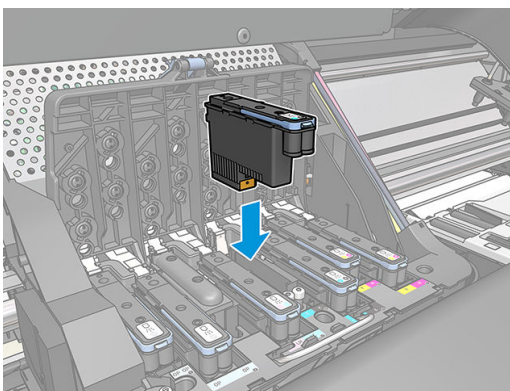
5. Push down as indicated by the arrow.
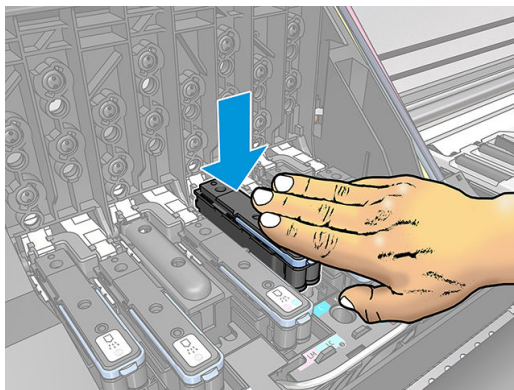
> ![Caution] **CAUTION:** You might feel some resistance when installing the new printhead, so you need to press it down firmly but smoothly. You should hear a beep and see confirmation on the front-panel display that the printhead has been inserted.
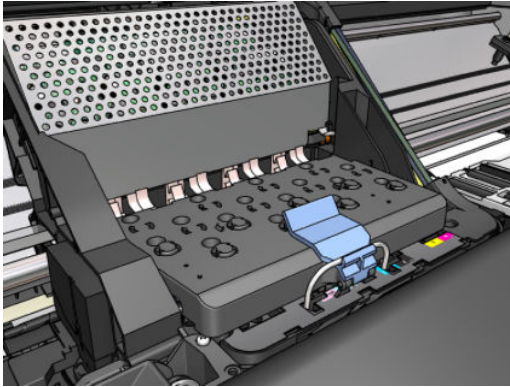
6. Insert all of the other printheads that need to be installed, and close the carriage cover.
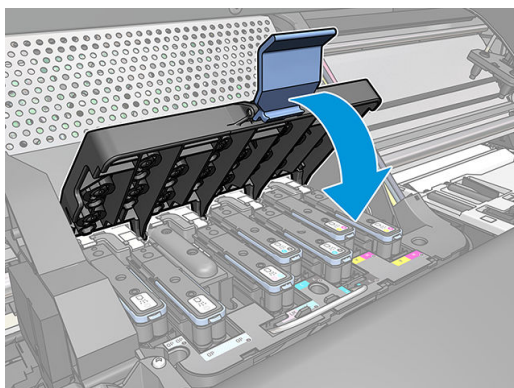
7. Make sure that the end of the latch catches the wire loop on the near side of the carriage.
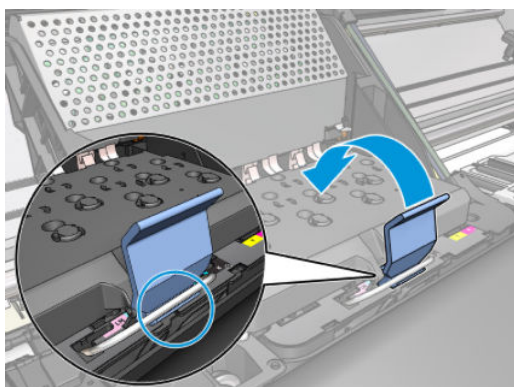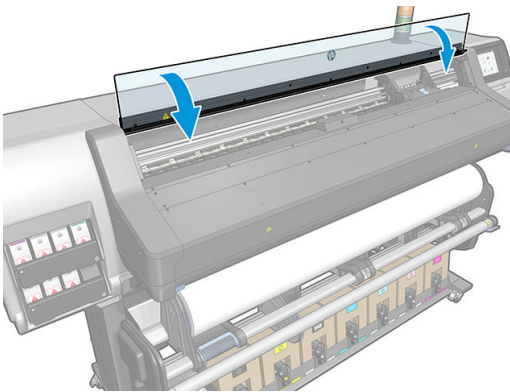
8. Lower the latch to rest on the carriage cover.

When all of the printheads have been inserted correctly and the printer has accepted them, the printer beeps.

NOTE: If the printer does not beep when you insert the printhead and the **Replace** message appears on the front-panel display, you might need to reinsert the printhead.

9. Close the printer window.

10. The front-panel display confirms that all of the printheads are correctly inserted. The printer starts checking and preparing the printheads. The default routine process, when all printheads are changed, takes up to 18 minutes. If the printer identifies a problem when preparing the printheads, the process takes longer, up to 30 minutes. For a single printhead insertion, the time varies between 10 and 20 minutes. After all printheads are checked and prepared, the printhead realignment procedure runs automatically if substrate is loaded.

Cannot insert a printhead

1. Check that you have the correct type of printhead (model number).

2. Check that you have removed the orange protective caps from the printhead.

NOTE: Optimizer printhead caps are white or transparent.

3. Check that the colored label on the printhead is the same color as the label on the slot.

4. Check that the printhead is correctly oriented (compare with the others).

5. Check that you have closed and latched the printhead cover.

Clean the electrical connections on a printhead

It is possible that the printer will not recognize a printhead after it has been installed. This can happen when ink builds up on the electrical connections between the printhead and the printhead carriage. Under these circumstances, HP recommends that you clean the electrical connections on the printhead. However, routine cleaning of the connections when no problems are apparent is *not* recommended.

A carriage interconnect wiper is included with your printer in the User Maintenance Kit.
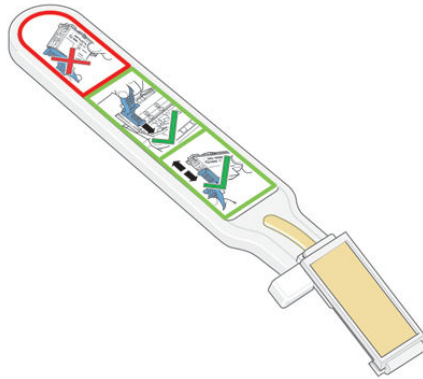
Use this to clean the electrical interconnects on both the printhead carriage and the printhead if the **Reseat** or **Replace** message persists next to the printhead on the front-panel display.

☼ **TIP:** You are recommended to wear gloves.

1. Remove a new pre-moistened replacement sponge from its pouch.
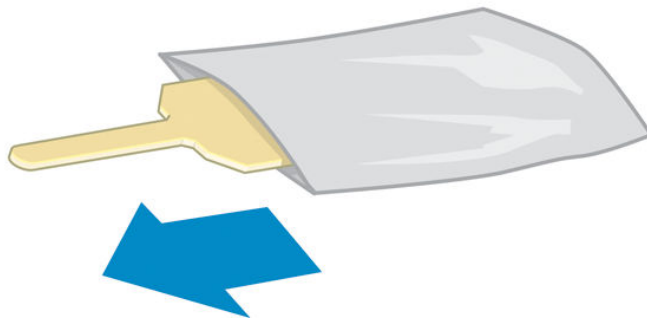
A supply of sponges is included in the box with the wiper. If all sponges have been used, more can be obtained by calling your service representative.

2. Open the carriage interconnect wiper.

3. Load the sponge by positioning the sponge on the face of the carriage interconnect wiper with the shorter tab in the locating slot.
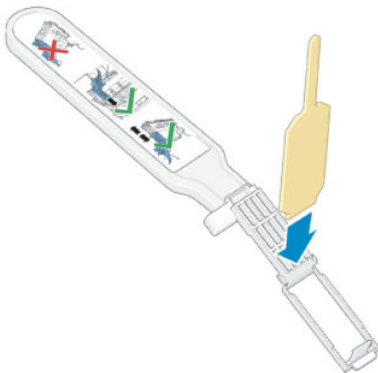
4. Close the carriage interconnect wiper, trapping the sponge in place.

5. Open the printhead carriage latch and extract the printhead that is causing the problem, as indicated on the front panel. See Replace a printhead on page 149.

6. Insert the carriage interconnect wiper into the printhead slot at the back. Wipe the electrical contacts by inserting the tool between the electrical connections at the back of the slot and the steel spring, with the sponge facing away from you and towards the electrical contacts. Try to avoid picking up any ink deposit that may have accumulated on the bottom surface of the slot.
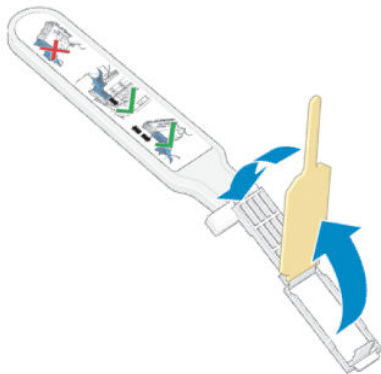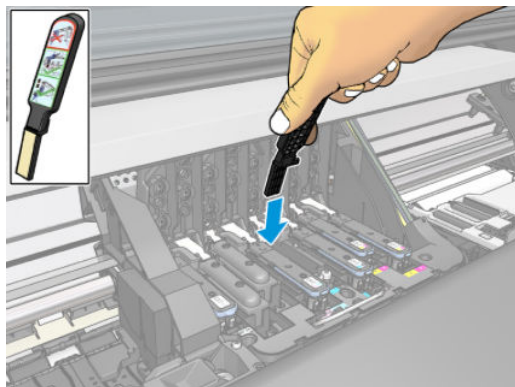
    ⚠ CAUTION: If the carriage remains in the central part of the printer for more than 7 minutes, it attempts to return to its home position to the right.

7. Rub the sponge against the contacts with a *light* force along the entire depth of the flex connector, inserting the wiper as far as allowed by the mechanical stop on the tool.
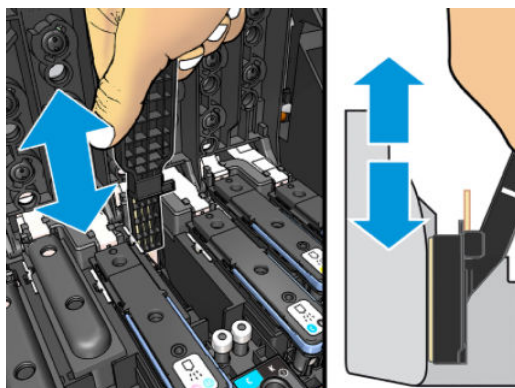
8. Take special care to clean all contacts thoroughly, including the ones at the lowest point of the connector.
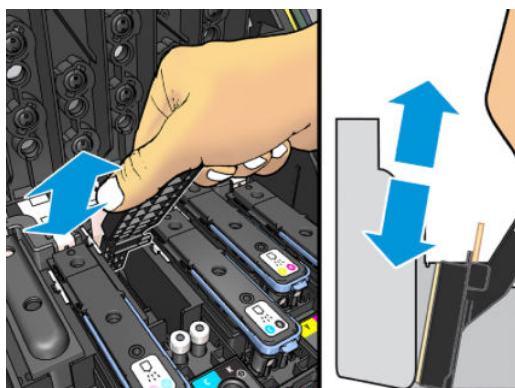
9.   Using the same sponge, clean the lower strip of electrical contacts on the printhead (unless the printhead is new). Avoid touching the upper set of electrical contacts.
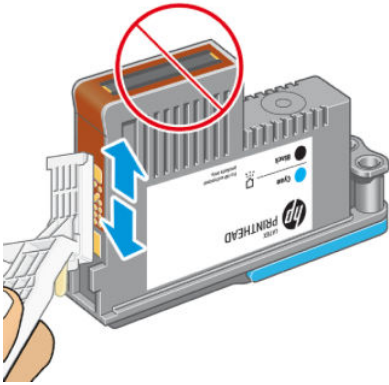
⚠ CAUTION: Do not touch the surface of the printhead that contains the nozzles, because the nozzles are easily damaged.

10. After waiting a few moments to allow both connectors to dry, replace the printhead into the printhead carriage. See Replace a printhead on page 149.

11. After completing the cleaning process, open the carriage interconnect wiper by pulling on the sponge tab.
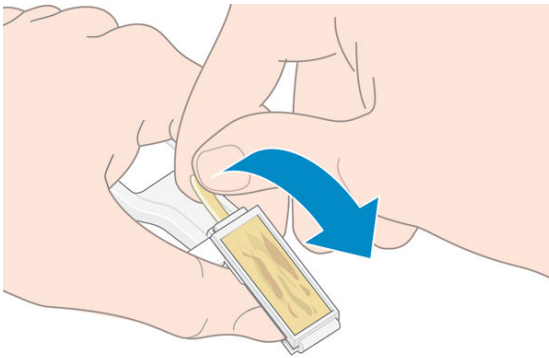
12. Remove the soiled sponge from the carriage interconnect wiper.
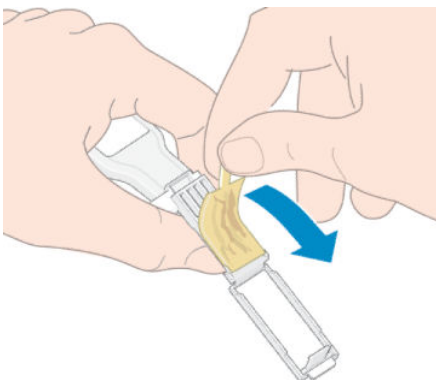
13. Dispose of the soiled sponge in a safe place to prevent the transfer of ink onto hands and clothing.
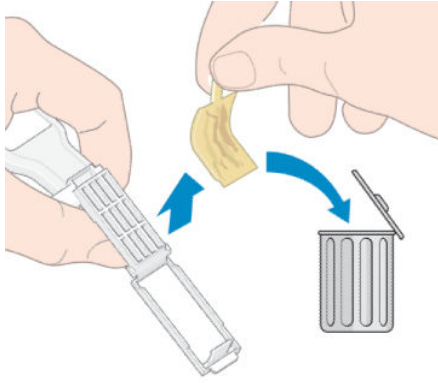
If the front panel continues to show the **Reseat** or **Replace** message, replace the printhead or call your service representative.

Replace the maintenance cartridge

You should replace the maintenance cartridge when prompted to do so by the front panel.

☆ TIP: If you want to remove and inspect the maintenance cartridge at any time, you can start the following procedure. If you put the old maintenance cartridge back into the printer after inspecting it, the procedure ends at that point.

1. On the printer's front panel, press , then **Replace printhead cleaning kit**.

2. The maintenance cartridge is located in a slot underneath the front panel, at the front of the printer. Open the door.
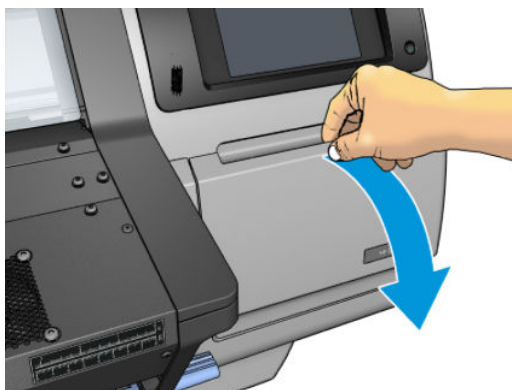
IMPORTANT: When removing a maintenance cartridge, remember that it is full of ink. Therefore:

*   Wear gloves.

*   Remove it carefully and horizontally to avoid splashing.

*   Always handle and store the replaced maintenance cartridge upright.

WARNING! Make sure that the printer wheels are locked (the brake lever is pressed down) to prevent the printer from moving.

3. The maintenance cartridge has a handle on the front. To remove the cartridge, just slide it out.

4. When you have slid it out partway, hold it on each side with both hands: it is heavy.
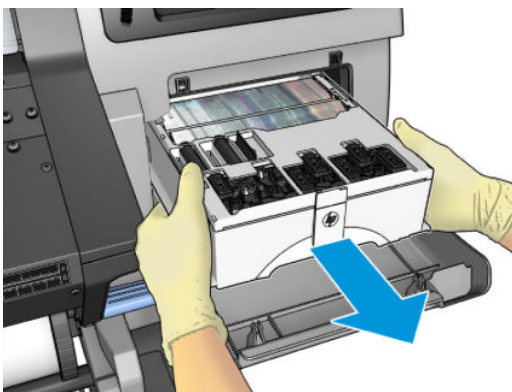
IMPORTANT: Slide it out horizontally to avoid spills, as it is full of ink.

5. Remove the plastic cover from the new maintenance cartridge.
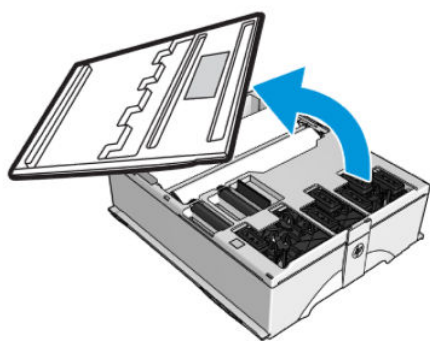
6. Insert the maintenance cartridge into the slot, in the direction indicated by the arrow.
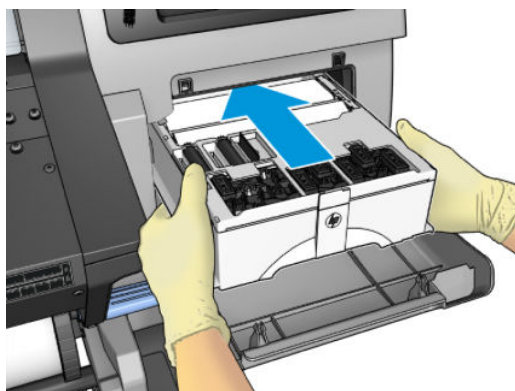
7. Push the maintenance cartridge in until it does not protrude from the slot. You will notice that the printer takes it; do not use excessive force.

NOTE: The front panel will not show the new maintenance cartridge until the door is closed.

8. When you have inserted the maintenance cartridge into the printer, close the door.
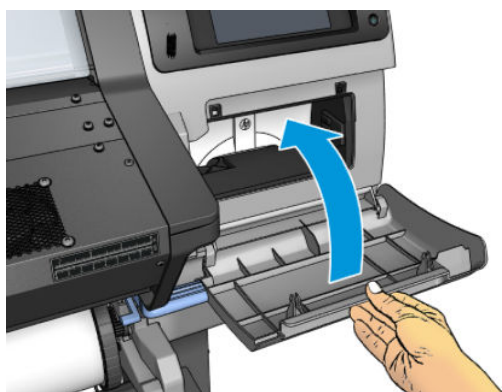
NOTE: Before it can resume printing, the printer needs all the ink cartridges, printheads, and maintenance cartridge to be installed, and the printer window and maintenance cartridge door to be closed.

Cannot insert the maintenance cartridge

Check that the maintenance cartridge has the correct model number and is correctly oriented.

Clean and lubricate the carriage rod

📝 **NOTE:** In some circumstances, such as in ambient temperatures above the printer's operational specification (see Environmental specifications on page 189), or if there is a significant amount of dust in the air, the lubrication of the slider rods may be impaired, which can affect the performance of the printer.

The following procedure can also be found as a video here: http://www.hp.com/go/latex300/videos.

1. At the front panel, press , then **Preventive maint. tasks** > **Carriage rod lubrication**.

2. Open the window.

3. Clean the carriage rod using a lint-free cloth dampened with 95% ethanol. Take care to clean the whole rod, including the part under the left cover.

   📝 **NOTE:** 95% ethanol is not provided in the Maintenance Kit.

   ⚠ **CAUTION:** Ethanol is highly flammable. Observe the manufacturer's safety precautions.

   CAUTION: Do not use commercial cleaners or abrasive cleaners.

   ⚠ **WARNING!** Avoid moving parts. You are recommended to wear gloves.

Moving part	Wear gloves

For more safety information, please see Safety precautions on page 3
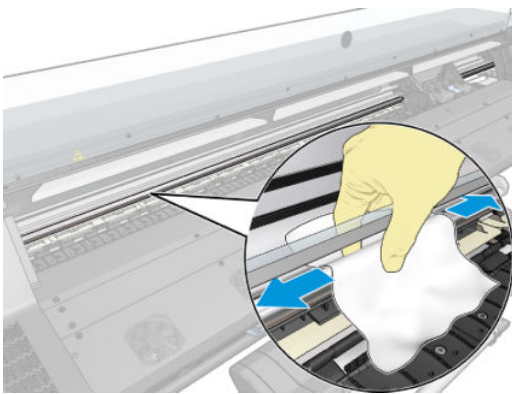
   ⚠ **CAUTION:** While cleaning, be careful not to damage the plastic encoder strip located on top of the rod.
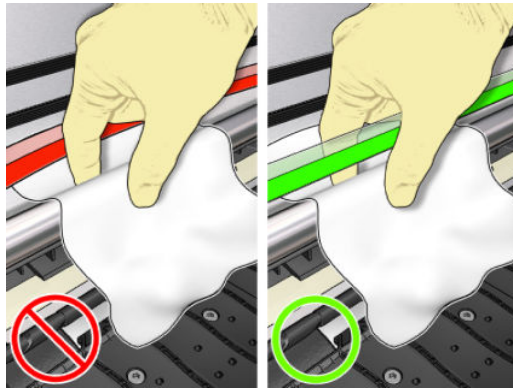
4. Wait until the rod is dry, then close the window. The carriage moves to the left side of the printer so that you can reach the part of the rod under the right cover.

5. Open the printer window.

6. Clean the carriage rod area under the right cover as described in step 3.

7. Take the bottle of oil from the Maintenance Kit that is supplied with your printer (a replacement kit can be ordered if necessary).

8. Deposit a very thin zig-zag trickle of oil along the rod.
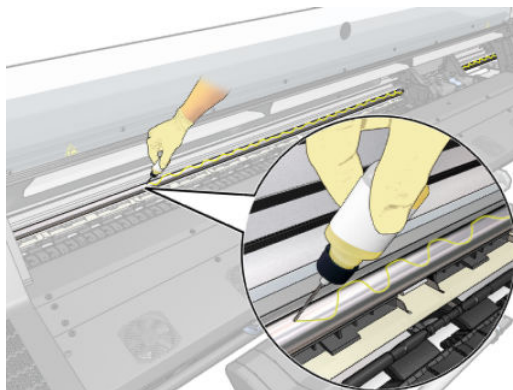
📝 NOTE: While lubricating, be careful not to drop oil on the encoder strip located on top of the rod.

9. Press **OK** at the front panel.

10. Close the window.

11. The carriage moves from one side of the printer to the other to distribute the oil along the rod.

12. The front panel asks you to confirm that lubrication has been completed. Press **OK** to confirm.

Clean the encoder strip

Cleaning the encoder strip is a vital part of the printer's maintenance and can clear a variety of system errors:

- 86:01 or 87:01 system errors and related mispositioning of the carriage assembly errors, such as the carriage bumping into the side of the printer.

- 42:10 system errors, related to failures starting and homing the carriage on the scan axis.

- 29:01 system errors that cannot be cleared even after installing new maintenance cartridges.

- There are occasions when a dirty encoder strip can cause substrate loading issues, as the carriage cannot correctly detect the position of the substrate.

The encoder strip should be cleaned when requested by the printer. The front panel displays a message when cleaning is required: **For optimal printer performance follow the Clean the encoder strip process as described in the User Guide.**

NOTE: When the message is displayed on the front panel, a silent warning message is added within the system error log '8:01'. This helps when reviewing the error log history.

Cleaning procedure

1. At the front panel, press [icon], then **Preventive maintenance tasks** > **Clean scan axis encoder**.

2. Open the window.

3. Clean the encoder strip on both sides with a cloth dampened with water, as instructed in the front panel, and press **Continue** when finished.

4. Close the window. The carriage moves to the left-hand side of the printer.

5. The front panel prompts you to reopen the window and clean the right-hand side of the encoder strip (inside the service station). Press **Continue** when finished.

6. Close the window. The carriage returns to its ready position in the service station.

Clean the platen

You should clean your print platen after every 40 liters of ink used (the front panel will remind you with an alert), and additionally when you notice any of the following symptoms:

- Ink smearing when printing with presets that used to work well (vacuum loss)

- More frequent substrate jams

- Ink stains and marks on the back of your prints

- Advance issues even when using the substrate-advance sensor

NOTE: If you print on wide substrate after having printed on narrower substrate, you may find that the left side of the platen has become dirty. If this contaminated section of the platen is not cleaned, it could leave marks on the back of the substrate.

NOTE: Do not print on porous substrates when using the platen, as it will get dirty. Use the ink collector for porous substrates.

NOTE: If, when cleaning the platen, you see that any sticker is missing or out of place, you can replace it with one of the spare stickers provided in the User Maintenance Kit.

CAUTION: Be careful not to damage the substrate-advance sensor when cleaning the platen. The sensor is the very small rectangular window (less than 1 cm²) found close to the third pinchwheel from the right. See <u>Clean the substrate-advance sensor window on page 167</u>.

TIP: You are recommended to wear gloves.

Follow these instructions to clean the platen.

1. Unload all substrate from the printer. See .

2. Turn off the printer.

3. Open the printer window.
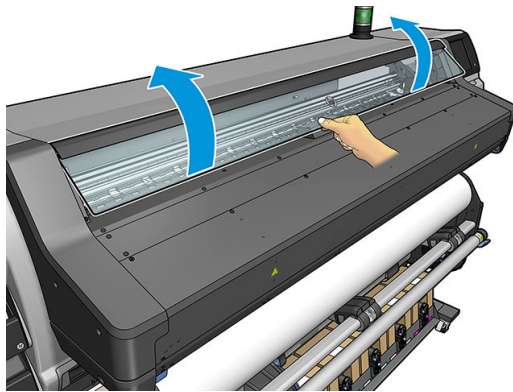
4. Use a 1 mm pin to unclog every hole in the print platen. Make sure to push the pin all the way through. Remains of ink and substrate fibers tend to accumulate in the holes and diminish the vacuum effect.
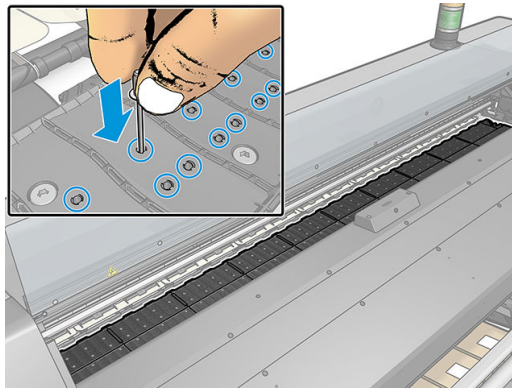
5. Remove the platen or ink collector. See .

6. With the same 1 mm pin or tweezers, remove all remains of ink and substrate fibers inside the vacuum suction cups.
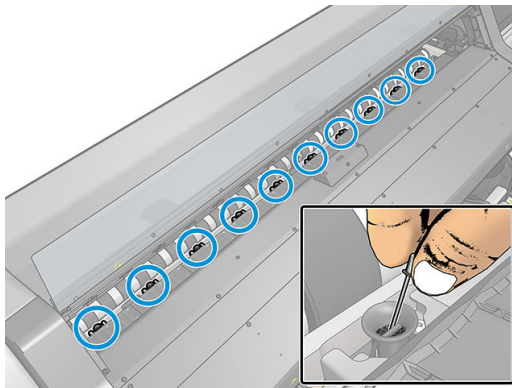
7. Reinstall the platen or ink collector.

If you find ink stains on the back of your prints or have trouble with the substrate-advance sensor, continue with the following steps:

1. Use a clean, absorbent lint-free cloth to wipe any wet ink thoroughly from the cutter groove, cutter ramp, and platen.

2. With a dry brush, remove dry, loosened ink deposits from the cutter groove and cutter ramp.
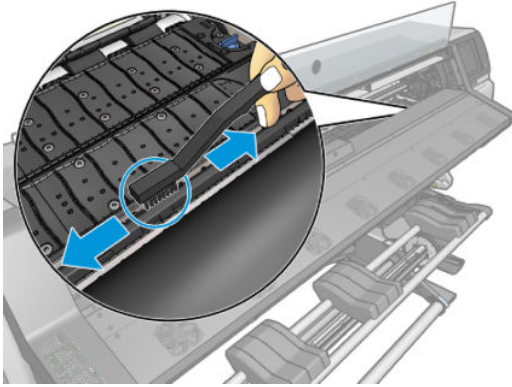
3. With the same dry brush, remove dry, loosened ink deposits from the platen surface.
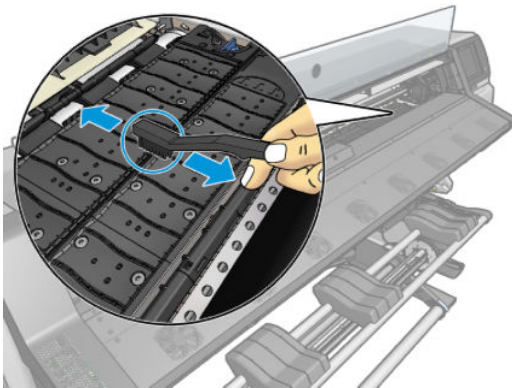
4. Slightly dampen the used cloth with 95% ethanol to wipe the remaining dry ink deposits from the platen.

    📝 NOTE: Dry ink deposits take longer to remove.

    📝 NOTE: 95% ethanol is not provided in the User Maintenance Kit.

    ⚠ CAUTION: Ethanol is highly flammable. Observe the manufacturer's safety precautions.

    CAUTION: Do not use commercial cleaners or abrasive cleaners. Do not wet the platen directly, because you will leave too much moisture behind, which could damage the substrate advance sensor.
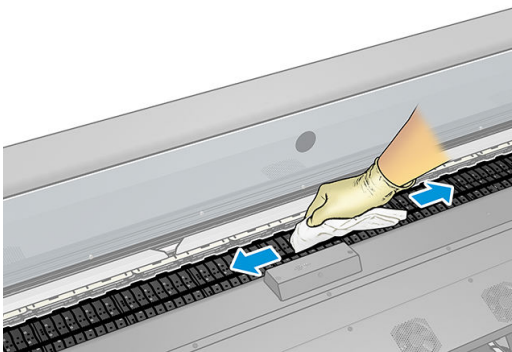
5. Use the damp cloth to remove remaining dry ink deposits from the cutter ramp.
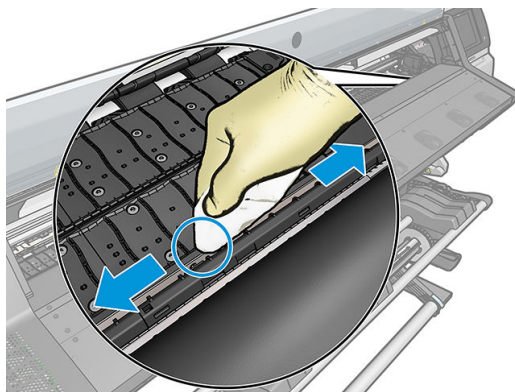
6. Close the 95% ethanol container and remove it and the cloth from the vicinity of the printer.

7. Wait 3 or 4 minutes to let the ethanol evaporate, before turning on the printer and reloading the substrate.

Clean the substrate-advance sensor window

The substrate-advance sensor is the very small rectangular window (less than 1 square centimeter in size) close to the third pinchwheel from the right.

HP recommends that you clean the substrate-advance sensor window whenever you clean the print platen and if you are experiencing print quality issues.

1. Unload the substrate by using the front panel procedure. See <u>Unload a roll from the printer on page 70</u>.

2. Turn off the printer and wait until it has cooled down.

3. Wipe the sensor with a cotton swab to remove wet ink.
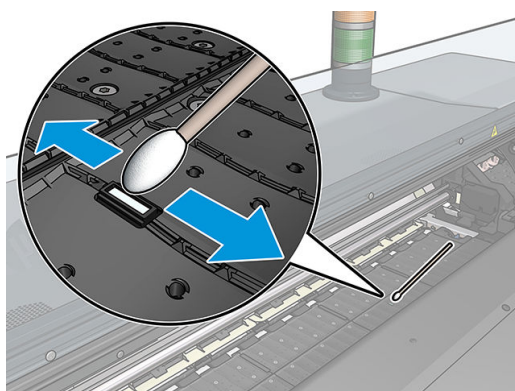
4. Wipe the sensor with a cotton swab, slightly dampened with 95% ethanol, to remove dried ink.

📝 NOTE: 95% ethanol is not provided in the User Maintenance Kit. Please follow the manufacturer's safety precautions when handling ethanol.

If the sensor window is heavily coated with dried ink, you may need to apply some pressure while wiping, helping the cotton to absorb the ink. Continue cleaning with fresh swabs until the cotton stays clean and the sensor window looks clean. When reflecting ambient light, a clean sensor shows a blue-colored reflection that should extend uniformly across its whole surface. You can see this reflection by moving closer and slightly changing your angle of view.

5. Remove the closed 95% ethanol container and the cotton swabs from the vicinity of the printer.

6. Wait three or four minutes to let the ethanol evaporate, before turning on the printer and reloading the substrate.

Clean the exterior of the printer

Use a damp sponge or a soft cloth and a mild household cleaner such as non-abrasive liquid soap to clean the outside of the printer and all other parts of the printer that you regularly touch as part of normal operation.

There may be some dampness from condensation under the fans of the curing module, which should be wiped with a dry cloth. HP recommends wearing gloves for this task.

WARNING! To avoid an electric shock, make sure that the printer is turned off and unplugged before you clean it. Do not let water get inside the printer.

CAUTION: Do not use abrasive cleaners on the printer.

Move or store the printer

If you need to move your printer or store it for an extended period of time, prepare it correctly to avoid possible damage.

1. Do not remove the ink cartridges, printheads or maintenance cartridge.

2. Make sure you empty the condensation collector. Remember to connect the cap to the condensation collector after emptying it.

3. Make sure that no substrate is loaded.

4. Make sure that the printhead carriage is located in the service station (at the right end of the printer).

5. Make sure that the **Ready** message appears on the front panel.

6. Turn off the power by using the power button on the front panel.

7. Also switch off the power switch at the rear of the printer.

8. Disconnect any cables that connect the printer to a network, a computer, or a scanner.

9. If you intend to turn the printer upside down or on its side, first remove the maintenance cartridge (see).

10. For correct environmental storage conditions, see .

NOTE: If the printer or ink cartridges are moved from a cold location to a warm and humid location, water from the atmosphere can condense on the printer parts and cartridges and can result in ink leaks and printer errors. In this case, HP recommends that you wait at least 3 hours before turning on the printer or installing the ink cartridges, to allow the condensation to evaporate.

Service maintenance

During the life of your printer, components that are used constantly can wear out.

To avoid having these components degrade to the point that the printer breaks down, the printer keeps track of various parameters such as the line sensor degradation, the number of cycles that the carriage makes across the axis of the printer, and the total quantity of ink used.

The printer uses these numbers to track the need for service maintenance, and displays one of the following messages on the front panel:

- **Service Maintenance Kit 1**

- **Service Maintenance Kit 3**

These messages mean that some components are nearing the end of their lives. You can continue printing for quite some time, depending on your use of the printer. However, HP strongly recommends that you call your service representative and arrange for a service maintenance visit. The service engineer can then replace the worn parts on-site, which will prolong the life of the printer.

The benefits of arranging a service engineer's visit when these messages appear on the front panel are two-fold:

- The printer components can be replaced at a time that is convenient for you, and so will not disturb your daily workflow.

- During a service maintenance visit, the service engineer replaces several parts at once. This eliminates the need for repeat visits.

8 Firmware update

The printer's various functions are controlled by software that resides in the printer, also known as firmware.

From time to time, firmware updates become available from HP. These updates increase the printer's functionality and enhance its features.

Firmware update using a USB flash drive

When installing the printer for the first time you may be asked to update the firmware. For this purpose, you need a USB flash drive with the following specifications:

- USB 2.0-compatible
- 2 GB capacity
- FAT32 preformatted
- No hardware encryption

Perform the firmware update

1. Download the firmware update from http://www.hp.com/go/latex560/support/ or http://www.hp.com/go/latex570/support/ and store it on the USB flash drive.

   IMPORTANT: The USB flash drive should contain only one firmware file (.fmw) in the drive's root folder, and no other files.

2. Turn off the printer.

3. Connect the USB flash drive to the USB connector at the rear of the printer.

4. Turn on the printer.

5. Follow the instructions on the front panel.

Subsequent firmware updates can be installed in your printer in the same way, or by using the printer's Embedded Web Server.

Firmware update using the Embedded Web Server

1. To access the Embedded Web Server from any computer, see Check printer status on page 26.

2. In the Embedded Web Server, select the **Setup** tab and then **Firmware update** > **Manual firmware update**.

3. Follow the on-screen instructions to download the firmware file from http://www.hp.com/go/latex560/support/ or http://www.hp.com/go/latex570/support/, and store it on your hard disk. Then select the downloaded **.fmw** file and click **Update**.

   If you experience very slow progress while uploading the firmware file to the printer, the reason could be that you are using a proxy server. In that case, try bypassing the proxy server and accessing the Embedded Web Server directly.

   ● In Internet Explorer for Windows, go to **Tools** > **Internet Options** > **Connections** > **LAN Settings**, and select the **Bypass proxy server for local addresses** check box. Alternatively, for more precise control, click the **Advanced** button and add the printer's IP address to the list of exceptions, for which the proxy server is not used.

   ● In Firefox for Windows, go to **Tools** > **Options** > **Network** > **Connection** > **Settings**, and select the **Direct connection to the Internet** check box. Alternatively, when the **Manual proxy configuration** check box is selected, add the printer's IP address to the list of exceptions, for which the proxy server is not used.

   ● In Firefox for Linux, go to **Edit** > **Preferences** > **Network** > **Connection** > **Settings**, and select the **Direct connection to the Internet** check box. Alternatively, when the **Manual proxy configuration** check box is selected, add the printer's IP address to the list of exceptions, for which the proxy server is not used.

Automatic firmware updates

Automatic firmware updates are a convenience that is possible with Web-connected printers. Your printer can automatically download the latest firmware release and install it for you.

Important notes

● Your printer must be connected to the Internet.

● To configure automatic firmware updates, you can use the front panel or the Embedded Web Server (**Setup** > **Firmware update** > **Firmware update settings**).

● If an administrator password has been set, it will be required to change these settings.

● A firmware update package can be large; you may want to consider whether there are any implications for your network or Internet connection.

● A firmware update is downloaded in the background: the printer can be printing at the same time. However, it cannot be installed in the background: printing must stop.

● To activate or to disable the automatic check or download, go to the front panel and press , then **Updates** > **Firmware updates**.

9 Accessories

There are two alternative ways to order supplies or accessories:

- Visit http://www.hp.com/go/latex560/accessories or http://www.hp.com/go/latex570/accessories on the Web. There you will also see the latest list of supplies and accessories for your printer.

- Contact HP Support (see When you need help on page 39), and check that what you want is available in your area.

The rest of this chapter lists the available supplies and accessories, and their part numbers, at the time of writing.

- Order ink supplies

- Order accessories

- Disposal instructions

Order ink supplies

You can order the following ink supplies for your printer.

Ink cartridges for HP Latex 560 printer, used as intermediate tanks for HP Latex 570

HP 831A 775 ml Black Latex Ink Cartridge

HP 831B 775 ml Black Latex Ink Cartridge

HP 831C 775 ml Black Latex Ink Cartridge

HP 831A 775 ml Cyan Latex Ink Cartridge

HP 831B 775 ml Cyan Latex Ink Cartridge

HP 831C 775 ml Cyan Latex Ink Cartridge

HP 831A 775 ml Magenta Latex Ink Cartridge

HP 831B 775 ml Magenta Latex Ink Cartridge

HP 831C 775 ml Magenta Latex Ink Cartridge

HP 831A 775 ml Yellow Latex Ink Cartridge

HP 831B 775 ml Yellow Latex Ink Cartridge

HP 831C 775 ml Yellow Latex Ink Cartridge

HP 831A 775 ml Light Cyan Latex Ink Cartridge

HP 831B 775 ml Light Cyan Latex Ink Cartridge

HP 831C 775 ml Light Cyan Latex Ink Cartridge

HP 831A 775 ml Light Magenta Latex Ink Cartridge

HP 831B 775 ml Light Magenta Latex Ink Cartridge

HP 831C 775 ml Light Magenta Latex Ink Cartridge

HP 831 775 ml Optimizer Latex Ink Cartridge

High-volume ink cartridges for HP Latex 570 printer

HP 871A 3-liter Black Latex Ink Cartridge

HP 871B 3-liter Black Latex Ink Cartridge

HP 871C 3-liter Black Latex Ink Cartridge

HP 871A 3-liter Cyan Latex Ink Cartridge

HP 871B 3-liter Cyan Latex Ink Cartridge

HP 871C 3-liter Cyan Latex Ink Cartridge

HP 871A 3-liter Magenta Latex Ink Cartridge

HP 871B 3-liter Magenta Latex Ink Cartridge

HP 871C 3-liter Magenta Latex Ink Cartridge

HP 871A 3-liter Yellow Latex Ink Cartridge

HP 871B 3-liter Yellow Latex Ink Cartridge

HP 871C 3-liter Yellow Latex Ink Cartridge

HP 871A 3-liter Light Cyan Latex Ink Cartridge

High-volume ink cartridges for HP Latex 570 printer (continued)

HP 871B 3-liter Light Cyan Latex Ink Cartridge

HP 871C 3-liter Light Cyan Latex Ink Cartridge

HP 871A 3-liter Light Magenta Latex Ink Cartridge

HP 871B 3-liter Light Magenta Latex Ink Cartridge

HP 871C 3-liter Light Magenta Latex Ink Cartridge

HP 871 3-liter Optimizer Latex Ink Cartridge

Printheads

Printhead	Part number
HP 831 Cyan/Black Latex Printhead	CZ677A
HP 831 Yellow/Magenta Latex Printhead	CZ678A
HP 831 Light Magenta/Light Cyan Latex Printhead	CZ679A
HP 831 Latex Optimizer Printhead	CZ680A

Other supplies

Item	Part number
HP 831 Latex Maintenance Cartridge	CZ681A
HP Latex 500 Series Wiper Roller	T7U73A
HP Latex 500 Series Ink Collector	T7U74A

Order accessories

The following accessories can be ordered for your printer, depending on which printer model you have: see .

Accessories

Name	Part number
HP Latex 300/500 Series User Maintenance Kit	F0M59A
HP Latex 500 Series Wiper Roller	T7U73A
HP Latex 300/500 Series Ink Collector	T7U74A
HP Latex 500 Series Beacon	T7U76A
HP Latex 500 Media Lifter	2LY32

Disposal instructions

HP provides many free and convenient ways to recycle your used original HP ink supplies. Additionally, HP provides a free program for business customers to return signage printed using selected recyclable HP large-format substrates. For more information about these HP programs, see http://www.hp.com/recycle.

For your printer, the following items can be recycled by the HP supplies recycling program:

- HP 831 Series 775 ml Latex Ink Cartridges

- HP 831 Series Latex Printheads

- HP recyclable large-format substrates

HP 871 Series 3-liter Latex Ink Cartridges for the HP Latex 570 printer should be disposed of following the instructions on the cartridge packaging. The ink back should be removed and disposed of in compliance with federal, state, and local regulations. The other ink cartridge parts (plastic retainer and packaging box) can be recycled through commonly available recycling programs.

Remove ink bag and dispose of in compliance with federal, state and local laws and regulations. www.hp.com/recycle
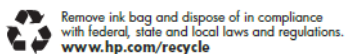
Dispose of the following supplies and accessories in compliance with federal, state, and local regulations:

- HP 831 Latex Maintenance Cartridge

- HP Latex 500 Series Wiper Roller

- HP Latex 500 Series Ink Collector

- HP Latex 500 Series Condensation Collector

HP recommends that you wear gloves when handling ink-system components.

10 Troubleshoot other issues

- Printer cannot get an IP address
- Cannot access the Embedded Web Server
- Printer is not printing
- Program slows down or stalls while generating the print job
- Printer seems slow
- Communication failures between computer and printer
- Cannot connect to services such as firmware update, online search, or the Customer Involvement Program
- Front-panel error codes

Printer cannot get an IP address

If your network has no DHCP server, the printer cannot automatically retrieve an IP address. In this case, you must set the printer's IP address manually, in the following way.

1. From the front panel, press ![gear icon], then **Setup** > **Network connectivity** > **Gigabit Ethernet** > **Modify configuration** > **TCP/ IP** > **IPV4 settings** > **Config method** > **Manual**.

2. From the IPV4 Settings menu, select **Manual settings** > **IP address**.

3. Enter the IP address that you wish to use, and press **OK** when finished.

Cannot access the Embedded Web Server

If you have not done so already, please read the instructions in .

1. Go to the front panel and press ![gear icon], then **Connectivity** > **Network Connectivity** > **Advanced** > **Allow EWS** > **On**.

2. Press ![gear icon], then **Connectivity** > **Network information**.

3. The information should read: **IP enabled: Yes**. If it does not, you might need to use a different connection.

If you still cannot access the Embedded Web Server, turn the printer off with the power button on the front panel and then turn it on again.

If you experience very slow progress while trying to access the Embedded Web Server, the problem could be that you are using a proxy server. Try bypassing the proxy server and accessing the Embedded Web Server directly.

●   In Internet Explorer 6 for Windows, go to **Tools** > **Internet Options** > **Connections** > **LAN Settings**, and select the **Bypass proxy server for local addresses** check box. Alternatively, for more precise control, click the **Advanced** button and add the printer's IP address to the list of exceptions, for which the proxy server is not used.

●   In Firefox 3.0 for Windows, go to **Tools** > **Options** > **Network** > **Connection** > **Settings**, and select the **Direct connection to the Internet** check box. Alternatively, when the **Manual proxy configuration** check box is selected, add the printer's IP address to the list of exceptions, for which the proxy server is not used.

●   In Firefox 2.0 for Linux, go to **Edit** > **Preferences** > **Network** > **Connection** > **Settings**, and select the **Direct connection to the Internet** check box. Alternatively, when the **Manual proxy configuration** check box is selected, add the printer's IP address to the list of exceptions, for which the proxy server is not used.

Printer is not printing

If a file you have sent from your computer is not printing when expected, the possible reasons include the following:

●   There may be a problem with the electrical power. If the printer is not performing and the front panel does not respond, check that the power switch at the rear is on, the power cable is correctly connected, and the electrical socket is providing power.

●   The network cable is disconnected, or you have problems with your communications setup. See , or contact your IT department or communications system provider.

●   Check all the alerts on the front panel—there may be more than one, hidden under the first—by dragging down the top bar of the home screen. The alerts may explain why printing has stopped, such as:

- An ink supply is empty.

- A printhead is missing or damaged.

- The substrate is mispositioned.

- Check that the job in your RIP software is configured to be printed on the same substrate that you have selected in the front panel (the details of this operation may vary depending on your RIP software). Check that the loaded substrate is wide enough for your image plus the required margins.

- The roll has a length tracking option activated. Check that the remaining length of your roll is enough for your job. This information can be found from the icon in the front panel or in your RIP software (the location of the menu may vary depending on your RIP software).

- The printer and your RIP software have a special feature to predict the ink consumption of your job and estimate whether there is enough ink in your supplies to print the job. Check in your RIP software whether the ink estimation option is activated, and the estimation status for your job (the details of this operation may vary depending on your RIP software).

- In some very unlikely scenarios, the substrate preset you are using may be corrupted due to transfer synchronization issues. Try printing with a generic preset; if this prints well, you can fix the problem by deleting the troublesome preset from the substrate library in the front panel and the RIP software. Then reinstall the substrate, either manually or from the online search in the front panel.

- Unusual electromagnetic phenomena may exist, such as strong electromagnetic fields or severe electrical disturbances. Such occurrences can cause the printer to behave strangely, or even stop working. Turn off the printer by using the power button on the front panel, wait until the electromagnetic environment has returned to normal, then turn the printer on again. If the problems persist, call your service representative.

Program slows down or stalls while generating the print job

Check that your host system meets the RIP software system requirements.

Large quantities of data are required to generate a high-quality large-format print job, which can cause your software to slow down significantly or stall. Lowering the print resolution may help to avoid this problem; however, lowering the print resolution reduces print quality.

Printer seems slow

Here are some possible explanations.

- If you request the highest possible print quality in the RIP, printing will be relatively slow compared with draft-quality printing.

- Check that the substrate loaded in the printer belongs to the substrate family that appears on the front panel.

- Is your printer connected to a network? Check that all components used in the network (network interface cards, hubs, routers, switches, and cables) are capable of Gigabit Ethernet operation. Is there a lot of traffic from other devices on the network? Is the proxy server configured correctly in your printer? Are the printer's required ports accessible from your RIP host?

- Are the printheads in good condition? Printing time tends to increase when a printhead needs cleaning. Check the printhead status on the front panel or through the Embedded Web Server. Clean or replace printheads if necessary.

- Does your image contain high-density black fills? That may increase printing time.

See also .

Communication failures between computer and printer

Some symptoms are:

- The front-panel display does not show the **Receiving** message when you have sent an image to the printer.

- The printer displays an error message while printing, such as error 61:09 or 63:05. See Front-panel error codes on page 180.

- Your RIP stalls when transferring data.

To solve a communication problem:

- Make sure that you have selected the correct printer in your RIP.

- Check that your printer network settings are correctly configured: run the connectivity wizard from the printer's front panel. See Connect the printer to the Internet on page 30.

- Check that the printer's required ports are accessible from your RIP host.

- Remember that large images usually require more time to receive, process, and print.

- If the printer is connected to your RIP through any other intermediate devices, such as switch boxes, buffer boxes, cable adapters, or cable converters, remove the intermediate device and try connecting the printer directly to your computer.

- Try changing the I/O timeout, which specifies the time that an idle connection is allowed to remain open when the printer is waiting for a remote computer. The default value is 270 seconds. To change the I/O timeout, go to the Embedded Web Server and select the **Networking** tab, then the **Advanced** tab.

If these suggestions do not solve your problem, try connecting your RIP host system directly to the printer, with a point-to-point connection. Use the DHCP network configuration in the printer.

Cannot connect to services such as firmware update, online search, or the Customer Involvement Program

If your printer has difficulty in connecting to the Internet, it may start the Connectivity Wizard automatically. You can also start the wizard manually at any time.

- From the front panel: Press 🔧, then **Connectivity** > **Connectivity wizard**.

- From the front panel: Press 🔧, then **Internal prints** > **Service information prints** > **Print connectivity config.** In this case, the results are printed out.

  📝 NOTE: The results printed out are from the last run of the Connectivity wizard, so you must already have run the Connectivity wizard in order to get any results.

The Connectivity Wizard performs a series of tests automatically. You can also choose to perform individual tests. From the front panel, press 🔧, then **Connectivity** > **Diagnostics & troubleshooting**. The following options are available.

- **All tests**

- **Network connectivity test**: Check the printer's connection to the local area network.

- **Internet connectivity test**: Check the printer's connection to the Internet.

- **Firmware update test**: Check the printer's connection to HP's firmware update servers.

- **Email server test**: Check the printer's connection to the configured email server.

- **Customer Involvement Program test**: Check the printer's connection to the CIP.

- **HP Media Locator configuration settings**: Check that you can access the online substrate preset library.

Alternatively, these tests can be launched from the Embedded Web Server: select **Support** > **Connectivity troubleshooting**.

If any test fails, the printer describes the problem and recommends how to solve it.

Front-panel error codes

Under certain circumstances, a numeric error code appears on the front panel. Follow the advice in the Recommendation column to resolve the error. If the recommendation does not seem to solve the problem, call your service representative. See .

If an error code appears on the front panel that is *not* included in this list, turn off the printer and then turn it back on. If the problem persists, call your service representative.

Keep your printer up to date with the latest firmware. New firmware versions include fixes to most common errors.

Error code	Recommendation
03.21:01	PSU undervoltage detected
	1. Turn off the printer and unplug both power cords.
	2. Check that the power cords are not visibly damaged.
	3. Ensure that the input voltage is within specifications (180–264 V AC).
	4. Plug in both power cords and make sure they are fully inserted.
	5. Turn on the printer.
03.22:01	PSU overvoltage detected
	1. Turn off the printer and unplug both power cords.
	2. Check that the power cords are not visibly damaged.
	3. Ensure that the input voltage is within specifications (180–264 V AC).
	4. Plug in both power cords and make sure they are fully inserted.
	5. Turn on the printer.
14.72:01	Zero voltage detected
	1. Turn off the printer and unplug both power cords.
	2. Check that the power cords are not visibly damaged.
	3. Ensure that the input voltage is within specifications (180–264 V AC).
	4. Plug in both power cords and make sure they are fully inserted.
	5. Turn on the printer.

Error code	Recommendation
14.73:01	Very low voltage detected 1. Turn off the printer and unplug both power cords. 2. Check that the power cords are not visibly damaged. 3. Ensure that the input voltage is within specifications (180–264 V AC). 4. Plug in both power cords and make sure they are fully inserted. 5. Turn on the printer.
14.74:01	Low voltage detected 1. Turn off the printer and unplug both power cords. 2. Check that the power cords are not visibly damaged. 3. Ensure that the input voltage is within specifications (180–264 V AC). 4. Plug in both power cords and make sure they are fully inserted. 5. Turn on the printer.
14.75:01	Excessive voltage detected 1. Turn off the printer and unplug both power cords. 2. Check that the power cords are not visibly damaged. 3. Ensure that the input voltage is within specifications (180–264 V AC). 4. Plug in both power cords and make sure they are fully inserted. 5. Turn on the printer.
14.78:01	AC frequency out of range 1. Turn off the printer and unplug both power cords. 2. Check that the power cords are not visibly damaged. 3. Ensure that the input frequency is within specifications (50–60 Hz).
16.10:01	Ambient temperature sensor measurement out of recommended range 1. Turn off the printer. 2. Check that the ambient temperature is within printer specifications (15–35°C). 3. Check that the electronic enclosures at the rear of the printer are properly ventilated. 4. Turn on the printer.
19.10:04, 19.11:04, 19.12:04	Generic firmware error. Update the printer's firmware. See Firmware update on page 170.
19.21:10, 19.22:10	No AC signal detected in curing board 1. Turn off the printer and unplug both power cords. 2. Check that the power cords are not visibly damaged. 3. Ensure that the input voltage is within specifications (180–264 V AC). 4. Plug in both power cords and make sure they are fully inserted. 5. Turn on the printer.

Error code	Recommendation
21:13	Unable to move the maintenance cartridge along its whole path 1. Turn off the printer. 2. While the printer is off, remove the maintenance cartridge manually. 3. Make sure that the maintenance cartridge path is clear. Remove any visible obstacles (paper, plastic parts, and so on) restricting the movement. 4. Reinstall the maintenance cartridge. 5. Turn on the printer. 6. If the error persists, replace the maintenance cartridge.
21.2:10	Maintenance cartridge error 1. Turn off the printer. 2. Remove and reinsert the maintenance cartridge. 3. Turn on the printer. 4. If the error persists, replace the maintenance cartridge.
21.5:03	The part that advances the maintenance cartridge cleaning roll is blocked. 1. Turn off the printer. 2. Remove and reinsert the maintenance cartridge. 3. Turn on the printer. 4. If the error persists, replace the maintenance cartridge.
25.n:10 (where n = the ink cartridge number)	A possible error in the ink cartridge pressure sensor has been detected. The ink level reported may not be accurate. Call your service representative if feasible.
27.1:00	Several blocked nozzles have been detected in the optimizer printhead. If print quality is not acceptable, clean or replace the printhead.
27.n:01 (where n = the printhead slot number)	A large number of blocked nozzles have been detected in one or more printheads. Calibration may have failed due to low printhead performance. Clean all the printheads and check their status.
29:00	The maintenance cartridge (part number CZ681A) is almost full. It will need to be replaced soon.
29:01	The maintenance cartridge is not inserted correctly. 1. Open the maintenance cartridge door on the right of the printer. 2. Make sure that the maintenance cartridge is correctly seated, then close the door. 3. If the error persists, replace the maintenance cartridge.
29.1:01	Unable to track the maintenance cartridge status. Check, visually, that the maintenance cartridge has a correct status pattern on it.
29.2:00	Unable to advance the printhead cleaning roll. Replace the maintenance cartridge.
32:01	The take-up reel is disconnected. If you want to use the take-up reel, turn off the printer and ensure that all take-up reel cables are connected (sensor cables, printer cable). If you do not want to use it, you may need to unload the substrate manually from the take-up reel. Remember to cut the substrate first.

Error code	Recommendation
32:01.1, 32:01.2	This error occurs when the tension bar stays in one of its sensor trigger positions for more than 8 seconds. The most likely causes of this error are as follows: ● The winding-direction switch on the take-up reel motor is activated, but the substrate has not been taped to the take-up reel yet. ● The wrong take-up reel winding direction has been selected. ● Something is blocking the movement of the tension bar. ● The substrate is not following the correct path between the tension bar and the diverter.
41:03	Electrical current limit in paper motor 1. Turn off the printer. 2. Open the window and check for any visible obstacles restricting the advance of the substrate. If there is a wrinkled mass of substrate inside the substrate path, carefully remove as much as possible of the jammed substrate from the top of the printer. Cut the substrate if necessary. See also Substrate has jammed on page 84. 3. Turn on the printer.
42:03	Scan-axis motor electrical current limit 1. Turn off the printer. 2. Open the window, observing all safety procedures, and check for any visible obstacles restricting the advance of the substrate. Clear the obstruction, if any. 3. Turn on the printer.
47.3n:01 HP Latex 570 only	3 litre ink-cartridge pump unable to supply ink (color n) to the intermediate tank n: 1-Magenta 2-Light magenta 3-Light cyan 4-Cyan 5-Optimizer 6-Yellow 7-Black 1. Reseat the cartridge. If the error code appears again, proceed with the next steps. 2. Open the cardboard box of the faulty 3 litre cartridge, leaving the inner bag exposed. You may want to remove the cardboard completely to ensure good access. 3. Connect the cartridge that you just opened. 4. At the front panel, press , then **Force refill** (not available while printing). 5. While the manual refill is taking place, strongly squeeze the ink bag to ensure that ink flows into the pump (push with strong pulses rather than with constant pressure). 6. Check at the front panel that the status of the cartridge is no longer **Error** or **Reseat**
48.03	Wiper-roller electrical current limit 1. Turn off the printer. 2. Clear any substrate jam and restart the printer. 3. If the problem persists, reduce the back tension of the substrate, from the front panel.
54.03	Automatic pinchwheel-lifter current limit 1. Turn off the printer. 2. Clear any substrate jam. 3. Make sure there are no fibers entangled in the pinchwheels. 4. Restart the printer.

Error code	Recommendation
63:04	An input/output problem has occurred in the network card. 1. Make sure that the network cable is correctly connected to the network card. 2. Check that your printer firmware is up to date. See Firmware update on page 170.
63:05	The job is reaching the printer too slowly. The printer cancels the job if there are long pauses of more than 20 s. 1. Make sure that a 1 Gigabit Ethernet card is correctly installed in the computer with the RIP. 2. Check the RIP for any error messages. Check that the computer with the RIP is working correctly and has the minimum specification required by the RIP. Check that the hard disk is neither full nor excessively fragmented. 3. Try reducing the resolution of the job or increasing the number of passes. 4. Check that all the components of your LAN are operating at Gigabit speed. 5. Check whether the option **RIP while printing** is enabled. This option can cause slow printing if the computer is not sufficiently powerful.
68:03	There has been a loss of permanent data, such as configuration or accounting data. This can happen after a firmware update with a data structure not compatible with the older version.
74:01	An error occurred when uploading the firmware update file. 1. Turn off the printer by using the power key on the front panel and the power switch at the rear of the printer. Disconnect the power cord, then reconnect the power cord and turn on the printer. 2. Try again to upload the firmware update file to the printer. See Firmware update on page 170.
78:08	Borderless printing is not possible. Install the ink collector and send the job again. See Ink collector on page 58.
78.1:04	The printer has no substrate preset for this substrate. Follow the firmware update procedure to update the printer with the latest substrate presets. See Firmware update on page 170.
78.2:01	The back tension is lost. This could be due to a loose roll core or an imminent end of roll. If these are not the causes, try unloading and reloading the substrate.
78.3:08	Printing with the ink collector is not available in this print mode.
79:03, 79:04, 79.2:04	Generic firmware error. Update the printer's firmware. See Firmware update on page 170.
81:01, 81.1:01, 81:03	It was impossible to stop the servo correctly before setting the encoder position. 1. Turn off the printer. 2. Open the window, observing all safety procedures, and check for any visible obstacles restricting the movement of the drive roller. If there is a wrinkled mass of substrate inside the substrate path, clear the obstruction. See also Substrate has jammed on page 84. 3. Turn on the printer.
86:01, 86.2:01	There is a problem in the carriage assembly. 1. Turn off the printer. 2. Open the window, observing all safety procedures, and check for any visible obstacles restricting the movement of the carriage. If there is a wrinkled mass of substrate inside the substrate path, clear the obstruction. See also Substrate has jammed on page 84. 3. Turn on the printer.
87:01	The scan-axis encoder strip is detecting errors in the carriage position. Clean the encoder strip by following the correct procedure in the front panel. See Clean the encoder strip on page 163.
89:11, 89.1:10, 89.2:10	Some print-zone LEDs may be failing or disconnected. The printer will continue operating normally, with only this functionality affected.

Error code	Recommendation
94:01	Color cannot be calibrated on this substrate. White substrate measurement is out of range.
94:02	Inconsistent colors found. 1. Check that the substrate-type selection in the front panel corrresponds to an actual substrate loaded. 2. Retry calibration.
94:08	Color calibration failed. Try again. See Color calibration on page 101.
98:03	One or more printheads are malfunctioning. Use the printhead status plot to find out which printheads are malfunctioning, and replace them. See 1. Printhead status plot on page 112.

Printer logs

If you go to the front panel and press [icon], then **Setup** > **Printer logs**, you can choose to display on the front panel a log of recent system errors, warnings, or printhead or ink cartridge events.

11 Printer specifications

Functional specifications

HP No. 831 ink supplies

Printheads	Cyan/black, yellow/magenta, light magenta/light cyan, and optimizer
Ink cartridges	Yellow, black, magenta, light magenta, cyan, light cyan, and optimizer
	HP Latex 560 cartridges contain 775 ml of ink; HP Latex 570 cartridges contain 3 liters of ink
Maintenance cartridge	Non-color-specific

Substrate sizes

	Minimum	Maximum
Width	584 mm (23 in)	1626 mm (64 in)
	Narrow substrate: 254 mm (10 in)	
Length	1.5 m (59 in)	Roll with maximum external diameter of 275 mm (10.8 in)
Weight		55 kg (121 lb)

The printer supports a substrate core diameter of 76.2 mm (3 in); it requires an accessory to support 50.8 mm (2 in) cores.

Printing speeds

Passes	Approximate printing speed (m²/h)
2	65.5
4	31.1
6	22.8
8	17.1
10	13.9
12	11.5
16	6.4
18	5.7
20	5.0

NOTE: Environmental conditions, job length, and ink density influence the maximum speed you can achieve with a particular print mode. Special-purpose options such as the use of the ink collector also have an effect on printing speed.

The maximum print resolution of the printer is 1200 × 1200 dpi. See your RIP documentation to find the resolutions supported by your RIP.

Margins

Side margins	5 mm (0.2 in), or 10 mm (0.4 in) with edge holders

Margins (continued)

Top margin (leading edge)	5 mm (0.2 in)
Bottom margin (trailing edge)	5 mm (0.2 in) (none)
	100 mm (3.9 in) (small)
	150 mm (5.9 in) (normal)
	200 mm (7.9 in) (extra)
	300 mm (11.8 in) (extra)
	400 mm (15.7 in) (extra)
	500 mm (19.7 in) (extra)

📝 **NOTE:** When the ink collector is in use, and you are using a print mode with more than 10 passes, full bleed is available (no side margins).

Physical specifications

Printer physical specifications

	HP Latex 560	HP Latex 570
Weight (including stand)	220 kg (485 lb)	250 kg (551 lb)
Width	2560 mm (101 in)	
Depth	792 mm (31.2 in)	
Height	1420 mm (55.9 in)	
Weight with packaging	330 kg (728 lb)	360 kg (794 lb)
Width with packaging	2750 mm (108 in)	
Depth with packaging	1037 mm (40.83 in)	
Height with packaging	1689 mm (66.50 in)	

Memory specifications

Memory specifications

Physical memory (DRAM)	1 GB
Hard disk	32 GB

Power specifications

Single phase line specifications

Number of power cords	2
Input voltage	200–240 V ±10% (two wires and protective earth)
Input frequency	50 / 60 Hz
Maximum load current (per power cord)	13 A

Single phase line specifications (continued)

Power consumption per power cord in printing mode	Printer: 2.0 kW
	Curing: 1.7 kW
Power consumption in ready mode	85 W

Ecological specifications

For the up-to-date ecological specifications of your printer, please go to http://www.hp.com/ and search for "ecological specifications".

Environmental specifications

Printer environmental specifications

Relative humidity range for best print quality	40–60%, depending on substrate type
	< 50% for papers
Relative humidity range for printing	20–80%, depending on substrate type
Temperature range for best print quality	20 to 25°C (68 to 77°F), depending on substrate type
Temperature range for printing	15 to 30°C (59 to 86°F), depending on substrate type
Temperature range when not in operation	-25 to +55°C (-13 to +131°F)
Temperature gradient	no more than 10°C/h (18°F/h)
Maximum altitude when printing	3000 m (10000 ft)

NOTE: The printer must be kept indoors.

NOTE: If the printer or ink cartridges are moved from a cold location to a warm and humid location, water from the atmosphere can condense on the printer parts and cartridges and can result in ink leaks and printer errors. In this case, HP recommends that you wait at least 3 hours before turning on the printer or installing the ink cartridges, to allow the condensation to evaporate.

Acoustic specifications

Printer acoustic specifications

Sound pressure	Printing	58 dB (A)
	Ready (standby)	38 dB (A)
	Asleep	< 15 dB (A)
Sound power	Printing	7.2 B (A)
	Ready (standby)	5.4 B (A)
	Asleep	< 3.5 B (A)

A Summary of common printing problems

This is a table of common problems and the parameters that can be changed in order to solve the problem. Some possible side-effects are also shown. For a more detailed treatment of any particular problem, please see the relevant chapter in this guide.

Problem	Parameter	Change	Possible side-effects
Durability problems, ink smudges, or oily finish	Curing temperature	Increase	Substrate jam, substrate damage, ink smears
	Number of passes	Increase	Slower printing
	Inter-pass delay offset	Increase	Slower printing
Substrate jam, substrate damage, ink smears	Curing temperature	Decrease	Less durability (smudges), oily finish
	Vacuum	Increase	Substrate skew, vertical banding if increased too much
	Top and/or bottom margins	Increase	Waste of substrate
	Edge holders	Use	The minimum side margins increase slightly, reducing the maximum width of the printed image
Vertical banding	Vacuum level	Decrease	Substrate jam
	Take-up reel	Use	
Horizontal banding	Clean printheads		
	Number of passes	Increase	Slower printing
	Clean substrate-advance sensor		
	Inter-pass delay offset	Increase	Slower printing
Coalescence graininess in low-to-medium area fills	Align printheads		
	Number of passes	Increase	Slower printing
	Optimizer level	Increase	Reduced gloss in dark area fills. With some substrates, may have no effect on coalescence. Consider using the advanced optimizer check plot to select the best optimizer level.
	Efficiency mode	Disable	More ink consumption
	Wiper roller	Activate	
	Dirty roll or defective coating	Consider trying a new roll if the wiper roller fails to solve the problem. Some substrates deteriorate during long periods of storage.	
Graininess, color misregistration or lack of sharpness	Align printheads		
	Clean substrate-advance sensor		

Problem	Parameter	Change	Possible side-effects
	Disable the substrate-advance sensor and calibrate the substrate advance manually	NOTE: Some substrates (porous/translucent/transparent) are not compatible with the substrate-advance sensor, which should be disabled before printing on these substrates.	
Black areas look hazy or image gloss is not uniform	Modify color separations and dark color generation		
	Number of passes	Increase	Slower printing
	Curing temperature	Decrease	Less durability (smudges), oily finish
Bleeding between inks or wicking into white areas	Align printheads		
	Align optimizer manually	If necessary, load a self-adhesive vinyl to achieve good alignment	
	Ink limits	Decrease	Reduced color gamut
	Optimizer level	Increase	Reduced gloss in dark area fills. With some substrates, may have no effect on bleeding or wicking.
	Clean optimizer printhead		
Lack of sharpness in text or solid areas	Align printheads		
	Align optimizer manually	If necessary, load a self-adhesive vinyl to achieve good alignment.	
	Color bars	Add, manually or in RIP	Some waste of substrate and ink
Subtle color variations in solid areas	Color bars	Add, manually or in RIP	Some waste of substrate and ink
	Color-variation and text-line correction	Apply	White areas may appear slightly different.

Glossary

Airflow
Air is blown through the printing zone to speed up the drying process.

Back tension
The backwards tension applied to the substrate by the input spindle, which must be constant across the width of the substrate. Too much or too little tension may cause substrate deformation and print quality defects.

Bidirectional
Bidirectional printing means that the printheads print while moving in both directions. This increases the speed of printing.

Bleeding
A print-quality defect that occurs when the ink spreads on the substrate across areas of different colors.

Coalescence
A print-quality defect that occurs when the ink coalesces on the substrate within an area of the same color.

Cockle
A substrate condition in which it is not lying perfectly flat, but rises and falls slightly in shallow waves.

Color accuracy
The ability to print colors that match the original image as closely as possible, given the fact that all devices have a limited color gamut and might not be able to match certain colors precisely.

Color consistency
The ability to print the same colors in a particular print job, from print to print and from printer to printer.

Curing
The substrate is heated in the curing zone to coalesce the latex, creating a polymeric film which acts as a protective layer, while at the same time removing the remaining co-solvents from the print. Curing is vital to ensure the durability of the printed images. Too high or too low a curing temperature may cause print quality defects.

Cutter
A printer component that slides from left to right across the platen to cut the substrate.

Edge holder
A metal piece designed to prevent the edge of the substrate from rising while printing is in progress.

ESD
ElectroStatic Discharge. Static electricity is common in daily life. It is the spark when touching the car door, or the cling of clothing. Although controlled static electricity has some useful applications, uncontrolled electrostatic discharges are one of the main hazards to electronic products. Therefore, to prevent damage some precautions are needed when setting up the product, or handling ESD-sensitive devices. This type of damage may reduce the life expectancy of the device. One way to minimize uncontrolled ESDs, and therefore to reduce this type of damage, is by touching any exposed grounded part of the product (mainly metal parts) before handling ESD-sensitive devices, such as the printheads or ink cartridges. To reduce the generation of electrostatic charge in your body, try to avoid working in a carpeted area, keep your body movements to a minimum when handling ESD-sensitive devices, and avoid working in low-humidity environments.

Firmware
Software that controls your printer's functionality and is stored semi-permanently in the printer (it can be updated).

Gamut

The range of colors and density values reproducible on an output device, such as a printer or monitor.

HDPE

High Density Polyethylene.

I/O

Input/Output: this term describes the passing of data between one device and another.

ICC

The International Color Consortium, a group of companies that have agreed on a common standard for color profiles.

Ink density

The relative amount of ink that is deposited on the substrate per unit of area.

IP address

A unique identifier that identifies a particular node on a TCP/IP network. It consists of four integers separated by dots.

LED

Light-Emitting Diode: a semiconductor device that emits light when electrically stimulated.

Loading accessory

A flexible plastic accessory that fits over the leading edge of the substrate while it is being loaded into the printer. Some substrates are difficult to load without this accessory.

Nozzle

One of many tiny holes in a printhead through which ink is deposited onto the substrate.

OMAS

The Optical Media Advance Sensor, otherwise known as the substrate-advance sensor. The sensor located in the print platen that tracks the substrate movement and increases its accuracy.

Passes

The number of print passes specifies how many times the printheads will print on the same area of substrate. A higher number of passes tends to improve print quality and printhead health, but reduces the speed of printing.

PC

Polycarbonate.

PE

Polyethylene.

PET

Polyethylene Terephthalate (polyester).

PLA

Polylactic Acid.

Platen

The flat surface within the printer over which the substrate passes while it is being printed on.

PP

Polypropylene.

Printhead

A removable printer component that takes ink of one or more colors from the corresponding ink cartridge(s) and deposits it on the substrate, through a cluster of nozzles.

PVC

Polyvinyl Chloride.

Substrate

A thin, flat material designed to be printed on, made of paper or other materials.

Substrate preset

The substrate preset contains the ICC color profile, which describes the color characteristics of the substrate. It also contains information about other characteristics (RIP and printer settings, such as drying and curing temperatures, vacuum pressure, and substrate-advance compensation) and requirements of the substrate that are not directly related to color.

Substrate-advance compensation

A slight adjustment to the amount of substrate advance between print passes, to compensate for the characteristics of different substrate types. The printer normally performs this adjustment automatically, but may need to be recalibrated for substrates not supported by HP, or for an unusual ambient temperature or humidity. Incorrect substrate-advance compensation may cause banding with fewer than 8 passes, or graininess with 8 passes or more.

Substrate-advance sensor

The sensor located in the print platen that tracks the substrate movement and increases its accuracy. Also known as OMAS (Optical Media Advance Sensor).

Tension bar

A cylindrical weight inserted into the loop of substrate required by the take-up reel.

Vacuum pressure

The substrate is held flat against the platen by vacuum suction. Too much or too little suction may cause print quality defects. Too little suction may also cause a substrate jam or damage the printheads.

Index