

Color calibration

HP Latex 820 and HP Latex 850 printers



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Color calibration

Color calibration enables your printer to produce consistent colors with a particular substrate type, even if printheads, ink cartridges and environmental conditions change. After color calibration, you can expect to get prints with the same colors from any two LX series printers situated in different geographical locations.

Color calibration test chart

The color calibration test chart is printed using the following print mode, depending on the ink density required with your substrate.

- 14 passes for 250% ink density
- 8 passes for 150% ink density
- 6 passes for 100% ink density

You are strongly recommended to have fine-tuned the appropriate print mode before starting color calibration.

The recommended print modes for normal printing are as follows.

Table 1. The recommended print modes for normal printing are as follows.

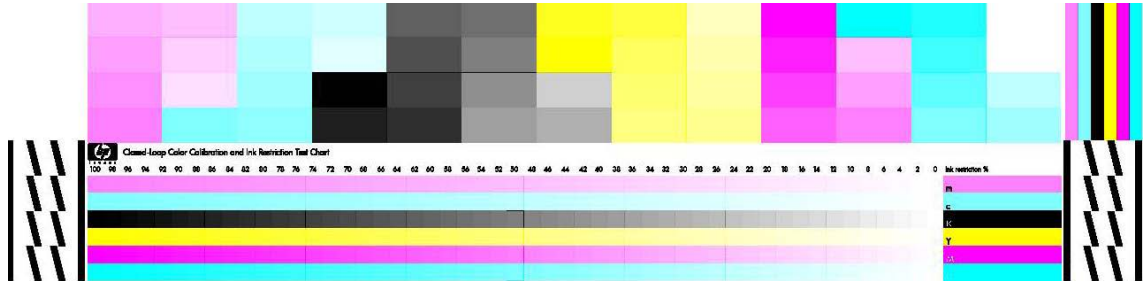
Maximum ink density	Print quality	Passes
250%	High quality plus	18
	High quality	14
	Production plus	10
150%	High quality plus	10
	High quality	8
	Production plus	6
100%	High quality plus	8
	High quality	6
	Production plus	5
85%	Production	4
70%	Billboard plus	3
	Billboard	2
50%	Draft	1

Starting color calibration

From the HP Internal Print Server, select **Substrate > Color calibration**, then click the **Calibrate** button.

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 18 minutes and consists of the following steps.

1. The Closed-Loop Color Calibration and Ink Restriction Test Chart is printed, which contains scales of patches of each ink used in the printer.



2. The test chart is scanned and color-measured using the HP Embedded Spectrophotometer. If the scan cannot be completed successfully, a message is displayed on the front panel of the printer.
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.

When should color calibration be performed

Calibration should be done in any of the following circumstances:

- Whenever a printhead is replaced
- Whenever a new substrate type is introduced that has not yet been calibrated with the current set of printheads
- Whenever you notice excessive color differences between prints. Such color differences can be caused by aging and wear of the printheads, changes in substrate characteristics between one roll and another, changing environmental conditions and so on.

Whenever you replace a printhead, an alert message will remind you to perform a color calibration, unless you have disabled these alerts. If printhead alignment and or substrate advance compensation are also needed, color calibration should always be the last operation.

You can check the color calibration status of your substrates with the HP Internal Print Server or the front panel. In the HP Internal Print Server, select **Substrate > Color calibration > Show all**.

Color Calibration

Loaded substrate: **Vinyl-Calendered-100%** Calibrate

Calibration status: ✔ Done Reset

Hide All

Substrate	Status
⚠ PVC Scrim banner backlit-250% (Banners)	Default
✔ Green banner-100% (Banners)	Done
⚠ Green banner-150% (Banners)	Default
⚠ Green banner-250% (Banners)	Default
⚠ HP Durable Frontlit Scrim Banner (Banners)	Default
⚠ HP Outdoor Frontlit Scrim Banner (Banners)	Default
⚠ HP Backlit Scrim Banner (Banners)	Default
⚠ HP HDPE Reinforced Banner (Banners)	Default
✔ Vinyl-Calendered-100% (Self adhesive)	Done
⚠ Vinyl-Calendered-150% (Self adhesive)	Default
⚠ Vinyl-Calendered-250% (Self adhesive)	Default

Done

- **Default status** indicates that the substrate has never been calibrated. In this case, the factory default color tables will be applied to print jobs.
- **Done status** indicates that a color calibration has been performed successfully on this substrate.
- **Obsolete status** indicates that a printhead has been changed since the substrate was last calibrated, and therefore the substrate should be recalibrated.

Color calibration is based on the color measurement of printed color patches, using the HP Embedded Spectrophotometer. Some characteristics of substrates, such as surface roughness or transparency, may make reflective color measurement of some substrate types very inaccurate. Color calibration of these substrates will fail or produce unacceptable printing results.

The suitability of particular substrate types for color calibration can be found in the table of supported substrate types in the printers user guide. Only substrates wider than 914 mm (36 in) can be calibrated.

It is possible to recover from a bad color calibration by restoring the factory default calibration. In the HP Internal Print Server, select **Substrate > Color calibration > Reset**.

You should calibrate a substrate type before creating its color profile; however, you can later recalibrate without needing to recreate the color profile.

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