

HP Latex Printing Technologies 2012

HP Latex Inks are ideal for wide and super-wide applications including event banners, transit signage, and other outdoor applications as well as for high-quality indoor signage. HP Latex Inks are pigmented, water-based inks using HP's innovative aqueous-dispersed polymer ("Latex") technology. The water-based formulations of HP Latex Inks reduce the impact of printing on the environment.

HP Latex Inks deliver overall durability that outperforms eco-solvent ink¹ and is comparable to low-solvent ink technology² with prints offering display permanence up to 3 years unlaminated outdoors¹ and for indoor, in-window displays, up to 5 years unlaminated.³

HP Latex Inks are used in HP Designjet L26500 and L28500 Printers, HP Scitex LX600 Printers⁴, and HP Scitex LX820 and LX850 Industrial Printers to produce vivid, durable prints on a wide variety of coated and uncoated materials including most low-cost, eco-solvent/low-solvent compatible media.

From durable outdoor signage to odorless indoor displays,⁵ HP Latex Inks offer the versatility to print on both coated and uncoated media while enabling high-speed, high-productivity printing. And HP large-format printing materials⁶ developed and tested with HP Latex Inks include recyclable substrates and substrates covered by the HP Large-format Media take-back program.⁷

HP Designjet and HP Scitex Printers with HP Latex Inks use internal radiant heaters and forced airflow to cure the inks inside the printer to produce dry, ready-to-use prints. Job production is streamlined and overall productivity is improved because prints are dry out of the printer and ready to display, finish, or prepare for shipment. Prints can be laminated immediately using cold, hot, or liquid processes.⁸ With no waiting for prints to dry, there is no interruption in workflow, and eliminating an external print dryer or space for air-drying saves production steps and floor space.

HP Latex Inks are available as HP 789⁹ and 792 Latex Designjet Ink Cartridges and HP LX600 and LX610 Latex Scitex Ink Cartridges. Compared to HP 789 and HP LX600 inks, HP 792 and HP LX610 inks offer higher black optical density, larger color gamut, improved gloss, and improved durability.

¹ Durability comparison based on testing of representative eco-solvent inks including eco-sol Max inks on Avery SA vinyl for display permanence and scratch, rub/abrasion, and chemical resistance. HP image permanence and scratch, smudge, and water resistance estimates by HP Image Permanence Lab on a range of media including HP printing materials. See www.hp.com/go/supplies/printpermanence.

² For example, low-solvent inks are HP 780 inks used in the HP Designjet 9000s and 10000s Printer series and HP 790 inks used in the HP Designjet 8000s Printer series.

³ Interior in-window display ratings by HP Image Permanence Lab on a range of media including HP printing materials. See www.hp.com/go/supplies/printpermanence.

⁴ The HP Scitex LX600 Printer was formerly called the HP Designjet L65500 Printer.

⁵ Some substrates may have inherent odor.

⁶ Visit www.hp.com/go/LFPrintingMaterials for more information including availability in roll widths and lengths.

⁷ HP Large-format Media take-back program availability varies. Some recyclable HP papers can be recycled through commonly available recycling programs. Recycling programs may not exist in your area. See www.hp.com/recycle for details.

⁸ Lamination compatibility is highly dependent on the printing material. HP recommends testing lamination performance prior to any important job.

⁹ HP 789 Latex Designjet Ink Cartridges are used in HP Designjet L25500 Printer series.

HP Latex Inks were developed with HP Thermal Inkjet printheads in six-color¹⁰ writing systems that provide high quality at high productivity without requiring daily manual cleaning of printheads or service calls for printhead replacement. HP Designjet printers and HP Scitex industrial printers using HP Latex Inks employ fully automatic printhead testing and maintenance systems.

- HP Designjet L26500 and L28500 Printers, HP Scitex LX600 Printers, and HP Scitex LX820 and LX850 Industrial Printers have user-replaceable printheads featuring a simple snap-out/snap-in process that eliminates the need for tools, handling ink tubes, and the time and expense of a service call.
- The HP Designjet L26500 and L28500 Printers use three pairs of HP 792 Designjet Printheads in HP Double Swath Technology to print a 1.7-inch (43-mm) swath.
- HP Scitex LX600 Printers, and HP Scitex LX820 and LX850 Industrial Printers use three bi-color HP LX600 or LX610 Scitex Printheads to print an 8.5-inch (216-mm) print swath.
- HP Scitex LX600 Printers, HP Scitex LX820 and LX850 Industrial Printers, and the HP Designjet L65500 Printer may be upgraded to HP LX610 Latex Scitex Inks using the HP Scitex LX610 Upgrade Kit.
- The printers feature automatic printhead testing and servicing systems to reduce manual maintenance and enable reliable unattended printing. No daily, time-consuming manual cleaning of printheads and printhead caps and wipers means less maintenance and more printer uptime. With the user-replaceable HP Scitex LX600 Maintenance Kit, automated servicing replaces daily manual cleaning with swabs and organic fluids to reduce the environmental impact of printing and save time spent in printer maintenance.
- Used HP LX600 and LX610 Scitex Printheads, HP 789 and 792 Designjet Printheads, and HP 789 and 792 Latex Designjet Ink Cartridges may be returned through the HP Planet Partners program for free and convenient recycling.¹¹

HP's proprietary Optical Media Advance Sensor (OMAS) provides accurate media advance over the longer print swaths used in HP Designjet L26500 and L28500 Printers, HP Scitex LX600 Printers, and HP Scitex LX820 and LX850 Industrial Printers. Because OMAS provides direct measurement of media motion, it is not affected by mechanical tolerances in the media drive system and changes in media thickness, stiffness, and coefficient of friction. This means consistent quality in images, area fills, and graphics over a wide range of temperature and humidity conditions, and dependable performance over the life of the printer in production printing environments.

¹⁰ Ink colors include cyan, light cyan, magenta, light magenta, yellow, and black.

¹¹ Visit www.hp.com/recycle to see how to participate and for HP Planet Partners program availability; program may not be available in your area. Where this program is not available, consult the Material Safety Data Sheet (MSDS) available at www.hp.com/go/ecodata to determine appropriate disposal.

Ink Composition

HP Latex Inks are water-based and offer important advantages over eco-solvent/low-solvent inks used in large format and industrial inkjet printing. No special workplace ventilation is required¹² to use HP Designjet L26500 and L28500 Printers, HP Scitex LX600 Printers, and HP Scitex LX820 and LX850 Industrial Printers.

HP Latex Inks provide an improved printing environment because they do not require special handling, contain no materials requiring hazard warning labels, and are non-flammable and non-combustible.¹³ In the European Union (EU)—widely recognized as having the most comprehensive set of labeling guidelines in the world—HP Latex Inks do not require hazard warning labels in accordance with EU Directive 1999/45/EC. HP Latex Inks contain no HAPs (hazardous air pollutants)¹⁴ or sensitizers. HP Latex Inks printed on FSC[®]-certified¹⁵ HP PVC-free Wall Paper produce odorless indoor wall decorations that are GREENGUARD Children & Schools CertifiedSM,¹⁶ can help building owners obtain LEED credits,¹⁷ and meet AgBB criteria.¹⁸

HP Latex Inks also meet the chemical requirements of the Nordic Ecolabel (Nordic Swan) for printing companies.

HP Latex Inks consist of a liquid ink vehicle that carries latex polymer and pigment particles to the surface of the print media. Physical and chemical properties of the ink vehicle are critical both for drop ejection performance and control of ink-media interactions. These properties are obtained by formulating the ink vehicle with a combination of water (up to 66% by weight), wetting agent and humectant (less than 30% by weight), and additives.

High water content gives HP Latex Inks the high surface tension and low viscosity that are ideal for use in HP Thermal Inkjet printheads. As the major component of HP Latex Inks, water offers important benefits to large format and industrial production environments: water produces no VOCs, requires no special handling, and is non-toxic, non-flammable, and non-combustible.

Water alone is not a practical ink vehicle for printing on the wide variety of media used in large format and industrial applications: wetting agent, humectant, and additives must be added to obtain the required performance characteristics. The wetting agent and humectant in HP Latex Inks are similar in type and concentration to wetting agents and humectants used in HP's water-based Designjet inks, which are used in office-like environments.

Wetting agent, humectant, and additives play an important role in drop ejection and ink-media interactions. They lower surface tension to wet the internal surfaces of the drop generators to

¹² Special ventilation is not required to meet U.S. OSHA requirements on occupational exposure to VOCs from HP Latex Inks. Special ventilation equipment installation is at the discretion of the customer—no specific HP recommendation is intended. Customers should consult state and local requirements and regulations.

¹³ HP water-based Latex Inks are not classified as flammable or combustible liquids under the USDOT or international transportation regulations. These materials have been tested per the Pensky-Martins Closed Cup method and the flash point is greater than 110° C.

¹⁴ HP Latex Inks were tested for Hazardous Air Pollutants, as defined in the Clean Air Act, per U.S. Environmental Protection Agency Method 311 (testing conducted in 2010) and none were detected.

¹⁵ Trademark license code FSC-C017543.

¹⁶ HP PVC-free Wall Paper printed with HP Latex Inks is GREENGUARD Children & Schools CertifiedSM. See <http://www.greenguard.org>.

¹⁷ To obtain US LEED credits based on FSC[®] certification, the builder must purchase HP PVC-free Wall Paper printed with HP Latex Inks from an FSC[®] Chain of Custody certified print service provider. To obtain LEED credits based on GREENGUARD Children & Schools CertificationSM HP PVC-free Wall Paper printed with HP Latex Inks must be part of a wall system in which all components are GREENGUARD Children & Schools CertifiedSM.

¹⁸ HP PVC-free Wall Paper printed with HP Latex Inks meets AgBB criteria for health-related evaluation of VOC emissions of indoor building products. See www.umweltbundesamt.de/produkte-e/bauprodukte/agbb.htm.

keep them primed with ink and ready to print. They keep the surface of the thermal inkjet heater resistor and orifice plate clean for consistent drop ejection performance, minimize viscous plugs in the nozzles that can cause missing or misdirected drops, and affect how the ink droplet wets the surface of the print media to control dot formation. The wetting agent and humectant soften uncoated vinyl for better adhesion to the latex polymer film, and they evaporate in the printer to produce a completely dry and odorless⁵ print that can be immediately handled, finished, shipped, or displayed indoors.

A key innovation in HP Latex Inks is the incorporation of latex polymer particles. “Latex” is a term that describes a stable, aqueous dispersion of microscopic polymer particles. It is important not to confuse the polymers used in HP Latex Inks with those found in natural materials, such as latex rubber. While some individuals experience skin irritation from contact with natural latex compounds, the synthetic polymers used in HP Latex Inks are non-allergenic.

Inside HP Designjet L26500 and L28500 Printers and HP Scitex LX600, LX820, and LX850 Printers, a liquid film of HP Latex Ink on the print media is exposed to radiant heaters and airflow in the Print Zone and Curing Zone. No connection to special ventilation equipment,¹² such as a vapor extraction or air purification system, is required. This process evaporates the ink vehicle causing the latex polymer particles to coalesce to form a continuous polymer layer that adheres to print media and encapsulates the pigment to form a durable colorant film.

Some inkjet printers use in-line high-speed dryers or off-line print storage to evaporate ink solvents from the print before finishing, shipment, or display. Drying prints helps to minimize the release of objectionable solvent odors at the point of display. But, completely drying solvent-ink prints in the print shop releases additional VOCs into the work area, and this process may require special ventilation to meet occupational exposure requirements.

Image Formation Process

The image formation process for HP Latex Inks in HP Designjet L26500 and L28500 Printers, HP Scitex LX600 Printers, and HP Scitex LX820 and LX850 Industrial Printers is described in more detail in Figures 1 through 3.

Figure 1. Liquid Film of HP Latex Ink on the Surface of Print Media – Before Drying and Curing Processes (Schematic representation not to scale)

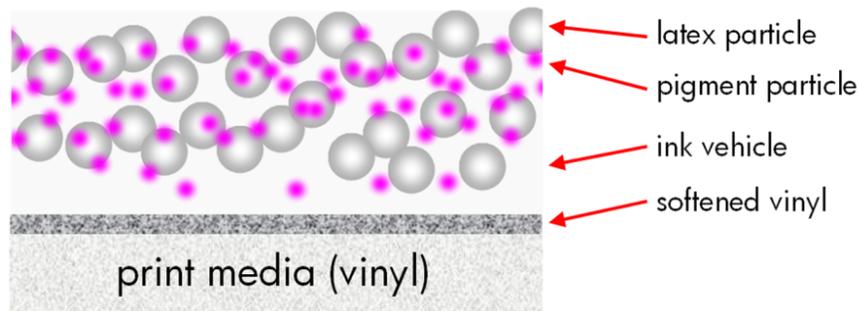


Figure 1 shows a schematic drawing (not to scale) of a liquid film of HP Latex Ink in the Print Zone on the surface of nonabsorbent media, such as uncoated vinyl. The Print Zone is the region of the printer platen where ink drops are jetted onto the print media, and it is located immediately under the scanning printheads.

The liquid film is created from an ink droplet after wetting agent, humectant, and additives in the ink vehicle wet the surface to allow the drop to spread. The layer is composed of a mixture of ink vehicle, latex polymer particles, and pigment particles.

In Figure 2, radiant heaters and forced air in the Print Zone and Curing Zone evaporate the ink vehicle and cure the latex film. These heating elements are designed to last for the life of the printer.

Figure 2. HP Latex Ink Curing Process: (a) Print Zone Heating; (b) Curing Zone Heating

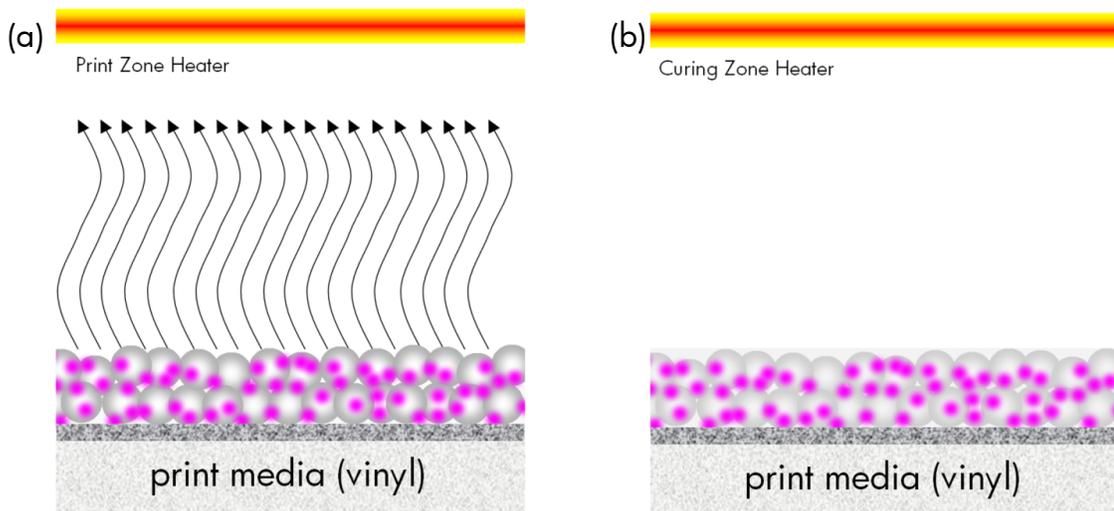
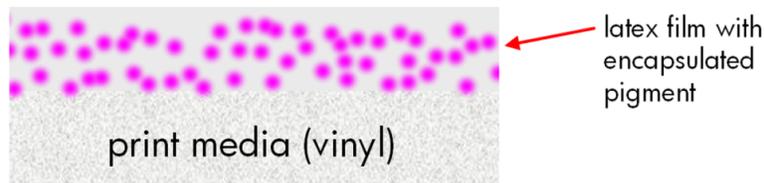


Figure 2a shows the effect of the Print Zone Heater. In the Print Zone, radiant heat and forced airflow evaporate most of the water, and the liquid film condenses to a viscous mixture of wetting agent and humectant, latex polymer particles, and pigment particles. The wetting agent and humectant are concentrated to prepare the vinyl surface for chemical interaction with the latex polymers. High viscosity in the ink film now immobilizes the polymers and colorant. This sets the dot size and minimizes coalescence and bleed with dots in neighboring print locations. Chemical interactions between the surface of the media and the latex particles bind the latex to the media to produce a durable colorant layer.

In Figure 2b, the printed media has been advanced out of the Print Zone into the Curing Zone. Here, a second dryer evaporates the wetting agent and humectant.

The latex polymer particles now coalesce into a continuous polymer film that encapsulates the pigments. This process of film formation is called "curing", and it occurs during and after the wetting agent and humectant evaporate ("drying"). The dense film of latex particles now chemically bonds to the vinyl surface.

Figure 3. Cured Film of HP Latex Ink



In Figure 3, a continuous latex film encapsulating the pigments has formed on the vinyl surface as the print leaves the Curing Zone. No additional drying of the print is needed because virtually all the ink vehicle has evaporated. An external print dryer is not needed, and production workflow is improved because prints come out of the printer ready to use, finish (e.g., trim, weld, or laminate), or prepare for shipment.

Performance

Durability and display permanence are two important characteristics for prints produced for large format and industrial applications. Durability is characterized by a print's scratch-, smudge-, and water-resistance. Display permanence is a measure of how long prints will last on outdoor and indoor display.

HP Latex Inks in HP Designjet L26500 and L28500 Printers, HP Scitex LX600 Printers, and HP Scitex LX820 and LX850 Industrial Printers produce durable, high-quality output on a range of media, and achieve outdoor display permanence up to 3 years unlaminate and up to 5 years laminated.¹⁹ Indoor prints achieve in-window display permanence up to 5 years unlaminate and up to 10 years laminated on a range of media.²⁰

In addition, prints offer display permanence and scratch, smudge, and water resistance (on water-resistant media) that outperform eco-solvent inks.^{19, 21}

Dry, ready-to-use prints made on vinyl using HP Latex Inks with HP Designjet L26500 and L28500 Printers, HP Scitex LX600 Printers, and HP Scitex LX820 and LX850 Industrial Printers can be laminated immediately using cold, hot, and liquid lamination methods.²² Prints made with HP Latex Inks may be welded together to make panels using methods appropriate to the particular substrate (e.g., vinyl).

Prints made with HP Latex Inks used for vehicle wraps and other conformal applications are equally-stretchable across both printed and unprinted areas. Unlike solvent inks, HP Latex Inks do not penetrate or dissolve the bulk substrate material to affect the print's mechanical properties and peel strength in self-adhesive vinyls.

¹⁹ HP image permanence and scratch, smudge, and water resistance estimates by HP Image Permanence Lab on a range of media including HP printing materials. See www.hp.com/go/supplies/printpermanence.

²⁰ Interior in-window display ratings by HP Image Permanence Lab on a range of media including HP printing materials. For more information, see www.hp.com/go/supplies/printpermanence.

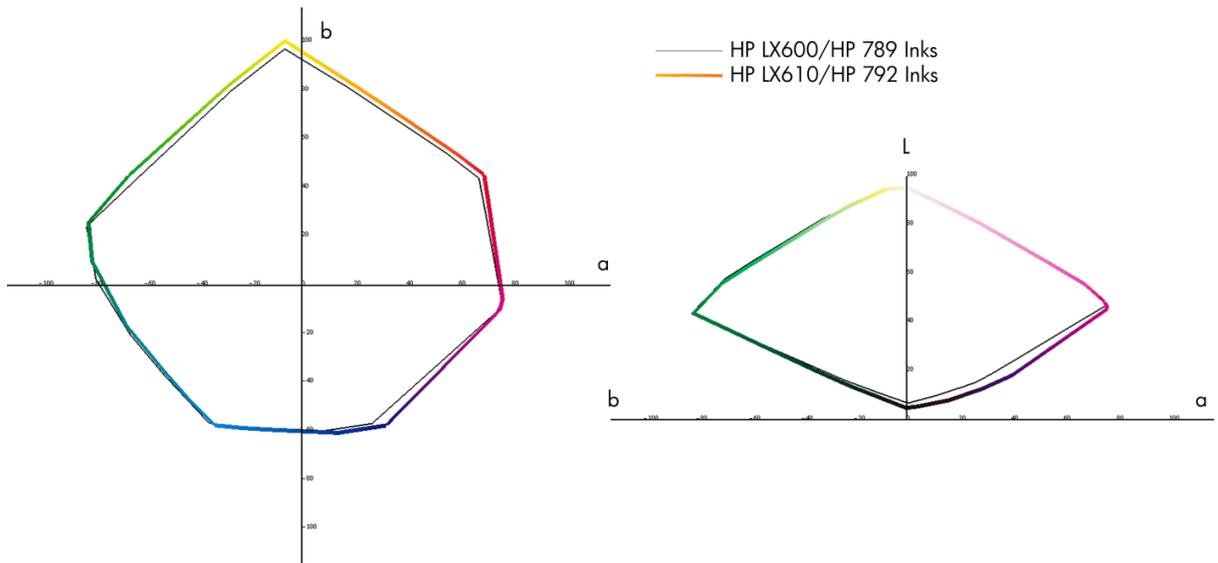
²¹ Durability comparison based on testing of representative eco-solvent inks including eco-sol Max inks on Avery SA vinyl for display permanence and scratch, rub/abrasion, and chemical resistance. HP image permanence and scratch, smudge, and water resistance estimates by HP Image Permanence Lab on a range of media including HP printing materials. See www.hp.com/go/supplies/printpermanence.

²² Lamination compatibility is highly dependent on the printing material. HP recommends testing lamination performance prior to any important job.

When used in a 6-color printing system including cyan, light cyan, magenta, light magenta, yellow, and black inks, HP LX600/HP 789 inks and LX610/HP 792 inks produce color gamuts on Avery MPI 3000 vinyl as shown in Figure 4.²³

The gamut for HP LX600/HP 789 inks is shown in gray; the gamut for HP LX610/HP 792 inks is shown in color. HP LX610/HP 792 inks offer a gamut that is 7% larger with extension into darker colors, and they deliver a higher black optical density achieving a minimum L^* of 4.1 compared to 5.8 for LX600/HP 789 inks. A lower value of L^* represents a higher black optical density.

Figure 4. CIE Lab Color Gamuts on Avery MPI 3000 vinyl, a-b plane (left) and a-b with luminance (L) axis (right). 6-color printing systems.

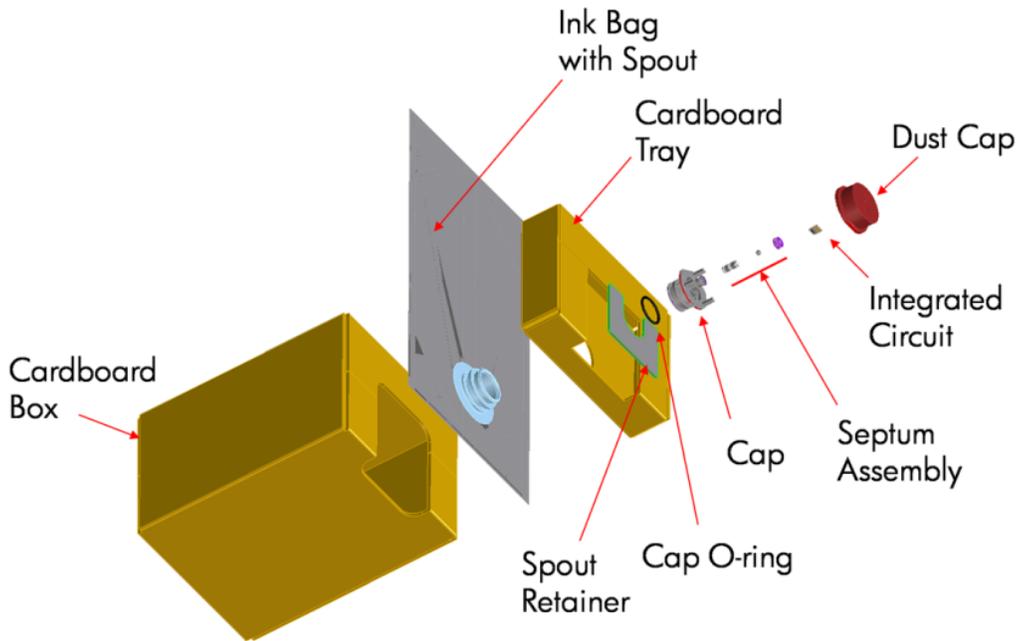


²³ Based on HP Imaging and Color Lab color gamut measurements. Gamut calculations based on an Absolute Colorimetric rendering using a D50 illuminant.

HP Latex Ink Cartridges

HP developed the HP LX600/LX610 Latex Scitex Ink Cartridge²⁴ with an innovative design for use in HP Scitex LX600, LX820, and LX850 Printers. Its construction reduces material use and includes a recyclable cardboard container accounting for approximately 70% of the weight of the used ink cartridge.²⁵ An internal cardboard component (Tray) is also made of recyclable cardboard. This cartridge supplies 3-liters of ink and it is shown schematically with its internal components in Figure 5.

Figure 5. HP LX600/LX610 Latex Scitex Ink Cartridge – Exploded View Showing Internal Components



A collapsible Ink Bag inside the box contains the ink and provides vapor and air barriers to minimize changes in ink composition during shipping, storage, and use. A Cap with a Septum Assembly is attached to the Spout on the Ink Bag. The septum is a valve that opens when the ink cartridge is connected to the printer's ink delivery system. A Dust Cap keeps the septum clean during shipping and storage.

An Integrated Circuit makes electrical contacts with the printer when the ink cartridge is installed. Bi-directional communication with the printer provides information about the status of the ink cartridge including type of ink, ink color, and remaining ink quantity. It also identifies the cartridge to the printer as an Original HP ink cartridge.

The ink cartridge features high ink utilization: as ink is extracted, the ink bag is designed to collapse in a way that maximizes the amount of usable ink that can be delivered.

²⁴ HP LX600 Latex Scitex Ink Cartridges were formerly known as HP 786 Designjet Ink Cartridges. HP Latex Inks in both HP 786 ink cartridges and HP LX600 ink cartridges are compatible with the HP Designjet L65500 Printer. HP Latex Inks in HP LX600 ink cartridges are also compatible with HP Scitex LX600 and LX800 Printers. HP Scitex LX600 and LX800 Printers and the HP Designjet L65500 Printer may be upgraded to HP LX610 Latex Scitex Inks using the HP Scitex LX610 Upgrade Kit. After this conversion, these printers cannot be converted back to use HP LX600 Latex Scitex Inks.

²⁵ Consult your local authority to determine the appropriate method of waste disposal for the ink bag, aerosol filters, and wet wipe.

Used in HP Designjet L26500 and L28500 Printers, HP 792 Latex Designjet Ink Cartridges are similar in design to cartridges used in HP Designjet Z2100, Z3200, and Z6200 Photo Printers. Ink is contained in a metalized plastic bag within a plastic shell, and each ink cartridge supplies 775 ml of HP Latex Ink. These high-volume ink cartridges offer a low intervention rate and allow unattended and overnight printing with HP Designjet L26500 and L28500 Printers. Used HP 792 Latex Designjet Ink Cartridges may be returned through the HP Planet Partners program for free and convenient recycling.²⁶

HP 792 Latex Designjet Ink Cartridges are color-coded for each ink color and use a mechanical key that prevents inserting a cartridge into the wrong slot. An integrated circuit on each cartridge identifies the cartridge as an Original HP ink cartridge to the printer, reports ink manufacturing date for reliability and image quality, and keeps track of ink quantity remaining.

Partially-used cartridges can be removed and replaced with full ones for overnight, unattended printing, then reinstalled later to use the remaining ink. HP recommends storing partially-used cartridges in the same orientation as they sit in the printer.

Large-format Printing Materials for HP Latex Inks

HP Latex Printing Technologies meet the needs of a broad range of applications requiring high-quality, flexible, outdoor and indoor displays. These include POP posters, exhibition/event graphics, light boxes, outdoor and event banners, vehicle wraps and fleet marketing, wall murals, and prints made on non-stretchable polyester fabrics.

HP Latex Inks provide high-quality results on hundreds of large-format printing materials available world-wide, and HP provides customers with resources at www.hp.com/go/latexmediafinder to match settings and RIP profiles for their HP Designjet printers and HP Scitex industrial printers to their preferred printing materials and applications.

HP Latex Inks achieve the optimum in high-quality and consistent performance on HP large-format printing materials, which have been designed and tested together with HP Latex Inks. HP's portfolio of large format printing materials for HP Designjet L26500 and L28500 Printers, HP Scitex LX600 Printers, and HP Scitex LX820 and LX850 Industrial Printers include both outdoor and indoor substrates and ranges from low-cost, uncoated media to a selection of banner, self-adhesive, fabric, paper, film, and specialty options many of which are recyclable.²⁷

In the table above, HP large-format printing materials that can be returned through the HP Large-format Media take-back program are shown in *italic*. For more information about the HP Large-format Media take-back program, see www.hp.com/recycle.

HP large-format printing materials that can be recycled through commonly available recycling programs are shown in **boldface**.

²⁶ Visit www.hp.com/recycle to see how to participate and for HP Planet Partners program availability; program may not be available in your area. Where this program is not available, consult the Material Safety Data Sheet (MSDS) available at www.hp.com/go/ecodata to determine appropriate disposal.

²⁷ HP Large-format Media take-back program availability varies. Some recyclable HP papers can be recycled through commonly available recycling programs. Recycling programs may not exist in your area. See www.hp.com/recycle for details.

<p style="text-align: center;">Banners</p> <p>HP Durable Frontlit Scrim Banner <i>HP Everyday Matte Polypropylene, 2-pack</i>²⁸ HP Durable Semi-gloss Display Film²⁸ <i>HP HDPE Reinforced Banner</i> <i>HP Double-sided HPDE Reinforced Banner</i></p>	<p style="text-align: center;">Self-adhesives</p> <p>HP Permanent Gloss Adhesive Vinyl HP Permanent Matte Adhesive Vinyl HP One-View Perforated Adhesive Window Vinyl HP Air Release Adhesive Gloss Cast Vinyl HP Everyday Adhesive Matte Polypropylene²⁸</p>	<p style="text-align: center;">Specialty</p> <p>HP Satin Canvas HP Collector Satin Canvas²⁸ <i>HP DuPont™ Tyvek® Banner</i></p>
<p style="text-align: center;">Fabric</p> <p><i>HP Heavy Textile Banner</i> <i>HP Light Textile Display Banner</i></p>	<p style="text-align: center;">Papers/Photo Papers</p> <p>HP Blue Back Billboard Paper HP PVC-free Wall Paper - FSC® certified,¹⁵ GREENGUARD Certified¹⁶ HP White Satin Poster Paper HP Photo-realistic Poster Paper HP Coated Paper²⁸—PEFC™ certified HP Universal Coated Paper²⁸—FSC® certified HP Universal Heavyweight Coated Paper²⁸—FSC® certified HP Heavyweight Coated Paper²⁸—PEFC™ certified HP Universal Bond Paper²⁸—FSC® certified HP Super Heavyweight Plus Matte Paper²⁸</p>	<p style="text-align: center;">Film</p> <p><i>HP Backlit Polyester Film</i></p>

Many third-party media companies are working with HP to validate their range of products with HP Latex Inks and HP Designjet L26500 and L28500 Printers, HP Scitex LX600 Printers, and HP Scitex LX820 and LX850 Industrial Printers. Full details of media types tested and their suppliers can be found at the following websites:

- www.hp.com/go/L26500/solutions,
- www.hp.com/go/L28500/solutions,
- www.hp.com/go/scitexLX600,
- www.hp.com/go/scitexLX820, and
- www.hp.com/go/scitexLX850.



Odorless indoor wall decorations printed on HP PVC-free Wall Paper with HP Latex Inks are GREENGUARD Children & Schools Certified.SM See www.greenguard.org

²⁸ Requires 2-inch spindle for compatibility with the HP Designjet L25500 and L26500 Printer series.



The mark of responsible forestry

FSC® certified HP printing materials carry the Forest Stewardship Council (FSC) Mixed Sources label, signifying that these media support the development of responsible forest management worldwide.



The PEFC™ label demonstrates that certified HP papers come from forests that are managed sustainably.

HP Surface Treatment Technology

High Density Polyethylene (HDPE) polymers are used in the production of HP HDPE Reinforced Banner and HP Double-sided HDPE Reinforced Banner. HDPE has many desirable physical properties: it has high tear and tensile strength and is lightweight, it is durable for outdoor use, and it is recyclable.²⁷ HDPE is also resistant to many solvents, and this feature gives HDPE widespread use in packaging for food and chemicals. But, this resistance also poses an issue for image quality, good colorant adhesion, and print durability.

To improve imaging characteristics of HDPE-based materials, HP developed a polymer-based, proprietary surface treatment technology. HP Surface Treatment Technology consists of two layers: an ink receiving layer and an adhesion layer. The ink receiving layer offers sharp, vivid image quality and print durability when using either HP Latex Inks or HP UV-curable inks. The adhesion layer promotes bonding of the ink receiving layer to HDPE-based materials for improved durability in outdoor applications.

On HDPE materials with HP Surface Treatment Technology, HP Latex Inks interact with the ink receiving layer to leave an integrated colorant film after the ink vehicle evaporates. Ink pigments are strongly bonded to the ink receiving layer to achieve improved image durability, color saturation and color gamut, and edge sharpness.

HP Surface Treatment Technology is currently available on HP HDPE Reinforced Banner and HP Double-sided HDPE Reinforced Banner.

For more information

To learn more about HP Latex Printing Technologies, visit

www.hp.com/go/latex

www.hp.com/go/hp_latex_printing_technologies

For more information about the HP Large-format Media take-back program, visit

www.hp.com/recycle

For more information about HP large-format printing materials, visit

www.hp.com/go/lfprinting/materials-supplies

For more information about HP Designjet and HP Scitex Solutions, visit

www.hp.com/go/L26500/solutions

www.hp.com/go/L28500/solutions

www.hp.com/go/L65500/solutions

www.hp.com/go/scitexLX600

www.hp.com/go/scitexLX820

www.hp.com/go/scitexLX850

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Progressive Profitable Printing



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