

Enjoy Brilliant, Enduring Color with HP Vivera Inks

HP designs unique Vivera inks to address virtually every printing need—from photo and everyday home printing to professional photography, fine art, graphics and office applications

vivera
HP INKS
Brilliant, Enduring Color



Quality, reliable results you can trust

Your printing requirements are as diverse as *what, how, when, and where* you print: busy parents and families who want to print photos and everyday documents quickly and easily, digital photo enthusiasts, amateur and professional photographers, creative and graphics specialists, and small to large enterprise businesses spanning a range of industries. Each printing application requires a different set of tools and printing attributes. The element at the heart of each printing system—the ink—plays a crucial role in delivering these attributes.

Leading innovation

As a recognized leader in the inkjet printing industry, Hewlett-Packard devotes significant resources to designing inks for a variety of home, business, and commercial printing applications. Years of ink development have resulted in unique ink formulations that incorporate an optimal combination of key printing requirements—brilliant, true-to-life color, permanence, and durability. This means that when you choose HP Vivera ink, there is no need to make trade-offs, or sacrifice one printing attribute for another. You can achieve the quality results you expect, all from a single, convenient solution.

Reliable, consistent results

HP Vivera inks are carefully developed to ensure excellent photos and prints every time. Ink impurities can lead to numerous types of failures in inkjet printing systems, degrading image quality and printer reliability. HP achieves exceptional ink purity by tightly controlling the quality and composition of each ingredient, including numerous purification steps, and by using a proprietary process to fill each ink cartridge. This careful attention to every aspect of the ink and printing system assures you the professional-quality, long-lasting results you expect from HP.

Unique formulations

HP Vivera ink technology is extremely versatile. Rather than forcing a 'one size fits all' approach, the technology behind the fundamental benefits delivered by HP Vivera inks—image quality and permanence—is adaptable to a variety of applications and configurations. Highly compact photo printers focused solely on snapshot printing, office printers with an emphasis on document printing speed and high page yields, professional photo printers with 12 inks for depth and range of color on fine art papers, canvas, and photo papers—these are just some examples of the wide range of configurations of HP Vivera inks. While actual ink compositions vary widely across different printer types, common to all HP Vivera inks is a unique ability to deliver prints with enduring brilliance.

There are three major families of HP Vivera inks: HP Vivera photo-versatile inks, HP Vivera professional inks, and HP Vivera office inks.

HP Vivera Ink Families






HP Vivera photo-versatile inks	HP Vivera professional inks	HP Vivera office inks
<p>HP Photosmart and HP Deskjet Printers and AIO's</p>  <p>Designed to provide vivid, long-lasting photos for everyday home printing</p>	<p>HP Designjet and HP Photosmart Pro Printers</p>  <p>Designed for color accuracy, consistency and fade resistance required in professional photography, graphics, fine arts and signage</p>	<p>HP Officejet and HP Officejet Pro Printers and AIO's</p>  <p>Designed for crisp, vivid color and fast dry, smudge-resistant results for office printing, in-house marketing and technical drawings</p>

Figure 1.

HP Vivera photo-versatile inks

HP Vivera photo-versatile inks—designed for use with HP Photosmart and select HP Deskjet printer and all-in-one products—deliver brilliant home photo printing results for lab-quality photos with superior fade resistance. When combined with HP photo papers, HP Vivera photo-versatile inks deliver vivid photo prints that resist fading for generations.¹ In addition, most HP Vivera photo-versatile inks are designed to meet everyday, plain paper printing needs, including documents, e-mail, web printing, and more.

Brilliant photo quality

HP Vivera photo-versatile inks offer vibrant, true-to-life color for stunning color prints and exceptional black-and-white images. In independent quality evaluations of photos printed on various consumer photo printers available in the retail market, prints produced using HP Vivera inks were preferred by home photo enthusiasts and professional photographers over traditionally processed (silver-halide) prints.² When asked to judge the overall quality of photos, study participants worldwide indicated a clear preference for prints produced with HP inks and photo papers over those from either lab-processed or competitive inkjet printing systems.²

¹ Based on Wilhelm Imaging Research, Inc., or HP Image Permanence Lab display permanence testing. For details visit www.hp.com/go/printpermanence.

² Spencer Lab Digital Color Laboratory, 2005 Photo Print Quality Research U.S., France and China, Spencer & Associates Publishing Ltd.

Longest-lasting prints

Photos printed on HP photo papers using HP Vivera photo-versatile inks not only feature better image quality than photos processed by conventional labs or non-HP retail kiosks, but are more resistant to fading caused by light or heat. When used with HP Premium Plus Photo Paper, HP Vivera photo-versatile inks provide light-fade resistance superior to that of traditionally processed photos—up to 100 or more years.³

Vibrant Photos that Resist Fading

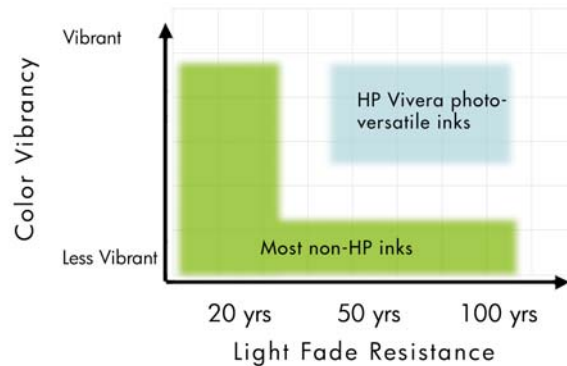


Figure 2.

As Figure 2. shows, HP Vivera photo-versatile inks combine a rare ability to produce long-lasting, high-quality photos, *and* vibrant plain paper prints. Since printers in the home should be versatile enough to meet many printing needs—from high-quality photos to vibrant plain paper documents—this ability is a key advantage of HP Vivera photo-versatile inks.

HP invests heavily in research and technology to ensure your photos will last for generations. Proprietary dyes deliver exceptional light fade resistance while maintaining a large color gamut. HP designs Vivera inks, even its specialty, photo inks, from the ground up to produce natural looking skin tones, vibrant, true-to-life color, and excellent light-fade resistance. According to Wilhelm Imaging Research's accelerated testing, photos printed with refill ink will fade within two years. Photos printed with HP Vivera inks, in comparison, will last for decades.⁴

Durability

In addition to permanence—how well photos last over time—HP ink chemists also consider durability—how well photos resist accidents such as spilled water, smudging and scratches. Those who desire a more durable photo printing solution can combine HP Vivera photo-versatile inks with HP Advanced Photo Paper for both fade- and water-resistant results.

A recent addition to the HP Vivera photo-versatile ink family—the HP 110 Tri-color Inkjet Print Cartridge for HP Photosmart Portable Printers—provides fade resistance for generations, along with water- and smudge-resistance to improve photo handling. When combined with quick-drying HP Advanced Photo Paper, prints can be passed around immediately from the printer without smudging or smearing.

Customers with older HP devices can enjoy the benefits of HP Vivera inks with the HP 57+ and HP 78+ inkjet print cartridges, compatible with HP Photosmart and HP Deskjet printer and all-in-one products that use the HP 57 or HP 78 inkjet print cartridges.

HP Vivera professional inks

HP Vivera professional inks—developed for use in HP Photosmart Pro and select HP Designjet printers—provide outstanding color for high-quality results that last. Because HP understands the needs of professional photographers, creative and printing professionals go beyond a broad color palette and longevity, HP Vivera professional inks are carefully engineered to ensure exceptional color accuracy and consistency on a wide variety of printing substrates, from photo and fine art papers to

³ Up to 108 years, based on Wilhelm Research light-fade testing under glass (as of January 2005) using the HP 95 Tri-Color and HP 99 Photo Inkjet Print Cartridge on HP Premium Plus Photo Papers. For details visit www.hp.com/go/printpermanence.

⁴ Based on average results of brands tested by Wilhelm Imaging Research. Results published in May 2006 Hard Copy Supplies Journal. Testing performed on HP 57 and HP 58 Inkjet Print Cartridges using HP Premium Plus photo paper. Individual results may vary. See www.hp.com/go/printpermanence for full details.

canvas and specialty media, for predictable, reliable results. Imagine how much more productive you can be, knowing your last print will be the same as your first.

Precise, long-lasting color

HP Vivera pigment inks—the most recent addition to HP’s professional ink family—are specifically designed for use with HP Photosmart Pro and select HP Designjet printers to provide an extensive palette of brilliant, life-like colors, deep, rich blacks and true, neutral grays for professional portraits, landscapes, portfolio prints, photos and graphic printing assignments. HP Vivera pigment inks, used in both the HP Designjet Z2100 and Z3100 Photo Printers, provide complete coverage of both SWOP and ISO coated gamuts when printing on HP Proofing Papers (see Figure 3).

HP Designjet Z3100 Photo Print Gamut Comparison

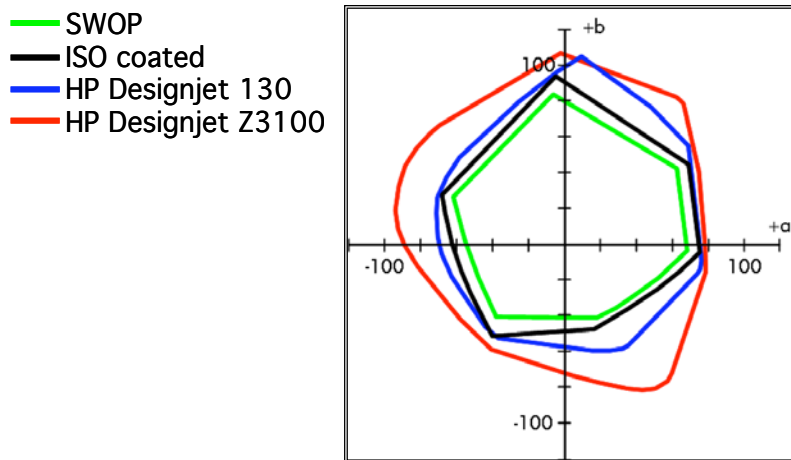


Figure 3.

As Figure 3. shows, the HP Vivera pigment 12-ink technology in the HP Designjet Z3100 creates a very large range of rich, vibrant colors. The chroma area, indicated by the red line, is significantly larger than the SWOP and ISO benchmarks. The chroma also exceeds that of HP’s previous generation of Vivera professional inks, which used dyes rather than pigments.

HP dispersion technology—the key to reliable, consistent pigment ink printing

Vivera professional inks are formulated with an HP exclusive pigment dispersion technology—Electrosteric Encapsulation Technology (EET)—to deliver excellent gloss uniformity across a range of colors and consistent, reliable performance with the long-life HP print head. The key to delivering a reliable, consistent ink with good gloss properties is to ensure that particles do not stick together and form larger particles which might clog the print head, or degrade the gloss of the print. Unlike typical color pigment inkjet inks, HP EET uses *two* mechanisms (rather than just one) to keep pigment particles separated, so that the ink can flow smoothly for good image quality and reliability.

Permanence and durability on a variety of media

HP Vivera professional inks offer superior display permanence across a broad media set—more than 200 years on HP photo and fine art papers such as HP Advanced Photo Paper, HP Artist Matte Canvas, HP Professional Satin Photo Paper, HP Hahnemühle Smooth Fine Art Paper and more.⁵ The inks are carefully formulated for durability, water resistance, and excellent handling ability. When printing on quick-dry HP Advanced Photo Paper, prints can be handled immediately from the printer out-tray.

With an HP media portfolio that includes a wide range of creative and specialty media—including fine-art, canvas, watercolor and photo media in 24-, 36-, and 42-inch sizes—HP offers creative professionals a broad set of printing tools that are designed, engineered, and tested together to

⁵ Based on light fade testing under glass and thermal degradation tests by Wilhelm Imaging Research using HP Advanced Photo paper, HP Photo Matte, HP Hahnemühle Smooth Fine Art paper, HP Hahnemühle Watercolor paper and HP 38 Pigment Ink Cartridges. Preliminary results to be updated as test progresses—see wilhelm-research.com or www.hp.com/go/printpermanence.

produce optimal results from the first print to the last. (For information on HP large format papers, visit: www.hp.com/go/supplies/printpermanence.)

Consistent results

Designed to work with various elements of the printing system, HP Vivera professional inks deliver exceptional color accuracy for realistic, life-like output. The inks are carefully co-developed with HP print head design to deliver highly accurate, precise drop placement even at high print speeds. Professional printing profiles specifically developed for HP professional ink and printing systems are critically optimized for precise display-to-print color matching. Vivera professional inks are carefully designed to quickly achieve their final color within minutes of printing, which greatly assists the operation of the built-in color calibrator inside the printer. A robust approach to ink separation simultaneously controls color and ink volumes to deliver the smooth transitions, subtle gradations, and gloss uniformity essential for professional photo printing.

HP Vivera office inks

HP Vivera inks for business are designed first and foremost to provide exceptional plain paper print quality and durability for typical office applications. Specially formulated for use with HP Officejet and HP Officejet Pro printers and all-in-one products, HP Vivera office inks deliver crisp, laser-quality text, bright, true colors for business graphics, and quick-dry durability to meet the demands of general office use. In addition, HP Vivera office inks allow customers to produce brilliant photos and business graphics on coated media for professional looking brochures, proposals and marketing materials.

Since an extensive amount of office printing takes place on plain paper, much of the burden to achieve print quality is placed on the ink. Consistently high quality text and graphics with bold blacks, sharp lines and edges, and high color saturation are essential attributes for business printing. Office documents are handled in different ways from photo prints. Printed pages are handled when read—often by more than one individual—and may be annotated, edited, or signed. This requires ink formulations that allow business professionals to create fast drying documents ready for use right from the printer and that resist smearing from handling and moisture. HP Vivera office inks are specially formulated to provide an optimal combination of rich, dark text, vivid colors, and quick dry times for durability.

Fast drying, vivid results

HP Vivera office inks are designed to support the fast print speeds offered with HP business printing systems. Uniquely formulated Vivera black inks, developed for use with HP Officejet Pro, enable exceptionally fast black printing with quick dry times and excellent handling ability. Unique ingredients in the ink vehicle allow ink components to quickly penetrate into the paper, while colorants are retained near the surface. HP patented ink technologies also prevent color and black inks from mixing together or 'bleeding' when placed in close proximity to each other on the page. Together, these technologies allow HP office printing devices to produce exceptionally dark, black text and vivid colors with crisp, clean edges.

Ink Vibrancy and Dry Time

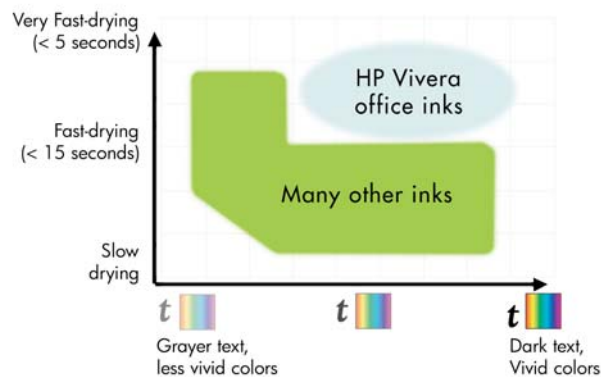


Figure 4.

ColorLok paper technology

Quick drying HP Vivera office inks allow you to get fast turnaround times for all your business documents. HP Vivera office inks dry even faster when combined with fast drying papers, such as HP Everyday Papers with ColorLok technology. HP papers with ColorLok technology receive and hold the ink near the surface for even absorption and uniform, vivid color. Blacks are bolder for improved contrast, sharper text and rich line detail. Plus, documents printed on ColorLok papers dry quickly for almost immediate handling. HP papers with ColorLok technology are compatible with both ink and laser printers, so you can enjoy the convenience of using just one paper with every office printer. And with prices comparable to other quality, everyday papers, you get all the benefits of ColorLok—universal compatibility, bolder blacks, uniform, vivid colors, and fast dry times—without paying more.

Archival document quality

When you print important documents with HP Vivera office inks, you'll have the confidence of knowing that archived documents will retain black text and color quality for decades without fading.⁶

Summary

HP Vivera inks are uniquely designed to meet the distinct needs of a variety of printing applications, from photo and everyday home printing, to professional photography, fine art, graphics, and office printing. HP ink chemists continually strive for the optimal balance of ink components to create the best possible results when combined with the rest of the HP printing system. Each ingredient is carefully selected to meet stringent criteria for printing attributes—from outstanding color and display permanence, to reliability and print speed.

HP Vivera photo-versatile inks allow customers to produce lab-quality photos from the convenience of home, as well as crisp, black text and vibrant color for professional looking documents. Specially formulated to meet customers' diverse home printing needs, HP Vivera photo-versatile inks deliver excellent results on plain paper and brilliant, lasting photo quality when used in combination with HP photo papers. Each generation of HP Vivera photo-versatile inks continues to deliver exceptional versatility and value for photo and everyday printing on a wide range of plain and specialty papers.

The creative ink flexibility of HP Vivera professional inks delivers outstanding performance and durability for impressive results on a wide range of photo, fine-art, canvas, watercolor and other papers.

With laser-quality text, crisp lines, and colors and brightness specifically tuned for office graphics and marketing materials, HP Vivera office inks deliver professional print quality for a variety of office applications. Vivid, quick drying office inks support fast business printing and offer durability and permanence on plain paper, including enhanced smudge-, water- and fade-resistance when combined with select HP media.

Regardless of the intended end use, all HP Vivera inks are carefully developed, engineered and tested to ensure they deliver the characteristics you expect from HP—from vivid, true-to-life colors and rich, neutral blacks for photos, to crisp lines and sharp black text for professional looking documents. HP Vivera inks are designed to provide additional characteristics, from varying levels of fade, water- and smudge-resistance to quick dry ink formulations, to address customers' varying durability and handling needs. The careful design and engineering of HP Vivera inks, inkjet print cartridges, printers, and everyday and specialty papers assure you a convenient, reliable solution—tailored to address your specific printing needs.

⁶ Based on paper industry predictions for acid-free papers; colorant stability data at room temperature based on similar systems tested as per ISO 11798 and ISO 18909.