

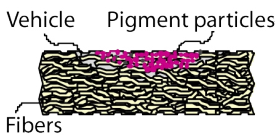
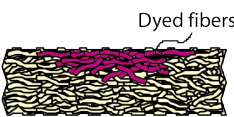
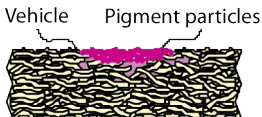
Contents

DuraBrite Ink is currently featured in the EPSON Stylus C82 Series ink jet printers and is a revolutionary pigment-based ink technology optimized for matte and plain papers. This technical brief will provide detailed information on the following topics:

- Goals of DuraBrite Ink
- Advantages of DuraBrite Ink
 - Optimized for Plain and Matte Papers
 - Durable Output, with incredible light-resistant and water-resistant properties
 - Superior Plain Paper Print Quality
 - Low Cost of Ownership

Goals of DuraBrite Ink

DuraBrite Ink is comprised of pigment-based inks. The goal of DuraBrite Ink is to provide superb print quality, water-resistance, and light-resistance on a variety of media, including plain paper. The key differences among conventional pigment ink, conventional dye ink, and DuraBrite Ink are:

Key Differences	Conventional Pigment Ink	Conventional Dye Ink	DuraBrite Ink
Characteristics	Comprised of insoluble pigment particles	Formed from color-forming, water-soluble molecules	Comprised of insoluble pigment particles
Color Gamut	Poor	Excellent	Excellent—Matte and Plain Papers Good—Glossy Papers
	 <p><i>Pigment particles sink into the valleys of the paper. High scattering and uneven light reflection result in reduced color gamut.</i></p>	 <p><i>Coloring is high because ink dyes the fiber of the paper. Light reflects evenly off the surface producing a superb color gamut.</i></p>	 <p><i>Ink remains near the surface of the paper so there is even light reflection, producing an excellent color gamut on matte and plain papers.</i></p>
Light-Resistance	Excellent <i>Inks have excellent light-resistant properties.</i>	Fair to Good <i>The dye inks are dependent on special paper to resist fading¹.</i>	Excellent <i>DuraBrite Inks used in the EPSON Stylus C82 are light-resistant up to 80 years on specialty media and up to 70 years on plain paper².</i>
Water-Resistance	Excellent <i>Pigment particles are insoluble.</i>	Good <i>Inks are water-resistant on many glossy photo papers but not on matte papers¹.</i>	Excellent <i>Inks are water-resistant on a wide variety of media, including plain paper.</i>
Media Selection	Poor <i>Not conducive to plain paper printing due to poor output quality on that media; generally limited to signage media</i>	Excellent <i>Widest media selection: Plain, Matte, and RC (Resin Coated) Photo and High Gloss papers</i>	Very Good <i>Wide media selection: Plain (optimum), Matte, and some Glossy Papers</i>

Advantages of DuraBrite Ink—Optimized for Plain and Matte Papers

DuraBrite Ink is optimized for plain paper printing and on plain and matte papers the color gamut of DuraBrite Ink is excellent. On glossy papers, the color gamut of DuraBrite Ink is good. The latest formulation of DuraBrite Ink (used in the EPSON Stylus C82 Series printers) supports the following papers:

Matte Surface Papers	Glossy Surface Papers	Specialty Media
<ul style="list-style-type: none"> • Plain Paper • EPSON Premium Bright White Paper • EPSON Photo Quality Ink Jet Paper • EPSON Matte Paper Heavyweight • EPSON Double-Sided Matte Paper • EPSON Enhanced Matte Paper 	<ul style="list-style-type: none"> • EPSON Glossy Photo Paper • EPSON Premium Semigloss Photo Paper • EPSON All Purpose Glossy Paper • EPSON Glossy Photo Greeting Cards 	<ul style="list-style-type: none"> • EPSON Photo Quality Ink Jet Cards • EPSON Ink Jet Transparencies

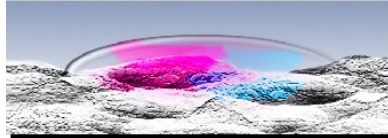
Because the EPSON Stylus C82 and EPSON Stylus C80 use a different variation of DuraBrite Ink, there are some minor paper support differences. The EPSON Glossy Photo Paper, Glossy Photo Greeting Cards, and EPSON All Purpose Glossy Paper are compatible with the EPSON Stylus C82 and not the EPSON Stylus C80; the EPSON Premium Glossy Photo Paper is compatible with the EPSON Stylus C80 and not the EPSON Stylus C82.

Advantages of DuraBrite Ink—Durable Output

DuraBrite Ink is a pigment-based ink technology with greater durability properties than conventional dye-based ink, offering water-resistant and light-resistant results on all supported paper types, including plain paper.

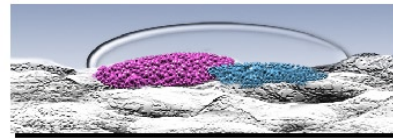
- Water-resistance:** Conventional dye-based ink is comprised of color-forming molecules that are absorbed into the paper or captured in the coating of RC (Resin Coated) papers, much like a watercolor paint. DuraBrite Ink consists of insoluble pigment particles, much like an oil paint, that “rest” on top of the paper. Although conventional dye-based ink is water-resistant on specific glossy photo papers, it does not have water-resistance on matte papers. DuraBrite Ink is water-resistant, even on plain and matte paper:

Conventional Dye-Based Ink



Conventional dye-based ink particles are absorbed into the fibers of plain paper and are soluble in water.

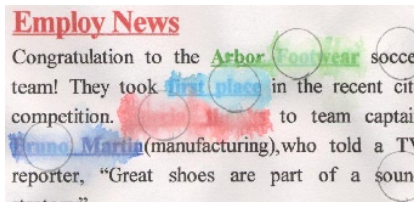
DuraBrite Ink



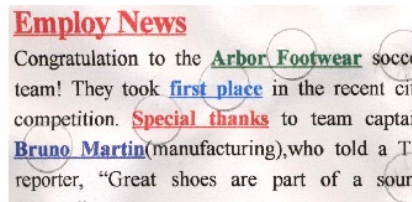
DuraBrite Ink pigment particles “rest” on the surface of plain paper and are insoluble in water.

Many competitive printers use pigment black, but DuraBrite is the only ink system that is pigment-based for black and color printing.

With competitors’ inks, only black is water-resistant

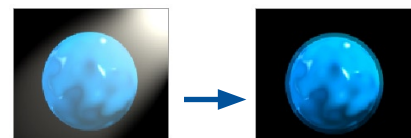


DuraBrite Inks have water-resistant properties for black and color



- Light-Resistant Prints:** DuraBrite Ink also offers high light resistance. The DuraBrite Ink used in the EPSON Stylus C82 offers light resistance up to 80 years on specialty matte papers and up to 70 years on plain paper². No competitive printer currently offers light resistance on plain paper. Full details on the longevity of prints for documents printed with DuraBrite Ink can be found on www.epson.com.

With pigment-based DuraBrite Ink, even if the outer surface fades, color remains within the particle



Advantages of DuraBrite Ink—Superior Plain Paper Print Quality

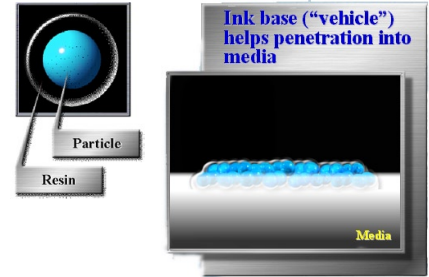
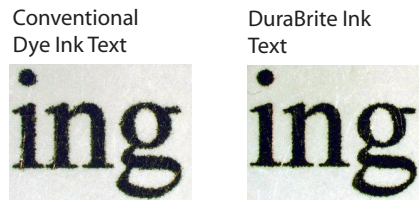
DuraBrite Ink uses a patented technology where each DuraBrite Ink color pigment particle is encapsulated in a resin. A unique polymer pulls the particles apart so they are suspended in the solution and never coagulate. The ink base then helps the DuraBrite Ink pigment particles to penetrate into the paper.

Using this technology, DuraBrite Ink has several benefits:

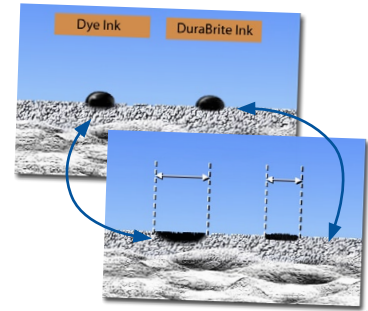
1. Extra-sharp text and graphics, especially on plain paper:

Because conventional dye-based ink acts much like a watercolor paint, its molecules are absorbed into plain paper. The spread of ink into the paper's fibers is known as feathering or dot gain. When printing on RC papers, dot gain of conventional dye-based inks is controlled because the coating catches each ink droplet.

DuraBrite Ink's pigment particles "rest" on top of the paper and are not absorbed into the fibers like conventional dye inks. As a result, DuraBrite Ink has a much smaller spot size than dye-based ink and text printing will be especially sharp:



With the same size ink droplet, Dye Ink has a much greater spread into the fibers of plain paper than DuraBrite Ink



2. Excellent color gamut on matte and plain papers:

Because DuraBrite Ink color pigment particles are completely encapsulated in a resin, they can be evenly distributed.

3. Double-Sided prints without bleed-through:

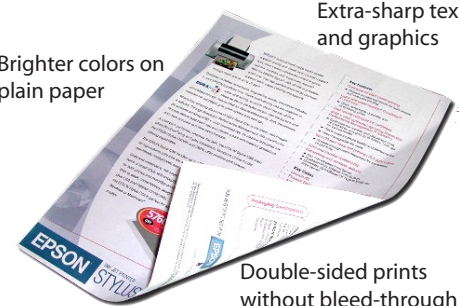
DuraBrite Ink uses a special technology that controls the penetration level of the ink and keeps the colorant near the surface. Additionally, output on plain and matte papers is optimized with a higher optical density.

4. Brighter colors on plain paper:

DuraBrite Ink used in the EPSON Stylus C82 uses an innovative formulation of color inks, producing brighter output on plain paper.

Brighter colors on plain paper

Extra-sharp text and graphics



Double-sided prints without bleed-through

Advantages of DuraBrite Ink—Low Cost of Ownership

DuraBrite Ink offers low cost of ownership with its:

—Optimization for matte and plain papers—Because you don't have to use specialty papers to obtain the best print quality, DuraBrite Ink offers convenience and cost savings. Although it is optimized for plain and matte papers, DuraBrite Ink also produces good print quality on glossy and semi-gloss papers.

—High-yield, individual ink cartridges—Individual ink cartridges let you replace only the ink that has run dry. If you print large print runs or presentations that use primarily one or two colors, you will see a great cost savings. When comparing printers, remember to consider both the cost and the yield of the ink cartridges—don't be fooled by competitive printers that have lower-yield, lower-cost ink cartridges



Summary

Epson's DuraBrite Ink combines the durability qualities of pigment ink with the color qualities similar to that of dye inks to produce:

- Superb print quality, optimized for plain paper printing
- Sharp, dark text printing without feathering
- Water-resistant prints, even on plain paper
- Light-resistance up to 80 years on specialty matte papers and up to 70 years on plain paper²

With its high-quality, durable output, DuraBrite Ink is the ideal choice for printing reports, web pages, greeting cards, presentation, report covers, resumes, menus, and your favorite photos. It produces great photo image quality on matte papers with water-resistant and light-resistant properties unrivaled by dye-based ink.



For complete details on how DuraBrite Ink compares to other Epson ink technologies, refer to the Epson Ink Solutions document.

- ¹ Epson's 6-Color Photo Dye Inks have light-resistance up to 25 years based on accelerated testing of prints on EPSON ColorLife™ Photo Paper, displayed indoors, under glass. Actual print stability will vary according to media, printed image, display conditions, light intensity, humidity and other atmospheric conditions. Epson does not guarantee longevity of prints or papers. For maximum print life, display all prints under glass or lamination or properly store them. Prints are water-resistant on EPSON Premium Photo Papers and EPSON Glossy Photo Paper.
- ² The EPSON Stylus C82 has light-resistance up to 80 years on specialty matte papers and 70 years on plain paper. Light resistance rating based on accelerated testing of prints, displayed indoors, under glass. Actual print stability will vary according to image, display conditions, light intensity, paper, humidity, and atmospheric conditions. Ratings based on ink only; some papers may discolor over time. Epson does not guarantee the longevity of prints. For maximum print life, display all prints under glass or lamination or properly store them.

Note: The EPSON Stylus C80 uses the original DuraBrite Ink formulation which offers 70 years of light resistance and the same great water-resistance found in the new DuraBrite Ink. Color output on the EPSON Stylus C80 may differ from the EPSON Stylus C82 due to the slightly different formulation of DuraBrite Ink used in the EPSON Stylus C82.

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