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Lack of Standards Sparks Inkjet Photo Fade Debate

How long inkjet-printed photos last depends on who you ask, experts say.

Tom Spring, PC World
Friday, July 08, 2005

How long can you expect your inkjet-printed photos to last? More and more photo inkjet papers are being touted as "fade resistant" and "archival safe," but experts say these marketing pitches don't always provide good information on how long it will take for skin tones to turn green and paper to yellow on precious family photos.

Because there's no standard for measuring inkjet print longevity, it's difficult for consumers to make apples-to-apples comparisons of photo papers. Consequently, experts say, people may find that some photos expected to last for decades will start to fade in just a few years.

"How long a photo printed with an inkjet printer will last depends on who you ask," says Cathy Martin, an analyst for InfoTrends. She says there are no clear answers for consumers looking for the best, and longest-lasting, photo inkjet paper. Photo paper is considered one of the crucial archival elements for photographs.

The fade debate is growing louder as companies like International Paper, Eastman Kodak, and Staples have begun more heavily marketing their photo inkjet paper for use with printers made by manufacuturers like Canon, Seiko-Epson, Hewlett-Packard, and Lexmark.

Claims and Counterclaims

The latest salvo in the longstanding debate comes from HP and Epson; the companies dismiss claims by third-party paper vendors such as International Paper, Kodak, and Staples that their papers will produce archival-quality prints on any inkjet printer.

Specifically, Epson and HP strongly dispute Kodak's claim that prints made on their printers with Kodak's special paper will last 120 years before fading. Similarly, the

printer vendors dispute International Paper's claims that prints made on the company's recently introduced National Geographic Premium Paper High Gloss will last "more than 100 years." (Staples, while claiming that photos printed on its papers "resist fading," makes no specific claims as to how many years a photo printed on its paper will last before showing signs of fading.)

"We've heard a lot of promises from our competitors," says Nils Miller, HP's ink and media senior scientist. But so far he says he hasn't seen a "miracle paper" from a third-party supplier that can deliver the same print longevity and quality with all printers.

Epson says users of its paper, in combination with Epson premium inks, can expect images to last up to 104 years before showing signs of fading. HP says its premium inks used with HP photo paper will last 115 years. These claims are based on internal testing by Epson and HP and on tests by Wilhelm Imaging Research, an independent laboratory based in Grinnell, Iowa.

Testing Issues

At the heart of the inkjet photo paper debate are conflicting opinions on how best to test printed photographs in order to project how long an image will last before it begins to fade.

For years, under the auspices of the International Standards Organization (ISO), printer makers and third-party providers of digital imaging products have been trying to settle on a mutually agreeable way to predict image longevity. But with no standard in sight, Wilhelm Imaging Research earlier this year announced that it would begin certifying digital imaging products for print longevity in order to assist consumers in making buying decisions. Wilhelm ratings, which will project print longevity for specific printer and paper combinations, are expected to begin appearing on product packages sometime this summer.

Major printer vendors regularly hire WIR, which is run by print longevity expert Henry Wilhelm, to test photo papers, inks, and printers for longevity. (Full disclosure: *PC World* has never hired or paid Wilhelm, but he has supplied test results for some of our articles about print longevity.) Rob Rosson, an imaging supplies analyst for Current Analysis, says WIR testing methodology has become the industry's de facto standard.

WIR has also tested Kodak and Staples papers, and Wilhelm's print longevity projections for those products fall far short of those achieved by HP and Epson papers. For example, WIR projects that images printed with Kodak photo paper using HP Photosmart 145 and 245 printers will last only 11 years--or 109 fewer years than Kodak is claiming.

In 2002 WIR tested Staples Premium Glossy Ink Jet Photo paper and rated the print life at 1 to 3 years with most printers. Since then, Staples points out, it uses a more advanced paper technology. Longevity for National Geographic Premium Paper High Gloss are not yet available from WIR.

However, some third-party photo paper vendors aren't buying into WIR's testing as a de facto standard. Critics say WIR testing is not only time-consuming but costly: Companies that wish to participate in the WIR seal of longevity program must ante up $15,000 for testing one type of paper with one specific printer and ink. Vendors also contend that WIR tests don't reflect how prints will fare in a real-world display environment.

Testing Differences

All labs, including WIR, project image longevity based on tests involving exposure to light, heat, humidity and air pollution. And all labs use a procedure called accelerated fading to test for resistance to light exposure. Basically, accelerated fading involves exposing images to intense light and using mathematical formulas on the results in order to project when the picture might degrade to an unacceptable level.

But WIR and others don't see eye to eye on how to test for light fading. Kodak, for example, says its tests assume the room where the photos will be displayed is much darker than the brightly lit room on which WIR tests are predicated. Kodak and Staples say WIR's methodology places too much weight on fading due to exposure to light. They argue that WIR doesn't sufficiently factor in the importance of an image's resistance to heat, humidity, and ozone pollutants.

Wilhelm counters that Kodak's tests aren't sufficiently stringent, and that Staples has provided no scientific data whatsoever to back its claim that its photo paper is "fade resistant." In general, Wilhelm says, consumers should be wary of vendor claims that aren't explained in detail or supported by independent testing.

"If every manufacturer was responsible for making their own longevity claims, those claims would mean nothing," he says. Third-party inkjet paper suppliers counter that, if an international standard existed, they would gladly base their claims on that standard.

"It's an industry-wide problem we did not create," says Tim Whelan, director of marketing for coated digital papers at International Paper. Whelan says International Paper has made a significant investment in testing its paper for quality and longevity.

Packaging for International Paper's National Geographic Premium Paper High Gloss states that the projected 100-plus years of print longevity applies to images displayed "under glass with the latest photo inkjets."

But International Paper officials say the claim only applies to prints made using the HP 8700 series printer and HP Vivera inks. The claim is based on the company's own testing. International Paper says more comprehensive testing of its paper with a larger selection of printers is in the works.

"Longevity is not the most important reason our customers buy Staples' photo paper," says Jevin Eagle, senior vice president of Staples brand group. He says the quality of the image, how quickly the image dries after printing, and price are what Staples customers value in its brand-name inkjet photo paper. Eagle wouldn't comment on Staples' "fade resistant" claim or the testing processes it bases the claim on.

But "Marketing claims are extremely confusing for customers to untangle," he adds. "Until there is one unbiased standard for testing, we plan to keep things very simple for our customers." Staples offers a money-back guarantee on its photo inkjet paper if consumers are not satisfied.

More Claims

Some vendors toss around terms like "archival quality" without making any promises regarding image permanence.

For example, Paris Business Products touts its Glossy Ultra Premium Photo paper as "Acid-free archival paper for long lasting prints" on product packaging.

Sharon Hennelly, Paris Business Products spokesperson, explained that the "archival" claim refers primarily to the fact that the paper is acid-free. Acid-free paper lasts longer than other papers and holds color well, she said. Paris Business Products makes no claim as to how long the image will maintain its color vitality before noticeable fading occurs.

Ultimately, the best way to extend the life of your images is to keep them in a photo album or even a shoe box. Displayed on walls, images are affected by light and air pollutants. And it's best to keep digital copies of pictures on a CD or DVD, says InfoTrends' Martin.

"Consumers can't put all the responsibility on preserving images on the photo paper," says Dan Burge, a scientist with the Image Permanence Institute.

"It's up to the consumer to take good care of their images if they want them to last," Burge says.

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