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At Least For Ink Jet Print Permanence, WIR and Kodak Mend Fences

The long-running feud between Eastman Kodak and Wilhelm Imaging Research (WIR) may be coming to an end. After years of sometimes heated public debate on testing standards for lightfastness, the well-known rivals have begun to exchange comments that sound like mutual admiration, at least in the area of ink jet print quality. WIR, which in the past panned Kodak's ink jet products for being unable to achieve image permanence claims, released favorable test results earlier this year regarding the lightfastness of photos from Kodak's new desktop ink jet machines, pigmented inks, and Kodak photo papers. Kodak now refers to WIR's image permanence testing methods as the "*de facto* industry standard" and has begun using WIR data in its marketing materials. The thawing of relations between the two longtime antagonists has made some in the industry optimistic that ISO print permanence standards may finally be forthcoming.

Last month, we saw ample evidence that the two sides are growing closer. Henry Wilhelm, president and founder of the Grinnell, IA-based image-permanence testing laboratory that carries his name, appeared at a Kodak-sponsored press event in New York City. He told the assemblage that prints made with Kodak's consumer desktop ink jet digital printers achieved better print permanence ratings than prints made with other brands of ink jet printers in the same market segment. Kodak issued a press release on February 25 citing WIR display permanence data that indicated prints made using its family of EasyShare ink jet MFPs (*Journal*, 2/07), along with the OEM's pigmented ink and paper, achieved WIR Display Permanence Ratings of greater than 125 years. In the same press release, Wilhelm said the test results "establish an important new long-term print permanence benchmark for consumers."

The surprising Kodak announcement came after test results were posted on the WIR Web site on January 29 showing photos printed with an EasyShare 5300 using Kodak pigmented inks and a full range of seven different Kodak papers. All of the prints tested were projected to last more than 125 years when displayed framed under glass and more than 175 years when displayed under a UV filter. The results were true for prints on various Kodak higher-end media, including Ultra Premium (high gloss and semi gloss) and Premium (gloss and matte) photo paper, as well as the lower-end Kodak gloss and matte photo paper and the uncoated Kodak Ultimate paper. Unprotected prints exposed to light on display were calculated to last between 34 and 81 years depending on media type. Dark storage testing and ozone testing also indicates that the prints will last in excess of 100 years, regardless of media (see www.wilhelm-research.com for further information). "From a permanence point of view, with its high-stability pigmented inks and gloss optimizer, this [EasyShare MFP] is a very well-engineered system," Wilhelm opines. "Like Epson's DURABrite pigmented inks, the Kodak inks even offer good water and unprotected ozone resistance on plain paper."

According to Wilhelm, Kodak did not commission the testing and the lab used the exact same five-factor testing methodology that it uses for all of its print permanence evaluations. He says WIR Print Permanence Ratings have long been used by Hewlett-Packard, Epson, Canon, and Lexmark, and also by many independent media suppliers. Wilhelm emphasized that the WIR testing was not modified in any way for the Kodak products. Test results were collected from hardware, ink, and media purchased by WIR at Best Buy

retail stores immediately following the release of the EasyShare 5300 printer last March. "Kodak licensed the WIR data," he explains, and the firm has "opted to use the WIR results in subsequent marketing materials for ink jet prints in place of its own internal testing, which is based on a different, less demanding testing methodology."

'Hundred Years War' Ending?

If indeed the relationship between Kodak and WIR is warming, it comes after years of acrimony over the test procedures developed by each company. While Kodak and WIR debated various aspects of the other's testing procedures, a central point of contention was over the amount of light used to calculate fade resistance. Kodak's lightfastness estimates are based on prints exposed to 120 lux of light per day, while WIR extrapolated its image permanence calculations based on images exposed to a much higher light level of 450 lux. Most ink manufacturers, paper suppliers, and OEMs have adopted the 450-lux standard, but Kodak has held tightly to its 120 lux standard. Several years ago, the debate took on renewed fervor when Kodak made claims about the longevity of photos printed on some of its Kodak-branded ink jet photo papers with HP, Epson, Canon, and Lexmark printers, which, WIR said, were, in most cases, untrue.

Magnus Felke, the director of product marketing for the Kodak ink jet systems group, says that working with WIR is an example of how his firm is changing as it moves into more digital markets. "Kodak is a new Kodak," he says. "This is not the Kodak you knew 10—or even 5—years ago." He says that more than half of the firm's employees have been at Kodak for less than four years. "We wanted to start a new conversation with WIR. Wilhelm has created the *de facto* industry standard

and we wanted to be able to use that. WIR has used its methodology year to year and we've leveraged that methodology to provide consumers with an 'apples to apples' comparison for our new printers [versus competitive products]."

Wilhelm agrees with many of Felke's comments. "I think the licensing agreement is absolutely indicative of a new Kodak," he says. "You couldn't have imagined this five years ago." He contends that now "Kodak recognizes that there is a real value for consumers to have a fair, apples-to-apples comparison across the competitive landscape." Wilhelm admits that he was "surprised" when Kodak expressed an interest in licensing the WIR data. He says this is the first instance that Kodak licensed his test results since Wilhelm began working in the field. "This goes back a long way," he adds, "more than 30 years."

Felke says that while Kodak is using WIR data exclusively to express the image permanence delivered by its desktop ink jet MFPs, the company is not totally abandoning the internal testing methodology that WIR has scrupled with so openly. "We have one of the leading [image permanence] test labs in the world, and it uses its own testing methodology. We have invested heavily in our research, and that work continues." According to Felke, each business unit at Kodak determines what testing standards are appropriate for its products. "Every Kodak business unit uses our internal test labs and its testing procedures. It is then up to that particular business unit to choose a third-

party testing facility if that is required." Felke says that Kodak's aim is to use testing that represents real-world "use cases" and maintains that different testing is required to accurately portray actual end-user applications.

ISO Print Permanence Standards

Kodak and WIR have such great influence within the digital imaging industry that their dispute over image permanence testing methods significantly increased the difficulty reaching an industry-wide agreement necessary to move forward with meaningful International Organization for Standardization (ISO) standards. To date, in fact, no ISO standards exist for testing the lightfastness, ozone resistance, or dark storage permanence of images printed with ink jet or other digital printing technologies. If Kodak and WIR are now willing to work together more closely, reaching agreement on comprehensive print permanence test method standards just might be a possibility. We contacted several sources close to the committees currently investigating image permanence testing. While none were at liberty to comment on the record, the sources we spoke with were upbeat on the future of ISO print permanence standards given the recent news from Kodak and WIR. This is not to say, however, that we would expect ISO to suddenly issue comprehensive new image permanence standards. Regardless, it appears that the industry will be able to move forward more rapidly with agreement on such standards now that Kodak

and WIR have stopped bickering, at least about ink jet print quality.

Wilhelm provides insight and advice to various standards committees investigating lightfastness and other aspects of print permanence testing. While he declined to say specifically what issues remain over the adoption of such standards, Wilhelm did indicate that he is more optimistic than he has been in the past that ISO will, in fact, be able to move forward and publish meaningful standards. "In that regard, I think that Kodak adopting WIR test data for ink jet prints is, in fact, a big step forward," he says.

We recognize that no standard is perfect. Testing protocols can be undermined to reach a pre-established goal, or test result data can be skewed or manipulated. Regardless, we support industry standards for lightfastness as well as in other areas of print permanence. Standards provide consumers with reasonably reliable data for product comparisons and give manufacturers benchmarks to guide research and development efforts. It takes years, however, to develop and adopt test criteria. We are certain there is still more work to do before comprehensive print permanence standards will be established for photos printed with ink jet and other digital printing technologies, including silver halide, dye sublimation, and color laser, as well as other types of liquid and dry toner electrophotography printers. News that Kodak and WIR have reached a degree of consensus, at least in terms of measuring the permanence of ink jet prints, however, does appear to bring the industry closer to a legitimate benchmark. ☺

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