DP3 digital print preservation portal
Newsletter
IMAGE · PERMANENCE · INSTITUTE
Issue: 3

IN THIS ISSUE

- Summary of IPI's Research into the Tendency of Digitally Printed Materials to Block or Ferrotype at High Humidity
- Terminology
- Recent Publications
- Call for Papers

RECENT PUBLICATIONS

IPI recently presented a variety of results from their experimental work into digital print preservation. Three talks were given at the Society for Imaging Science and Technology's Non-Impact Printing conference (NIP 25) in September in Louisville, KY. PDFs of the talks can be found in the DP3 Project's website under Resources.

Investigations into Potential Reactivity between Silver-Halide and Digitally Printed Photographic Images in Long-Term Storage
by Daniel Burge and Lindsey Rima (Read Article)

Tendency of Digitally Printed Materials to Ferrotype or Block
by Lindsey Rima and Daniel Burge (Read Article)

Brittleness of Digital Reflection Prints
Eugene Salesin, Daniel Burge, Peter Adelstein and James Reilly (Read Article)

CALL FOR PAPERS

IOP Institute of Physics

4th International Conference on: Preservation and Conservation Issues in Digital Printing and Digital Photography

May 27-28, 2010 - London, England

A two-day international conference for conservators, digital photographers and printers

More Information

Abstract Due: Oct 30, 2009

Summary of IPI's Research into the Tendency of Digitally Printed Materials to Block or Ferrotype at High Humidity

Blocking is the phenomenon of prints becoming adhered to each other front to back as in a stack, face-to-face as in a photo album or to smooth surfaces in contact with the prints such as glass in frames or plastic sleeves in enclosures. Ferrotyping is similar to blocking, but instead of bonding between prints or to adjacent materials, the softening of the print surface causes the gloss of the print to be degraded.

It has long been known that the gelatin layer used in traditional photographic prints can bond to glass in framing packages and many types of plastic sheeting used in storage enclosures. This happens when the glass transition temperature of the print's gelatin layer is exceeded.

IPI performed the experiments described below to determine if digitally printed photographs were as likely to ferrotype or block as traditional silver-halide photographs. Preliminary testing at IPI indicated that 30oC (86oF) at 90%RH could replicate the blocking effects often seen with traditional photographic prints. These conditions are not designed for accelerated aging, but instead to simulate a worst-case scenario where a print may be stored, even briefly, in a hot, humid environment.

Sixteen different unprinted digital papers were tested from the following groups: inkjet specialty-photo (both porous and polymer), inkjet fine-art, dye sublimation (printed without image to include overcoat), chromogenic (processed without image), and coated digital press. Several examples from each type were tested when possible. Additionally, 10 different printed digital photographs were tested...

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Terminology

Image Permanence vs. Image Preservation

Last issue we discussed the differences between the terms image permanence and print permanence. Now we look at why the terms image permanence and image preservation are not synonymous. The first describes a material while the second describes an action.

Image permanence is a function of the chemical and physical make-up of the print material and its sensitivity to environmental stress factors such as light, pollution, and extremes of humidity. For example, the long-term stability of a specific print product under normal-use display conditions can be predicted by performing an accelerated lightfastness test. We often see these predictions converted to years of life expectancy for display on the manufacturer's product literature and advertising.

Image preservation, on the other hand, is the strategies we employ to maximize the life of prints. It describes the actions we can take to ensure the print will survive and not how well the print performs after those measures are taken. Image permanence data has its greatest use in the marketplace where consumers select products to create their digital output in hardcopy form. Once the objects are created however, image permanence data becomes only one component in the development of overall strategies for long-term collection preservation. These strategies will include storage environment recommendations, housing material selection, and display and use policies.