



A GUIDE TO PERMANENCE

*A PRACTICAL GUIDE TO EXPLAIN THE RELEVANCE OF PERMANENCE
IN USING THE GALERIE SMOOTH GLOSS AND PEARL
WIDE FORMAT INKJET MEDIA*

ILFORD GALERIE is a world-class inkjet media range and is now established as a leader in the professional marketplace. As a flagship brand for ILFORD, it is important to provide information that is accurate and relevant to the marketplace.

Permanence has been a source of debate within the industry and many claims about how long a print will last have been made in the marketplace. On further investigation into the small print it is apparent that often the claims are made using conditions that are not realistic for the majority of the professional marketplace.

In light of the fact that there are currently no ISO standards relating to inkjet print life predictions, ILFORD felt that it is important to provide a level of information that photographers could relate to and is relevant to the type of work that is produced.

WHAT INFLUENCES PERMANENCE?

An inkjet image comprises of the media with a receiving layer that forms a platform for the ink. It is important to understand that both ink and media influence permanence.

There are a number of elements and conditions that can affect the life of an inkjet print that include:

- Light which is very important if the print is on display.
- Humidity and high temperature which can influence a print that is on display or in a photo album.
- Air pollutants, mainly ozone (O₃), are important if the print is displayed without a frame or laminate.

In order to establish the permanence of a print, an image is exposed to all of these elements under 'normal' conditions and 'image life' is then established when the first sign of visible degradation occurs.

Print life will vary according to the way a print is used. The three main uses are:

- prints on display without protection,
- prints on display with protection (laminate, frame)
- prints in an album



Original Image



after 5 years (unprotected)
in typical office conditions



after 20 years (unprotected)
in typical office conditions

WHY ARE ABSOLUTE CLAIMS DIFFICULT?

It is very important for a photographer to understand how long their printed work is going to last in the intended application (display, storage). As explained there are a number of factors which can influence the permanence of a printed image and in turn there are factors which can influence the way that the permanence claim is measured.

- As established it is both the ink and media that influence permanence and with a myriad of printer models on the market there are many different ink types. In order to make a claim, testing has to be done for each individual media/printer type.
- There are a number of internationally recognised establishments that offer a variety of different archival testing methods.
- The claim needs to consider the environmental conditions that the final print will be used or displayed.

WHAT METHODS DO ILFORD USE?

Since the 1980s ILFORD has been a member of the ISO Technical committee TC-42 Work Group 5 that is focussed on establishing permanence standards for the photographic industry and has contributed to the improvement of testing methods.

Before launching any new inkjet product, ILFORD rigorously tests the media with all the major printer models in the market and attention is paid to ozone, light, humidity and sensitivity to temperature. Due to the nature of the professional marketplace, we use a more stringent light fade test than other testing laboratories that focus more on consumer home applications.

It is not only the image permanence that is important for a photographer, but also the physical integrity of the print. So ILFORD also undertake a series of physical tests such as scratch, brittleness and delamination.

ILFORD use simulated daylight testing equipment which is known as an Atlas Ci-4000 weatherometer and an Hampden ozone chamber. The measurement is taken as soon as any visible degradation in either the neutral or colour medium density occurs.



HOW LONG WILL IMAGES LAST?

ILFORD media are manufactured using raw materials of the highest quality and purity that do not contribute to colour degradation and preserve the longevity of the inks.

Based on the rigorous testing methods outlined, the ILFORD research and development team have produced a reference guideline which photographers can apply to the type of work that is being produced and the type of ink that is being used.

All testing was done using daylight and all prints were un laminated, similar to conditions specified in other test labs. The test corresponds to prints on display without protection.

| PRINTER | Epson® 9600 | Epson® 7800 | Epson® 4800 | Canon® IPF 5000 | Canon® 8400 | HP® Z3100 |
|---|----------------|----------------|----------------|--------------------|----------------|--------------|
| Predicted Years | | | | | | |
| Average home 225 lux (for 12 hours) | 40 +/-10 | 40 +/-10 | 35 +/-10 | 50 +/-10 | 55 +/-10 | 50 +/-10 |
| Office 450 lux (for 12 hours) | 20 +/- 5 | 20 +/- 5 | 20 +/- 1 | 25 +/- 5 | 30 +/- 5 | 25 +/- 5 |
| Well-lit Lobby 2000 lux (for 12 hours) | 4 +/- 1 | 4 +/- 1 | 4 +/- 1 | 6 +/- 1 | 7 +/- 1 | 6 +/- 1 |
| Photo Album | 200+ | 200+ | 200+ | 200+ | 200+ | 200+ |

1. One Lux is equal to the illumination of a surface one metre away from a single candle.
2. Each print is lit for 12 hours per day under these lighting conditions.
3. Original Equipment Manufacturers ink is used in all testing.

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ILFORD is part of the Communications Paper Division of the OJI Paper Group.

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