Standards for surrogates

This document is not intended to offer an exhaustive description of quality standards. Instead it aims at listing the essential criteria that have to be kept in mind, when reformatting information from print or manuscript to other media for preservation. You will find useful links and selected titles for further reading at the end.

1. Production of microforms for preservation

Below you find a selection of international standards.

- **ISO 6199:1991 Micrographics**
  - Microfilming of documents on 16 mm and 35 mm silver-gelatin type microfilm
  - Operating procedures
- **ISO 18901:2002 Imaging materials**
  - Processed silver-gelatin type black-and-white films
  - Specifications for stability

There are no generally accepted international standards for colour microfilm. Ilfochrome (former Cibachrome) seems to be only type of colour microfilm with archival quality. See for the summary of a tests performed at the Image Permanence Institute, Rochester, New York, USA (TI 10 US/e - December 1989).

More on colour microfilm may be found in :

- **DIN 19058:1995-02 Farbmikrofilm**
  - Aufnahmetechnik, Herstellen von Original-Strichvorlagen und Halbton-Vorlagen, Bewertung.

2. Storage of microforms

Below you find information about how to store microforms.

2.1 International standards for storage

- **ISO 18911:2000 Photography**
  - Processed safety photographic films, Storage practices
- **ISO 18902:2001 Imaging materials**
  - Processed photographic films, plates and papers, Filing enclosures and storage containers

2.2 Boxing of microforms

Materials used for boxing of first generation microforms must be of archival quality. Boxes must be clearly marked and labelled.

2.3 Storage conditions

Different types of films (polyester-based, acetate-based) need to be stored in different repositories.

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For polyester-based microfilms storage temperature of 7 degrees Celsius (+/- 3 degrees Celsius, but keeping a constant temperature) and relative humidity of 25 to 40% are recommended. For acetate based films storage temperature is 3 to 5 degrees Celsius and humidity 33 to 38%.

For the storage of either type of film it is important that the temperature and humidity remain constant. Long-term preservation requires proper storage climate and periodic inspection.

It is essential to store the printed or manuscript original and the microform surrogate in separate areas. This will help to avoid loss or damage of both in one incident (fire, water, etc.).

3. Production of digital surrogates for preservation

As yet there are only few generally accepted international standards. The present situation is one of constant change in soft and hardware. In spite of this minimal requirements for producing digital surrogates for preservation can be listed. (See the DLF's benchmark.)

- **ISO 9706:1994 Information and documentation**
  - Requirements for permanence
- **ISO 16112 (= new 18926):draft Imaging materials**
  - Life expectancy of information stored on magneto-optical (MO) discs
  - Method for estimating, based on effects of temperature and relative humidity
- **ISO 18921: draft Imaging materials**
  - Life expectancy of information stored on compact discs (CD-ROM)
  - Method for estimating, based on effects of temperature and relative humidity
- **ISO 18927: draft Imaging materials**
  - Life expectancy of information stored on record-able compact disc systems
  - Method for estimating, based on effects of temperature and relative humidity

4. Storage of digital surrogates

As yet there are only few accepted international standards for storage of digital surrogates. Existing standards for storage of electronic data carriers shall be respected.

In view of present developments in electronic data carriers no universal criteria can be given for their storage. Avoiding harmful environments cannot in itself provide for long-term preservation. Instead periodic migration of files following changes in soft and hardware will be required (see 4.2.d).

- **ISO 18923:2000 Imaging materials Polyester-base magnetic tape**
  - Storage practices
- **ISO 18925:draft Imaging materials Optical disc media**
  - Storage practices

It is essential to store the printed or manuscript original and the digital surrogate in separate areas. This will help to avoid loss or damage of both in one incident (fire, water, etc.).

Useful links

Digital Library Federation: "Benchmark for Faithful Digital Reproductions of Monographs and Serials" 2001-2002 (http://purl.oclc.org/DLF/benchrepro0212)

ERPANET project on preservation of cultural heritage and scientific digital objects (http://www.erpanet.org/)

Image Permanence Institute (http://www.imagepermanenceinstitute.org/)

Safeguarding our documentary heritage / UNESCO (http://www.culture.fr/culture/conservation/dswmedia/en/index.html)

Sciences et patrimoine culturel : portail de la conservation-restauration des biens culturels / Ministère de la culture et de la communication (http://www.culture.gouv.fr/culture/conservation/fr/)

Nestor, the German competence network for digital preservation (http://www.langzeitarchivierung.de/eng/index.htm)

Empfehlungen zur Erfassung von layoutgetreuen Digitalisaten (http://www.eromm.org/_media/eromm_-_empfehlungen_zur_erfassung_von_layoutgetreuen_digitalisaten.pdf)

Einführung in die Digitalisierung von gedrucktem Kulturgut (http://www.iai.spk-berlin.de/fileadmin/dokumentenbibliothek/handbuch/Handbuch_Digitalisierung_IAI_IPK_Online_druck.pdf)

National institutes for standardization

Comité européen de normalisation (CEN), national members (http://www.cen.eu/CEN/MEMBERS/Pages/default.aspx)

American National Standards Institute (ANSI) (http://www.ansi.org/)

Selected titles for further reading

Protection et mise en valeur du patrimoine des bibliothèques : Recommandations techniques / Direction du livre et de la lecture, Paris 1998 (http://www.culture.gouv.fr/culture/conservation/fr/preventi/guide_dll.htm)

J. M. Reilly, IPI Storage Guide for Acetate Film, New York 1993

J. M. Reilly, Storage Guide for Color Photographic Materials, New York 1998

RLG Archives Microfilming Manual / Research Libraries Group, 1994

RLG Preservation Microfilming Handbook / Research Libraries Group, 1992