
**Imaging materials — Multiple media
archives — Storage environment**

*Matériaux pour l'image — Archives multimédia — Environnement de
stockage*



PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

This document is a preview generated by EVS

© ISO 2006

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword.....	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions.....	1
4 Recommendations.....	3
4.1 Temperature range.....	3
4.2 Temperature cycling.....	4
4.3 Relative humidity range	5
4.4 Relative humidity cycling.....	5
5 Selecting environmental conditions for mixed media archives	6
Annex A (informative) Numbering system for related International Standards.....	8
Annex B (informative) Stability of electrophotographic, dye sub, inkjet prints.....	10
Bibliography	11

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 18934 was prepared by Technical Committee ISO/TC 42, *Photography*.

This International Standard is one of a series of International Standards dealing with the physical properties and stability of imaging materials. To facilitate identification of these International Standards, they are assigned a number within the block from 18900 to 18999 (see Annex A).

Introduction

Over the years, technical committees ISO/TC 36 and ISO/TC 42 of the International Organization for Standardization have published ISO storage standards specific to individual materials. Many of these temperature/relative humidity recommendations are based on laboratory studies using Arrhenius type projections that allow extrapolation of high temperature incubation tests to recommended storage environments at reduced temperatures. This also allows a prediction of the life expectancy of materials. This approach and the resulting analysis are logical when each medium is considered by itself. The individual ISO storage standards are sound and the predicted life expectancies have been consistent with practical experience. However, the storage conditions can differ widely for various media and reflect differences in their inherent stability. The extended-term storage conditions recommended in the various standards provide wide humidity ranges and set only a maximum temperature limit with considerable overlap in allowed environmental conditions across several media types.

In the real world, archivists and curators frequently are faced with the task of storing many types of material, such as film, prints, tapes, etc. Archives often contain media that cannot be separated without destroying the integrity of the collection. In other archives, one collection can consist primarily of one medium, but there are many collections each with different media. In either situation, it may not be practical or realistic for the archivist to provide a number of different storage environments that are optimized for each material. The cost and inconvenience would be prohibitive; moreover, records of the same or similar subject matter are usually stored in close proximity to facilitate reference, not by the type of medium. The archivist of a multiple media collection may be forced to limit the number of storage environments that can be provided. In some cases, this means some deviation from the ISO storage recommendations and can compromise the life expectancies specified in the standards. This compromise can be based on the value, physical size, quantity, or legal requirements to maximize life expectancy of some collections relative to others.

This International Standard provides an assessment of the keeping qualities for four storage environments. As such, it is most useful for storage facilities which house different types of materials, but does not override the ISO recommendations for single medium collections.

This International Standard does not discuss the various strategies to upgrade substandard environments that deviate from those recommended by ISO standards. However, institutions with substandard environments and restricted budgets should plan for the improvement of these environments as resources allow by judicious use of air conditioning, dehumidifiers (or humidifiers), air circulation and filtration. Although practicalities can force compromises, any improvement of poor conditions will add to the longevity of materials, even if they do not attain the life expectancies possible with the environments recommended in the ISO standards. A discussion of basic air conditioning principles, the various options and the associated costs are outside the scope of this International Standard. There are many references on this subject.

This document is a preview generated by EVS

Imaging materials — Multiple media archives — Storage environment

1 Scope

This International Standard provides suggested guidelines for four temperature and humidity macroenvironments for archives that contain a variety of recording media, based on the corresponding ISO storage standards for those media. Whenever possible, it is advisable to follow the storage environments in the ISO storage standards. This International Standard does not replace these ISO storage standards. In addition to environment recommendations, those standards also include other vital information pertinent for the long-term keeping of recording materials, such as inspection, housing, and handling guidelines. Although microenvironments within a storage enclosure can be dependent upon the macroenvironment, they are not the focus of this International Standard.

The storage of traditional paper collections is not within the scope of this International Standard. However, many archives containing mixed recording media also include such collections. Archivists are encouraged to review the appropriate standards (see References [1] and [2] in the Bibliography) for those materials. Nitrate-base photographic films are also included in this International Standard, since they are often stored together with other materials in spite of the fact that nitrate films represent a fire hazard and they need to be stored in accordance with the National Fire Protection Association standard^[3] in the United States, or other applicable national standards. Moreover, fumes from decomposing nitrate film and acetate-base film can have very detrimental effects on other materials stored in the same area.^[11] It is necessary to isolate such films in a separate storage area.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 10356, *Cinematography — Storage and handling of nitrate-base motion-picture films*

ISO 18911, *Imaging materials — Processed safety photographic films — Storage practices*

ISO 18918, *Imaging materials — Processed photographic plates — Storage practices*

ISO 18920, *Imaging materials — Processed photographic reflection prints — Storage practices*

ISO 18923, *Imaging materials — Polyester-base magnetic tape — Storage practices*

ISO 18925, *Imaging materials — Optical disc media — Storage practices*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

conditioning

exposure of a specimen to air at a given relative humidity and temperature until equilibrium is reached