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Imaging materials — Reflection prints — Storage practices

*Matériaux pour l'image — Tirages par réflexion — Directives pour
l'archivage*



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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 18920 was prepared by Technical Committee ISO/TC 42, *Photography*.

This second edition cancels and replaces the first edition (ISO 18920:2000), which has been technically revised.

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Introduction

This International Standard is one of a series of standards dealing with the physical properties and stability of imaging materials.

Photographic and other reflection prints, including hard-copy output from digital imaging systems, have become increasingly important as documentary and pictorial reference material and art for consumers, as well as in archives, libraries, government, commerce, museums and academia. This has focused attention on the importance of preserving such materials to ensure their longest possible life.

The stability and useful life of reflection prints (hereafter referred to as prints) depend on their physical and chemical properties, as well as on the conditions under which they are stored and used. This International Standard provides recommendations on proper storage conditions and practices.

The important elements affecting the useful life of prints during storage are as follows:

- a) relative humidity and temperature of the storage environment;
- b) hazards of fire, water and light exposure;
- c) fungal growth and other micro-organisms;
- d) contact with certain chemicals in solid, liquid or gaseous form;
- e) physical damage;
- f) proper processing;
- g) enclosures and containers in contact with the print material.

The extent to which the relative humidity and temperature of the storage environment, or variations of both, can be permitted to reach beyond recommended limits without producing adverse effects will depend upon the duration of exposure, biological conditions conducive to fungal growth and the accessibility of the atmosphere to the print surfaces.

The term "archival" is no longer used to express longevity or stability in International Standards on imaging materials since it has been interpreted to have many meanings, ranging from preserving documents "forever", which is unattainable, to temporary storage of actively used materials.

This International Standard defines two levels of recommended storage conditions: medium term and extended term. Medium-term storage conditions can be used to preserve information for a minimum of 10 years. Extended-term storage conditions can be used when it is desired to preserve information for as long as possible; these conditions will prolong the life of all prints, even those not optimized for permanence.

The space requirements and costs for establishing and operating the two levels of storage conditions (medium term and extended term) differ significantly. Furthermore, the ability to maintain specified limits of temperature and relative humidity for both sets of storage conditions can be limited due to budgetary constraints, energy considerations, climatic conditions, building construction, etc. However, any deviation from the specified conditions will reduce the effectiveness of the storage environment. If such deviation is unavoidable, it is advisable to select the lowest possible storage temperature that can be maintained. In any event, the best preservation of prints will be attained with extended-term storage conditions.

This International Standard does not address the various strategies to upgrade substandard environments. However, institutions with substandard environments and restricted budgets can 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 might force compromises, any improvement in poor conditions will add to the longevity of materials, even if they do not attain the life expectancies possible with the environments recommended in this International Standard. The subject of basic air conditioning principles, the various options and associated costs are outside the scope of this International Standard. There are many references on this subject.

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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 for those materials specified in ISO 11799 and in the International Standards listed in Clause 2.

The recommendations of this International Standard for the storage of prints encompass the following:

- storage enclosures, housing and rooms;
- atmospheric and environmental conditions;
- fire protection;
- handling and inspection procedures.

With the exception of fire and associated hazards that are sufficiently common to warrant inclusion of protective measures, this International Standard does not pertain to means or methods for protecting photographic reflection prints against natural or man-made catastrophes.

It is understood that the archivist of a multiple media collection might be forced to limit the number of storage environments that can be provided. This compromise might be based on the value, physical size, quantity or legal requirements to maximize life expectancy of some collections relative to others. The issues of mixed media archives and recommendations for their storage are addressed in ISO 18934.