International Standard

ISO 18928

Imaging materials — Unprocessed photographic films and papers — Storage practices

Matériaux pour l'image — Films et papiers photographiques non traités — Pratiques de stockage

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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

This fourth edition cancels and replaces the third edition (ISO 18928:2013) which has been technically revised.

The main changes are as follows:

— typographical errors corrected in Annex A;

— specific reference made to silver halide products to distinguish these from other imaging materials.

— updates to references and storage conditions to reflect contemporary sensitised products. Specifically, the short-term storage condition has been revised down from 21 °C to the recommendations on current Black and White films. A note has been added on the long-term benefits of storage in a refrigerator.

A list of all parts in the ISO 18900 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

International Standards have been written specifying the recommended practices for the storage of the following chemically processed silver halide products:

— safety photographic film (see ISO 18911);

— reflection prints (see ISO 18920);

— photographic plates (see ISO 18918).

This document is concerned with the storage of unprocessed silver halide photographic materials. While many of the recommendations for unprocessed and processed storage are very similar, there are some important differences. These include the very beneficial effects of low temperature and the harmful effects of adverse storage and radiation. ISO guidance is that each document should explicitly consider the relevant stakeholders. The stakeholders identified in this project are

— photofinishing labs, wholesalers, retailers and others in the silver halide material supply chain, and

— end users of silver halide materials such as professional and amateur photographers.

The ISO commitment to the consideration of climate science is embodied in the London Declaration. In line with this, some guidance is given on the effect of high temperature events on storage conditions.

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Imaging materials — Unprocessed photographic films and papers — Storage practices

1 Scope

This document specifies recommended storage conditions for unprocessed silver halide containing photographic materials. It is not applicable to processed films and prints.

This document applies to black-and-white and colour photographic materials (e.g. negative films, positive films, reversal films, positive papers and X-ray films).

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Storage conditions

4.1 General

The photographic properties of imaging materials change during ageing. These changes result from high temperatures and high relative humidity and may also be influenced by plastics, papers, solvents, lacquers, varnishes, gases (see 4.4) and extraneous radiation (see 4.5). Frequent temperature changes may also have adverse effects.

Changes caused by unfavourable storage conditions may be much greater than those due to variations in original manufacture. It is important to comply with the manufacturer's recommended storage conditions and, where given, to an expiration date.

Films and papers should be exposed and processed as soon as possible after the original package has been opened. Opened packages should be resealed under recommended conditions for further storage.

Films and papers are not usually stored for long periods between exposing and processing. Production schedules, customer needs, latent image fading or growth, etc., are important factors here. If silver halide containing sheet films or papers are not to be processed immediately, they may be stored in commercially available light-tight “paper safes” or in the manufacturer's original container.

4.2 Relative humidity

Photographic material should generally be kept in equilibrium with 40 % to 60 % relative humidity (RH). Containers shall be kept sealed until the material is used.

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