

Imaging materials — Ammonia-processed diaz photographic film — Specifications for stability

ICS 37.040.20

National foreword

This British Standard reproduces verbatim ISO 18905:2002 and implements it as the UK national standard. It supersedes BS ISO 8225:1995 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee CPW/42, Photography, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international publications referred to in this document may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Imaging materials — Ammonia-processed diaz photographic film — Specifications for stability

*Matériaux pour l'image — Film photographique diazoïque traité à
l'ammoniac — Spécifications relatives à la stabilité*



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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 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 18905 was prepared by Technical Committee ISO/TC 42, *Photography*.

ISO 18905 cancels and replaces ISO 8225:1995, of which it constitutes a technical revision.

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 - 18999 (see annex A).

Annexes A to D of this International Standard are for information only.

Introduction

Since 1930, great advances have been made in the use of photographic films for the preservation of records. The preservation of records on film by national, state and municipal governments, by banks, insurance companies, industry and other enterprises has been stimulated by recognition of the resultant economies in storage space, organization, accessibility and ease of reproduction. The safe-keeping of pictorial film records having legal, scientific, industrial, medical, historical, military or other values has also become increasingly important.

The use of film for records having long-term values necessitated the development of International Standards to specify the characteristics of film suitable for this purpose. ISO 18901 specifies the requirements for silver-gelatin films which are suitable for storage. This International Standard (for diazo film) and ISO 18912 (for vesicular film) give the requirements for photographic duplicate films suitable for storage.

The term “archival film” has been discontinued and the new concept of “life expectancy” is introduced. Film life is classified by the LE or life expectancy rating as defined in this International Standard. For example, LE-100 represents film with a life expectancy of 100 years when stored at 21 °C and 50 % RH.

Criteria for properties of LE-10 and LE-100 diazo films are based upon the dark-ageing stability of diazo images. Different dark-incubation tests are specified for LE-10 and LE-100 films. All other properties and processing requirements for medium and long-term diazo films are identical.

It is recognized that diazo images may show density changes after exposure to light. However, this International Standard covers only films used as storage copies, not as work copies (as defined in annex B). The light-fading requirements specified in this International Standard ensure satisfactory behaviour for storage copies that are not intended to be subjected to frequent light exposure.

In addition to the characterization of films with respect to their expected storage life, diazo films are also separated into two classes (A and B) which are dependent upon their intended use. Class A films are those which retain density in both the visual and actinic region (printing) after storage. Such films can be viewed directly or reprinted onto ultraviolet (UV)-sensitive materials. However, some diazo films are not intended to be reprinted onto UV-sensitive materials and require only visual capabilities after storage. Such films are designated as Class B films. Obviously, both Class A and Class B films can fall into the LE-10 and LE-100 categories. The requirements for Class A and Class B films are identical, with the exception of image-stability tests after dark-ageing and after light-fading.

Everyone concerned with the preservation of records on photographic film should realize that specifying the chemical and physical characteristics of the material does not, by itself, assure satisfactory behaviour. It is also essential to provide the correct storage temperature and humidity, as well as protection from the hazards of fire, water, light and certain atmospheric pollutants. Conditions for the storage of record films are specified in ISO 18902 and ISO 18911.

Imaging materials — Ammonia-processed diazo photographic film — Specifications for stability

1 Scope

This International Standard establishes specifications for the stability of polyester-base safety film which has an ammonia-processed diazo photographic image. It is applicable only to diazo photographic films intended for and used as LE-10 and LE-100 storage copies, which shall be stored in accordance with ISO 18902 and ISO 18911.

This document characterizes only the inherent keeping behaviour of the film. However, the suitability of a film record after extended storage depends on both the inherent ageing characteristics of the film and the original image quality. The latter is discussed in annex C.

This International Standard is applicable to photographic film in which the image layer is a discrete layer attached to a transparent support, and it applies to roll film and sheet film.

This International Standard is not applicable to diazo film records intended and used as “work” or “use” copies as discussed in annex B.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 5-2:2001, *Photography — Density measurements — Part 2: Geometric conditions for transmission density*

ISO 5-3:1995, *Photography — Density measurements — Part 3: Spectral conditions*

ISO 527-3:1995, *Plastics — Determination of tensile properties — Part 3: Test conditions for films and sheets*

ISO 18902:2001, *Imaging materials — Processed photographic films, plates and papers — Filing enclosures and storage containers*

ISO 18906:2000, *Imaging materials — Photographic films — Specifications for safety film*

ISO 18907:2000, *Imaging materials — Photographic films and papers — Wedge test for brittleness*

ISO 18911:2000, *Imaging materials — Processed safety photographic films — Storage practices*

3 Terms and definitions

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