INTERNATIONAL STANDARD

ISO 18913

First edition
2003-05-15

Imaging materials — Permanence — Vocabulary

Matériaux pour image — Permanence — Vocabulaire

Reference number
ISO 18913:2003(E)

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

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 18913 was prepared by Technical Committee ISO/TC 42, *Photography*.

Introduction

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

In order to facilitate identification of these International Standards, they are to be assigned new numbers within the block from 18900 to 18999 (see Annex A).

Imaging materials — Permanence — Vocabulary

1 Scope

This International Standard establishes a vocabulary of terms and definitions used in respect of the permanence of imaging materials and in standards related to permanence. These terms and definitions are generic and are applicable to the entire imaging industry. For terms and definitions specific to particular applications, refer to industry standards.

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

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

ISO 14644-1, *Cleanrooms and associated controlled environments — Part 1: Classification of air cleanliness*

3 Terms and definitions

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

3.1
accuracy
closeness of the agreement between the result of a measurement and a true value of the measurement

NOTE 1 Accuracy is a qualitative concept.

NOTE 2 The term **precision** (3.85) should not be used for accuracy.

3.2
album
binder or book structure having front and back covers (usually opaque and rigid) in which pages are bound along one edge either by plastic straps, gluing, sewing, metal posts or rings

3.3
anti-blocking agent
component of a material that provides microscopic bumps on the surface in order to lower contact area, reduce the coefficient of friction, and minimize ferrotyping and the occurrence of **Newton's rings** (3.74)

EXAMPLE Talc, silicates or matte beads.

3.4
aperture
window
opening in the **flange** (3.42) that is used to facilitate threading of magnetic tape on the **hub** (3.50) and inspection of the **wind** (3.114)

3.5
aperture card
card of standard dimensions with one or more openings into which a microfilm frame or frames can be mounted or inserted

3.6
. . . . .
archival medium (deprecated)
recording material that can be expected to retain **information** (3.56) forever, so that such information can be retrieved without significant loss when properly stored

NOTE However, as no such material exists, this is a deprecated term and as such is not to be used in International Standards or system specifications.

3.7
Arrhenius plot
plot of the logarithm of the time for a given change in a characteristic proportional to the reaction rate (dye loss, tensile strength change, D_{min} yellowing, etc.) versus the reciprocal of the temperature expressed in kelvins

NOTE The Arrhenius plot can be used to predict behaviour at a temperature lower than that at which a test is run.

3.8
base
support in a recording material on which the emulsion layers or magnetic layer (and, if necessary, the back layer) are coated

3.8.1
cellulose-acetate base
base for recording materials composed mainly of cellulose esters of acetic acid

3.8.2
cellulose-ester base
base for recording materials composed mainly of cellulose esters of acetic, propionic, or butyric acid, or mixtures thereof

3.8.3
polyester base
base for recording materials composed mainly of a polymer of ethylene glycol and terephthalic acid (also referred to as polyethylene terephthalate) or a polymer of ethylene glycol and 2,6-naphthalene-dicarboxylic acid (also referred to as polyethylene naphthalate)

3.8.4
poly(ethylene terephthalate) base
polyester base for recording materials composed mainly of a polymer of ethylene glycol and terephthalic acid

3.9
blister
localized delamination that resembles a bubble

3.10
blocking
sticking together of similar or dissimilar materials in physical contact

cf. **anti-blocking agent** (3.3)

3.11
brittleness
property of a material that causes it to crack or break when bent or flexed

3.12
can
metal or plastic **container** (3.20) for a roll of recording material, such as **photographic film** (3.79) or magnetic tape

3.13
carrier
medium upon which **information** (3.56) is recorded

cf. **medium** (3.68)

3.14
carton
box
outer **container** (3.20) that can hold one or more individual units and which may be a fabrication of paper, card stock or plastic

3.15
cartridge
housing for a roll of recording material, such as **photographic film** (3.79) or magnetic tape, wound on a single **hub** (3.50) or **reel** (3.89)

cf. **cassette** (3.16)

3.16
cassette
housing for a roll of recording material, such as **photographic film** (3.79) or magnetic tape, whose ends are attached to two **hub**(s) (3.50) or **reel**(s) (3.89)

cf. **cartridge** (3.15)

3.17
class 100 000 clean room
controlled environment in which the level of airborne contaminates meets the requirements of ISO 14644-1

3.18
compact disc
CD
optical disc (3.76) format in which the **information** (3.56) layer is located at one surface of a substrate and the data can be read by an optical beam

NOTE Described in IEC 60908.

3.18.1
CD-ROM
read-only-medium compact disc
optical disc (3.76) to which **information** (3.76) is transferred during manufacture to certain areas in the compact disc format and can be read many times

NOTE Described in ISO/IEC 10149.

3.18.2
CD-R
recordable compact disc
recordable **optical disc** (3.76) in which **information** (3.56) can be recorded (once) to certain areas in the compact disc format and read many times

3.18.3
CD-RW
rewritable compact disc
recordable **optical disc** (3.76) in which **information** (3.56) can be recorded to certain areas in the compact disc format, erased and rerecorded many times, and read many times

3.19
conditioning
exposure of a specimen to air at a given **relative humidity** (3.52.2) and temperature until equilibrium is reached

3.20
container
box, can or carton used for storage and shipping of recording materials

EXAMPLE The box into which a **reel** (3.89), **cassette** (3.16), **cartridge** (3.15) or **shell** (3.93) is placed.

NOTE Reels, cassettes, cartridges or shells are not containers.

3.20.1
insulated record container
storage box designed to withstand elevated temperatures and conforming to national standards and regulations

3.21
copy
reproduction of the **information** (3.56) from a master

3.22
core
metal or plastic cylinder on which recording material is wound

cf. **hub** (3.50)

3.23
cupping
departure of film or paper from physical flatness characterized by the condition where the four corners of a rectangular sheet turn up, but the edges do not

3.24
curl
departure of film, paper or magnetic tape from physical flatness with the tendency to curve into a cylindrical shape

3.25
delamination
separation of a laminate into its constituent layers

3.26
optical density
density
degree of light absorption, reflection or scattering characteristics of a photographic image, expressed as the logarithm to the base 10 of the ratio of incident radiant flux to the transmitted, reflected or scattered flux

3.26.1
printing density
optical density of a processed photographic image in which the incident radiant flux has the same spectral energy distribution as the printer light source and the transmitted density is evaluated by a receiver having the same spectral response as the print material

3.26.2
projection density
optical density of a processed photographic image in which the angular distributions of the incident and transmitted radiant flux are equal and specified

3.26.3
visual density
optical density of a processed photographic image in which the incident radiant flux has a spectral energy distribution as defined in ISO 5-3 and the transmitted or reflected radiant flux is evaluated by the human eye or by a receiver having the same spectral response as the human eye

3.27
dew point
temperature at which moisture begins to condense on a surface, corresponding to saturation for a given **absolute humidity** (3.52.1)

EXAMPLE The more humid the air, the higher the dew-point temperature.

See, also, **relative humidity** (3.52.2).

3.28
differential dimensional change
difference between the dimensional changes of the material in the two principal directions (length and width)

NOTE Polyester-based films frequently have maximum and minimum dimensional changes in directions other than the length or width. These can be determined by rotating and viewing the uncoated base between a pair of crossed polarizers. When the direction corresponding to either the maximum or minimum dimensional change is coincident with the optical axis of one polarizer, there is minimum light transmission through the base.

3.29
digital versatile disc
DVD
optical disc (3.76) format in which one or more **information** (3.56) layers are located between two substrates and the data can be read by an optical beam

NOTE Formerly called digital video disc.

3.30
dimensional change
⟨processing alone⟩ permanent dimensional change caused by photographic processing

NOTE This can be the conventional wet chemical processing, vapour processing or heat processing. The dimensional change is measured after conditioning at the same **relative humidity** (3.52.2) and temperature as used for the original measurement and is expressed as a percentage.

3.31
dimensional change
⟨processing and ageing together⟩ permanent dimensional change that occurs as a result of processing plus ageing of the processed material

NOTE It is measured after conditioning of the processed, aged film or paper at the same **relative humidity** (3.52.2) and temperature as used for the original measurement and is expressed as a percentage.

3.32
dimensional hysteresis
difference in the absolute dimensions of a specimen in equilibrium with air at a given **relative humidity** (3.52.2), when conditioned from a higher relative humidity and when conditioned from a lower relative humidity