BS ISO 18924:2013

BSI Standards Publication

Imaging materials — Test method for Arrhenius-type predictions

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National foreword

This British Standard is the UK implementation of ISO 18924:2013. It supersedes BS ISO 18924:2000, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee CPW/42, Photography.

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

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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Compliance with a British Standard cannot confer immunity from legal obligations.

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INTERNATIONAL STANDARD

ISO 18924

Second edition
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Imaging materials — Test method for Arrhenius-type predictions

Matériaux d'image — Méthode d'essai pour les prédictions de type Arrhenius

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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 18924 was prepared by Technical Committee ISO/TC 42, *Photography*.

This second edition cancels and replaces the first edition (ISO 18924:2000), of which it constitutes a minor revision with the following changes:

— Clause 2 has been removed;

— Annex A has been removed.

Imaging materials — Test method for Arrhenius-type predictions

1 Scope

This International Standard specifies a test method for the prediction of certain physical or chemical property changes of imaging materials.

This International Standard is applicable to the Arrhenius test portion of ISO 18901, ISO 18905, ISO 18909, ISO 18912, and ISO 18919.

This International Standard is applicable to the prediction of the optical-density (D) loss or gain of imaging materials. Photographic dye images may be produced by chromogenic processing, by formation of diazo dyes, or by non-chromogenic methods such as dye diffusion and silver dye-bleaching processing. This International Standard also covers density changes caused by

— residual coupler changes in dye images,

— excess residual processing chemicals in silver black-and-white materials,

— temperature effects on thermally processed silver images.

This International Standard is applicable to the prediction of support degradation. One such example is the generation of acetic acid by degradation of cellulose acetate film support. Another example is the change in tensile energy absorption of black-and-white paper support.

2 Terms and definitions

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

2.1
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, in kelvins

Note 1 to entry: The Arrhenius plot may be used to predict behaviour at a temperature lower than those at which the tests are run.

2.2
glass transition
reversible change in an amorphous polymer from, or to, a viscous or rubbery condition to, or from, a hard and relatively brittle one

2.3
glass transition temperature
T_g
approximate mid-point of the temperature range over which glass transition takes place

Note 1 to entry: T_g can be determined readily only by observing the temperature at which a significant change takes place in a specific electrical, mechanical, or other physical property.[1]

Note 2 to entry: T_g can also be sensitive to the moisture content of the polymer (see 4.4, Annex A, and B.3 of Annex B for information).

Note 3 to entry: For imaging materials containing gelatin, T_g is very humidity dependent.