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BS EN ISO 4892-2:2013



BSI Standards Publication

Plastics — Methods of exposure to laboratory light sources

Part 2: Xenon-arc lamps (ISO 4892-2:2013)

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This British Standard is the UK implementation of EN ISO 4892-2:2013. It supersedes BS EN ISO 4892-2:2006+A1:2009 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PRI/21, Testing of plastics.

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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English Version

Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon-arc lamps (ISO 4892-2:2013)

Plastiques - Méthodes d'exposition à des sources
lumineuses de laboratoire - Partie 2: lampes à arc au
xénon (ISO 4892-2:2013)

Kunststoffe - Künstliches Bestrahlen oder Bewittern in
Geräten - Teil 2: Xenonbogenlampen (ISO 4892-2:2013)

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CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Foreword

This document (EN ISO 4892-2:2013) has been prepared by Technical Committee ISO/TC 61 "Plastics" in collaboration with Technical Committee CEN/TC 249 "Plastics" the secretariat of which is held by NBN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2013, and conflicting national standards shall be withdrawn at the latest by September 2013.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 4892-2:2006.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 4892-2:2013 has been approved by CEN as EN ISO 4892-2:2013 without any modification.

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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 4892-2 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 6, *Ageing, chemical and environmental resistance*.

This third edition cancels and replaces the second edition (ISO 4892-2:2006), which has been technically revised. It also cancels and replaces the Amendment ISO 4892-2:2006/Amd.1:2009.

ISO 4892 consists of the following parts, under the general title *Plastics — Methods of exposure to laboratory light sources*:

- *Part 1: General guidance*
- *Part 2: Xenon-arc lamps*
- *Part 3: Fluorescent UV lamps*
- *Part 4: Open-flame carbon-arc lamps*

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Plastics — Methods of exposure to laboratory light sources —

Part 2: Xenon-arc lamps

1 Scope

This part of ISO 4892 specifies methods for exposing specimens to xenon-arc light in the presence of moisture to reproduce the weathering effects (temperature, humidity and/or wetting) that occur when materials are exposed in actual end-use environments to daylight or to daylight filtered through window glass.

Specimen preparation and evaluation of the results are covered in other International Standards for specific materials.

General guidance is given in ISO 4892-1.

NOTE Xenon-arc exposures of paints and varnishes are described in ISO 11341.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 4582, *Plastics — Determination of changes in colour and variations in properties after exposure to daylight under glass, natural weathering or laboratory light sources*

ISO 4892-1, *Plastics — Methods of exposure to laboratory light sources — Part 1: General guidance*

ISO 9370, *Plastics — Instrumental determination of radiant exposure in weathering tests — General guidance and basic test method*

3 Principle

3.1 A xenon arc, fitted with filters, is used to simulate the relative spectral irradiance of daylight in the ultraviolet (UV) and visible regions of the spectrum.

3.2 Specimens are exposed to various levels of light, heat, relative humidity and water (see [3.4](#)) under controlled environmental conditions.

3.3 The exposure conditions are varied by selection of

- a) the light filter(s);
- b) the irradiance level;
- c) the temperature during exposure to light;
- d) the relative humidity in the chamber during light and dark exposures, when exposure conditions requiring control of humidity are used;
- e) the way the test specimens are wetted (see [3.4](#));