



# SLOVENSKI STANDARD SIST EN ISO 11341:2005

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Paints and varnishes - Artificial weathering and exposure to artificial radiation - Exposure to filtered xenon-arc radiation (ISO 11341:2004)

Beschichtungsstoffe - Künstliches Bewittern und künstliches Bestrahlen - Beanspruchung durch gefilterte Xenonbogenstrahlung (ISO 11341:2004)

Peintures et vernis - Vieillissement artificiel et exposition au rayonnement artificiel - Exposition au rayonnement filtré d'une lampe à arc au xénon (ISO 11341:2004)

Ta slovenski standard je istoveten z: EN ISO 11341:2004

**ICS:**

87.040 Barve in laki Paints and varnishes

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

EN ISO 11341

September 2004

ICS 87.040

Supersedes EN ISO 11341:1997

English version

Paints and varnishes - Artificial weathering and exposure to  
artificial radiation - Exposure to filtered xenon-arc radiation (ISO  
11341:2004)

Peintures et vernis - Vieillissement artificiel et exposition au  
rayonnement artificiel - Exposition au rayonnement filtré  
d'une lampe à arc au xénon (ISO 11341:2004)

This European Standard was approved by CEN on 16 August 2004.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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**EN ISO 11341:2004 (E)****Foreword**

This document (EN ISO 11341:2004) has been prepared by Technical Committee ISO/TC 35 "Paints and varnishes" in collaboration with Technical Committee CEN/TC 139 "Paints and varnishes", the secretariat of which is held by DIN.

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 March 2005, and conflicting national standards shall be withdrawn at the latest by March 2005.

This document supersedes EN ISO 11341:1997.

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

**Endorsement notice**

The text of ISO 11341:2004 has been approved by CEN as EN ISO 11341:2004 without any modifications.

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# INTERNATIONAL STANDARD

# ISO 11341

Second edition  
2004-09-01

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## Paints and varnishes — Artificial weathering and exposure to artificial radiation — Exposure to filtered xenon-arc radiation

*Peintures et vernis — Vieillissement artificiel et exposition au  
rayonnement artificiel — Exposition au rayonnement filtré d'une lampe  
à arc au xénon*

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## ISO 11341:2004(E)

## 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 11341 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*.

This second edition cancels and replaces the first edition (ISO 11341:1994), which has been revised both technically and editorially. It also replaces (standards.iteh.ai) ISO 2809:1976.

The main technical changes compared to ISO 11341:1994 are:

- a) Tables 1 and 2: The spectral irradiance distribution tables have been recalculated from the previous wavelength range of 300 nm to 800 nm to a wavelength range of 300 nm to 400 nm. New tolerances have been introduced based on spectral irradiance measurements made with typical xenon-arc instruments. In Table 2, the central values have been corrected using Table B.1 and B.2.
- b) Subclause 6.2: The required irradiance values have been recalculated from the previous wavelength range of 300 nm to 800 nm to a wavelength range of 300 nm to 400 nm. Additionally, narrow-band spectral irradiance values at 320 nm and 420 nm have been included.
- c) Subclause 6.2: An option for using high irradiance levels (up to about three times that of the sun) has been included.
- d) Subclauses 6.6 and 9.2: Both black-standard and black-panel thermometers are now included.
- e) Subclause 9.3: The test-chamber air temperature is now specified.
- f) Table 3: The values of the relative humidity in cycles A and B have been harmonized with those in cycles C and D.
- g) Clause 9.5: An additional wetting/drying cycle has been included for special applications.

## Introduction

Coatings of paints, varnishes and similar materials (subsequently referred to simply as coatings) are exposed to artificial weathering, or to artificial radiation, in order to simulate in the laboratory the ageing processes which occur during natural weathering or during exposure tests under glass cover.

In contrast to natural weathering, artificial weathering involves a limited number of variables which can be controlled more readily and which can be intensified to produce accelerated ageing.

The ageing processes which occur during artificial and natural weathering cannot be expected to correlate with each other because of the large number of factors which influence these processes. Definite relationships can only be expected if the important parameters (distribution of the irradiance over the photochemically relevant part of the spectrum, temperature of the specimen, type of wetting and wetting cycle, and relative humidity) are the same in each case or if their effect on the coatings is known.

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# Paints and varnishes — Artificial weathering and exposure to artificial radiation — Exposure to filtered xenon-arc radiation

## 1 Scope

This International Standard specifies a procedure for exposing paint coatings to artificial weathering in xenon-arc lamp apparatus, including the action of liquid water and water vapour. The effects of this weathering are evaluated separately by comparative determination of selected parameters before, during and after weathering.

The standard describes the most important parameters and specifies the conditions to be used in the exposure apparatus.

## 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 1513, *Paints and varnishes — Examination and preparation of samples for testing*

ISO 1514, *Paints and varnishes — Standard panels for testing*

ISO 2808, *Paints and varnishes — Determination of film thickness*

ISO 3270, *Paints and varnishes and their raw materials — Temperatures and humidities for conditioning and testing*

ISO 15528, *Paints, varnishes and raw materials for paints and varnishes — Sampling*

CIE Publication No. 85:1989, *Solar spectral irradiance*

## 3 Terms and definitions

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

### 3.1

#### ageing behaviour

change in the properties of a coating during weathering or exposure to radiation

**NOTE** One measure of ageing is the radiant exposure  $H$  in the wavelength range below 400 nm or at a specified wavelength, e.g. 340 nm. The ageing behaviour of coatings exposed to artificial weathering, or to artificial radiation, depends on the type of coating, the conditions of exposure of the coating, the property selected for monitoring the progress of the ageing process and the degree of change of this property.