



SLOVENSKI STANDARD
SIST EN 60068-2-5:2001
01-september-2001

Environmental testing - Part 2: Tests - Test Sa: Simulated solar radiation at ground level

Environmental testing -- Part 2: Tests - Test Sa: Simulated solar radiation at ground level

Umweltprüfungen -- Teil 2: Prüfungen - Prüfung Sa: Nachgebildete Sonnenbestrahlung auf der Erdoberfläche

iTeh STANDARD PREVIEW

Essais d'environnement -- Partie 2: Essais - Essai Sa: Rayonnement solaire artificiel au niveau du sol

[SIST EN 60068-2-5:2001](https://standards.iteh.ai/catalog/standards/sist/ab8cc106-bd1bc-490f81fc-105a2591e65b/sist-en-60068-2-5-2001)

Ta slovenski standard je istoveten z: EN 60068-2-5:1999

ICS:

19.040	Preskušanje v zvezi z okoljem	Environmental testing
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SIST EN 60068-2-5:2001	en
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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60068-2-5

November 1999

ICS 19.040

Supersedes HD 323.2.5 S1:1988

English version

Environmental testing
Part 2: Tests - Test Sa: Simulated solar radiation at ground level
(IEC 60068-2-5:1975)

Essais d'environnement
Partie 2: Essais
Essai Sa: Rayonnement solaire
artificiel au niveau du sol
(CEI 60068-2-5:1975)

Umweltprüfungen
Teil 2: Prüfungen
Prüfung Sa: Nachgebildete
Sonnenbestrahlung auf der
Erdoberfläche
(IEC 60068-2-5:1975)

<https://standards.iteh.ai/catalog/standards/sist/ab8cc106-bdbc-490f81fc-103a2591e65b/sist-en-60068-2-5-2001>

This European Standard was approved by CENELEC on 1999-10-01. CENELEC 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 CENELEC 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 CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of the International Standard IEC 60068-2-5:1975, prepared by IEC TC 50 (transformed into IEC TC 104 "Environmental conditions, classification and methods of test), was approved by CENELEC as HD 323.2.5 S1 on 1976-03-09.

This Harmonization Document was submitted to the formal vote for conversion into a European Standard and was approved by CENELEC as EN 60068-2-5 on 1999-10-01.

The following date was fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2000-10-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60068-2-5:1975 was approved by CENELEC as a European Standard without any modification.

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Annex ZA (normative)

**Normative references to international publications
with their corresponding European publications**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE: When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-1		Environmental testing Part 1: General and guidance	EN 60068-1	
IEC 60068-2-9		Part 2: Tests - Guidance for solar radiation testing	EN 60068-2-9	

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(affiliée à l'Organisation Internationale de Normalisation — ISO)

NORME DE LA CEI

INTERNATIONAL ELECTROTECHNICAL COMMISSION

(affiliated to the International Organization for Standardization — ISO)

IEC STANDARD

Publication 68-2-5

Première édition — First edition

1975

**SLOVENSKA
NACIONALNA
STANDARDOTEKA**

Essais fondamentaux climatiques et de robustesse mécanique

Deuxième partie: Essais

Essai Sa: Rayonnement solaire artificiel au niveau du sol

(standards.iteh.ai)

Basic environmental testing procedures

Part 2: Tests

Test Sa: Simulated solar radiation at ground level



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

BASIC ENVIRONMENTAL TESTING PROCEDURES

Part 2: Tests – Test Sa: Simulated solar radiation at ground level

FOREWORD

- 1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
- 3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

PREFACE

This publication has been prepared by IEC Technical Committee No. 50, Environmental Testing.

A first draft was discussed at the meeting held in Leningrad in 1971, as a result of which a draft, document 50(Central Office)170, was submitted to the National Committees for approval under the Six Months' Rule in July 1973.

The following countries voted explicitly in favour of publication:

Australia	Norway
Belgium	Poland
Canada	Portugal
Czechoslovakia	Romania
Denmark	South Africa (Republic of)
Germany	Spain
Hungary	Sweden
India	Switzerland
Israel	Turkey
Italy	Union of Soviet Socialist Republics
Japan	United Kingdom
Netherlands	United States of America

HISTORICAL SURVEY OF TEST Sa: SIMULATED SOLAR RADIATION AT GROUND LEVEL

First edition (1975)

No previous editions of IEC Publication 68 have contained a solar radiation test.

For directly related specifications, see:

Publication 68-1: General.

Publication 68-2-9: Guidance for Solar Radiation Testing.

BASIC ENVIRONMENTAL TESTING PROCEDURES

Part 2: Tests – Test Sa: Simulated solar radiation at ground level

WARNING NOTE

Intending users of this test are directed to the health hazards associated with tests of this nature and should therefore read Clause 9 of IEC Publication 68-2-9.

1. Object

To determine the effects (thermal, mechanical, chemical, electrical, etc.), produced on equipment and components as a result of exposure to solar radiation under the conditions experienced at the surface of the earth.

2. Initial measurements

The specimen(s) shall be visually inspected and electrically and mechanically checked, as required by the relevant specification.

3. Test apparatus

3.1 The enclosure in which the tests are to be carried out shall be provided with means for obtaining, over the prescribed irradiation measurement plane, an irradiance of $1.120 \text{ kW/m}^2 \pm 10\%$ with the spectral distribution given in Table I. The value of 1.120 kW/m^2 shall include any radiation *reflected* from the test enclosure and received by the specimen under test. It should not include long-wave infra-red radiation *emitted* by the test enclosure; see Sub-clause 6.1 of IEC Publication 68-2-9.

Note. – Where only the thermal effects of solar radiation are of interest, see Sub-clauses 2.2 and 2.3 of IEC Publication 68-2-9.

3.2 Means shall also be provided whereby the specified conditions of temperature, air flow and humidity can be maintained within the enclosure.

Note. – Circulation of air can significantly reduce the temperature rise of specimens; see Sub-clause 4.5 of IEC Publication 68-2-9.

3.3 The temperature within the enclosure shall be measured (with adequate shielding from radiated heat) at a point or points in a horizontal plane 0 mm to 50 mm below the prescribed irradiation measurement plane, at half the distance between the specimen under test and the wall of the enclosure, or at 1 m from the specimen, whichever is the lesser.

4. Conditioning

4.1 The specimen to be tested shall be placed either on raised supports or on a specified substrate of known thermal conductivity and thermal capacity within the enclosure and so spaced from other specimens as to avoid shielding from the source of radiation or re-radiated heat; see Sub-clause 4.6 of IEC Publication 68-2-9.

4.2 During the entire test, the irradiation, the temperature within the enclosure, the humidity and any other specified environmental conditions shall be maintained at the levels appropriate to the particular test procedure as called for in the relevant specification.

4.3 The specimen shall be exposed, for the duration called for in the relevant specification, to one of the following test procedures (see Figure 1, page 11):