# IEC 60068-2-5

Edition 3.0 2018-04

# INTERNATIONAL STANDARD

## Environmental testing –
## Part 2-5: Tests – Test S: Simulated solar radiation at ground level and guidance for solar radiation testing and weathering

IEC 60068-2-5:2018-04(en)

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# ENVIRONMENTAL TESTING –

# Part 2-5: Tests – Test S: Simulated solar radiation at ground level and guidance for solar radiation testing and weathering

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International Standard IEC 60068-2-5 has been prepared by IEC technical committee 104: Environmental conditions, classification and methods of test.

This third edition cancels and replaces the second edition of published in 2010. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) the title of this document has been modified;
b) the current thermal effect test method, specified as "Test method Sa" has been retained and the weathering test method specified as "Test method Sb" has been added.

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The text of this International Standard is based on the following documents:

| CDV | Report on voting |
|---|---|
| 104/735/CDV | 104/789/RVC |

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60068 series, published under the general title *Environmental testing*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

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# INTRODUCTION

This part of IEC 60068 describes methods of simulation designed to examine the effect of solar radiation on equipment and components at the surface of the earth. The main characteristics of the environment to be simulated are the spectral irradiance of solar radiation, as observed at the earth's surface, and the intensity of received energy, in combination with controlled temperature conditions. However, the combination of solar radiation with other environments, for example temperature, humidity, water spray (to simulate wetting) and air velocity, should be considered. Two different methods are described, one aiming at the thermal effects, a second aiming at the weathering effects.

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# ENVIRONMENTAL TESTING –

# Part 2-5: Tests – Test S: Simulated solar radiation at ground level and guidance for solar radiation testing and weathering

## 1 Scope

This part of IEC 60068-2 specifies the methods for testing equipment or components under simulated solar radiation conditions.

This document is applicable to the equipment and components at the surface of the earth.

The purpose of testing is to investigate to what extent the equipment or components are affected by simulated solar radiation in the presence of moisture to reproduce the weathering effects (temperature, humidity and/or wetting) that occur when they are exposed in actual end-use environments to daylight or to daylight filtered through window glass. This document specifies two test methods, test method Sa: thermal effect test, and test method Sb: weathering test.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

IEC 60068-1, *Environmental testing – Part 1: General and guidance*

IEC 60068-2-1, *Environmental testing – Part 2-1: Tests – Test A: Cold*

IEC 60068-2-2, *Environmental testing – Part 2-2: Tests – Test B: Dry heat*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60068-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

**3.1**
**black standard temperature**
insulated black panel temperature
characteristic value of the test specimen's(s') surface temperature measured by an insulated black panel thermometer, consisting of a black painted stainless steel panel and a resistance temperature sensor embedded in insulating material (white PVDF, polyvinylidene difluoride) attached

Note 1 to entry: More details are described in ISO 4892-1.

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