



# SLOVENSKI STANDARD SIST EN 60068-2-55:2013

01-julij-2013

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**Okoljsko preskušanje - 2-55. del: Preskusi - Preskus Ee in navodilo: Preskušanje nepritrjenega tovora, vključno s premetavanjem**

Environmental testing - Part 2-55: Tests - Test Ee and guidance: Loose cargo testing including Bounce

Umgebungseinflüsse - Teil 2-55: Prüfverfahren - Prüfung Ee und Leitfaden: Prüfung loser Packstücke einschließlich Prellen

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Ta slovenski standard je istoveten z: **EN 60068-2-55:2013**

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**ICS:**

|        |                               |                       |
|--------|-------------------------------|-----------------------|
| 19.040 | Preskušanje v zvezi z okoljem | Environmental testing |
|--------|-------------------------------|-----------------------|

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 60068-2-55**

May 2013

ICS 19.040; 29.020

Supersedes EN 60068-2-55:1993

English version

**Environmental testing -  
Part 2-55: Tests -  
Test Ee and guidance -  
Loose cargo testing including bounce  
(IEC 60068-2-55:2013)**

Essais d'environnement -  
Partie 2-55: Essais -  
Essai Ee et guide -  
Essais de chargement sans arrimage y  
compris l'essai de rebondissement  
(CEI 60068-2-55:2013)

Umgebungseinflüsse -  
Teil 2-55: Prüfverfahren -  
Prüfung Ee und Leitfaden: Prüfung loser  
Packstücke einschließlich Prellen  
(IEC 60068-2-55:2013)

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

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 104/592/FDIS, future edition 2 of IEC 60068-2-55, prepared by IEC TC 104 "Environmental conditions, classification and methods of test" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60068-2-55:2013.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2013-12-13
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-03-13

This document supersedes EN 60068-2-55:1993.

EN 60068-2-55:2013 includes the following significant technical changes with respect to EN 60068-2-55:1993:

This new edition allows for loose cargo testing in a more general sense. The test is no longer aligned with a special testing machine but allows for use of any suitable equipment such as electrodynamic or servo-hydraulic shaker tables. Moreover, sinusoidal and random vibration can be used. The previous rotation table motions are included in Annex A as historical methods.

This standard should be used in conjunction with EN 60068-1.

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## Endorsement notice

The text of the International Standard IEC 60068-2-55:2013 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

|                |      |                                 |
|----------------|------|---------------------------------|
| IEC 60068-2-27 | NOTE | Harmonized as EN 60068-2-27.    |
| IEC 60068-2-31 | NOTE | Harmonized as EN 60068-2-31.    |
| IEC 60068-5-2  | NOTE | Harmonized as EN 60068-5-2.     |
| ISO/IEC 17025  | NOTE | Harmonized as EN ISO/IEC 17025. |

## Annex ZA (normative)

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

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.

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 -<br>Part 1: General and guidance   | EN 60068-1    | -           |
| IEC 60068-2-6      | -           | Environmental testing -<br>Part 2-6: Tests - Test Fc: Vibration<br>(sinusoidal)                       | EN 60068-2-6  | -           |
| IEC 60068-2-64     | -           | Environmental testing -<br>Part 2-64: Tests - Test Fh: Vibration,<br>broadband random and guidance    | EN 60068-2-64 | -           |
| IEC 60068-2-80     | -           | Environmental testing -<br>Part 2-80: Tests - Test Fi: Vibration - Mixed<br>mode                      | EN 60068-2-80 | -           |
| ISO 13355          | -           | Packaging - Complete, filled transport<br>packages and unit loads - Vertical random<br>vibration test | EN ISO 13355  | -           |
| ASTM D4169-09      | -           | Standard Practice for Performance Testing of<br>Shipping Containers and Systems                       |               | -           |

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IEC 60068-2-55

Edition 2.0 2013-02

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

BASIC SAFETY PUBLICATION

PUBLICATION FONDAMENTALE DE SÉCURITÉ

**Environmental testing –**  
**Part 2-55: Tests – Test Ee and guidance – Loose cargo testing including bounce**

**Essais d'environnement –**  
**Partie 2-55: Essais – Essai Ee et guide – Essais de chargement sans arrimage y compris l'essai de rebondissement**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

PRICE CODE  
CODE PRIX

R

ICS 19.040; 29.020

ISBN 978-2-83220-644-7

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## ENVIRONMENTAL TESTING –

Part 2-55: Tests – Test Ee and guidance –  
Loose cargo testing including bounce

## FOREWORD

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International Standard IEC 60068-2-55 has been prepared by IEC technical committee 104: Environmental conditions, classification and methods of test.

This second edition cancels and replaces the first edition, published in 1987, and constitutes a technical revision.

The main changes with respect to the previous edition are listed below:

This new edition allows for loose cargo testing in a more general sense. The test is no longer aligned with a special testing machine but allows for use of any suitable equipment such as electrodynamic or servo-hydraulic shaker tables. Moreover, sinusoidal and random vibration can be used. The previous rotation table motions are included in Annex A as historical methods.

The text of this standard is based on the following documents:

| FDIS         | Report on voting |
|--------------|------------------|
| 104/592/FDIS | 104/598/RVD      |

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

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

It has the status of a basic safety publication in accordance with IEC Guide 104.

This standard should be used in conjunction with IEC 60068-1.

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

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

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

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## INTRODUCTION

This test is applicable to specimens which, during transportation on the load-carrying platform of wheeled vehicles either not fastened down or with some degree of freedom, may be subjected to dynamic stresses resulting from random shock conditions (bounce). The test may also be used as a simple means of assessing the satisfactory design of a specimen so far as its structural integrity is concerned.

NOTE In practice, this test is primarily applicable to equipment-type specimens and packages.

Although the test is performed using a vibrating platform, it is not considered as a vibration test, but as an impact test. Vibration tests should be conducted according to the appropriate standards from IEC 60068-2.

In Clause 11, specification writers will find a list of details to be considered for inclusion in specifications and, in Annex A, the necessary accompanying guidance.

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