AS 60068.2.55—2003
IEC 60068-2-55:1987

Australian Standard™

Environmental testing

Part 2.55: Tests—Test Ee and guidance: Bounce

Standards Australia

This Australian Standard was prepared by Committee EL-026, Protective Enclosures and Environmental Testing for Electrical/Electronic Equipment. It was approved on behalf of the Council of Standards Australia on 23 April 2003 and published on 19 June 2003.

The following are represented on Committee EL-026:

Australian Chamber of Commerce and Industry

Australian Electrical and Electronic Manufacturer's Association

Electrical Compliance Testing Association

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PREFACE

This Standard was prepared by the Standards Australia Committee EL-026, Protective Enclosures and Environmental Testing for Electrical/Electronic Equipment.

The objective of this Standard is to provide the electrotechnology industry with a complete set of environmental test procedures published as a series under AS 60068 *Environmental testing*. This Standard is Part 2.55 of that series.

This Standard is identical with, and has been reproduced from, IEC 60068-2-55:1987, *Environmental testing – Part 2-55: Tests—Test Ee and guidance: Bounce*.

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(b) In the source text ‘this international standard’ should read ‘this Australian Standard’.

(c) A full point should be substituted for a comma when referring to a decimal marker.

(d) Any French text on figures should be ignored.

In this Standard, the following print types are used:

– requirements proper: in arial type;

– *test specifications: in italic type;*

– explanatory matter: in smaller arial type.

Any international Standard referenced should be replaced by an equivalent Australian Standard when one is available. The availability of equivalent Australian Standards can be determined either from the Standards Australia catalogue or from the Standards Australia website (www.standards.com.au).

The terms ‘normative’ and ‘informative’ are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

CONTENTS

INTRODUCTION

This test is applicable to components, equipment and other electrotechnical products, hereinafter referred to as "specimens", which, during transportation on the load-carrying platform of vehicles either not fastened down or with some degree of freedom, may be subjected to dynamic stresses resulting from random shock conditions. The bounce test may also be used as a 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.

Specification writers will find in clause 10 a list of details to be considered for inclusion in specifications and in annex A the necessary guidance.

STANDARDS AUSTRALIA

Australian Standard

Environmental testing
Part 2.55: Tests—Test Ee and guidance: Bounce

1 Object

To provide a standard procedure for determining the ability of a specimen to withstand specified severities of bounce.

2 General description

This test is primarily intended for specimens prepared for transportation, including specimens in their transport case when the latter may be considered as part of the specimen itself (see also A.7.2 of annex A).

Wherever possible, the test severity applied to the specimen shall be related to the operational environment to which the specimen will be subjected during transportation.

The relevant specification shall state the criteria upon which the acceptance or rejection of the specimen is to be based. Normally, for this test the specimen is not functioning and it is sufficient that it should survive the conditioning.

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

3 Definitions

Generally the terms used are defined in ISO 2041 or in IEC 60068-1. The following additional term and definition is also applicable for the purposes of this standard.

g_n: standard acceleration due to the earth's gravity, which itself varies with altitude and geographical latitude.

NOTE – For the purposes of this standard, the value of g_n is rounded up to the nearest unit, that is 10 m/s^2.

4 Description of test apparatus

4.1 Characteristics of the bounce tester

a) The bounce tester shall consist of a horizontal platform coupled to shaft-driven eccentrics (see figure 1).

b) The platform shall be of 25 ± 1 mm plywood firmly secured to a steel frame with appropriate barriers (see 4.6).

c) The eccentrics shall produce a maximum peak-to-peak vertical displacement of the upper surface of the platform, measured in the region between the drive shafts, of 25,5 ± 0,5 mm.

d) The bounce tester, when loaded with the specimen and any other necessary devices for the conditioning, shall also have the characteristics specified in the appropriate method (see 4.2).