AS 60068.2.47—2003
IEC 60068-2-47:1999

AS 60068.2.47

Australian Standard™

Environmental testing

Part 2.47: Tests—Mounting of components, equipment and other articles for vibration, impact and similar dynamic tests

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 21 October 2003 and published on 1 December 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
Electrical Regulatory Authorities Council
Electricity Supply Association of Australia
Testing Interests (Australia)

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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 2.47 of that series.

This Standard is identical with, and has been reproduced from, IEC 60068-2-47:1999, *Environmental testing – Part 2-47: Test methods—Mounting of components, equipment and other articles for vibration, impact and similar dynamic tests*.

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).

CONTENTS

INTRODUCTION

This International Standard defines the requirements and gives information regarding the mounting of components, equipment and other articles, referred to as "specimens", when they are subjected to vibration, impact and similar dynamic tests.

In all cases, component-type specimens must be mounted as stated in the relevant specification. Where these details are not specified, a number of standardized methods of mounting are given in this standard.

Equipment-type specimens must be mounted by their normal means of attachment unless otherwise stated in the relevant specification.

An attempt must be made, in the first instance, to categorize specimens into either component or equipment types and then to proceed to test accordingly. If this is not possible, for example for packaged items, this standard may still be relevant, but must be related to the package and not to the contents.

General guidance is provided in annex A as appropriate for both the specification writer and the test engineer.

In some instances, requirements and guidance on mounting are included, partly or wholly, in the individual standards of IEC 60068, for example, Test Fh[1)]. Where such an International Standard is called up by the relevant specification, it will need to be studied as well as this International Standard.

1) IEC 60068-2-64:1993, *Environmental testing – Part 2: Methods of test – Test Fh: Vibration, broad-band random (digital control) and guidance.*

STANDARDS AUSTRALIA

Australian Standard

Environmental testing
Part 2.47: Tests—Mounting of components, equipment and other articles for vibration, impact and similar dynamic tests

1 Scope

This part of IEC 60068 provides methods of mounting components, and mounting requirements for equipment and other articles, for the families of dynamic tests in IEC 60068-2, that is impact (Test E), vibration (Test F) and acceleration, steady-state (Test G).

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60068. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 60068 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*

ISO 2041:1990, *Vibration and shock – Vocabulary*

3 Definitions

The terms used are generally defined in ISO 2041 and IEC 60068-1.

4 General

The relevant specification shall state whether the effect of gravitational force is important. If so, the specimen shall be mounted in such a way that the gravitational force acts in the same direction as it would in use. Where the effect of gravitational force is not important, the specimen may be mounted in any attitude.

Also, if significant to the test results, the relevant specification shall state

a) the temperature limits within which the specimen shall be tested;

b) the maximum level of magnetic interference which may be imposed on the specimen and/or the orientation of the specimen in relation to the direction of the magnetic field (for example, near an electrodynamic vibration generator);

c) relative humidity limits within which the specimen shall be tested.