

Australian Standard™

**Environmental testing**

**Part 2.75: Tests—Test E1: Hammer tests**



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 October 2003 and published on 28 November 2003.

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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  
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Formulated as AS 1099.2.63—1994.  
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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 to supersede AS 1099.2.63—1994, *Basic environmental testing procedures for electrotechnology*, Part 2.63: *Tests—Test Eg—Impact, spring hammer*.

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 2.75 of that series.

This Standard is identical with, and has been reproduced from, IEC 60068-2-75: 1997, *Environmental testing – Part 2-75: Tests—Test Eh: Hammer tests*.

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- requirements proper: in arial type;
- *test specifications: in italic type;*
- explanatory matter: in smaller arial type.

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## CONTENTS

	<i>Page</i>
Introduction.....	v
1 Scope.....	1
2 Normative references .....	1
3 Provisions common to all hammer test methods .....	2
3.1 Definitions .....	2
3.2 Severities .....	2
3.2.1 General .....	2
3.2.2 Impact energy value .....	2
3.2.3 Number of impacts .....	2
3.3 Test apparatus .....	2
3.3.1 Description .....	2
3.3.2 Mounting .....	3
3.4 Preconditioning .....	4
3.5 Initial measurements .....	4
3.6 Testing .....	4
3.6.1 Attitudes and impact locations .....	4
3.6.2 Preparation of the specimen .....	4
3.6.3 Operating mode and functional monitoring .....	4
3.7 Recovery .....	4
3.8 Final measurements .....	4
3.9 Information to be given in the relevant specification .....	5
4 Test Eha: Pendulum hammer.....	5
4.1 Definitions .....	5
4.2 Test apparatus .....	5
4.2.1 Test apparatus for severities not exceeding 1 J .....	6
4.2.2 Test apparatus for severities of 2 J and above.....	6
4.3 Height of fall.....	6
4.4 Testing.....	6
5 Test Ehb: Spring hammer.....	7
5.1 Test apparatus .....	7
5.2 Influence of earth's gravity .....	8
5.3 Calibration.....	8
6 Test Ehc: Vertical hammer .....	8
6.1 Definition.....	8
6.2 Test apparatus .....	8
6.3 Height of fall.....	9
Annex A (normative) Shapes of striking elements .....	10
Annex B (normative) Procedure for the calibration of spring hammers .....	13
Annex C (informative) Guidance .....	21
Annex D (informative) Example of pendulum hammer test apparatus .....	23
Annex E (informative) Example of spring hammer test apparatus.....	27

	<i>Page</i>
Figure 1 – Example sketch of a striking element .....	3
Figure 2 – Derivation of measuring point.....	7
Figure 3 – Shape of release head for 2 J .....	8
Figure A.1 – Example of a striking element for $\leq 1$ J .....	10
Figure A.2 – Example of a striking element for 2 J .....	10
Figure A.3 – Example of a striking element for 5 J .....	11
Figure A.4 – Example of a striking element for 10 J .....	11
Figure A.5 – Example of a striking element for 20 J .....	12
Figure A.6 – Example of a striking element for 50 J .....	2
Figure B.1 – Calibration device .....	15
Figure B.2 – Pendulum "c" .....	16
Figure B.3 – Steel spring of pendulum "c" .....	17
Figure B.4 – Details of calibration device .....	18
Figure B.5 – Arrangement for the calibration of the calibration device .....	19
Figure B.6 – Division of scale plate "f" .....	20
Figure D.1 – Test apparatus .....	24
Figure D.2 – Striking element of the pendulum hammer for energy $\leq 1$ J .....	24
Figure D.3 – Mounting fixture .....	25
Figure D.4 – Adapter for flush-type switches .....	25
Figure D.5 – Adapter for lamp holders .....	26
Figure E.1 – Spring hammer test apparatus .....	28

## INTRODUCTION

Mechanical impacts likely to stress electrotechnical equipment in service can be generated by hammers of various types. For standardization purposes, the results of such testing should not depend on the type of testing apparatus and therefore, the characteristics of the various types of test hammers described in this part of IEC 60068 are intended to be as close as practicable for the same severity level.

It is important to note that both clause 3 and the test method selected from clauses 4, 5, and 6 need to be complied with in order to satisfy the requirements of this International Standard.

The severity levels are, in general, taken from IEC 60721-1.

For co-ordination purposes, it has been necessary to change certain fundamental parameters of the previous tests Ef: Impact, pendulum hammer, and Eg: Impact, spring hammer. In all cases, both sets of parameters are shown at the appropriate places in the text and will remain valid until five years from the publication of IEC 60068-2-75:1997. At that time, the values in brackets will be removed.

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## STANDARDS AUSTRALIA

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**Australian Standard****Environmental testing**  
**Part 2.75: Tests—Test Eh: Hammer tests**

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**1 Scope**

This part of IEC 60068 provides three standardized and co-ordinated test methods for determining the ability of a specimen to withstand specified severities of impact. It is used, in particular, to demonstrate an acceptable level of robustness when assessing the safety of a product and is primarily intended for the testing of electrotechnical items. It consists of the application to the specimen of a prescribed number of impacts defined by their impact energy and applied in the prescribed directions.

This part of IEC 60068 covers energy levels ranging from 0,14 joules (J) to 50 joules (J).

Three types of test apparatus are applicable to perform these tests. Annex C provides some guidance as to this aspect.

**2 Normative references**

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60068. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 60068 should investigate the possibility of applying the most recent editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

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

IEC 60721-1: 1990, *Classification of environmental conditions – Part 1: Environmental parameters and their severities*  
Amendment 1, 1992

ISO 1052: 1982, *Steels for general engineering purposes*

ISO 2039-2: 1987, *Plastics – Determination of hardness – Part 2: Rockwell hardness*

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

ISO 2768-1: 1989, *General tolerances – Part 1: Tolerances for linear and angular dimensions without individual tolerances indicated*

ISO 6508: 1986, *Metallic materials – Hardness test – Rockwell test (scales A – B – C – D – E – F – G – H – K)*