AS 3726.5—1989
IEC 512-5 (1977)

Australian Standard®

Electromechanical components for electronic equipment—Basic testing procedures and measuring methods

Part 5: Impact tests (free components), static load tests (fixed components), endurance tests and overload tests

D

STANDARDS AUSTRALIA

This Australian Standard was prepared by Committee ET/5, Environmental Testing Procedures. It was approved on behalf of the Council of Standards Australia on 5 June 1989 and published on 6 November 1989.

The following interests are represented on Committee ET/5:

Aerospace Technologies of Australia
Confederation of Australian Industry
Department of Administrative Services
Department of Defence
Electricity Supply Association of Australia
Institution of Engineers, Australia
National Association of Testing Authorities
Society of Automotive Engineers, Australasia
Telecom Australia
University of New South Wales

Review of Australian Standards. *To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up-to-date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.*

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

This Standard was issued in draft form for comment as DR 83107.

Australian Standard®

Electromechanical components for electronic equipment—Basic testing procedures and measuring methods

Part 5: Impact tests (free components), static load tests (fixed components), endurance tests and overload tests

First published as AS 3726.5—1989.

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
STANDARDS HOUSE, 80 ARTHUR ST, NORTH SYDNEY NSW
ISBN 0 7262 5811 3

PREFACE

This Standard was prepared by the Standards Australia Committee on Environmental Testing Procedures. Part 5 is identical with and reproduced from IEC 512, Part 5 (1977), as supplemented by IEC 512-5A and IEC 512 -5B.

The purpose of Part 5 is to specify tests that shall be used, when required by detail specification, for electromechanical components having a connecting or switching function in equipment for telecommunication and in similar electronic devices. Part 5 includes impact tests for free components, static load tests for fixed components, electrical and mechanical endurance tests and electrical overload tests. Mechanical overload tests are under consideration.

The page numbers of the IEC English text are given on the bottom left hand corner of each page of this Standard.

For the purposes of this Australian Standard, the text of the IEC Publication used herein should be modified as follows:

(a) *Terminology*: The words 'Australian Standard' should replace the word 'IEC Publication' wherever they appear.

(b) *Cross-references*: The references to international Standards should be replaced by references to Australian Standards as follows:

Reference to international Standard	*Appropriate Australian Standard*
IEC	AS
65 Safety requirements for mains operated electronic and related apparatus for household and similar general use	3250 Approval and test specification—Mains operated electronic and related equipment for household and similar general use

CONTENTS

STANDARDS AUSTRALIA

Australian Standard

Electromechanical components for electronic equipment—Basic testing procedures and measuring methods

Part 5: Impact tests (free components), static load tests (fixed components), endurance tests and overload tests

Scope

The tests contained herein, when required by the detail specification, shall be used for electromechanical components within the scope of Technical Committee No. 48*.

They may also be used for similar devices when specified in a detail specification.

SECTION ONE — IMPACT TESTS (FREE COMPONENTS)

1. Test 7a: Free fall (repeated)

1.1 *Object*

The object of this test is to detail a standard test method to assess the ability of a component to withstand the impacts it would receive when dropped repeatedly.

1.2 *Preparation of the specimen*

Unless otherwise specified, the specimen shall not be mounted or wired, but shall be fitted with normal accessories according to the detail specification.

1.3 *Test method*

The specimen shall be placed in a tumbling barrel as shown in Figure 1, page 30.

The barrel turns at a rate of approximately 5 rev/min.

The total number of revolutions (falls) shall be according to the detail specification.

Note. — When I.E.C. Publication 65, Safety Requirements for Mains Operated Electronic and Related Apparatus for Household and Similar General Use, applies, the barrel revolves 50 times if the mass of the specimen is up to 250 g and 25 times if the mass is greater than 250 g.

1.4 *Final examination*

The specimen shall be visually examined according to Test 1a.

If required by the detail specification, operation shall be checked.

---

* *Scope of Technical Committee No. 48:* To prepare international standards regarding components having an inherent electromechanical connecting or switching function, intended for use in equipment for telecommunication and in electronic devices employing similar techniques.

Notes 1. — R.F. connectors will not be dealt with by this Technical Committee as they will be covered by Technical Committee No. 46 together with r.f. cables.

2. — Sockets for components such as crystals or electronic tubes shall be considered in co-operation with the relevant Technical Committee.