

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**



STANDARDS AUSTRALIA 

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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
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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 words 'IEC Publication' wherever they appear.
- (b) *Cross-references*: The references to international Standards should be replaced by references to Australian Standards as follows:

<i>Reference to international Standard</i>	<i>Appropriate Australian Standard</i>
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

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CONTENTS

Scope	Page 4
-------------	-----------

SECTION ONE — IMPACT TESTS (FREE COMPONENTS)

Clause

1. Test 7a: Free fall (repeated)	4
2. Test 7b: Mechanical impact strength	6

SECTION TWO — STATIC LOAD TESTS (FIXED COMPONENTS)

3. Test 8a: Static load, transverse	7
4. Test 8b: Static load, axial	8
5. Test 8c: Robustness of actuating lever	9

SECTION THREE — ENDURANCE TESTS

6. Test 9a: Mechanical operation	11
7. Test 9b: Electrical load and temperature	11
8. Test 9c: Mechanical operation with electrical load	13
9. Test 9d: Durability of contact retention system and seals (maintenance, ageing)	15

SECTION FOUR — OVERLOAD TESTS

10. Test 10a: Electrical overload (switches) (under consideration)	16
11. Test 10b: Mechanical overload (switches) (under consideration)	17
12. Test 10c: Switching capacitive loads (under consideration)	17
13. Test 10d: Electrical overload, resistive (connectors) (under consideration)	18

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**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 tested 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 IEC 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 electro-mechanical 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.