

Specification for

Electromechanical components for electronic equipment: basic testing procedures and measuring methods —

Part 9: Miscellaneous tests

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Electronic Components Standards Policy Committee (ECL/-) to Technical Committee ECL/21, upon which the following bodies were represented:

- EEA (the Association of Electronics, Telecommunications and Business Equipment Industries)
- Electronic Components Industry Federation
- Ministry of Defence
- National Supervising Inspectorate

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National foreword

This Part of BS 5772 has been prepared under the direction of the Electronic Components Standards Policy Committee. It is identical with IEC 512-9:1992 *Electromechanical components for electronic equipment; basic testing procedures and measuring methods, Part 9: Miscellaneous tests*, published by the International Electrotechnical Commission (IEC). This revision supersedes BS 5772-9:1979, which is withdrawn.

This Part of BS 5772 should be read in conjunction with BS 5772-1:1985 *General* which contains information on fundamental test methods and procedures to be employed in implementing the requirements of this standard.

Cross-references

International Standard	Corresponding British Standard
IEC 169-1:1965 ^a	BS 3041 <i>Radio-frequency connectors</i> Part 1:1977 <i>Specification for general requirements and measuring methods</i> (Identical)
IEC 695-2-1:1980 ^b	BS 6458 <i>Fire hazard testing for electrotechnical products</i> Section 2.1:1984 <i>Glow-wire test</i> (Identical)
CISPR 17:1981	BS 6299:1982 <i>Methods of measurement of the suppression characteristics of passive radio interference filters and suppression components</i> (Identical)

^a Superseded by IEC 169-1:1987

^b Superseded by IEC 695-2-1:1991

IEC 512-2:1985 is related to BS 5772 *Basic testing procedures and measuring methods for electromechanical components for electronic equipment — Part 2:1979 General examination, electrical continuity and contact resistance tests, insulation tests and voltage stress tests*.

IEC 695-2-2:1980 has been superseded by IEC 695-2-2:1991, which is related to BS 6458 *Fire hazard testing for electrotechnical products — Section 2.2:1984 Needle-flame test*.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Section 0. General

0.1 Scope

The tests contained in this part of International Standard, IEC 512, when required by the detail specification, shall be used for electromechanical components within the scope of Technical Committee No. 48¹⁾.

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

0.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 512. 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 512 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 169-1:1965, *Radio-frequency connectors — Part 1: General requirements and measuring methods*.

IEC 512-2:1985, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods — Part 2: General examination, electrical continuity and contact resistance tests, insulation tests and voltage stress tests*.

IEC 695-2-1:1980, *Fire hazard testing — Part 2: Test methods — Glow-wire test and guidance*.

IEC 695-2-2:1980, *Fire hazard testing — Part 2: Test methods — Needle — flame test*.

CISPR 17:1981, *Methods of measurement of the suppression characteristics of passive radio interference filters and suppression components*.

Section 1. Cable-clamping tests

1 Test 17a: Cable clamp robustness

1.1 Object

The object of this test is to detail a standard method to assess the ability of a cable-clamping device to withstand mechanical stresses likely to be encountered during normal usage.

1.2 Preparation of the specimen

The specimen shall consist of the specified cable/wire bundle fitted in the normal manner to its associated component or sub-assembly by means of the cable-clamping device.

The specimen shall be prepared and mounted in accordance with the detail specification.

1.3 Test method

With the specimen rigidly mounted in such an attitude that the cable/wire bundle is in a horizontal position, a bending moment shall be produced by applying a specified vertical force to the cable/wire bundle at a specified distance from the cable clamp.

This force shall be increased gradually at a rate not to exceed 20 N/s until the specified value is reached. It shall be maintained at that value for 1 min.

The force shall then be removed and the cable returned to the horizontal attitude. The specimen is then rotated at 90° increments around the horizontal axis. At each 90° increment, the specified bending moment is reapplied.

This test shall be repeated the number of times stated in the detail specification.

1.4 Final measurements

The specimen shall be examined visually in accordance with Test 1a of IEC 512-2 at the junction of the cable/wire bundle and the clamping device and at the junction of the clamping device and the component or sub-assembly.

1.5 Requirements

There shall be no damage to the cable/wire bundle, nor to the specimen.

The cable/wire bundle shall not be displaced permanently by more than the amount specified in the detail specification.

1.6 Details to be specified

When this test is required by the detail specification, the following details shall be specified:

- a) preparation of the specimen and type of cable/wire bundle to be used and whether contacts have to be connected;
- b) mounting of the specimen;
- c) force and torque to be applied and point of application;
- d) number of applications;

¹⁾ 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.

NOTE 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.

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