

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Connectors for electronic equipment – Tests and measurements –
Part 11-14: Climatic tests – Test 11p: Flowing single gas corrosion test**
(standards.iteh.ai)

**Connecteurs pour équipements électroniques – Essais et mesures –
Partie 11-14: Essais climatiques – Essai 11p: Essai de corrosion dans le flux
d'un gaz**



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Part 11-14: Climatic tests – Test 11p: Flowing single gas corrosion test

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International Standard IEC 60512-11-14 has been prepared by subcommittee 48B: Connectors, of IEC technical committee 48: Electromechanical components and mechanical structures for electronic equipment.

This bilingual version corresponds to the monolingual English version, published in 2003-07.

This second edition cancels and replaces the first edition, published in 1996, of which it constitutes a minor revision to update the normative references.

This standard is to be read in conjunction with IEC 60512-1 and IEC 60512-1-100 which explains the structure of the IEC 60512 series.

The text of this standard is based on the following documents:

FDIS	Report on voting
48B/1349/FDIS	48B/1366/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

The French version of this standard has not been voted upon.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

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CONNECTORS FOR ELECTRONIC EQUIPMENT – TESTS AND MEASUREMENTS –

Part 11-14: Climatic tests – Test 11p: Flowing single gas corrosion test

1 Scope and object

This part of IEC 60512, when required by the detail specification, is used for testing of connectors for electronic equipment. This test may also be used for similar components when specified in a detail specification.

The object of this test is to define a standard test method, Test 11p, to assess the effects of controlled corrosion in industrial atmospheres, in a specified concentration of polluted gas(es).

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60068-2-42: *Environmental testing – Part 2: Tests – Test Kc: Sulphur dioxide test for contacts and connections* IEC 60512-11-14:2003

IEC 60068-2-43: *Environmental testing – Part 2: Tests – Test Kd: Hydrogen sulphide test for contacts and connections* <https://standards.iteh.ai/catalog/standards/sist/57f5c14c-63d3-45f1-9d8c-36310972d4dc/iec-60512-11-14-2003>

IEC 60068-2-49:1983, *Environmental testing – Part 2: Tests – Guidance to Test Kc: Sulphur dioxide test for contacts and connections*

IEC 60512 (all parts), *Connectors for electronic equipment – Tests and measurements*

IEC 60512-1-100, *Connectors for electronic equipment – Tests and measurements – Part 1-100: General – Applicable publications*

IEC 60721-3-3:1994, *Classification of environmental conditions – Part 3-3: Classification of groups of environmental parameters and their severities – Stationary use at weather-protected locations*

3 Preparation of specimens

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

When required by the detail specification, the specimen shall be operated the number of times specified prior to the test. For each test carried out, the detail specification shall specify the condition and the severity of the component, for example, operated or non-operated, mated or unmated.

NOTE In the case of several specimens, it is recommended to divide the specimens into two groups with different conditions.

4 Method

4.1 Procedure

Test 11p shall be carried out in accordance with

- IEC 60068-2-42, Test Kc: Sulphur dioxide test for contacts and connections;
- IEC 60068-2-43, Test Kd: Hydrogen sulphide test for contacts and connections;
- IEC 60068-2-49, Guidance to Test Kc: Sulphur dioxide test for contacts and connections.

4.2 Severity of the test

The test severity, to be given in the relevant specification, is defined by

- type and concentration of polluting gas;
- temperature;
- relative humidity;
- duration of exposure.

Table 1 – Methods proposed

Method	Polluting gas	Severity 1 ^a	Severity 2 ^b
A	SO ₂	1 max.	10 max. (previous test: Kc)
B	H ₂ S	0,1 max.	1 max. (previous test: Kd)
NOTE 1 All values in 10⁻⁶ vol/vol. NOTE 2 For all methods: temperature: 25 °C ± 1 °C or 30 °C ± 1 °C relative humidity: 75 % ± 3 %; duration: 4, 10, or 21 days. NOTE 3 Since the nature of aggressivity is different with methods A and B, no comparison between these methods shall be made. NOTE 4 Other methods may be added in the future after sufficient experience has been gained. NOTE 5 Condensation on the specimens and on the test equipment shall be avoided. ^a IEC 60721-3-3, class 3C1. ^b IEC 60721-3-3, class 3C2.			

4.3 Final measurements

Upon completion of the above test, the specimens shall be examined in accordance with the following tests, if applicable:

- test 1a of IEC 60512;
- tests 2a or 2b of IEC 60512;
- test 2c of IEC 60512;
- test 3a of IEC 60512;
- test 4a of IEC 60512;

and with test 13a of IEC 60512, with particular attention to the following details:

- cracking;
- delamination;
- pitting of exposed metal surfaces.

5 Details to be specified

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

- a) method of preparation and mounting of the specimens;
- b) conditioning of the specimens prior to the test (if required);
- c) severity, type, concentration and temperature of polluting gas;
- d) initial measurements;
- e) requirements;
- f) duration of exposure;
- g) final measurements;
- h) any deviation from the standard test method.

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