AS 60068.2.66—2003
IEC 60068-2-66:1994

Australian Standard™

Environmental testing

Part 2.66: Tests—Test Cx: Damp heat, steady state (unsaturated pressurized vapour)

Standards Australia

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.

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
Testing Interests (Australia)

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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.

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 2.66 of that series.

This Standard is identical with, and has been reproduced from, IEC 60068-2-66:1994, *Environmental testing – Part 2-66: Test methods—Test Cx: Damp heat, steady state (unsaturated pressurized vapour)*.

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(b) In the source text 'this international standard' should read 'this Australian Standard'.

(c) A full point should be substituted for a comma when referring to a decimal marker.

(d) any French text on figures should be ignored.

In this Standard, the following print types are used:

– requirements proper: in arial type;

– *test specifications: in italic type;*

– explanatory matter: in smaller arial type.

Any international Standard referenced should be replaced by an equivalent Australian Standard when one is available. The availability of equivalent Australian Standards can be determined either from the Standards Australia catalogue or from the Standards Australia website (www.standards.com.au).

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STANDARDS AUSTRALIA

Australian Standard

Environmental testing
Part 2.66: Tests—Test Cx: Damp heat, steady state (unsaturated pressurized vapour)

1 Scope

This International Standard provides a standard test procedure for the purpose of evaluating, in an accelerated manner, the resistance of small electrotechnical products, primarily non hermetically sealed components, to the deteriorative effect of damp heat.

The test is not intended to evaluate external effects, such as corrosion and deformation.

2 General description

In this test, the specimen is subjected to very high levels of unsaturated damp heat for a relatively short period.

Electrical bias is usually applied.

Due to the very accelerated nature of the test, careful consideration must be given to the choice of test conditions, since this may have an important effect on the type of failure mode which could occur (see annex B).

The test provides three temperatures at a relative humidity of 85 %. The test severity is defined by the duration at one of the temperatures.

Care shall be taken not to reach the maximum rated temperature of the specimen and/or the critical temperature of any encapsulating materials. The glass transition temperature of a plastic is a typical example of a critical transition temperature.

In the case of plastic encapsulated components, degradation results from absorption of water-vapour by the plastic and penetration of moisture along terminals.

3 Description of test apparatus

3.1 The test chamber

The chamber shall be so constructed that:

a) it can produce the temperature and relative humidity given in table 1, and sustain the pressure values given in clause 4, note 3;

b) it is capable of providing controlled conditions of temperature, relative humidity and pressure during testing, and the ramp-up to, and ramp-down from, specified test conditions;

c) the temperature and humidity of the chamber can be monitored by means of sensing devices located in the working space, and/or other areas giving the same results (e.g. a steam generator).

NOTE – The direct measurement of relative humidity during this test is not possible with current techniques. Guidance on the determination of the relative humidity in the working space is given in annex C.