

Australian Standard™

Environmental testing

**Part 2.30: Tests—Test Db and
guidance: Damp heat, cyclic
(12 + 12-hour cycle)**

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 10 April 2003 and published on 16 May 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 2.30 of that series.

This Standard is identical with, and has been reproduced from, IEC 60068-2-30:1980, *Environmental testing—Part 2-30: Tests—Test Db and guidance: Damp heat, cyclic (12 + 12-hour cycle)* incorporating Amendment 1:1985.

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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INTRODUCTION

It is recommended that Test Db should be used instead of Test D of IEC 60068-2-4 (Test D: Accelerated damp heat) for testing all newly designed articles.*

* At the Paris meeting (1979) of IEC subcommittee 50B, it was decided to withdraw Test D by 1st January 1983.

STANDARDS AUSTRALIA

Australian Standard**Environmental testing****Part 2.30: Tests—Test Db and guidance: Damp heat, cyclic
(12 + 12-hour cycle)**

1 Scope

To determine the suitability of components, equipment or other articles for use and storage under conditions of high humidity when combined with cyclic temperature changes and, in general, producing condensation on the surface of the specimen.

2 General description

This test comprises one or more temperature cycles in which the relative humidity is maintained at a high level.

Two variants of the cycle are given which are identical except for the temperature fall period; during this part of the cycle, variant 2 allows wider tolerances of relative humidity and the rate of temperature fall.

The test severity is determined by the upper temperature of the cycle and the number of cycles (see clause 4).

Test profiles illustrating the procedure are shown in figures 1, 2a, 2b and 3.

3 Testing chamber

The chamber shall be so constructed that the conditions given hereafter may be obtained:

3.1 The temperature can be varied cyclically between 25 ± 3 °C and the appropriate upper temperature specified with the tolerance and rate of change specified in 6.3 and figures 2a or 2b, as applicable.

3.2 The relative humidity in the working space can be maintained within the limits given in 6.3 and in figures 2a or 2b, as applicable.

3.3 Care shall be taken to ensure that the conditions prevailing at any point in the working space are uniform and are as similar as possible to those prevailing in the immediate vicinity of suitably located temperature and humidity sensing devices. The air in the chamber should therefore be continuously stirred at a rate necessary to maintain the specified conditions of temperature and humidity.

3.4 The specimens under test shall not be subjected to radiant heat from the chamber conditioning processes.

3.5 Water used for the maintenance of chamber humidity shall have a resistivity of not less than 500 Ω m.

Condensed water shall be continuously drained from the chamber and not used again until it has been re-purified.