

Environmental testing —

Part 2: Tests — Test N: Change of temperature

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ICS 19.040

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National foreword

This British Standard is the official English language version of EN 60068-2-14:1999. It is identical with IEC 60068-2-14:1984 plus amendment 1:1986. It supersedes BS 2011-2.1N:1985 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee GEL/104, Environmental conditions, classification and testing, which has the responsibility to:

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- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 15 and a back cover.

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This British Standard, having been prepared under the direction of the Electrotechnical Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 April 2000

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ISBN 0 580 34048 1

Amendments issued since publication

Amd. No.	Date	Comments

English version

Environmental testing
Part 2: Tests - Test N: Change of temperature
(IEC 60068-2-14:1984 + A1:1986)

Essais d'environnement
Partie 2: Essais - Essai N: Variations
de température
(CEI 60068-2-14:1984 + A1:1986)

Umweltprüfungen
Teil 2: Prüfungen
Prüfung N: Temperaturwechsel
(IEC 60068-2-14:1984 + A1:1986)

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CENELEC

European Committee for Electrotechnical Standardization
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Foreword

The text of the International Standard IEC 60068-2-14:1984 and its amendment 1:1986, prepared by SC 50B (transformed into IEC TC 104 "Environmental conditions, classification and methods of test), was approved by CENELEC as HD 323.2.14 S2 on 1986-09-10.

This Harmonization Document was submitted to the formal vote for conversion into a European Standard and was approved by CENELEC as EN 60068-2-14 on 1999-10-01.

The following date was fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2000-10-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60068-2-14:1984 and its amendment 1:1986 was approved by CENELEC as a European Standard without any modification.

CONTENTS

	Page
Introduction	4
 Clause	
1 Test Na: Rapid change of temperature with prescribed time of transition	4
1.1 Scope	4
1.2 General description of the test	4
1.3 Description of the test apparatus	4
1.4 Severities	5
1.5 Initial measurements	5
1.6 Conditioning	5
1.7 Recovery	7
1.8 Final measurements	8
1.9 Information to be given in the relevant specification	8
2 Test Nb: Change of temperature with specified rate of change	8
2.1 Scope	8
2.2 General description of the test	8
2.3 Description of test apparatus	8
2.4 Severities	9
2.5 Initial measurements	9
2.6 Conditioning	9
2.7 Recovery	11
2.8 Final measurements	11
2.9 Information to be given in the relevant specification	11
3 Test Nc: Rapid change of temperature, two-fluid-bath method	11
3.1 Scope	11
3.2 General description of the test	12
3.3 Description of test apparatus	12
3.4 Severities	12
3.5 Initial measurements	12
3.6 Conditioning	13
3.7 Recovery	13
3.8 Final measurements	14
3.9 Information to be given in the relevant specification	14
 Annex ZA Normative references to international publications with their corresponding European publications	 15

BASIC ENVIRONMENTAL TESTING PROCEDURES –

Part 2: Tests – Test N: Change of temperature

INTRODUCTION

A change of temperature test is intended to determine the effect on the specimen of a change of temperature or a succession of changes of temperature.

It is not intended to show effects which are due only to the high or low temperature. For these effects, the dry heat test or the cold test should be used.

The effect of such tests is determined by:

- values of high and low conditioning temperature between which the change is to be effected;
- the conditioning times for which the test specimen is kept at these temperatures;
- the rate of change between these temperatures;
- the number of cycles of conditioning;
- the amount of heat transfer into or from the specimen.

Guidance on the choice of suitable test parameters for inclusion in the detail specification is given in IEC 60068-2-33: Basic environmental testing procedures – Part 2: Tests – Guidance on change of temperature tests, which should be read in conjunction with this standard.

1 Test Na: Rapid change of temperature with prescribed time of transition

1.1 Scope

This test determines the ability of components, equipment or other articles to withstand rapid changes of ambient temperature. The exposure times adequate to accomplish this will depend upon the nature of the specimen.

1.2 General description of the test

The specimen is exposed to rapid changes of temperature in air, or in a suitable inert gas, by alternate exposure to low temperature and to high temperature.

1.3 Description of the test apparatus

1.3.1 Testing chamber

1.3.1.1 Two separate chambers shall be provided, one for the low temperature and one for the high temperature, the location being such as to allow transfer of the specimen from one chamber to the other within the prescribed time. Either manual or automatic transfer methods may be used.

1.3.1.2 The chambers shall be capable of maintaining the atmosphere at the appropriate temperature for the test in any region where the specimen is placed.

1.3.1.3 The absolute humidity of the atmosphere should not exceed 20 g/m³.