

This document is a review generated by EVS

Environmental testing - Part 3-6: Supporting documentation and guidance - Confirmation of the performance of temperature/humidity chambers

ESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 60068-3-6:2018 sisaldb Euroopa standardi EN IEC 60068-3-6:2018 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 60068-3-6:2018 consists of the English text of the European standard EN IEC 60068-3-6:2018.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 30.03.2018.	Date of Availability of the European standard is 30.03.2018.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 19.040

Standardite reproduutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN IEC 60068-3-6

March 2018

ICS 19.040

Supersedes EN 60068-3-6:2002

English Version

Environmental testing - Part 3-6: Supporting documentation and
guidance - Confirmation of the performance of
temperature/humidity chambers
(IEC 60068-3-6:2018)

Essais d'environnement - Partie 3-6: Documentation
d'accompagnement et guide - Confirmation des
performances des chambres d'essais en température et
humidité
(IEC 60068-3-6:2018)

Umwelprüfungen - Teil 3-6: Unterstützende Dokumentation
und Leitfaden - Bestätigung des Leistungvermögens von
Temperatur-/Klimaprüfkammern
(IEC 60068-3-6:2018)

This European Standard was approved by CENELEC on 2018-02-27. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 104/760/FDIS, future edition 2 of IEC 60068-3-6, prepared by IEC/TC 104 "Environmental conditions, classification and methods of test" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60068-3-6:2018.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2018-11-17
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-02-27

This document supersedes EN 60068-3-6:2002.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 60068-3-6:2018 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60068-1	NOTE	Harmonized as EN 60068-1.
IEC 60068-3-4	NOTE	Harmonized as EN 60068-3-4.
IEC 60584-1	NOTE	Harmonized as EN 60584-1.
IEC 60751	NOTE	Harmonized as EN 60751.
ISO 10012	NOTE	Harmonized as EN ISO 10012.

Annex ZA
(normative)

**Normative references to international publications
with their corresponding European publications**

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-3-5	2001	Environmental testing -- Part 3-5: Supporting documentation and guidance - Confirmation of the performance of temperature chambers	EN 60068-3-5	2002
IEC 60068-3-7	2001	Environmental testing -- Part 3-7: Supporting documentation and guidance - Measurements in temperature chambers for tests A and B (with load)	EN 60068-3-7	2002
IEC 60068-3-11	2007	Environmental testing -- Part 3-11: Supporting documentation and guidance - Calculation of the uncertainty of conditions in climatic test chambers	EN 60068-3-11	2007

CONTENTS

FOREWORD	3
INTRODUCTION	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
4 Measuring of performances	9
4.1 Test area environment	9
4.2 Measurement system	9
4.3 Temperature measurement system	9
4.4 Humidity measurement system	9
4.5 Temperature/humidity chamber test specimens	10
4.6 Specified location of temperature sensors and humidity sensor in working space	10
4.6.1 General	10
4.6.2 Temperature sensors	11
4.6.3 Humidity sensor	11
4.7 Measurement method	11
4.7.1 General	11
4.7.2 Achieved humidity	11
4.7.3 Temperature/humidity stabilization	12
4.7.4 Humidity fluctuation	12
4.7.5 Humidity gradient	13
4.7.6 Humidity variation in space	14
4.8 Standard humidity sequence	15
5 Information to be given in the performance test report	16
Bibliography	17
 Figure 1 – Example of humidity differences	8
Figure 2 – Working space	8
Figure 3 – Location sensors for temperature/humidity chambers up to 2 000 l	10
Figure 4 – Location of minimal additional sensors for temperature/humidity chambers over 2 000 l	11
Figure 5 – Example of achieved humidity	12
Figure 6 – Example of temperature/humidity stabilization	12
Figure 7 – Example of humidity fluctuation	13
Figure 8 – Example of humidity gradient for chambers up to 2 000 l	14
Figure 9 – Example of humidity variation in space for chambers up to 2000 l	15
Figure 10 – Example of climatogram	16
 Table 1 – Practical dimensions	9
Table 2 – Example of test sequence	15

INTRODUCTION

IEC 60068 (all parts) contains fundamental information on environmental testing procedures and severities.

The expression "environmental conditioning" or "environmental testing" covers the natural and artificial environments to which components or equipment may be exposed so that an assessment can be made of their performance under conditions of use, transport and storage to which they may be exposed in practice.

Temperature and humidity chambers used for "environmental conditioning" or "environmental testing" are not described in any publication, although the method of maintaining and measuring temperature and/or humidity has a great influence on test results. The physical characteristics of temperature and humidity chambers can also influence test results.