This is a free page sample. Access the full version online.

NSAI Standards

Irish Standard
I.S. EN 62552:2013

Household refrigerating appliances - Characteristics and test methods (IEC 62552:2007 (MOD) + corrigendum Mar. 2008 (EQV))

© CENELEC 2013 No copying without NSAI permission except as permitted by copyright law.

This is a free page sample. Access the full version online.

I.S. EN 62552:2013

Incorporating amendments/corrigenda issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces:	*This document is based on:*	*Published:*
EN 153:2006 EN ISO 15502:2005/AC:2007	EN 62552:2013 EN 153:2006	15 March, 2013 8 February, 2006

This document was published under the authority of the NSAI and comes into effect on: 25 March, 2013	ICS number: 97.03

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie

W **NSAI.ie**

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

This is a free page sample. Access the full version online.

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62552

March 2013

ICS 97.030

Supersedes EN 153:2006, EN ISO 15502:2005 + corr. Dec.2007

English version

Household refrigerating appliances - Characteristics and test methods

(IEC 62552:2007, modified + corrigendum Mar. 2008)

Appareils de réfrigération à usage ménager - Caractéristiques et méthodes d'essai (CEI 62552:2007, modifiée + corrigendum Mar. 2008)

Haushalt-Kühl-/Gefriergeräte - Eigenschaften und Prüfverfahren (IEC 62552:2007, modifiziert + corrigendum Mar. 2008)

This European Standard was approved by CENELEC on 2012-10-22. 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

© 2013 CENELEC - All rights of exploitation in any form and by any means reserved worldwide for CENELEC members.

Ref. No. EN 62552:2013 E

This is a free page sample. Access the full version online.

Foreword

This document (EN 62552:2013) consists of the text of IEC 62552:2007 + corrigendum 2008 prepared by IEC/TC 59 "Performance of household and similar electrical appliances", together with the common modifications prepared by CLC/TC 59X "Performance of household and similar electrical appliances".

The following dates are fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2013-10-22
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2015-10-22

This document supersedes EN 153:2006 and EN ISO 15502:2005 + AC:2007.

EN 62552:2013 includes the following significant technical changes with respect to EN 153:2006 and EN ISO 15502:2005:

– new compartment: zero star;

– new compartment: wine storage, combined with requirements for vibration, temperature fluctuation and humidity;

– new compartment: pantry;

– new compartment: multi-use;

– new compartment: through-the-door-devices;

– requirements for circumvention.

EN ISO 15502:2005 + AC:2007, *Household refrigerating appliances – Characteristics and test methods*, is based on ISO 15502:2005 and its corrigendum Cor 1:2007; this International Standard, prepared by subcommittee 5: Testing and rating of household refrigeration appliances of ISO technical committee 86, Refrigeration and air-conditioning, was transferred to the IEC subsequent to IEC SMB decision 127/11. ISO 15502:2005 and its corrigendum are superseded by IEC 62552:2007.

EN 153:2006, *Methods of measuring the energy consumption of electric mains operated household refrigerators, frozen food storage cabinets, food freezers and their combinations, together with associated characteristics*, was prepared by CEN/TC 44, Household refrigerating appliances and commercial refrigeration equipment.

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62552:2007 are prefixed “Z”.

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

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association.

This is a free page sample. Access the full version online.

CONTENTS

FOREWORD 4

1 Scope 6
2 Normative references 6
3 Terms, definitions and symbols 6
4 Classification 12
5 Materials, design and manufacture 13
6 Storage temperatures 15
7 Determination of linear dimensions, volumes and areas 17
8 General test conditions 22
9 Testing air-tightness of doors, lids or drawer seals 29
10 Testing opening force of doors or lids 29
11 Testing the durability of doors, lids and drawers 29
12 Testing mechanical strength of shelves and similar components 32
13 Testing storage temperatures 33
14 Water vapour condensation test 37
15 Energy consumption test 38
16 Temperature rise test 43
17 Freezing test 44
18 Ice-making test 48
19 Final test report 51
20 Designation 51
21 Marking 52
22 Technical and commercial product information 54
23 Instructions for users 55

Annex A (informative) Conditions particular to certain countries 76
Annex B (informative) Percentage running time 78
Annex C (informative) Test for absence of taste and odour 79
Annex D (normative) Built-in refrigerating appliances 82
Annex E (informative) Rated characteristics and control procedure 83

Bibliography 85

Figure 1 – Example of operating cycle for frost-free refrigerator-freezer 16
Figure 2 – Overall space required in use (upright type) 17
Figure 3 – Partition to restrict air circulation and ambient temperatures sensor position 24
Figure 4 – Example of opening and closing external door(s) 30
Figure 5 – Example of opening and closing of external drawer(s) 31

This is a free page sample. Access the full version online.

Figure 6 – Test position for sliding components which have no limiting stop 32

Figure 7 – Examples of shifted package stack 34

Figure 8 – Example of multiple stacks with shifted package 35

Figure 9 – Condensation codes 38

Figure 10 – Determination by interpolation of energy consumption – Refrigerators and types I and II refrigerator-freezers 41

Figure 11 – Identification symbol for food freezer compartment (for further details, see Figure 20) 53

Figure 12 – Star identification symbols for frozen-food storage compartments (for further details, see Figure 21) 53

Figure 13 – Marking of load limit 54

Figure 14 – Temperature measurement points in fresh-food storage compartments with different arrangements of evaporator 57

Figure 15 – Temperature measurement points T_{ci} in cellar compartments of refrigerators relative to height h_c and internal fittings 59

Figure 16 – Examples of storage plan (see 13.3) 61

Figure 17 – Examples of positioning of M-packages 63

Figure 18 – Examples of determination of dimensions for calculating shelf area (see 7.3) 66

Figure 19 – Examples of determination of mean dimensions for calculating basket area (see 7.3.2.6, 7.3.2.7.2 and 7.3.2.7.3) 67

Figure 20 – Details of identification symbols for food freezer compartments 68

Figure 21 – Details of identification symbols for frozen-food storage compartments 69

Figure 22 – Examples of determination of gross volume 70

Figure 23 – Determination of volume of evaporator space 72

Figure 24 – Example of determination of storage volume of frozen-food storage or food freezer compartments/cabinets 74

Figure 25 – Determination of volumes of shelves and partitions 75

Figure A.1 – Cold zone identification symbol 76

Table 1 – Climate classes 13

Table 2 – Storage temperatures 15

Table 3 – Test package dimensions and mass 25

Table 4 – Chill compartment storage load 34

Table 5 – Energy-storage temperature conditions for determining energy consumption 40

This is a free page sample. Access the full version online.

INTERNATIONAL ELECTROTECHNICAL COMMISSION

HOUSEHOLD REFRIGERATING APPLIANCES – CHARACTERISTICS AND TEST METHODS

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62552 has been published under the responsibility of IEC technical committee 59: Performance of household and similar electrical appliances.

It cancels and replaces International Standard ISO 15502 and its corrigendum (2005) prepared by subcommittee 5: Testing and rating of household refrigeration appliances of ISO technical committee 86, Refrigeration and air-conditioning, which was transferred to the IEC subsequent to IEC SMB decision 127/11.

The first edition of ISO 15502 cancelled and replaced ISO 5155:1995, ISO 7371:1995, ISO 8187:1991 and ISO 8561:1995, of which it constitutes a technical revision. It also incorporates the amendments ISO 7371:1995/Amendment 1:1997, ISO 8187:1991/Amendment 1:1997 and ISO 8561:1995/Amendment 1:1997.

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

This is a free page sample. Access the full version online.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

The contents of the corrigendum of March 2008 have been included in this copy.

This is a free page sample. Access the full version online.

HOUSEHOLD REFRIGERATING APPLIANCES – CHARACTERISTICS AND TEST METHODS

1 Scope

This International Standard specifies the essential characteristics of household refrigerating appliances, factory-assembled and cooled by internal natural convection or forced air circulation, and establishes test methods for checking the characteristics. These are type tests, and because of this, when verification of the performance of a refrigerating appliance of a given type in relation to this standard is necessary, it is preferable, wherever practicable, that all the tests specified be applied to a single unit. The tests can also be made individually for the study of a particular characteristic.

NOTE For the safety requirements applicable to household refrigerating appliances, see IEC 60335-2-24; for noise requirements applicable to household refrigerators and freezers, see ISO 8960; and for additional safety requirements applicable to the refrigerating systems of household refrigerating appliances, see ISO 5149.

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.

ISO 534, *Paper and board – Determination of thickness, density and specific volume*

ISO 817, *Refrigerants – Designation system*

IEC 60335-2-24:2002, *Household and similar electrical appliances – Safety – Part 2-24: Particular requirements for refrigerating appliances, ice-cream appliances and icemakers*

3 Terms, definitions and symbols

For the purposes of this document, the following terms, definitions and symbols apply.

3.1
refrigerating appliance
factory-assembled insulated cabinet with one or more compartments and of suitable volume and equipment for household use, cooled by natural convection or a frost-free system whereby the cooling is obtained by one or more energy-consuming means

NOTE From the point of view of installation, there are various types of household refrigerating appliance (free-standing, wall-mounted, built-in, etc.).

3.1.1
compression-type refrigerating appliance
refrigerating appliance in which refrigeration is effected by means of a motor-driven compressor

3.1.2
absorption-type refrigerating appliance
refrigerating appliance in which refrigeration is effected by an absorption process using heat as energy source

3.1.3
refrigerator
refrigerating appliance intended for the preservation of food, one of whose compartments is suitable for the storage of fresh food

SAI GLOBAL

This is a free preview. Purchase the entire publication at the link below:

Product Page

Looking for additional Standards? Visit Intertek Inform Infostore

Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation