

INTERNATIONAL STANDARD

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**Household refrigerating appliances – Characteristics and test methods –
Part 2: Performance requirements**

**Appareils de réfrigération à usage ménager – Caractéristiques et méthodes
d'essai –
Partie 2 – Exigences de performances**



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CONTENTS

FOREWORD.....	5
INTRODUCTION.....	8
1 Scope.....	9
2 Normative references	9
3 Terms, definitions and symbols.....	9
4 Performance requirements and tests covered in this standard	9
4.1 General.....	9
4.2 Storage test.....	9
4.3 Cooling capacity test.....	10
4.4 Freezing capacity test.....	10
4.5 Automatic ice-making capacity test	10
4.6 Other tests	10
4.7 Test summary	10
5 General test conditions.....	12
6 Storage test.....	12
6.1 Objective	12
6.2 Preparation of refrigerating appliance	12
6.3 Air temperature sensor location and test and M-package loading	13
6.3.1 Unfrozen compartments (except chill compartment and wine storage compartment)	13
6.3.2 Chill compartments	13
6.3.3 Frozen compartments/sections	15
6.4 Test procedure.....	22
6.4.1 Overview	22
6.4.2 Details	23
6.4.3 Compliance criteria.....	24
6.5 Storage temperature	25
6.6 Data to be recorded	25
7 Cooling capacity test	25
7.1 Objective	25
7.2 Set-up procedure	25
7.2.1 Ambient temperature	25
7.2.2 Installation.....	26
7.2.3 Adjustment of compartments	26
7.2.4 Arrangement of shelves	26
7.3 Test procedure.....	27
7.3.1 General	27
7.3.2 Positioning of the load in the fresh food compartment.....	27
7.3.3 M-packages	28
7.4 Data to be recorded	29
8 Freezing capacity test.....	30
8.1 Objective	30
8.2 Method overview	30
8.3 Set-up procedure	30
8.3.1 Ambient temperature	30

8.3.2	Preparation of the refrigerating appliance	30
8.3.3	Loading of refrigerating appliance	31
8.4	Test procedure	32
8.4.1	Starting conditions	32
8.4.2	Setting of control devices	33
8.4.3	Freezing of the light load	33
8.4.4	Intermediate test data to be recorded	33
8.5	Criteria to achieve a four-star compartment rating	34
8.6	Data to be recorded	34
9	Automatic ice-making capacity test	35
9.1	Objective	35
9.2	Procedure	35
9.2.1	Ambient and water temperatures	35
9.2.2	Preparation of refrigerating appliance	35
9.2.3	Test procedures	36
9.3	Data to be recorded	37
Annex A (normative)	Pull-down test	38
A.1	General	38
A.2	Method overview	38
A.3	Set-up procedure	38
A.3.1	Test room ambient temperature	38
A.3.2	Installation	38
A.3.3	Disconnection of devices	38
A.3.4	User-adjustable features	38
A.3.5	Internal components	39
A.3.6	Determination of compartment temperature	39
A.4	Test procedure	39
A.4.1	General	39
A.4.2	Heat soak	39
A.4.3	Pull down	40
A.5	Test end-point	40
A.6	Data to be recorded	40
Annex B (normative)	Wine storage appliances and compartments; storage test	41
B.1	Objective	41
B.2	Storage temperature requirements	41
B.3	Measurement of compartment temperature	41
B.4	Preparation of refrigerating appliance	42
B.5	Measurements	42
B.5.1	General	42
B.5.2	Conditions for demonstration of compliance	42
B.6	Data to be recorded	42
Annex C (normative)	Temperature rise test	44
C.1	Objective	44
C.2	Procedure	44
C.2.1	Ambient temperature	44
C.2.2	Preparation of refrigerating appliance	44
C.2.3	Operation of the refrigerating appliance	44
C.3	Test period and measurements	44

C.4	Temperature rise time	44
C.5	Data to be recorded	44
Annex D (normative)	Water vapour condensation test	45
D.1	Objective	45
D.2	Procedure	45
D.2.1	Ambient temperature	45
D.2.2	Relative humidity	45
D.2.3	Preparation of refrigerating appliance	45
D.2.4	Operation of the refrigerating appliance	45
D.2.5	Test period	46
D.3	Observations	46
D.4	Data to be recorded	46
Figure 1	– Location of packages in frozen compartment, showing clearances (1 of 2)	18
Figure 2	– Location of test packages and M-packages, in frozen compartment (1 of 3)	20
Figure 3	– Storage test sequence illustration	24
Figure 4	– Filling of a shelf with test packages and M-packages for cooling capacity test	29
Figure 5	– Package placement illustration for non flat surfaces	16
Figure D.1	– Condensation codes	46
Table 1	– Test summary	11
Table 2	– Compartment temperatures	12
Table 3	– Chill compartment storage load	15
Table 4	– Requirements for periods <i>S</i> and <i>E</i>	23
Table 5	– M-Packages in the light load	33
Table A.1	– Pull-down temperatures for compartments	40
Table D.1	– Humidity conversions	45

INTERNATIONAL ELECTROTECHNICAL COMMISSION

HOUSEHOLD REFRIGERATING APPLIANCES – CHARACTERISTICS AND TEST METHODS –

Part 2: Performance requirements

FOREWORD

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This consolidated version of the official IEC Standard and its amendment has been prepared for user convenience.

IEC 62552-2 edition 1.1 contains the first edition (2015-02) [documents 59M/62/FDIS and 59M/65/RVD] and its amendment 1 (2020-11) [documents 59M/127/FDIS and 59M/133/RVD].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 62552-2 has been prepared by subcommittee 59M: Performance of electrical household and similar cooling and freezing appliances, of IEC technical committee 59: Performance of household and similar electrical appliances

IEC 62552-1, IEC 62552-2 and IEC 62552-3 together constitute a technical revision and include the following significant technical changes with respect to IEC 62552:2007:

- a) All parts of the standard have been largely rewritten and updated to cope with new testing requirements, new product configurations, the advent of electronic product controls and computer based test-room data collection and processing equipment.
- b) In Part 1 there are some changes to test room equipment specifications and the setup for testing to provide additional flexibility especially when testing multiple appliances in a single test room.
- c) For more efficient analysis and to better characterise the key product characteristics under different operating conditions, the test data from many of the energy tests in Part 3 is now split into components (such as steady state operation and defrost and recovery). The approach to determination of energy consumption has been completely revised, with many internal checks now included to ensure that data complying with the requirements of the standard is as accurate as possible and of high quality.
- d) Part 3 of the standard now provides a method to quantify each of the relevant energy components and approaches on how these can be combined to estimate energy under different conditions on the expectation that different regions will select components and weightings that are most applicable when setting both their local performance and energy efficiency criteria while using a single set of global test measurements.
- e) For energy consumption measurements in Part 3, no thermal mass (test packages) is included in any compartment and compartment temperatures are based on the average of air temperature sensors (compared to the temperature in the warmest test package). There are also significant differences in the position of temperature sensors in unfrozen compartments.
- f) The energy consumption test in Part 3 now has two specified ambient temperatures (16°C and 32°C).
- g) While, in Part 2 (this part) test packages are still used for the storage test to confirm performance in different operating conditions, in Part 1 they have been standardised to one size (100 mm × 100 mm × 50 mm) to simplify loading and reduce test variability. A clearance of at least 15 mm is now specified between test packages and the compartment liner.
- h) A load processing energy efficiency test has been added in Part 3.
- i) A tank-type ice making energy efficiency test has been added in Part 3.
- j) A cooling capacity test has been added in Part 2 (this part).
- k) A pull-down test has been added in Part 2 (this part).
- l) Shelf area and storage volume measurement methods are no longer included. In Part 3 the volume measurement has been revised to be the total internal volume with only components necessary for the satisfactory operation of the refrigeration system considered as being in place.
- m) Tests (both performance (Part 2 – this part) and energy (Part 3)) have been added for wine storage appliances.

The following print types are used in this international standard:

- requirements: in roman type;
- test variables: in *italic type*;
- notes: in small roman type.
- words in **bold** are defined in IEC 62552-1:2015.

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

A list of all parts in the IEC 62252 series, published under the general title *Household refrigerating appliances – characteristics and test methods*, can be found on the IEC website.

The committee has decided that the contents of the base publication and its amendment will remain unchanged until the stability 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.

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INTRODUCTION

IEC 62552 is split into 3 parts as follows:

- Part 1: Scope, definitions, instrumentation, test room and set up of refrigerating products;
- Part 2: General performance requirements for **refrigerating appliances** and methods for testing them (this part);
- Part 3: **Energy consumption** and **volume** determination.

HOUSEHOLD REFRIGERATING APPLIANCES – CHARACTERISTICS AND TEST METHODS –

Part 2: Performance requirements

1 Scope

This part of IEC 62552 specifies the essential characteristics of household **and similar refrigerating appliances** cooled by internal natural convection or forced air circulation, and **specifies** establishes test methods for checking these characteristics.

This part of IEC 62552 describes the methods for the determination of performance requirements. Although there is some commonality in the set-ups for different tests (and so it may be an advantage to apply them all to one sample), these are separate tests to evaluate specific characteristics of the sample being tested. This part of IEC 62552 does not specify a procedure to generalise the results from sample test results to a prediction of the characteristics of the whole population from which that sample was selected.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62552-1:2015, *Household refrigerating appliances – Characteristics and test methods – Part 1: General requirements*

IEC 62552-3:2015, *Household refrigerating appliances – Characteristics and test methods – Part 3: Energy consumption and volume*

3 Terms, definitions and symbols

For the purposes of this document, the terms, definitions and symbols given in IEC 62552-1:2015 apply.

4 Performance requirements and tests covered in this standard

4.1 General

This standard sets out tests to assess the performance of household and similar **refrigerating appliances**. While this standard does not require these tests to be performed, when they are performed, they shall be carried out as specified.

4.2 Storage test

The storage test is used to establish whether the **refrigerating appliance** is capable of maintaining suitable internal **storage temperatures** in a range of ambient conditions defined under the climate classes for which it is **rated**. See Clause 6.