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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Household refrigerating appliances – Characteristics and test methods

Appareils de réfrigération à usage ménager – Caractéristiques et méthodes d'essai





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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HOUSEHOLD REFRIGERATING APPLIANCES – CHARACTERISTICS AND TEST METHODS

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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.

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- withdrawn,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.

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

3.1.3.1

frost-free refrigerator

refrigerator in which all compartments are automatically defrosted with automatic disposal of the defrosted water and at least one compartment is cooled by a frost-free system and at least one is a "frozen-food storage" compartment

NOTE A single-compartment refrigerator using a frost-free system cannot be called a frost-free refrigerator.

3.1.4

refrigerator-freezer

refrigerating appliance having at least one compartment suitable for the storage of fresh food (the fresh-food storage compartment) and at least one other (the food freezer compartment) suitable for the freezing of fresh food and the storage of frozen food under three-star storage conditions

3.1.4.1

frost-free refrigerator-freezer

refrigerator-freezer in which all compartments are automatically defrosted with automatic disposal of the defrosted water and at least one compartment is cooled by a frost-free system

3.1.5

frozen-food storage cabinet

refrigerating appliance having one or more compartments suitable for the storage of frozen food

3.1.5.1

frost-free frozen-food storage cabinet

frozen-food storage cabinet in which all compartments are automatically defrosted with automatic disposal of the defrosted water and which is cooled by a frost-free system

3.1.6

food freezer

refrigerating appliance having one or more compartments suitable for freezing foodstuffs from ambient temperature down to a temperature of -18 °C and which is also suitable for the storage of frozen food under three-star storage conditions

NOTE In certain instances, two-star sections and/or compartments are permitted within the compartment or cabinet (see 7.2.8).

3.1.6.1

frost-free food freezer

food freezer in which all compartments are automatically defrosted with automatic disposal of the defrosted water and at least one compartment is cooled by a frost-free system

3.1.7

built-in appliance

fixed refrigerating appliance intended to be installed in a cabinet, in a prepared recess in a wall or similar location

3.2

frost-free system

system automatically operated to prevent the permanent formation of frost, in which cooling is provided by forced air circulation, the evaporator or evaporators are defrosted by an automatic defrost system and the water from defrosting is disposed of automatically

3.3 Compartments and sections

3.3.1

fresh-food storage compartment

compartment intended for the storage of unfrozen food, which may itself be divided into sub-compartments

NOTE The storage temperatures can be maintained according to Clause 6.

3.3.2

cellar compartment

compartment intended for the storage of particular foods or beverages at a temperature warmer than that of the fresh-food storage compartment

NOTE The storage temperatures can be maintained according to Clause 6.

3.3.3

chill compartment

compartment intended specifically for the storage of highly perishable foodstuffs whose volume is capable of containing at least 2 M packages

NOTE The storage temperatures can be maintained according to Clause 6.

3.3.4

ice-making compartment

low-temperature compartment intended specifically for the freezing and storage of ice

3.3.5

frozen-food storage compartment

low-temperature compartment intended specifically for the storage of frozen food

NOTE Frozen-food storage compartments are classified according to temperature, see 3.3.5.1 to 3.3.5.5.

3.3.5.1

one-star compartment

frozen-food storage compartment in which the temperature is not warmer than -6 °C

3.3.5.2

two-star compartment

frozen-food storage compartment in which the temperature is not warmer than -12 °C

3.3.5.3

three-star compartment

frozen-food storage compartment in which the temperature is not warmer than -18 °C

3.3.5.4

food freezer compartment

four-star compartment

compartment suitable for freezing foodstuffs from ambient temperature down to -18 °C, and which is also suitable for the storage of frozen food under three-star storage conditions

NOTE Two-star sections and/or compartments are permitted within the compartment or cabinet (see 7.2.8).

3.3.5.5

two-star section

part of a food freezer compartment or cabinet, or three-star compartment or cabinet, which is not self-contained (i.e., does not have its own individual access door or lid) and in which the temperature is not warmer than -12 $^{\circ}$ C

3.4

rated

stated as a value (for example, a volume) by the manufacturer

3.5 Physical aspects and dimensions

3.5.1

top-opening type

refrigerating appliance in which the compartment(s) are accessible from the top