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BSI Standards Publication

Measuring method of the energy consumption of gas fired ovens

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National foreword

This British Standard is the UK implementation of EN 15181:2017+A1:2020. It supersedes BS EN 15181:2017, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to CEN text carry the number of the CEN amendment. For example, text altered by CEN amendment A1 is indicated by ▌A1⟩ ⟨A1▌.

The UK participation in its preparation was entrusted to Technical Committee GSE/35, Gas cooking appliances (domestic).

A list of organizations represented on this committee can be obtained on request to its committee manager.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 15181:2017+A1

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English Version

Measuring method of the energy consumption of gas fired ovens

Méthode de mesurage de la consommation d'énergie des fours à gaz

Bestimmung des Energieverbrauchs von Gasbacköfen

This European Standard was approved by CEN on 16 January 2017 and includes Amendment 1 approved by CEN on 28 March 2020.

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European foreword

This document (EN 15181:2017+A1:2020) has been prepared by Technical Committee CEN/TC 49 “Gas cooking appliances”, the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2020, and conflicting national standards shall be withdrawn at the latest by November 2020.

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

This document includes Amendment 1, approved by CEN on 2020-03-28.

This document supersedes [A1⟩ EN 15181:2017. ⟨A1]

The start and finish of text introduced or altered by amendment is indicated in the text by tags [A1⟩ ⟨A1].

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

The main changes to the previous version of EN 15181:2008 are the following:

— the implementation of Annex ZA which shows the coverage of Regulation 66/2014 concerning Ecodesign requirements for domestic ovens, hobs and range hoods and of Delegated Regulation 65/2014 on the Energy Labelling of domestic ovens and range hoods;

— the verification procedure for ensuring that the temperature inside the oven cavity reaches the temperature setting of the thermostat and/or the oven control display within the duration of the test cycle for measuring the energy consumption;

— the revision of Clause 9, Uncertainty and verification procedures;

— the amending of Clause 6, Calculated oven volume and mass, to ensure high reproducibility.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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Introduction

The object of this European Standard is to specify, in accordance with Regulation 66/2014 concerning Ecodesign requirements for domestic ovens, hobs and range hoods and of Delegated Regulation 65/2014 on the Energy Labelling of domestic ovens and range hoods:

— energy consumption using a standardized load during a standardized procedure,

— some performance characteristics (like volume, correspondence between set and measured oven temperature, permitted tolerances to values declared by the manufacturer and control procedures for checking the declared values).

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1 Scope

This European Standard specifies the method of test for determining the gas energy consumption in gas-fired domestic ovens when they are being used in one or more of the oven cooking modes defined in 3.1. It applies to the gas-fired domestic ovens which are capable of utilizing gases of group H or group E [A1] or third family gases [A1], possibly after conversion according to instructions for use.

This European Standard applies to these gas-fired domestic ovens, whether they are separate appliances or component parts of domestic cooking appliances.

This European Standard also applies to domestic appliances that can utilize gas and/or electrical energy to provide heat for cooking when the ovens are utilizing gas energy to provide heat for cooking, but not when electric energy is used to provide any or all of the heat for cooking in the oven.

It is not applicable to:

— microwave combination ovens;

— small cavities ovens (3.2);

— oven cavities not provided with devices to detect and control the temperature for the preparation of food;

— cooking modes others than defined in 3.1.1 and 3.1.2;

— ovens connected to a chimney in which the gas energy for cooking provides, by design, also space and/or water heating;

[A1] *Deleted text* [A1]

This European Standard is concerned neither with safety nor with overall performance requirements.

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.

<std>EN 30-1-1:2008+A3:2013, *Domestic cooking appliances burning gas - Part 1-1: Safety - General*</std>

<std>EN 30-1-2:2012, *Domestic cooking appliances burning gas - Safety - Part 1-2: Appliances having forced-convection ovens and/or grills*</std>

<std>EN 30-1-4:2012, *Domestic cooking appliances burning gas - Safety - Part 1-4: Appliances having one or more burners with an automatic burner control system*</std>

<std>[A1] EN 437:2018, *Test gases - Test pressures - Appliance categories* [A1]</std>

<std>[A1] EN 60584-1:2013, *Thermocouples - Part 1: EMF specifications and tolerances (IEC 60584-1:2013)* [A1]</std>

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3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 30-1-1:2008+A3:2013, EN 30-1-2:2012 or EN 30-1-4:2012, provided the appliance falls within the scope of that standard, and the following apply.

3.1
oven cooking modes

3.1.1
conventional oven cooking mode
operation of the oven for cooking roasts, pastry, etc., in which the transmission of heat is achieved by natural convection and radiation

3.1.2
forced-convection oven cooking mode
operation of the oven for cooking roasts, pastry, etc., in which the transmission of heat by convection is assisted by means of a fan

3.2
small cavity ovens
oven with the following dimensions related to the usable volume:

— both width and depth < 250 mm

— or height < 120 mm

Note 1 to entry: The definition of small cavity ovens in this standard is due to the size of the artificial standard load.

3.3
multiple cavity appliances
appliance that has more than one separate oven cavity in which food is cooked and which can be controlled independently, but cannot be installed separately

3.4
auxiliary electrical energy
electrical energy consumption (during the brick test) of any electric components that cannot be switched off from the control panel by the user when using the oven in accordance with the instructions for use

4 List of measurements

4.1 Dimensions and mass

Dimensions of the calculated oven volume (see 6.2) and mass of the oven (see 6.3).

4.2 Energy consumption and heating time

Heating of the load (7.2).

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