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Gas heated catering equipment - Part 2-2: Specific requirements - Ovens

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Appareils de cuisson professionnelle utilisant les combustibles gazeux - Partie 2-2: Exigences particulieres - Fours

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Gas heated catering equipment - Part 2-2: Specific requirements - Ovens

Appareils de cuisson professionnelle utilisant les combustibles gazeux - Partie 2-2: Exigences particulières - Fours

This European Standard was approved by CEN on 24 May 2006.

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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 CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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Foreword

This document (EN 203-2-2:2006) has been prepared by Technical Committee CEN/TC 106 “Large kitchen appliances using gaseous fuels”, the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by December 2006, and conflicting national standards shall be withdrawn at the latest by December 2008.

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.

If approved, this draft amendment will become EN 203-2-2.

This document supersedes EN 203-2:1995.

This European Standard specifies the safety and rational use of energy requirements and the particular test methods for natural convection oven, forced air ovens, multi-function ovens and steaming ovens as well as bakery and pizza ovens.

This European Standard has to be used in conjunction with EN 203-1:2005.

This part 2 supplements or modifies the corresponding clauses of EN 203-1:2005.

Where a particular subclause of EN 203-1:2005 is not mentioned in this part 2, that subclause applies as far as is reasonable. Where this European Standard states "addition", "modification" or "replacement", the relevant text of EN 203-1:2005 is to be adapted accordingly.

Subclauses and figures which are additional to those in EN 203-1:2005 are numbered starting with 101.

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

1 Scope

Addition

This European Standard specifies the test methods and requirements for the construction and operating characteristics relating to the safety and rational use of energy, of commercial gas heated natural convection ovens, forced air ovens, multi-function ovens and steaming ovens, atmospheric or pressurised.

Commercial bakery ovens, with a sole plate or a trolley and pizza ovens are also covered by this standard.

This European Standard does not cover appliances which are specifically designed for use in industrial process on industrial premises.

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.

Addition

EN 203-1:2005, *Gas heated catering equipment — Part 1: General safety rules*

EN 60335-1:2002, *Household and similar electrical appliances — Safety — Part 1: General requirements (IEC 60335-1:2001, modified)*

3.101
natural convection oven
appliance in which food is cooked in a chamber by natural convection

3.102
forced convection oven
appliance equipped with a cooking chamber in which hot air is circulated by means of a mechanical device

3.103
multi-function oven
appliance having several modes of cooking:

- natural convection mode: heating of the cooking chamber by natural convection;

- hot air mode: heating of the cooking chamber by forced convection;

- steam mode: a steam generator produces steam which is injected into the cooking chamber. The oven can be used as a steam cooker without pressure;

- mixed mode: combination of the hot-air and steam modes. The hot air is humidified by the steam. The steam injection can be continuous or intermittent by selection of the operator

NOTE Certain ovens do not have a steam generator. Steam is produced by the injection of water

3.104
commercial bakery oven
oven designed exclusively for the cooking of bread, cakes and pastries. It can receive the products to be cooked by an intermediate, fixed or rotating trolley in the cooking chamber, placed on sole plate or on grid shelf or on plates in the different cooking chambers of the oven (in case of sole plate oven)

3.105
multi deck oven
oven with multiple access to the cooking chamber

3.106
direct heating
food is directly heated by the products of combustion

3.107
indirect heating
food is not directly heated by the products of combustion

3.108
steam generator
apparatus providing the water vapour used to cook the food in multi-function ovens and steam ovens

3.109
adjustable vent oven (oura)
device allowing the venting of the cooking chamber during the cooking operation

3.110
sole plate
horizontal bottom surface of the cooking chamber

3.111
usable height of a cooking deck
maximum height in which the food can be placed on this deck

3.112
usable surface of a cooking deck
maximum surface area on which food can be placed on this cooking deck

3.113
usable volume of a cooking deck
product of the usable height by the usable surface for this deck

3.114
usable volume of a cooking chamber
sum of the usable volumes of the decks of the cooking chamber

3.115
usable volume of the cooking chamber with a rotating trolley
product of the usable height of the cooking chamber by the surface area subscribed by rotation of the largest trolley allowable in the chamber

3.116
usable volume of an oven
V
sum of the usable volumes of the cooking chamber of the oven.

Unit: cubic decimetre (dm^3)

3.117
centre of the cooking chamber
geometric centre of the usable volume of the cooking chamber of the oven

3.118
shelf support
support designed to receive the cooking shelves and cooking plates

3.119
trolley and charger
apparatus allowing the pre-loading of several shelves outside the appliance prior to introduction in the oven. They may be moved in rotation by a mechanical device

3.120
oven accessory
accessory used for cooking in the oven, supplied with the appliance or as an option (e.g. cooking shelf, pastry trays, roasting pans, perforated pans, baskets)

3.121
port hole, glass door or glass
transparent material allowing a view of the interior of the chamber

3.122
damper or isolating control
device permitting the isolation of components of the gas circuit of the appliance (combustion air fan, pressurestat, multifunction control etc.) of multi-function ovens with direct heating.

This device prevents ingress of steam in the gas circuit when the oven is used in the vapour mode. In the hot air or mixed mode, the damper is in the open position to keep clear the passing of the air gas mixture to the combustion head

3.123
water level control
device which controls the water level of the steam generator

5.1.6.101 Evacuation of combustion products for multi-function ovens

Combined combustion products circuits shall be constructed in such a way as to ensure that the burner of the steam generator and the hot air mode burner shall not influence each other.

For this the requirements of 6.7 of EN 203-1:2005 shall be fulfilled for separate and combined operations of the burners.

In the case of multi-function ovens with direct heating if a closing/opening device of the combustion products circuit exists, its opening shall be controlled and maintained when in hot air mode and mixed mode.

A control device shall be used to check that the burner cannot come on if the evacuation circuit of the products of combustion is closed.

5.2.3.101 Isolating shutter device (multi-function ovens with direct heating)

The operating and safety controls of the gas circuit (gas control, multifunction controls, pressurestats etc.) shall not be affected by contact with water vapour.

When a shutter or isolating device is used it shall be possible to control the operation.

5.3.2.101 Door opening

For appliances with drop down doors, any uncontrolled drop down of the door shall not cause injury to the operator.

For appliances covered by pressure equipment directive, it shall not be possible to open the door if the internal pressure in the chamber is greater than atmospheric pressure. Any de-pressurising shall be safe and under control.

6.3.101 Sequence of operation

The operation of the temperature regulator shall not have priority over the safety devices (of door, flame failure device, detector of failure of a fan in a combustion circuit…).

6.3.102 Overheat limit device for the cooking chamber

The re-set action of the overheat limit device shall be manual, unless a permanent warning (by a light for example) indicates that an automatic re-setting has occurred.

6.7 Combustion

Addition

The functioning of a sequential burner shall not cause a content of CO in the combustion products exceeding 0,2 % in the test conditions N°1 of 7.6.101.

For multi-function ovens with direct heat, the CO rate contained in the products of combustion in the hot air mode shall not exceed 0,2 % when the maximum quantity of vapour is injected into the cooking chamber (maximum dosage) in the test conditions N°2 of 7.6.101.

For forced air and direct heat ovens, in hot air mode the functioning of the burner shall be completely safe and the combustion (% of CO in the combustion products) shall remain under 0,1 % in the test conditions N°3 of 7.6.101.

6.8.1 Stability and mechanical safety

Addition

The forced convection burners, in hot air mode, shall not operate unless the oven door(s) is(are) closed.

The mixing fan shall not operate unless the doors are closed.

If the oven is fitted with an open door cooling system, the access to the vanes of the mixing fan shall not be possible.

Movable parts (fan, turbine, lever, rotating oven bottom, rotating trolley…) accessible by the user, shall be arranged or enclosed in such way to ensure an appropriate protection against the risks of injuries in normal use, included cleaning.

It shall not be possible to touch the moving parts, in the test conditions of 7.8.1.

The protection devices shall not be removable unless:

- an appropriate lock out is intended to prevent the rotation of the movable part when the protection device is removed, or

- the protection device is an integral part of the appliance's jacket.

Verify by examination of the construction.

6.8.1.101 Stability with opened door

Appliances other than those intended to be fixed to the floor shall not tilt when the doors are opened and subjected to a load according to 7.8.1.101.