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Plinske naprave za gostinstvo - 2-2. del: Posebne zahteve - Pečice

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

Großküchengeräte für gasförmige Brennstoffe - Teil 2-2: Spezifische Anforderungen - Backöfen

Appareils de cuisson professionnelle utilisant les combustibles gazeux - Partie 2-2: Exigences particulières - Fours
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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 203-2-2

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ICS

Will supersede EN 203-2-2:2006

English Version

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

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

Großküchengeräte für gasförmige Brennstoffe - Teil 2-2: Spezifische Anforderungen - Backöfen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 106.

If this draft becomes a European Standard, CEN 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European Foreword

This document (prEN 203-2-2:2020) has been prepared by Technical Committee CEN/TC 106 “Large kitchen appliances using gaseous fuels”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 203-2-2:2005.

This document has been prepared under a standardization request (under drafting) 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 technical changes in comparison to the previous edition are:

- alignment with part 1,
- clarification of the scope according to EN 203-1,
- clarification of the definitions, especially for bakery ovens, cooking chamber, usable volume of a cooking chamber and isolating device,
- update of the paragraph on stability and mechanical safety (5.3.2),
- addition of a performance requirement for shut-off device for multi-function ovens with direct heating (6.5.101),
- clarification of the functioning of a sequential burner (6.7.2),
- updating of rational use of energy in 6.9,
- clarification of the test on stability and mechanical safety for moving parts (7.8.1),
- clarification of the rational use of energy (7.10) for ovens and bakery ovens,
- updating of the calculation of rational use of energy index (7.10.103),
- updating of Clause 8 on marking and instructions.

This document is used in conjunction with EN 203-1 “Gas Heated Catering Equipment – Part 1: General safety requirements”. This document specifies particular requirements for open and wok burners.

Subclauses and Figures which are additional to those in EN 203-1 are numbered with 101.

prEN 203-2-2:2020 (E)**1 Scope**

The scope of prEN 203-1:2019 applies, with the following addition and modification of the 3rd paragraph:

This document applies to catering, bakery and pizza ovens.

This document applies to gas heated natural and forced convection ovens, multi-function ovens and atmospheric steaming ovens.

This document does not cover appliances which are specifically designed for use in industrial process on industrial premises nor appliances intended to operate door open.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 prEN 203-1:2019. *Gas heated catering equipment - Part 1: General safety requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in prEN 203 1:2019 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1 Terminology referring to ovens**3.101.1****natural convection oven**

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

3.101.2**forced convection oven**

appliance equipped with a cooking chamber in which hot air is circulated by means of an electro-mechanical device

3.101.3**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 1 to entry: Certain ovens do not have a steam generator. Steam is produced by the injection of water

3.101.4**bakery oven**

oven designed exclusively for cooking bakery products (e.g. bread, cake, pastry, pizza, Danish product,...)

3.101.5**direct heating**

food is directly heated by the products of combustion

3.101.6**indirect heating**

food is not directly heated by the products of combustion

3.101.7**steam generator**

apparatus providing the water vapour used to cook the food

3.101.8**cooking chamber**

interior of the oven in which food products are heated or cooked

Note 1 to entry: more than one cooking chamber may be present

3.101.9**usable volume of a cooking chamber**

useful shelf area (shelf or bottom of the chamber) multiplied by the height of the accessible opening

3.101.10**usable volume of an oven (V)**

sum of the usable volumes of the cooking chamber(s) of the oven

3.101.11**centre of the cooking chamber**

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

3.101.12**shelf support**

support designed to receive the cooking shelves and cooking plates

3.101.13**trolley and charger**

apparatus allowing the pre-loading of several shelves outside the appliance prior to introduction in the oven which may be moved in rotation by a mechanical device

3.101.14**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)

prEN 203-2-2:2020 (E)**3.101.15****isolating device**

device permitting the isolation of components of the gas circuit of the appliance (combustion air fan, pressure switch, multifunction control etc.) of multi-function ovens with direct heating

Note 1 to entry: this device prevents ingress of steam in the gas circuit when the oven is used in the vapour mode

Note 2 to entry: in the hot air or mixed mode, the isolating device is in the open position to keep clear the passing of the air gas mixture to the combustion head

4 Classification

Clause 4 of prEN 203-1:2019 applies.

5 Constructional requirements

Clause 5 of prEN 203-1:2019 applies with the following additions:

5.1 Conversion to different gases

Shall be according to prEN 203-1:2019, 5.1 with the following additions:

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.

The requirements of 6.7 of prEN 203-1:2019 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 ensure that the burner cannot be operated if the evacuation circuit of the products of combustion is closed.

5.2 Particular requirements for components in the gas circuit

Shall be according to prEN 203-1:2019, 5.2.

5.2.3 Auxiliary equipment

Shall be according to prEN 203-1:201X, 5.2.3. with the following addition:

5.2.3.101 Isolating device for multi-function ovens with direct heating

An isolating device shall be used in order to avoid any contact of steam with the operating and safety controls of the gas circuit such as gas control, multifunction controls, pressure switches etc.

The correct operation of the isolating device is checked according to 7.8.3.102.

5.3 Particular requirements

Shall be according to prEN 203-1:2019, 5.3 with the following addition:

5.3.2 Stability and mechanical safety

Shall be according to prEN 203-1:2019, 5.3.2. with the following addition:

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 7.8.1.102.

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

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

Movable parts (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.

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.

The compliance with the requirement is checked by inspection.

6 Performance requirements

Clause 6 of prEN 203-1:2019 applies with the following additions

6.1 Soundness

Shall be according to prEN 203 1:2019, 6.1.

6.2 Obtaining the gas rate

Shall be according to prEN 203 1:2019, 6.2.

6.3 Safety of operation

Shall be according to prEN 203 1:2019, 6.3.

6.3.5 Pre-purge

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Shall be according to prEN 203-1:2019, 6.3.5 with the following addition:

6.3.5.101 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, etc.

6.4 Influence of burners on each other

Shall be according to prEN 203 1:2019, 6.4.

6.5 Auxiliary equipment

Shall be according to prEN 203 1:2019, 6.5 with the following addition:

6.5. 101 Shut off device for multi-function ovens with direct heating

The operation of the shut off device shall not be influenced by steam under the condition of 7.8.5.

6.6 Air proving device

Shall be according to prEN 203 1:2019, 6.6.

prEN 203-2-2:2020 (E)**6.7 Combustion****6.7.1 All appliances (in calm air)**

Shall be according to prEN 203 1:2019, 6.7.1.

6.7.2 Special conditions

Shall be according to prEN 203-1:2019, 6.7.2 with the following 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 heating, the CO rate contained in the products of combustion in the hot air mode shall not exceed 0,2 % when the maximum quantity of steam is injected into the cooking chamber (maximum dosage) in the test conditions N°2 of 7.6.101.

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

6.8 Auxiliary energy

Shall be according to prEN 203-1:2019, 6.8.

6.9 Rational use of energy**6.9.1 Ovens other than bakery ovens**

Under the conditions of 7.10.101 the RUI in kilowatt-hour (kWh) required to maintain the steady temperature shall not exceed:

$$RUI \leq 0,22 \sqrt[3]{V^2}$$

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where

V is the usable volume of the oven (dm³).

The formula of RUI is given in 7.10.103

6.9.2 Bakery ovens

Under the conditions of 7.10.102 the RUI in kilowatt-hour (kWh) required to maintain the steady temperature and shall not exceed:

$$RUI \leq 0,02 V$$

where

V is the usable volume of the oven (dm³)

The formula of RUI is given in 7.10.103.

6.10 Operating requirements - Temperature of the LPG cylinder and its compartment

Shall be according to prEN 203-1:2019, 6.10.