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Plinski kuhalni aparati za gospodinjstvo - 1-1. del: Varnost - Splošno

Domestic cooking appliances burning gas - Part 1-1: Safety - General

Haushalt-Kochgeräte für gasförmige Brennstoffe - Teil 1-1: Sicherheit - Allgemeines

Appareils de cuisson domestiques utilisant les combustibles gazeux - Partie 1-1 :
Sécurité - Généralités

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Ta slovenski standard je istoveten z: EN 30-1-1:2021

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97.040.20

Štedilniki, delovni pulti,
pečice in podobni aparati

Cooking ranges, working
tables, ovens and similar
appliances

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EUROPEAN STANDARD
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ICS 97.040.20

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English Version

**Domestic cooking appliances burning gas - Part 1-1: Safety
- General**

Appareils de cuisson domestiques utilisant les
combustibles gazeux - Partie 1-1 : Sécurité -
Généralités

Haushalt-Kochgeräte für gasförmige Brennstoffe - Teil
1-1: Sicherheit - Allgemeines

This European Standard was approved by CEN on 22 November 2021.

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Contents

Page

European foreword	5
1 Scope.....	7
2 Normative references.....	8
3 Terms and definitions	9
4 Classification.....	20
4.1 Gases and appliance categories	20
4.2 Classes of appliances	20
5 Constructional requirements.....	20
5.1 General.....	20
5.1.1 Conversion to different gases	20
5.1.2 Materials	22
5.1.3 Ease of cleaning and maintenance.....	23
5.1.4 Strength.....	24
5.1.5 Soundness of the gas circuit assembly.....	24
5.1.6 Connections.....	25
5.1.7 Movable appliances.....	26
5.1.8 Fixing or stability of appliances.....	26
5.1.9 Additional components	26
5.1.10 Safety of operation in the event of fluctuation, interruption and restoration of the auxiliary energy.....	27
5.1.11 Electrical safety of appliances and immunity to electromagnetic phenomena	27
5.2 Special requirements	27
5.2.1 Taps.....	27
5.2.2 Knobs.....	28
5.2.3 Injectors and adjusters	29
5.2.4 Oven thermostats.....	31
5.2.5 Ignition systems	31
5.2.6 Flame supervision devices	31
5.2.7 Pressure regulators	31
5.2.8 Hobs	32
5.2.9 Ovens and grills	34
5.2.10 Cylinder compartment.....	36
5.2.11 Appliances with a cooling fan	37
5.2.12 Accumulation of un-burnt gas.....	37
5.2.13 Additional requirements for appliances incorporating one or more burners that enable the user to program the delayed start and the end of a cooking cycle	38
5.2.14 Multifunctional controls.....	39
5.2.15 Shut-off valves.....	39
6 Operational requirements.....	39
6.1 General.....	39
6.1.1 Soundness.....	39
6.1.2 Obtaining the input rates	39
6.1.3 Flame supervision devices	39
6.1.4 Safety of operation	40
6.1.5 Heating.....	40
6.1.6 Temperature of the LPG cylinder and its compartment.....	43

6.1.7	Total input of the appliance.....	44
6.1.8	Pressure regulator performance.....	44
6.1.9	Blocking of the cooling fan and failure of the thermostat.....	44
6.2	Special requirements for hobs.....	44
6.2.1	Ignition, cross-lighting and flame stability	44
6.2.2	Combustion.....	45
6.3	Special requirements for ovens and grills.....	45
6.3.1	Ignition, cross-lighting and flame stability	45
6.3.2	Combustion.....	46
7	Test methods.....	47
7.1	General	47
7.1.1	Reference and test gases.....	47
7.1.2	Test pressures.....	47
7.1.3	Test procedures	47
7.1.4	Pans	51
7.1.5	Ovens and grill temperatures	53
7.1.6	Appliances having a mains electrical supply.....	53
7.1.7	Appliances having one or more multi-ring hob burners.....	53
7.2	Verification of construction characteristics	53
7.2.1	Strength.....	53
7.2.2	Strength, stability	55
7.2.3	Appliances with a glass lid having a device for shutting off the gas to the hob burners.....	57
7.3	Verification of operational characteristics	57
7.3.1	General tests.....	57
7.3.2	Specific tests for hobs.....	70
7.3.3	Specific tests for ovens and grills.....	79
7.4	Accuracy of measuring instruments.....	85
8	Marking and instructions.....	85
8.1	Marking	85
8.1.1	General	85
8.1.2	Marking and warnings on the appliance.....	86
8.1.3	Additional marking and warnings on the appliance	86
8.1.4	Marking and warning on the packaging.....	87
8.1.5	Additional marking on the packaging.....	87
8.2	Instructions general	87
8.3	Instructions for installation.....	87
8.3.1	General	87
8.3.2	Instructions for installation and adjustment	87
8.3.3	Additional instructions for installation.....	89
8.4	Instructions for use and maintenance	90
Annex A	(informative) National situations.....	106
A.1	General	106
A.2	Use in different countries of the categories listed in the text of the standard	106
A.3	Supply pressures for the appliances (see 7.1.2).....	106
A.4	National or local gas categories.....	106
A.4.1	National distribution.....	106
A.4.2	Categories.....	106
A.4.3	Permitted operations for changing gas	106

EN 30-1-1:2021 (E)

A.5	Test gases corresponding to the particular categories given in A.4.....	106
A.6	Special conditions.....	106
A.7	Connection requirements in force in various countries (see 5.1.6).....	107
Annex B (informative) Guidelines for extension to other categories		111
B.1	General.....	111
Annex C (normative) Characteristics of the pans required		112
C.1	Pans required for testing on gas burners	112
C.2	Characteristics of pans for testing on electric cooking plates	114
Annex D (normative) Surface temperature probe (7.3.1.5.3.2).....		115
D.1	Design.....	115
D.2	Validation test.....	115
D.2.1	Principle.....	115
D.2.2	Procedure	115
D.2.3	Validation	115
Annex E (normative) Use of symbols on the appliance and packaging.....		117
E.1	Information having to appear on the appliance and packaging, in accordance with Clause 8.....	117
E.1.1	Electricity supply	117
E.1.2	Type of gas.....	117
E.1.3	Pressure	118
E.1.4	Country	118
E.1.5	Category	118
E.2	Other optional information.....	118
E.2.1	General.....	118
E.2.2	Nominal heat input of a burner	118
E.2.3	Nominal heat input of all appliance burners	118
E.3	Information that shall be on the appliance and its packaging, in accordance with 8.1 and 8.2.....	118
Annex F (normative) Fragmentation required for toughened soda-lime glass		121
F.1	Requirement.....	121
F.2	Test method	121
Annex G (informative) Examples of types of multi-ring burners and their operating modes		123
Annex ZA (informative) Relationship between this European Standard and the essential requirements of EU Regulation 2016/426/EU aimed to be covered		124
Bibliography		127

European foreword

This document (EN 30-1-1:2021) 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 June 2022, and conflicting national standards shall be withdrawn at the latest by December 2024.

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 supersedes EN 30-1-1:2008+A3:2013.

This document has been prepared under a Standardization Request 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 modifications in this document with respect to the previous edition (EN 30-1-1:2008+A3:2013) are the following:

- Alignment with Regulation 2016/426/EU throughout the full text;
- Reference to the different types of gases is now given by making reference to the specific EN 437:2021 and not by introducing its requirements in this document (various clauses and Annex A);
- Reference to specific requirements for multifunctional controls is now given by making reference to the specific EN 126:2012 (5.2.14);
- Addition of requirements for appliances that enable the user to program the delayed start and the end of a cooking cycle (5.2.13);
- Removal of requirements for ovens volume calculation as reference is made to EN 15181:2017+A1:2020;
- Removal of requirements in 7.3.1.3.2 of EN 30-1-1:2008+A3:2013 for pilot flames as these devices are no more used on appliances;
- Introduction of requirements on accuracy of measuring instruments (7.4);
- More detailed info on types of inlets allowed for the connection of the appliances (5.1.6 and A.7).
- Introduction of a new Annex for multi-ring burners (Annex G).

EN 30 consists of the following parts:

- EN 30-1-1, *Domestic cooking appliances burning gas — Part 1-1: Safety - General*;
- EN 30-1-2, *Domestic cooking appliances burning gas — Safety — Part 1-2: Appliances having forced-convection ovens and/or grills*;

EN 30-1-1:2021 (E)

- EN 30-1-3, *Domestic cooking appliances burning gas — Part 1-3: Safety — Appliances having a glass ceramic hotplate*;
- EN 30-1-4, *Domestic cooking appliances burning gas — Safety — Part 1-4: Appliances having one or more burners with an automatic burner control system*;
- EN 30-2-1, *Domestic cooking appliances burning gas — Part 2-1: Rational use of energy — General*;
- EN 30-2-2, *Domestic cooking appliances burning gas — Part 2-2: Rational use of energy — Appliances having forced-convection ovens and/or grills*.

Requirements concerning the emission of NO_x are not mentioned in this document; taking account of the usage of the appliances and their low output, their contribution to environment pollution is negligible.

This document covers type testing.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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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1 Scope

This document specifies the requirements and methods of test for the safety and marking of freestanding and built-in domestic cooking appliances burning combustible gases given in EN 437:2021, referred to in the text as “appliances”.

The appliances covered by this document are intended to be used in a domestic dwelling.

This document covers the following types of domestic cooking appliances:

- independent freestanding hobs;
- independent built-in hobs;
- hobs and grills;
- table cookers;
- freestanding ovens;
- built-in ovens;
- freestanding or built-in grills;
- griddles;
- freestanding cookers;
- built-in cookers.

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This document also applies to gas cooking appliances incorporating electrical heating elements (e.g. gas-electric cooking appliances).

For appliances intended to be used in caravans, or motorhomes/mobile homes or on board of ships or aircraft, additional requirements may be necessary.

This document does not apply to:

- a) outdoor appliances;
- b) appliances connected to a combustion products evacuation duct;
- c) appliances having a pyrolytic gas oven;
- d) appliances incorporating flame supervision devices and having an automatic ignition device for which the duration of the ignition attempt is limited by design;
- e) appliances equipped with a burner that is periodically ignited and extinguished under the control of an automatic on/off device;
- f) appliances equipped with an oven and/or with a grill having a fan:
 - 1) either for the supply of combustion air or for the evacuation of the products of combustion;
 - 2) or for the circulation of the products of combustion within the compartments;
- g) appliances incorporating one or more hob or grill burners that enable the user to program the delayed start of the cooking cycle;

EN 30-1-1:2021 (E)

- h) appliances of categories I_{2N}, I_{2R}, I_{3R}, I_{2E(S)}, I_{2E(R)}, I_{2Esi}, I_{2Er}, I_{2R} and the equivalent double and triple categories which include these indices;
- i) appliances of category II_{2E+3B}.

This document does not cover the requirements relating to third family gas cylinders, their pressure regulators and their connection.

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.

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*

EN 88-1:2011+A1:2016, *Pressure regulators and associated safety devices for gas appliances - Part 1: Pressure regulators for inlet pressures up to and including 50 kPa*

EN 125:2010+A1:2015, *Flame supervision devices for gas burning appliances - Thermoelectric flame supervision devices*

EN 126:2012, *Multifunctional controls for gas burning appliances*

EN 161:2011+A3:2013, *Automatic shut-off valves for gas burners and gas appliances*

EN 257:2010, *Mechanical thermostats for gas-burning appliances*

EN 437:2021, *Test gases - Test pressures - Appliance categories*

EN 549:2019, *Rubber materials for seals and diaphragms for gas appliances and gas equipment*

EN 751-1:1996, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water - Part 1: Anaerobic jointing compounds*

EN 751-2:1996, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water - Part 2: Non-hardening jointing compounds*

EN 1106:2010, *Manually operated taps for gas burning appliances*

EN 1116:2018, *Furniture - Kitchen furniture - Coordinating sizes for kitchen furniture and kitchen appliances*

EN 10226-1:2004, *Pipe threads where pressure tight joints are made on the threads - Part 1: Taper external threads and parallel internal threads - Dimensions, tolerances and designation*

EN 10226-2:2005, *Pipe threads where pressure tight joints are made on the threads - Part 2: Taper external threads and taper internal threads - Dimensions, tolerances and designation*

EN 15181:2017+A1:2020, *Measuring method of the energy consumption of gas fired ovens*

EN 60068-2-75:2014, *Environmental testing - Part 2-75: Tests - Test Eh: Hammer tests (IEC 60068-2-75:2014)*

EN 60335-1:2012,¹ *Household and similar electrical appliances - Safety - Part 1: General requirements (IEC 60335-1:2010, modified)*

EN 60335-2-6:2015,² *Household and similar electrical appliances - Safety - Part 2-6: Particular requirements for stationary cooking ranges, hobs, ovens and similar appliances (IEC 60335-2-6:2014, modified)*

EN 60335-2-102:2016, *Household and similar electrical appliances - Safety - Part 2-102: Particular requirements for gas, oil and solid-fuel burning appliances having electrical connections (IEC 60335-2-102:2004, modified)*

EN 60584-1:2013, *Thermocouples - Part 1: EMF specifications and tolerances (IEC 60584-1:2013)*

EN 60730-1:2016,³ *Automatic electrical controls - Part 1: General requirements (IEC 60730-1:2013, modified)*

EN IEC 60730-2-7:2020, *Automatic electrical controls - Part 2-7: Particular requirements for timers and time switches (IEC 60730-2-7:2015)*

EN ISO 228-1:2003, *Pipe threads where pressure-tight joints are not made on the threads - Part 1: Dimensions, tolerances and designation (ISO 228-1:2000)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>
<https://standards.iteh.ai/catalog/standards/sist/1d8fe211-3338-45e6-a2cc4dbc71f/sist-en-30-1-1-2022>

3.1 General terms and definitions:

3.1.1

conversion

operation carried out by a professional on an appliance at the time of a change of gas

3.1.2

removable

can be removed without the aid of a tool

3.1.3

reference conditions

15 °C and 1 013,25 mbar

¹ As impacted by EN 60335-1:2012/AC:2014, EN 60335-1:2012/A11:2014, EN 60335-1:2012/A13:2017, EN 60335-1:2012/A1:2019, EN 60335-1:2012/A2:2019, EN 60335-1:2012/A14:2019 and EN 60335-1:2012/A15:2021.

² As impacted by EN 60335-2-6:2015/A1:2020 and EN 60335-2-6:2015/A11:2020.

³ As impacted by EN 60730-1:2016/A1:2019.

EN 30-1-1:2021 (E)

3.1.4

mechanically fastened

can only be removed with the aid of a tool

3.1.5

special maintenance

maintenance carried out by a professional

3.1.6

soft soldering

soldering for which the lowest temperature of the melting range, after application, is less than 450 °C

3.1.7

country of destination

intended country of destination, such that, at the time of putting the appliance on the market and/or installation, the appliance needs to be capable of operating, without adjustment or modification, with one of the gases distributed in the country concerned, at the appropriate supply pressure

Note 1 to entry: More than one country can be specified if the appliance, in its current state of adjustment, can be used in each of these countries.

3.1.8

technical documentation

technical information (e.g. drawings, product specifications, etc.) required for the application of this document

Note 1 to entry: the technical documentation is not delivered together with the appliance

3.2 Terms and definitions relating to the appliance:

3.2.1

appliance incorporating a cylinder

appliance functioning in particular with third family gases which includes a compartment for the cylinder

3.2.2

freestanding appliance

appliance not normally having direct contact with adjacent furniture or walls

3.2.3

appliance for building-in between two furniture units

appliance which can have its side panels in direct contact with adjacent furniture units

Note 1 to entry: When installed, the appliance may only be in contact with a single furniture unit.

3.2.4

appliance for building into a furniture unit

appliance intended to be installed in a kitchen cabinet or unit or in a housing located in a wall or under similar conditions

Note 1 to entry: For this reason, the appliance may not necessarily have a casing on all sides.

3.2.5

domestic cooking appliance

appliance designed to be used by non-expert users in a domestic dwelling

3.2.6**domestic dwelling**

household environment in which appliances for typical housekeeping functions (e.g. cooking) are used by non-expert users

EXAMPLE Examples of household environment are:

- house or apartments;
- shops, offices and other similar working environments;
- farm houses;
- hotels, motels, bed and breakfast and other residential type environments where appliances are used by non-expert users.

Note 1 to entry: This is indicated in the instructions for use and maintenance as well as in the instructions for installation.

3.2.7**cooker**

cooking appliance comprising:

- a hob;
- one or more ovens with or without a thermostat having possibly a grill;
- possibly a grill

3.2.8**table cooker**

cooking appliance intended to rest on a raised support or stand comprising:

- a hob;
- an oven;
- possibly a grill

3.2.9**hob**

appliance or part of an appliance which incorporates one or more burners including a control unit and which is heated by gas

Note 1 to entry: The hob can be free standing, built in or part of a cooker assembly.

3.2.10**hob and grill**

cooking appliance consisting of a hob including a grill

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EN 30-1-1:2021 (E)

3.3 Terms and definitions relating to gases and pressures:**3.3.1 Terms and definitions relating to gases:****3.3.1.1
test gases**

gases intended for the verification of the operational characteristics of appliances using combustible gases; they consist of reference gases and limit gases

Note 1 to entry: Table 7 in EN 437:2021, Clause 7 gives the characteristics of reference gases and limit gases.

**3.3.1.2
reference gases**

test gases with which appliances operate under nominal conditions when they are supplied at the corresponding normal pressure

**3.3.1.3
limit gases**

test gases representative of the extreme variations in characteristics of the gases for which the appliances have been designed

**3.3.1.4
relative density**

d

ratio of the masses of equal volumes of dry gas and dry air under the same conditions of temperature and pressure: 15 °C or 0 °C and 1 013,25 mbar

**3.3.1.5
calorific value**

quantity of heat produced by complete combustion at a constant pressure of 1 013,25 mbar, of a unit volume or mass of gas, the constituents of the combustible mixture being taken at reference

Note 1 to entry: A distinction is made between:

- the gross calorific value H_g : the water produced by combustion is assumed to be condensed;
- the net calorific value H_i : the water produced by combustion is assumed to be in the vapour state.

Note 2 to entry: The calorific value is expressed:

- either in megajoules per cubic metre (MJ/m³) of dry gas under the reference conditions;
- or in megajoules per kilogram (MJ/kg) of dry gas.

Note 3 to entry: In this document only the gross calorific value is used.

**3.3.1.6
Wobbe index**

gross Wobbe index W_g ; net Wobbe index W_i

ratio of the calorific value of a gas per unit volume and the square root of its relative density under the same reference conditions

Note 1 to entry: The Wobbe index is said to be gross or net according to whether the calorific value used is the gross or net calorific value.

Note 2 to entry: The Wobbe indices are expressed:

- either in megajoules per cubic metre (MJ/m³) of dry gas under the reference conditions;
- or in megajoules per kilogram (MJ/kg) of dry gas.

3.3.1.7

theoretical air

volume of air necessary for the stoichiometric combustion of a unit volume of gas

3.3.2 Terms and definitions relating to pressures:

3.3.2.1

gas supply pressure

p

difference between the static pressure measured at the inlet connection of the appliance in operation and the atmospheric pressure

Note 1 to entry: The gas supply pressure is expressed in millibar (mbar): 1 mbar = 10² Pa.

3.3.2.2

test pressures

gas pressures which are used to verify the operational characteristics of appliances using combustible gases and which consist of normal and limit pressures

Note 1 to entry: The gas pressures used are expressed in millibars (mbar): 1 mbar = 10² Pa.

Note 2 to entry: The test pressures are given in Tables 5 and 6 of EN 437:2021.

3.3.2.3

normal pressure

p_n

pressure under which the appliances operate in nominal conditions, when they are supplied with the corresponding reference gas

3.3.2.4

limit pressures

maximum pressure: p_{\max} and minimum pressure: p_{\min}

pressures representative of the extreme variations in the supply conditions

3.3.2.5

pressure couple

combination of two distinct gas distribution pressures applied by reason of the significant difference existing between the Wobbe indices within a single family or group in which:

- the higher pressure corresponds only to gases of low Wobbe index;
- the lower pressure corresponds to gases of high Wobbe index