SLOVENSKI STANDARD

SIST EN 203-1/A1

prva izdaja
december 1997

Plinske naprave za gostinstvo - 1. del: Varnostne zahteve (prevzet EN 203-1:1992/A1:1995 z metodo platnice)

Gas heated catering equipment - Part 1: Safety requirements

Appareils de cuisine professionnelle utilisant les combustibles gazeux - Partie 1: Règles générales de sécurité

Großküchengeräte für gasförmige Brennstoffe - Teil 1: Allgemeine Festlegungen für die Sicherheit

Deskriptorji: gostinska oprema, plinski aparati, kuhalne naprave, varnostne zahteve, specifikacije opreme, lastnosti, zmogljivost, gorilniki, tesnost, prepustnost, preskušanje, tehnične opombe, označevanje

ICS 97.020;97.040.20

Referenčna številka
SIST EN 203-1/A1:1997 ((sl),en)

Nadaljevanje na straneh od II do III in od 1 do 57

UVOD

Dopolnilo SIST EN 203-1:1997/A1, Plinske naprave za gostinstvo - 1. del: Varnostne zahteve - Dopolnilo A1, 1997, ima status slovenskega dopolnila in je z metodo platnice prevzeto dopolnilo evropskemu standardu EN 203-1:1992/A1, Gas heated catering equipment - Part 1: Safety requirements, 1995-09, v angleškem jeziku.

NACIONALNI PREDGOVOR

Dopolnilo evropskemu standardu EN 203-1:1992/A1:1995 je pripravil tehnični odbor CEN/TC 106 Large kitchen appliances using gaseous fuels (Plinski aparati za gostinstvo).

Evropski standard EN 203 obsega dva dela. Prvi del vsebuje varnostne zahteve plinskih naprav za gostinstvo, drugi pa učinkovito rabo energije plinskih naprav za gostinstvo.

Prvi del standarda SIST EN 203 je bil prevzet 1997-10 in vključuje nacionalni dodatek za uporabo v Sloveniji, drugi del standarda SIST EN 203-2 pa je bil prevzet 1996-10.

Dopolnilo obsega dodatne in nekoliko spremenjene definicije, preskusne metode in kategorije naprav in v teh delih nadomešča besedilo prvotnega standarda.

Pripravo tega dopolnila sta CEN poverila Evropska komisija in Evropsko združenje za prosto trgovino. Ta evropski standard ustreza bistvenim zahtevam evropske direktive 90/396/EEC.

Odločitev za prevzem dopolnila EN 203-1:1992/A1 po metodi platnice je dne 1996-09-25 sprejel tehnični odbor USM/TC PLN Plinske naprave za dom.

V delih, ki vsebujejo značilnosti posameznih držav, se standard dopolni s podatki oziroma parametri, ki veljajo v Sloveniji.

To slovensko dopolnilo je dne 1997-12-05 odobril direktor USM.

NACIONALNI DODATEK

Naslednje tabele iz dodatka A se dopolnijo s parametri, ki veljajo v Sloveniji:

Stran 38 - tabela A.1.1: Kategorije aparatov, ki se prodajajo v posameznih državah

V Sloveniji se uporabljata kategoriji aparatov: I_{2H}, $I_{3B/P}$.

Stran 39 - tabela A.1.2: Kategorije aparatov, ki se prodajajo v posameznih državah

V Sloveniji se uporablja kategorija aparatov: $II_{2H3B/P}$.

Stran 40 - tabela A.2: Običajni priključni tlaki za aparate

V Sloveniji se uporabljajo G20/20 mbar, G30/30 mbar in G31/30 mbar.

Stran 51 - tabela A.5: Vrste priključkov, ki se uporabljajo v posameznih državah

Za vse kategorije aparatov se uporabljajo navojni priključki, definirani v mednarodnih standardih ISO 7-1 in ISO 228-1.

ZVEZA Z DOPOLNILOM

S prevzemom tega dopolnila velja poleg standardov, navedenih v izvirniku, še naslednja zveza:

SIST EN 203-1:1997 ((sl),en) Plinske naprave za gostinstvo - 1. del: Varnostne zahteve

OSNOVA ZA IZDAJO DOPOLNILA

- Prevzem dopolnila EN 203-1:1992/A1:1995

OPOMBI

- Povsod, kjer se v besedilu dopolnila uporablja izraz "evropski standard", v SIST EN 203-1:1997/A1:1997 to pomeni "slovenski standard".

- Uvod in nacionalni predgovor nista sestavni del dopolnila evropskemu standardu.

Po mnenju Ministrstva za informiranje Republike Slovenije z dne 18. februarja 1992, štev. 23/96-92, spada ta publikacija med proizvode informativne narave iz 13. točke tarifne številke 3, za katere se plačuje 5-odstotni prometni davek.

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 203-1:1992/A1

September 1995

ICS 97.020; 97.040.20

Descriptors: communal equipment, gas appliances, cooking devices, safety requirements, equipment specifications, performance evaluation, burners, gas permeability tests, performance tests, technical notices, marking

English version

Gas heated catering equipment - Part 1: Safety requirements

Appareils de cuisine professionnelle utilisant les combustibles gazeux - Partie 1: Règles générales de sécurité

Großküchengeräte für gasförmige Brennstoffe - Teil 1: Allgemeine Festlegungen für die Sicherheit

This amendment 1 modifies the European Standard EN 203-1:1992. This amendment was approved by CEN on 1994-12-16. CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

The European Standards exist 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.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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Foreword

This Amendment has been prepared by the Technical Committee CEN/TC 106 "Large kitchen appliances using gaseous fuels" of which the secretariat is held by AFNOR.

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

This Amendment shall be given the status of a National Standard, either by publication of an identical text or by endorsement, at the latest by Mars 1996, and conflicting national standards shall be withdrawn at the latest by Mars 1996.

According to the CEN/CENELEC Internal Regulations, the following countries are bound to implement this Amendment: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

1 General

1.1 Scope

Amend the second paragraph as follows:

Only type A, B_{11} and B_{11BS} appliances, as defined in 1.4.3, are considered in this standard.

Add to the end of the clause:

This standard covers type tests only.

1.2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

Add to the list of reference standards:

EN 88 : 1991	Pressure governors for gas appliances for inlet pressures up 200 mbar
EN 125 : 1991	Flame supervision devices for gas-burning appliances - Thermoelectric types
EN 257 : 1992	Mechanical thermostats for gas-burning appliances
EN 298 : 1993	Automatic burner control systems for gas burners and gas-burning appliances with or without fans
EN 437 : 1993	Test gases - Test pressures - Categories of appliance
EN 60335-1 : 1991	Safety of household and similar electrical appliances - General requirements
EN 730-201/91	Automatic electrical control devices for household and similar use - Part 2 : Particular requirements for electrical control devices for household electrical appliances
ISO 301 : 1981	Zinc alloy ingots intended for casting

ISO/DIS 6976 : 1992 Natural gas - Calculation of calorific value, density and relative density

1.3 Definitions

Amend clause 1.3.1. as follows:

1.3.1 *Terminology referring to gases and pressures*

1.3.1.1 *test gases:* Gases intended for the verification of the operational characteristics of appliances using combustible gases. They consist of reference gases and limit gases. Table 3 of this standard gives the characteristics of reference gases and limit gases.

1.3.1.1.1 *reference gases:* Test gases with which appliances operate under nominal conditions when they are supplied at the corresponding normal pressures.

1.3.1.1.2 *limit gases:* Test gases representative of the extreme variations in the characteristics of the gases for which the appliances have been designed.

1.3.1.2 *reference conditions:* 15 °C, 1013,25 mbar, unless otherwise specified.

1.3.1.3 *density:* The ratio of the masses of equal volumes of dry gas and dry air under the same temperature and pressure conditions. 15 °C, 1013,25 mbar. Symbol: *d*.

1.3.1.4 *calorific value:* The quantity of heat produced by the complete combustion, at a constant pressure equal to 1013,25 mbar, of unit volume or mass of gas, the constituents of the combustible mixture being taken at reference conditions and the products of combustion being taken under the same conditions.

There are two types of calorific value:

- gross calorific value: the water produced by combustion is assumed to be condensed. Symbol: H_s

- net calorific value: the water produced by combustion is assumed to remain in the vapour state. Symbol H_i

In this standard, only the net calorific value is used.

Units:

- either megajoules per cubic metre of dry gas at the reference conditions (MJ/m^3)
- or megajoules per kilogram of dry gas (MJ/kg).

1.3.1.5 *Wobbe number:* The ratio of the calorific value of the gas per unit volume to the square root of its relative density under the same reference conditions. The Wobbe number is said to be gross or net according to whether the gross or net calorific value is used.
Symbol: gross Wobbe number: W_s; net Wobbe number: W_i

Units:

- either megajoules per cubic metre of dry gas at reference conditions (MJ/m^3)
- or megajoules per kilogram of dry gas (MJ/kg).

In this standard, only the net Wobbe number is used.

1.3.1.6 *test pressures:* Gas pressure used to verify the operational characteristics of appliances using combustible gases. They consist of normal and limit pressures. The test pressures are given in table 5. Unit: millibar (mbar).

NOTE: 1 mbar = 10^2 Pa.

1.3.1.6.1 *normal pressure:* The pressure under which the appliances operate in nominal conditions when they are supplied with the corresponding reference gas. Symbol: p_n

1.3.1.6.2 *limit pressures:* Pressures representative of the extreme variations in the appliance supply conditions. Symbols: Maximum pressure: p_{max}; minimum pressure: p_{min}

1.3.1.7 *pressure couple:* Combination of two distinct gas distribution pressures applied by reason of the significant difference existing between the wobbe numbers within a single family or group in which:

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

1.3.1.8 *gas supply pressure:* Difference between the static pressure measured at the inlet connection of the appliance, with the appliance in operation, and atmospheric pressure.
Symbol: p
Unit: millibar

1.3.2.3 *terminology referring to the combustion products circuit*

Add the following definition:

1.3.2.3.5 *combustion products discharge control device:* A device that causes at least shut-down of the main burner when there is an unacceptable spillage of combustion products from the draught diverter of type B_{11BS} appliances.

Amend 1.3.3.1 as follows:

1.3.3.1 *terminology referring to gas rates*

1.3.3.1.1 *heat input:* The quantity of energy used in unit time corresponding to the volumetric or mass flow rates, the calorific value used in this standard being the net calorific value.
Symbol: Q
Unit: kilowatt (kW).

1.3.3.1.2 *nominal heat input:* The value of the heat input declared by the manufacturer.
Symbol: Q_n
Unit: kilowatt (kW).

1.3.3.1.3 *mass flow rate:* The mass of gas consumed by the appliance in unit time during continuous operation.
Symbol: M
Units: kilograms per hour (kg/h), or grams per hour (g/h).

1.3.3.1.4 *volumetric flow rate:* The volume of gas consumed by the appliance in unit time during continuous operation, the gas being taken at reference conditions.
Symbol: V

Unit: cubic metres per hour (m^3/h), litres per minute (l/min), cubic decimetres per hour (dm^3/h) or cubic decimetres per second (dm^3/s).

Replace 1.4, 1.4.1, 1.4.2 and 1.4.3 with the following text:

1.4 Classification

Appliances are divided

- into categories defined according to the nature of the gases and pressures for which they are designed. The definition of the categories follows from 1.4.2.1, 1.4.2.2 and 1.4.2.3;

- into types, according to the method of evacuating the products of combustion and admission of the combustion air. The different types of appliance covered by this standard are listed in 1.4.3.

1.4.1 *Classification of gases*

Gases are classified according to three families, each of which may be divided into groups according to Wobbe number. Table 1 shows the families and groups of gases used in the standard.

Table 1: Classification of gases

Families and groups of gases	Net Wobbe number (Wi) and gross Wobbe number (Ws) at 15 °C and 1013,25 mbar MJ/m³			
	minimum		maximum	
	Wi	Ws	Wi	Ws
First family Group a	19,5	22,4	21,7	24,8
Second family	35,2	39,1	49,6	54,7
Group H	41,2	45,7	49,6	54,7
Group L	35,2	39,1	40,5	44,8
Group E	36,9	40,9	49,6	54,7
Third family	68,2	72,9	80,5	87,3
Group B/P	68,2	72,9	80,5	87,3
Group P	68,2	72,9	70,6	76,8

1.4.2 *Categories of appliance*

In each country, taking into account the local gas distribution conditions (gas composition and supply pressures), only certain of the categories defined in 1.4.2.1, 1.4.2.2 and 1.4.2.3 are marketed.

The circumstances concerning the marketing of these categories of appliance in each country and the corresponding supply pressures are given in tables A.1 and A.2 (see also A.3 for the particular categories marketed locally and nationally corresponding to the particular gases and supply pressures given in table A.4).

Add

Annex B gives guidelines for extension to other categories.

1.4.2.1 *Category I*

Appliances of category I are designed exclusively for the use of gases of a single family or of a single group.

1.4.2.1.1 Appliances designed for use with first family gases only.

Category I_{1a}: appliances using only gases of group a of the first family at the prescribed supply pressure (this category is not used).

1.4.2.1.2 Appliances designed for use with second family gases only.

Category I_{2H}: appliances using only gases of group H of the second family, at the prescribed supply pressure.

Category I_{2L}: appliances using only gases of group L of the second family, at the prescribed supply pressure.

Category I_{2E}: appliances using only gases of group E of the second family, at the prescribed supply pressure.

Category I_{2E+}: appliances using only gases of group E of the second family and operating with a pressure couple without intervention on the appliance. The gas pressure regulator of the appliance, where one exists, is not operative in the range of the two normal pressures of the pressure couple.

1.4.2.1.3 Appliances designed for use with third family gases only

Category $I_{3B/P}$: appliances capable of using gases of the third family (propane and butane) at the prescribed supply pressure.

Category I_{3+}: appliances capable of using gases of the third family (propane and butane) and operating with a pressure couple without intervention on the appliance other than adjustment of the primary air intake for changing from butane to propane and vice versa. No operating gas pressure regulator is permitted on the appliance.

Category I_{3P}: appliances using only gases of group P of third family (propane) at the prescribed supply pressure.

1.4.2.2 *Category II*

Appliances of category II are designed for use with gases from two families.

1.4.2.2.1 Appliances designed for use with gases of the first and second families

Category II_{1a2H}: appliances capable of using gases of group a of the first family and gases of group H of the second family. Gases of the first family are used under the same conditions as for category I_{1a}. Gases of the second family are used under the same conditions as for category I_{2H}.

1.4.2.2.2 Appliances designed for use with gases of the second and third families

Category $II_{2H3B/P}$: appliances capable of using gases of group H of the second family and gases of the third family. Gases of the second family are used under the same conditions as for category I_{2H}. Gases of the third family are used under the same conditions as for category $I_{3B/P}$.

Category II_{2H3+}: appliances capable of using gases of group H of the second family and gases of the third family. Gases of the second family are used under the same conditions as for category I_{2H}. Gases of the third family are used under the same conditions as for category I_{3+}.

Category II_{2H3P}: appliances capable of using gases of group H of the second family and gases of group P of the third family. Gases of the second family are used under the same conditions as for category I_{2H}. Gases of the third family are used under the same conditions as for category I_{3P}.

Category $II_{2L3B/P}$: appliances capable of using gases of group L of the second family and gases of the third family. Gases of the second family are used under the same conditions as for category I_{2L}. Gases of the third family are used the same conditions as for category $I_{3B/P}$.

Category II_{2L3P}: appliances capable of using gases of group L of the second family and gases of group P of the third family. Gases of the second family are used under the same conditions as for category I_{2L}. Gases of the third family are used under the same conditions as for category I_{3P}.

Category $II_{2E3B/P}$: appliances capable of using gases of group E of the second family and gases of the third family. Gases of the second family are used under the same conditions as for category I_{2E}. Gases of the third family are used under the same conditions as for category $I_{3B/P}$.

Category $II_{2E+3B/P}$: appliances capable of using gases of group E of the second family and gases of the third family. Gases of the second family are used under the same conditions as for category I_{2E+}. Gases of the third family are used under the same conditions as for category $I_{3B/P}$.

Category II_{2E+3+}: appliances capable of using gases of group E of the second family and gases of the third family. Gases of the second family are used under the same conditions as for category I_{2E+}. Gases of the third family are used under the same conditions as for category I_{3+}.