



SLOVENSKI STANDARD
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Domestic cooking appliances burning gas - Part 1-2: Safety - Appliances having forced-convection ovens and/or grills

Haushalt-Kochgeräte für gasförmige Brennstoffe - Teil 1-2: Sicherheit - Geräte mit Umluft-Backöfen und/oder Strahlungsgrilleinrichtungen

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(standard preview)
Appareils de cuisson domestiques utilisant les combustibles gazeux - Partie 1-2: Sécurité - Appareils comportant des fours et/ou des grilloirs à convection forcée

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English version

Domestic cooking appliances burning gas - Part 1-2: Safety - Appliances having forced-convection ovens and/or grills

Appareils de cuisson domestiques utilisant les
combustibles gazeux - Partie 1-2: Sécurité - Appareils
comportant des fours et/ou des grilloirs à convection forcée

Haushalt - Kochgeräte für gasförmige Brennstoffe - Teil 1-
2: Sicherheit - Geräte mit Umluft-Backöfen und/oder -
Strahlungsgrilleinrichtungen

This European Standard was approved by CEN on 15 April 1999.

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. 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.

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.

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

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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 European Standard has been prepared by Technical Committee CEN/TC 49 "Gas cooking appliances", the secretariat of which is held by UNI

This European Standard replaces EN 30:1979, EN 30:1979/A2:1980, EN 30:1979/A3 MOD.2:1985

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 January 2000, and conflicting national standards shall be withdrawn at the latest by January 2000.

This standard is intended to be used together with EN 30-1-1:1998 and its A1:1999, on which the requirements and methods of test for appliances having forced-convection ovens and/or grills are based. In particular, this standard identifies the requirements and methods of test specific to these appliances, which are in addition to, or replace, those given in EN 30-1-1:1998 and its A1:1999.

This part is also intended to be used together with any other part of EN 30-1-x related to "Safety", whenever the appliances covered by this other part include a forced convection oven and/or grill.

This European Standard 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 standard.

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

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1 Scope

This standard specifies the special constructional and operational characteristics, as well as the requirements and methods of test for safety and marking, for domestic cooking appliances having forced-convection ovens and /or grills using combustible gases, as defined in EN 30-1-1:1998 and its A1:1999.

Unless specifically excluded, this standard applies to appliances or their component parts, whether the component parts are independent or incorporated as part of the appliance, even if the other heating components use electrical energy (for example combined gas-electric cookers).

This standard includes requirements covering the electrical safety of equipment incorporated in the appliance that are associated with the use of gas. It does not include requirements covering the electric safety of electrically-heated components or their associated equipment.

This standard does not apply :

- to outdoor appliances ;
- to appliances connected to a combustion products evacuation duct ;
- to appliances having a pyrolytic gas oven ;
- to appliances having covered burners which do not comply with the constructional requirements of 5.2.8.2.2 of EN 30-1-1:1998 ;
- to appliances incorporating flame supervision devices and having an automatic ignition device for which the duration of the ignition attempt is limited by design ;
- to appliances equipped with a burner that is periodically ignited and extinguished under the control of an automatic on/off device ;
- to appliances equipped with a burner having a fan for the supply of combustion air or for the evacuation of the products of combustion ;
- to appliances supplied at pressures greater than those defined in 7.1.2 of EN 30-1-1:1998 ;
- to appliances equipped with a compartment in which a burner and an electric heating element can function simultaneously.

This standard only covers type testing.

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.

EN 30-1-1:1998	https://standards.iteh.ai/catalog/standards/sist/1dd9d5b9-4360-4790-7700-11d9d5b9-4360-4790 Domestic cooking appliances burning gas fuel - Part 1-1 : Safety – General
EN 30-1-1:1998/A1:1999	Domestic cooking appliances burning gas - Part 1-1: Safety – General
EN 60335-2-6:1990	Safety of household and similar electrical appliances – Part 2: Particular requirements for cooking ranges, cooking tables, ovens and similar appliances for household use

¹⁾ Refer to the electrical safety rules.

3 Definitions

The definitions of clause 3 of EN 30-1-1:1998 and its A1:1999 apply and are supplemented by the following :

3.1 conventional oven

A closed compartment for cooking roasts, pastries, etc., in which the transmission of heat is carried out by natural convection.

3.2 conventional grill

An appliance or part of an appliance that allows cooking by radiant heat from a surface which is raised to a high temperature and for which a fan is not used for the transmission of heat.

3.3 forced-convection oven or grill

Oven or grill equipped with a fan intended to assist the transmission of heat by creating a forced circulation of air or products of combustion. This fan is not intended to supply combustion air.

3.4 dual purpose oven or grill

Forced-convection oven or grill capable of being used as a conventional oven or grill.

3.5 normal conditions of convection

The conditions of convection that correspond to the operation of a forced-convection oven or grill that can be used with or without the fan in operation in accordance with the manufacturer's instructions.

If, in accordance with the instructions, the forced-convection oven or grill:

- is not usable without the convection fan, the normal conditions of convection relate to operation only with the fan;
- is usable without the convection fan, the normal conditions of convection relate to operation with and without the fan.

3.6 abnormal conditions of convection

Abnormal conditions that relate to operating conditions of the appliance, if this is possible, in which the burner or burners that are not intended to function without the convection fan are capable of being put into operation when the convection fan has failed.

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4 Classification

The classification of clause 4 of EN 30-1-1:1998 is applicable.

5 Constructional requirements

5.1 General

The appliance shall comply with the requirements of clause 5 of EN 30-1-1:1998, any verifications in the form of tests being carried out in accordance with clause 7 of this standard rather than the corresponding clauses of EN 30-1-1:1998.

The appliance shall also satisfy the following requirements.

5.2 Convection fan

Moving parts of the fan of forced-convection ovens and grills shall be arranged or protected in such a way that in normal use appropriate protection of persons against accidents is assured.

The removal of any parts allowing access to moving parts of the fan shall not be possible without tools unless the procedure employed to reach these moving parts causes the fan to stop automatically, for example by shutting off the electrical supply, or by mechanical locking of the rotor.

Under the conditions of 20.2 of EN 60335-2-6:1990, after application of a force on the parts preventing access to moving parts of the fan, any deformations or alterations of position caused shall not allow the moving parts of the fan to be touched with the test finger.

6 Operational requirements

Unless specifically modified hereafter, the appliance shall comply with the requirements of clause 6 of EN 30-1-1:1998 when it is operating under the normal conditions of convection, any verifications in the form of tests being carried out in accordance with clause 7 of this standard rather than those of the corresponding clauses of EN 30-1-1:1998.

The appliance shall also satisfy the special requirements in 6.4 of this standard.

6.1 Obtaining the nominal heat input

6.1.2.1 of EN 30-1-1:1998 applies with the addition of the following:

For dual purpose ovens or grills, the manufacturer can declare:

- either a single nominal heat input, common to both modes of operation with and without fan ;
- or two nominal heat inputs, corresponding to each mode of operation with and without fan.

6.2 Failure of the cooling fan or thermostat

For forced-convection ovens or grills, the requirements of 6.1.9 and 6.1.10 of EN 30-1-1:1998 apply under the normal conditions of convection.

6.3 Ignition, cross-lighting, flame stability

6.3 of EN 30-1-1:1998 applies, with the following modification:

The second paragraphs of 6.3.1.1 and 6.3.1.2 of EN 30-1-1:1998 are replaced by the following text:

After ignition under these conditions and under the normal conditions of convection, the flames shall be stable and quiet. A slight tendency to flame lift is permitted on ignition but the flames shall be stable 120 s after ignition.

6.4 Additional requirements for appliances having forced-convection ovens and/or grills

6.4.1 Abnormal conditions of convection

6.4.1.1 Ignition, cross-lighting, flame stability

If the design of the appliance is such that ignition of a forced-convection oven or grill is possible under abnormal conditions of convection, then the oven or grill is lit in still air under the conditions of test in 7.3.4.1.2 of this standard, and it shall be verified that ignition and cross-lighting are carried out smoothly, within 5 s starting from the moment when the control handle is in the full-on position or in the ignition position, if this exists.

After ignition under these abnormal conditions of convection, the flames shall be stable and quiet. A slight tendency to flame lift is permitted on ignition but the flames shall be stable 120 s after ignition.

6.4.1.2 Combustion

For forced-convection ovens and/or grills that are not intended to be used without the fan and which are not equipped with a device interrupting the gas supply in the event of fan failure, it shall be verified under the conditions of 7.3.4.1.3 of this standard that the volume concentration of CO in the dry, air-free products of combustion does not exceed 0,20 % after 15 min previous operation at the full-on rate.

6.4.1.3 Safety device in the event of failure of the convection fan

For forced-convection ovens and/or grills that are not intended to be used without the fan and which are equipped with a device for interrupting the gas supply in the event of convection fan failure, it is verified under the condition of 7.3.4.1.1 of this standard that operation of the burner, or burners, which are only intended to operate with the fan, is not possible when the fan is out of action.

6.4.2 Stalled convection fan

For an appliance having one or more forced convection ovens and /or grills, the temperature of auxiliary equipment that can be affected by overheating of the motor in the event of stalling the convection fan shall not exceed the temperature specified by the manufacturer under the conditions defined in 7.3.4.2 of this standard.

7 Test methods

7.1 General

This clause modifies the general conditions of test given in EN 30-1-1:1998 in order that they are suitable for appliances having forced-convection ovens and/or grills. These general conditions are to be applied even when references are made to the methods of test given in EN 30-1-1:1998.

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7.1.1 Reference and test gases

7.1.1.1 Characteristics of the test gases

7.1.1.1 of EN 30-1-1:1998 applies.

7.1.1.2 Practical methods of test

7.1.1.2 of EN 30-1-1:1998 applies.

7.1.2 Test pressures

7.1.2 of EN 30-1-1:1998 applies.

7.1.3 Test procedures

7.1.3 of EN 30-1-1:1998, and its sub-clauses, apply with the following addition to 7.1.3.1.3:

For dual purpose ovens or grills,

- if a single nominal heat input is declared, the initial adjustment of the burner is carried out with the fan in operation and this adjustment is retained for the tests with the fan stopped ;
- if two nominal heat inputs are declared, the tests shall be carried out with the initial adjustment corresponding to the conditions of operation of the convection fan.

7.1.4 Pans and oven and grill accessories

7.1.4 "Pans" of EN 30-1-1:1998 applies, with the following additions:

7.1.4.3 Oven and grill accessories

When a forced-convection oven or grill accessory shall, in accordance with the instructions for use and maintenance, be placed in a fixed position in order to assure the safety of operation of the oven or grill,

- the accessory shall carry a specific marking, in accordance with 8.1.2 of this standard ;
- all the tests of this standard shall be carried out with the accessory placed in each of the extreme positions of horizontal displacement.

7.1.5 Temperature of the oven and grill

For conventional ovens or grills, 7.1.5 of EN 30-1-1:1998 applies.

For dual purpose ovens or grills, 7.1.5 of EN 30-1-1:1998 applies when the fan is not in operation.

When a forced-convection oven or grill operates with the convection fan in operation, the following conditions apply :

- a) for an oven with a thermostat, the control handle is positioned in order to obtain an average temperature of 210 °C at the centre of the oven with reference gas at the normal test pressure;
- b) for an oven without thermostat, the control handle is positioned at the highest setting until an average temperature of about 210 °C is obtained at the centre of the oven with reference gas at the normal test pressure. The control handle is then placed in the position allowing the temperature of 210 °C to be maintained;
- c) for all ovens :
 - 1) if the oven temperature control is not continuous in action, the control handle is set in the position corresponding to the nearest possible temperature above 210 °C ;
 - 2) if a temperature of 210 °C at the centre of the oven cannot be achieved, the control handle is set in the position corresponding to the maximum temperature.
- d) for grills, the control handle is set to the position corresponding to the maximum temperature.