

Domestic cooking appliances burning gas—

Part 1-2: Safety — Appliances having forced-convection ovens and/or grills

The European Standard EN 30-1-2:1999 has the status of a
British Standard

ICS 97.040.20

National foreword

This British Standard is the English language version of EN 30-1-2:1999. It partially supersedes both BS 5386-3, which was identical to EN 30 prior to the publication of Amendment No. 2 to the British Standard and BS 5386-4. It is recognized that BS 5386-3 and -4 may have been used as the basis for CE marking until quite recently and are being declared obsolescent in order that they are available for reference only. EN 30-1-2 should be considered as the current British Standard for the particular aspects it covers. BS 5386-3 and -4 will be withdrawn before 31 December 2002.

The UK participation in its preparation was entrusted to Technical Committee GSE/35, Gas cooking appliances (domestic), which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 17 and a back cover.

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Amendments issued since publication

Amd. No.	Date	Comments

This British Standard, having been prepared under the direction of the Engineering Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 December 1999

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ISBN 0 580 35288 9

ICS 97.040.20

Supersedes EN 30:1979, EN 30:1979/A2:1980
EN 30:1979/A3 MOD.2:1985

Descriptors: gas appliances, cooking appliances, household appliances, ovens, cookers, grills, definitions, safety, equipment specifications, performance evaluation, temperature, tests, marking, name plates, technical notices, maintenance

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.

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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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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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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 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.

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	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.

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.

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 addition.

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.

7.1.6 Appliances having a mains electrical supply

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

7.2 Verification of the constructional requirements

7.2.1 Strength

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

7.2.2 Strength, stability

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

7.2.3 Accumulation of unburnt gas in the appliance

7.2.3.1 Examination of the construction

7.2.3.1 of EN 30-1-1:1998 applies with the following additions:

- to the second paragraph, add:

"4) Appliances having forced-convection ovens and/or grills: items a), b), c), d), e) and f)";

- to table 10, add the following item f).

Items	Factors
f)	Normal and abnormal conditions of convection

7.2.3.2 Test

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

7.2.4 Fragmentation test for principal components made from toughened soda-lime glass

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

7.2.5 Appliances with a glass lid having a device for shutting off the gas to the hotplate burners

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

7.2.6 Food hygiene in time controlled ovens

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

7.2.7 Convection fan

The requirements of 5.2 of this standard shall be verified.

7.3 Verification of operational requirements

7.3.1 General tests

7.3.1.1 Soundness - Durability of the method of sealing the gas circuit

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

7.3.1.2 Obtaining the rates

7.3.1.2.1 Obtaining the nominal heat input

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

For forced-convection ovens and/or grills, this clause applies under the normal conditions of convection.

7.3.1.2.2 Obtaining the reduced rate

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

For forced-convection ovens and/or grills, this clause applies under the normal conditions of convection.

7.3.1.3 Flame supervision device

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

For forced-convection ovens and/or grills, this clause applies under the normal conditions of convection.

7.3.1.4 Safety of operation

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

For forced-convection ovens and/or grills, this clause applies under the normal conditions of convection.

7.3.1.5 Heating

7.3.1.5 of EN 30-1-1:1998 applies with the following additions.

For forced-convection ovens and/or grills, this clause applies under the normal conditions of convection.

To the paragraph "Ovens" in 7.3.1.5.2.1 of EN 30-1-1:1998, when the tests require that the convection fan is in operation, the temperature of 200 °C is replaced by 180 °C or the maximum temperature that it is possible to achieve, if this is less than 180 °C.

7.3.1.6 Overheating of the third family gas cylinder and its compartment

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

For forced-convection ovens and/or grills, this clause applies under the normal conditions of convection.

7.3.1.7 Total rate of the appliance

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

For forced-convection ovens and/or grills, this clause applies under the normal conditions of convection corresponding to the highest nominal heat input.

7.3.1.8 Governor performance

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

For forced-convection ovens and/or grills, this clause applies under the normal conditions of convection corresponding to the highest nominal heat input.

7.3.2 Specific tests for hotplates

7.3.2.1 Ignition, cross-lighting, flame stability

7.3.2.1 of EN 30-1-1:1998 applies, with the addition of the following text to 7.3.2.1.1.

If the appliance has a forced-convection oven and/or grill, the tests are carried out under the normal conditions of convection.

If the appliance has two forced-convection ovens and/or grills situated under the hotplate that are capable of operating simultaneously, the tests requiring their operation are carried out under all combinations of the normal conditions of convection.

7.3.2.2 Resistance to draught

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

7.3.2.3 Resistance to liquid spillage

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

7.3.2.4 Combustion

7.3.2.4 of EN 30-1-1:1998 applies with the addition of the following text to test N°4 of 7.3.2.4.1.

For dual purpose ovens or grills, the tests are carried out under the normal conditions of convection.

7.3.3 Specific tests for ovens and grills

7.3.3.1 Ignition, cross-lighting, flame stability

7.3.3.1.1 General

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

For forced-convection ovens and/or grills, the tests are carried out under the normal conditions of convection.

7.3.3.1.2 Cold ignition and cross-lighting

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

7.3.3.1.3 Hot ignition and cross-lighting

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

7.3.3.1.4 Reduced rate

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

7.3.3.1.5 Operation of the oven door

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

If the appliance has a forced-convection oven and/or grill, the tests are carried out under the normal conditions of convection.

If the appliance has two forced-convection ovens and/or grills that are capable of operating simultaneously, the tests requiring their operation are carried out under all combinations of the normal conditions of convection.

7.3.3.1.6 Operation of the building-in unit door

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

7.3.3.1.7 Grill in the oven compartment

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

7.3.3.1.8 High level grill

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

7.3.3.1.9 Influence between two ovens or grills

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

If the appliance has one or more forced-convection ovens and/or grills that are capable of operating simultaneously, the tests are carried out under all combinations of the normal conditions of convection.

7.3.3.1.10 Built-in ovens

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

7.3.3.2 Combustion

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

For forced-convection ovens and/or grills, this clause applies under the normal conditions of convection.

7.3.4 Additional tests for appliances having forced-convection ovens and/or grills

7.3.4.1 Abnormal conditions of convection

7.3.4.1.1 General

7.3.4.1.2 Ignition, cross-lighting, flame stability

Clauses 7.3.3.1.1, 7.3.3.1.2 and 7.3.3.1.3 of EN 30-1-1:1998 apply, only carrying out the tests for which reference gas is used at the normal test pressure.

These tests are carried out with the convection fan put out of action.

7.3.4.1.3 Combustion

7.3.3.2.2 of EN 30-1-1:1998 applies for forced-convection ovens and/or grills which are not intended to be used without the fan, under the following special conditions.

The fan is put out of action and it is verified that the requirements described in 6.4.1.2 of this standard are satisfied, with each of the reference gases at the normal test pressure.

7.3.4.2 Stalled convection fan

An appliance having one or more forced-convection ovens and/or grills is submitted to tests N°1 and N°2 described in 7.3.1.5.2 of EN 30-1-1:1998.

If operation of the burner(s) that are only intended to be operated with the convection fan is not possible under the conditions of 7.3.4.1.2 and 7.3.4.1.3, the requirements of 6.4.1.3 are satisfied.

At the start of the test, the convection fan is supplied with voltage, but the normal rotation of the blades is prevented by a mechanical means. The temperatures of the auxiliary equipment are measured during the test in accordance with 7.3.1.5 of EN 30-1-1:1998. The maximum temperatures attained during each test are recorded, in order to verify their conformity with the requirement of 6.4.2 of this standard.

If the appliance is equipped with more than one convection fan, the above tests are carried out by locking the rotation of the blades of each fan successively.

8 Marking and instructions

8.1 Marking of the appliance

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

8.1.1 Data plates and labels

8.1.1 of EN 30-1-1:1998 applies with the following addition to the text, at the last indent.

Where two nominal heat inputs are declared in accordance with 6.1, only the maximum heat input shall be stated.

8.1.2 Other appliance marking

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

If, in accordance with the instructions for use and maintenance, a forced-convection oven or grill accessory is to be maintained in a fixed position in order to assure the safety of operation of the oven or grill, this accessory shall carry a permanent marking indicating that it is to be retained in the required position e.g. leave in the lowest runner.

8.2 Marking of the packaging

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

8.3 Instructions

8.3.1 General

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

8.3.2 Technical instructions

8.3.2 of EN 30-1-1:1998 applies with the following addition to 8.3.2.1.

Where two nominal heat inputs are indicated in relation to the conditions of convection, they shall be identified in relation to the mode of operation of the fan.

8.3.3 Instructions for use and maintenance

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

They shall include:

- the instructions concerning the use of the fan at the time of ignition ;
- the mode of operation of the convection fan, stating clearly if the oven or grill can also be used without the fan ;
- the instructions allowing the user to carry out dismantling and re-assembly operations for the purpose of normal cleaning and maintenance in a safe manner and, in particular, specifying the disconnection of the electrical supply before any such operations ;
- the action to be taken in the event of fan failure, and, in particular, to inform the user of the means of detecting such a failure.

The total nominal heat input indicated by the manufacturer shall correspond to the sum of the highest heat inputs. For the different nominal heat inputs of the burners it is the highest nominal rate which has to be taken into account.

In addition, if the oven and/or grill is designed only for use with the fan in operation, the instructions for use and maintenance shall contain the following warning:

WARNING : Do not use the oven (and/or the grill) if the fan is not working.

Moreover, when an accessory of an oven or grill is required to be maintained in a fixed position in order to assure the safety of operation of the oven or grill, the instructions shall identify it and give details in relation to the marking carried by the accessory, in accordance with 8.1.2 of this standard.

8.3.4 Instructions for conversion to other gases

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

Annex ZA (informative)

Clauses of this European Standard addressing essential requirements or other provisions of EU Directives

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 the EU Directive 90/396/EEC on the approximation of the Laws of Member States concerning gas appliances.

WARNING : Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.

The following clauses of this standard are likely to support requirements of EU Directive 90/396/EEC on the approximation of the Laws of Member States concerning gas appliances.

Compliance with clauses of this standard is one of the means of conforming with the specific essential requirements of the Directive concerned and associated EFTA regulations.

Table ZA.1

Essential requirement	Subject	Requirements of the standard		Comments
		Clause of EN 30-1-1:1998 ¹⁾	Clause of EN 30-1-2:1999	
1	Annex 1 General conditions			
1.1	Safety of operation	1 - 2 - 3 - 5.1.1 - 5.1.3 - 5.1.9 - 5.2.2 (except 5.2.2.2) - 5.2.3 - 6.1.5.1.3 - 6.1.5.1.4 - 6.1.5.1.5 - 6.1.7 - 6.1.8 - 6.1.6.1	1 - 2 - 3 - 5.1 - 5.2 - 6.1	Requirement 6.1.6.1 is only applicable only to appliances with an incorporated LPG cylinder
1.2	Marking and instructions Instructions for the installer Instructions for the user Warnings Official languages		8 8 8 8	
1.2.1	Information in the technical instructions		8.3.1 and 8.3.2	
1.2.2	Content of the instructions for use and maintenance		8.3.1 and 8.3.3	
1.2.3	Marking on the appliance and packaging		8.1 8.2	
1.3	Fittings	2 - 5.2.4 - 5.2.6 - 5.2.7		
2	Materials			
2.1	Characteristics	5.1.2		
2.2	Guarantee	1 and foreword		
3	Design and construction			
3.1	General			
3.1.1	Durability	5.1.2 - 5.1.4 - 5.1.6 - 5.1.7 - 5.1.8 - 5.2.1 - 5.2.8 - 5.2.9 - 5.2.10 - 6.1.4.1		
3.1.2	Condensation	5.1.2, 2nd paragraph, 2nd indent		

"to be continued"

Table ZA.1 (continued)

Essential requirement	Subject	Requirements of the standard		Comments
		Clause of EN 30-1-1:1998 ¹⁾	Clause of EN 30-1-2:1999	
3.1.3	Risk of explosion	5		
3.1.4	Penetration of water and air	5.1.5 - 6.1.1		"Penetration of water" : not applicable
3.1.5	Normal fluctuation of auxiliary energy	5.1.10 - 6.2.2 - 6.3.2		
3.1.6	Abnormal fluctuation of auxiliary energy	5.1.10 - 6.2.2 - 6.3.2		
3.1.7	Electrical safety	5.1.11		
3.1.8	Parts under pressure	5.1.2 - 6.1.6.2		Only applicable to appliances with an incorporated LPG cylinder
3.1.9	Failure of a safety device : - flame supervision device - governor - thermostat - cooling fan - convection fan	5.2.6 - 6.1.3 5.2.7 - 6.1.8 5.2.4 - 6.1.10 5.2.11 - 6.1.9	6.2 - 6.4.1.3 - 6.4.2	
3.1.10	Safety/control	5.2.6		
3.1.11	Protection of parts adjusted by the manufacturer	5.2.3 - 5.2.7		
3.1.12	Marking of adjusting and control devices	5.2.2.2 - 5.2.4	7.2.3.1	
3.2	Unburnt gas release			
3.2.1	Risk of gas leakage	5.1.5 - 5.1.6 - 6.1.1.1 6.1.4.2.1		
3.2.2	Risk of accumulation in the appliance	5.2.6 - 5.2.9.1.4 - 5.2.12 -, 6.1.3 - 6.2.1 - 6.3.1 - 6.1.4.2.2	6.4.1.1	
3.2.3	Risk of accumulation in the space	5.2.6 - 6.1.3	8.1 - 8.2 - 8.3.2.1 - 8.3.3	
3.3	Ignition			
	Ignition	5.2.5 - 5.2.9.2 - 5.2.12.2 6.2.1 - 6.3.1	6.2 - 6.3 - 6.4.1.1	
	Re-ignition	5.2.12.3 6.2.1 of EN 30-1-1:1998 in the tests conditions of 7.3.2.1.3 of EN 30-1-2:1999 6.3.1 of EN 30-1-1:1998 in the tests conditions of 7.3.3.1.3 of EN 30-1-2:1999		
	Cross-lighting	6.2.1 - 6.3.1	6.4.1.1	

"to be continued"

Table ZA.1 (the end)

Essential requirement	Subject	Requirements of the standard		Comments
		Clause of EN 30-1-1:1998 ¹⁾	Clause of EN 30-1-2:1999	
3.4	Combustion			
3.4.1	Flame stability Concentration of harmful substances in the combustion products	6.2.1 - 6.3.1 5.2.9.3 - 6.2.2 - 6.3.2 (see Foreword)	6.3 - 6.4.1.1 6.2 - 6.4.1.2	
3.4.2	Release of combustion products			Not applicable
3.4.3	Release of combustion products into the space (for appliances having a flue, in the event of abnormal draught)			Not applicable
3.4.4	CO limit in the space			Not applicable
3.5	Rational use of energy		See EN 30-2-2:1999	
3.6	Temperatures			
3.6.1	Floor and adjacent surfaces	6.1.5.2	6.2	
3.6.2	Control handles	6.1.5.1.6 - 6.1.5.1.7		
3.6.3	External surface temperatures	6.1.5.1.1 - 6.1.5.1.2		
3.7	Foodstuffs and water used for sanitary purposes	5.1.2 - 5.2.13		"Water used for sanitary purposes" : not applicable
¹⁾ In conformity with the dispositions specified clauses 5 and 6 of EN 30-1-2:1999, the applicable requirements of EN 30-1-1:1998 are verified under the test conditions of clause 7 of EN 30-1-2:1999.				

Table ZA.2

	Subject	Requirements of the standard	Comments
	Annex II of the Directive	1 and Foreword of EN 30-1-1:1998	

Table ZA.3

	Subject	Requirements of the standard	Comments
	Annex III of the Directive	8.1 of EN 30-1-2:1999	

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