

Safety of domestic gas appliances —

Part 14: Specification for barbecues (3rd family gas)

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- British Non-ferrous Metals Federation
- Consumer Standards Advisory Committee of BSI
- Consumers' Association
- Department of Energy
- Department of the Environment (Building Research Establishment)
- Department of Trade and Industry (Consumer Safety Unit, CCS Division)
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- Health and Safety Executive
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- Liquefied Petroleum Gas Industry Technical Association (UK)
- National Brassfoundry Association
- National Gas Consumers' Council
- Royal Society for the Prevention of Accidents
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The following body was also represented in the drafting of the standard:

Coopted member

This British Standard, having been prepared under the direction of the Gas Standards Committee, was published under the authority of the Board of BSI and comes into effect on 30 November 1984

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Foreword

BS 5258 has been prepared, under the direction of the Gas Standards Committee, to meet the need for a standard specifying the safety requirements and associated methods of test for domestic gas appliances burning 1st, 2nd and 3rd family gases. It has been prepared in a number of Parts, each of which applies to a particular appliance. The following Parts are published or, are, as indicated by an asterisk, in course of preparation:

- *Part 1: Central heating boilers and circulators;*
- *Part 2: Cooking appliances;*
- *Part 4: Fanned-circulation ducted-air heaters;*
- *Part 5: Gas fires;*
- *Part 6: Refrigerators and food freezers;*
- *Part 7: Storage water heaters;*
- *Part 8: Combined appliances: gas fire/back boiler;*
- *Part 9: Combined appliances: air heater/circulator*;*
- *Part 10: Flueless space heaters (excluding catalytic combustion heaters) (3rd family gases);*
- *Part 11: Flueless catalytic combustion heaters (3rd family gases);*
- *Part 12: Decorative gas log and other fuel effect appliances (2nd and 3rd family gases);*
- *Part 13: Independent convective heaters.*

Preparation of this Part has been undertaken at a time when some of the earlier Parts are being revised and up-dated. Hence, although the order of subject matter has been maintained, the clause numbering has changed. Of special importance is that, whereas in the past the specifications were written with type approval in mind, this Part is intended to apply to all production appliances through a recognized scheme of quality assurance.

Attention is drawn to the requirements of the Gas Safety Regulations, the Electrical Equipment Safety Regulations and the various Building Regulations. British Standard code of practice, BS 5482-1, and the Home Office Fire Prevention Guide No. 4 "Safe use and storage of LPG in residential premises" are also pertinent.

Certification. Attention is drawn to the certification facilities described on the inside back cover of this standard.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 16, an inside back cover and a back cover.

This Standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Section 1. General

1 Scope

This Part of BS 5258 specifies safety requirements and associated methods of test for flueless¹⁾ barbecues, burning 3rd family gases not supplemented by any other fuel, e.g. charcoal, the gases being supplied from a container via a pressure regulator complying with the requirements of BS 3016.

The requirements for controls relate to controls fitted as part of, or supplied with, particular appliances; they do not necessarily provide a complete specification for controls intended for general use.

This standard does not take into account the special hazards that exist in places where there are young children or aged or infirm persons without supervision; in such cases additional requirements may be necessary.

NOTE The titles of the publications referred to in this standard are listed on the inside back cover.

2 Definitions

For the purposes of this Part of this British Standard, the definitions given in BS 1179:1967 and in BS 1179-6 apply, together with the following.

2.1

adjustment pressure

the pressure, measured at the test point, that is required to obtain the rated heat input using the reference test gas

2.2

barbecue

an appliance designed for roasting, broiling or grilling food out of doors

2.3

cooking grid

the surface on which the food to be cooked is placed

2.4

cold condition

a condition of the appliance required for some tests and obtained by allowing the unlit appliance to attain equilibrium at ambient temperature

2.5

fixed appliance

an appliance designed to be secured to, or in, a wall or floor

2.6

hot condition

a condition of the appliance required for some tests and obtained by heating to thermal equilibrium at the adjustment pressure, any thermostat remaining fully open

2.7

mobile appliance

an appliance designed to be moved without lifting clear of the ground

2.8

portable appliance

an appliance designed to be easily carried

2.9

rated heat input

the manufacturer's declared heat input for the appropriate reference test gas

2.10

setting pressure

the pressure, measured at the test point, that is specified by the manufacturer for the purpose of adjusting the appliance heat input

3 Classification of appliances

BS 4947 describes the category system of appliance classification by which an appliance is denoted by a category number, I, II or III, according to the number of gas families that it is designed to burn, and the families are identified by subscripts T, N and L for the 1st, 2nd and 3rd gas families respectively.

For the purposes of this Part the following categories of appliance are permitted:

Category I_L , $I_{L/B}$, $I_{L/p}$

The only change that is allowed in adapting an appliance from operation on one 3rd family gas to operation on another is adjustment of aeration.

4 General requirements

The appliance shall comply with the requirements of this standard when tested using the specified test gases. Full details of the test gases are given in BS 4947.

The appliance may be designed for use with either commercial butane or commercial propane or both.

¹⁾ Type A according to the flue type classification for gas appliances (see BS 1179).

5 General conditions of test

5.1 Test room

The room shall be adequately ventilated but free from draughts likely to affect the performance of the appliance. If the test results are influenced by the temperature of the ambient air, the room temperature shall be maintained at 20 ± 5 °C.

5.2 Preparation of appliance

The appliance shall be installed and adjusted in accordance with the manufacturer’s instructions using the appropriate reference test gas and inlet pressure.

Test gas	Inlet pressure
	mbar ^a
LPGA	28
LPGC	37

^a 1 mbar = 0.1 kPa = 10⁻² N/m²

Before any tests are made the appliance shall be operated at its full working temperature for a period sufficient to dry the insulation and remove any temporary finish that might interfere with observations.

5.3 Test procedure

The gas connections and system up to and including the burner shall be examined for soundness both before and after test. The test results are deemed invalid unless the system is sound (see 7.1).

The appliance shall be at room temperature at the start of each test, unless otherwise stated.

During testing, the initial adjustment of the appliance shall not be altered unless specifically required by the test method.

Precautions shall be taken to prevent thermostats or other variable controls from acting to interfere with the gas flow, except as necessitated by the test.

Test pressures shall be measured correct to 0.2 mbar and controlled so that the variation does not exceed ± 0.2 mbar.

NOTE 1 Any overloads that are specified are obtained by increasing the inlet pressure with any governor rendered inoperative, and, generally, any reduced rates are obtained by operating the appropriate tap(s).

NOTE 2 BS 4947 gives guidance on the measurement of heat input rates.

NOTE 3 Details of the test gases (and where appropriate their conditions of application) to be used are inserted in relevant clauses. Test gases LPGA and LPGB are used with the appliance adjusted for butane, and test gases LPGC and LPGE with the appliance adjusted for propane.

Section 2. Safety requirements and associated methods of test

6 General design and construction

6.1 Materials, fittings and finishes

Materials, fittings and finishes, the failure of which may affect the safe operation of the appliance, shall comply with relevant British Standards and shall be appropriate to the conditions arising in the part of the appliance in which they are used. The appliance shall be free from swarf, grit or other foreign matter. The appliance shall not have any sharp edges likely to cause injury during assembly, normal use, maintenance and servicing.

6.2 Removal and reassembly of parts by user

Parts that are intended to be removable by the user, e.g. for cleaning, shall be readily accessible, shall not require the use of tools for their removal, shall be easy to assemble correctly and difficult to assemble incorrectly. Parts that are not intended to be removed by the user shall require the use of tools for their removal.

6.3 Materials in contact with gas

6.3.1 Copper tubing. Copper tubing shall not be used where it would be exposed to temperatures above 100 °C.

6.3.2 Non-metallic materials. Jointing compounds shall comply with the relevant requirements of BS 5292.

Flexible rubber hose shall comply with the requirements for type 2 of BS 3212.

6.4 Gas connections

6.4.1 Fixed appliances. The gas connection shall have a jointing thread as specified in clause 2 of BS 21:1973 or a compression fitting suitable for tubes complying with BS 2871-1.

6.4.2 Portable and mobile appliances. The appliance shall be fitted with a suitable length of flexible hose, of nominal bore 8 complying with type 2 of BS 3212, secured to a nozzle conforming to the relevant requirements of BS 3929 for low pressure nozzles with a suitable clip.

6.5 Aeration adjusters

Any aeration adjuster shall not be liable to inadvertent movement, shall not be capable of closing the air inlet completely and shall not be capable of being set in such a manner as to cause gas to spill from the burner venturi throat.

6.6 Insulation

Thermal insulation shall be non-combustible (see BS 476-4), shall be securely located and shall be protected against mechanical damage, condensate, spillage and vermin. Asbestos-containing materials shall not be used for insulation.

6.7 Gas-carrying components

Gas-carrying tubes and fittings shall be resistant to corrosion.

Drillings for bolts and screws shall not connect with fuel gasways. The minimum residual wall thickness shall be at least 1 mm.

Where solder is used for jointing gas-carrying components it shall have a melting point of not less than 450 °C after application.

6.8 Appliances incorporating a gas container

An appliance incorporating a container shall comply with the following requirements.

- a) The container shall rest on a support and not directly on the ground. The support shall have sufficient mechanical strength to resist deformation under the load of a full container of maximum size that may be fitted.
- b) The container tap shall be readily accessible and shall remain easy to manipulate when the container is in place.
- c) Overflow of grease droppings shall not fall on to the container, container valve, regulator or hose.
- d) Where the container may be connected to the appliance by a flexible hose, the flexible hose shall not come into contact with any sharp edges.

If the container is housed in a compartment, the appliance shall comply with the following additional requirements.

- 1) The container shall be easily insertable in or removable from the compartment.
- 2) The compartment shall be so designed that effective ventilation is provided by openings at the bottom and at the top. The total area of the openings at the bottom and at the top shall be at least 5 % and 1 % respectively of the compartment floor area.
- 3) The compartment shall have no sill higher than the base on which the container rests.
- 4) There shall be minimal internal communication between the container housing and the burner unit.
- 5) The ventilation openings of the compartment shall not be able to be obstructed when the appliance is in use.

6.9 Stability (mobile and portable appliances only)

The appliance shall not tip over when placed on a plane at an angle of 10° with any lid or wheels in the most unfavourable position. For an appliance incorporating its own gas supply an empty container of the minimum size recommended by the manufacturer shall be fitted and shall not be displaced during the test.