

Specification for

# Installation of gas-fired catering appliances for use in all types of catering establishments (1st, 2nd and 3rd family gases)

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# Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Gas Standards Policy Committee (GSE/-) to Technical Committee GSE/30, upon which the following bodies were represented:

- British Flue and Chimney Manufacturers' Association
- British Gas plc
- Confederation for the Registration of Gas Installers
- Consumer Standards Advisory Committee of BSI
- Department of the Environment
- Department of Trade and Industry (Consumer Safety Unit, C A Division)
- Health and Safety Executive
- Institute of Domestic Heating and Environmental Engineers
- Institution of Gas Engineers
- Liquefied Petroleum Gas Industry Technical Association (UK)
- Society of British Gas Industries
- Trades Union Congress

The following body was also represented in the drafting of the standard, through panels:

- Catering Equipment Manufacturers' Association

This British Standard, having been prepared under the direction of the Gas Standards Policy Committee, was published under the authority of the Board of BSI and comes into effect on 29 June 1990

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## Foreword

This British Standard has been prepared under the direction of the Gas Standards Policy Committee. It is a revision of the Code of Practice, BS 6173:1982 which is withdrawn. During the preparatory work the committee responsible for this standard considered that, in the interests of achieving a safe installation, many of the operations for installing 1st, 2nd and 3rd family gas appliances should be specified as requirements to be complied with. This revision has, therefore, been presented in the form of a practice specification in accordance with clause 6 of PD 6501-1:1982.

**NOTE** To comply with this specification, the user has to comply with all its requirements. He may depart from recommendations, but this would be on his own responsibility and he would be expected to have good reasons for doing so.

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

### **Compliance with this British Standard does not of itself confer immunity from legal obligations.**

In particular, attention is drawn to the following:

- a) Statutory Instrument 1358:1984: The Gas Safety (Installation and Use) Regulations 1984.
- b) Statutory Instrument 1065:1985 (as amended): Building Regulations 1985.
- c) Statutory Instrument 1596:1981 (as amended): The Building Standards (Scotland) Regulations 1981.
- d) Statutory Instrument 149:1977 (as amended): Building Regulations (Northern Ireland) 1977 (as amended).
- e) Statutory Instrument 1709 NI16:1979 (as amended): Building Regulations (Northern Ireland) Order 1979.
- f) Statutory Instrument 635:1989: Electricity at Work Regulations.
- g) Model Water Bye-laws.
- h) Health and Safety at Work etc. Act 1974.
- i) Fire Precautions Act 1971.

### **Summary of pages**

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 20, 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 British Standard specifies the installation requirements of gas-fired catering appliances burning 1st, 2nd or 3rd family gases that comply with the safety requirements of BS 5314 and BS 5809 as appropriate.

NOTE 1 This specification does not apply to the installation of typical domestic cooking appliances in catering establishments. This subject is covered in BS 6172 for 2nd family gases and in BS 5482 for 3rd family gases. It also does not apply to the installation of frying ranges as used in fish and chip shops and specified in BS 6350.

NOTE 2 The titles of the publications referred to in this standard are listed on the inside back cover.

## 2 Definitions

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

### **appliance flexible connection**

a corrugated metallic flexible connection with a protective cover and appropriate end fittings to facilitate the connection of an appliance to an installation pipe and to allow the appliance to be moved a short distance in order to ease disconnection and connection

## 3 Collaboration

NOTE Collaboration is essential between those concerned with the selection, layout and installation of equipment, both at the planning stage and during execution of the work.

Particular matters that shall be considered are:

- a) the means of providing adequate flueing and ventilation for all of the appliance and cooking processes;
- b) ensuring that adequate supplies of gas are available to an agreed position at the appropriate time in the project;
- c) ensuring that satisfactory transport access to the kitchen and preparation of the floor and of any special bases are completed before appliances are delivered to the site. Delivery of the appliances needs to be at a time as near to occupation of the premises as possible;
- d) the provision of kitchen plans to indicate the points of entry of all services, the positions of meters, fuse boxes and electrical controls.

## Section 2. Selection of appliances

### 4 Appliances

Appliances selected shall comply with the safety requirements of BS 5314 or BS 5809, as appropriate, and be suitable for the gas supplied.

COMMENTARY AND RECOMMENDATIONS ON CLAUSE 4.  
*It is also highly desirable when selecting appliances to verify that they meet the appropriate performance requirements of BS 5314, BS 5809 and BS 6350.*

*In addition, the following factors should be considered:*

- a) the number of meals required;*
- b) the nature of meals required;*
- c) whether unprepared or convenience foods are to be used;*
- d) the method of food service and food storage (hot and cold); and*
- e) the time over which service is to be provided.*

*Guidance in the choice of appliances may need to be sought from kitchen design specialists, fuel suppliers or appliance manufacturers. Particular attention should be given to kitchen hygiene and any need for appliance mobility for cleaning purposes.*

*Features and options for the location of catering appliances are given in Figure 2 to Figure 9 and Table 1. These will help the caterer to appreciate the range of appliances available for particular purposes.*

## Section 3. Installation

### 5 Appliance installation

#### 5.1 General

**5.1.1** In addition to the requirements of this standard, the installation and location of appliances shall be in accordance with the manufacturer's instructions.

COMMENTARY AND RECOMMENDATIONS ON  
**CLAUSE 5.1.1.** *British Standards relevant to the requirements detailed in this specification are BS 8206-1, BS 5997, and BS 8313.*

*Further information on appliance types and descriptions is given in Figure 2 to Figure 9 and Table 1.*

*Consideration should be given to:*

- a) the need for special bases for heavy appliances;*
- b) the width and length of appliances to enable compact groups to be formed;*
- c) the need for flush (easy clean) panels to accessible sides and backs;*
- d) the need to avoid crevices between and behind appliances where spillage might lodge. Where crevices are unavoidable, appliances should be movable for cleaning (see 5.5).*
- e) the need to protect combustible floor finishes against temperatures above 65 °C.*

**5.1.2** An appliance for use with 3rd family gases shall not be installed in a room below ground level e.g. in a basement or a cellar.

COMMENTARY AND RECOMMENDATIONS ON  
**CLAUSE 5.1.2.** *This does not preclude the installation of such appliances into rooms which are basements with respect to one side of the building but open to ground level on the opposite side.*

#### 5.2 Appliance bases and floors

Bases and floors shall be designed to withstand the weight of the fully laden appliance.

Floors shall have a firm, smooth and level finish where appliances are fitted with wheels, castors or rollers.

#### 5.3 Hygiene

Walls and floors other than those surfaces sealed to an appliance shall be accessible for cleaning.

COMMENTARY AND RECOMMENDATIONS ON  
**CLAUSE 5.3.** *Sealing methods and sealants should be rodent-resistant, waterproof and flexible.*

#### 5.4 Drainage

**5.4.1** Drainage facilities shall be provided as necessary in the following cases:

- a) to remove water when washing down during general cleaning;

b) for appliances inside which water is used, for example, steaming and boiling pans.

Where a channel is used it shall be positioned beneath any drain or emptying points in the appliance. For tilting appliances the width of the channel shall take into account the movement of any appliance drain whilst tilting takes place.

**5.4.2** All drains and channels shall be accessible for cleaning and shall not obstruct movable appliances.

#### 5.5 Stability

Appliances of less than 300 mm width shall, if fitted to the free ends of suites, be prevented from tipping sideways.

COMMENTARY AND RECOMMENDATIONS ON  
**CLAUSE 5.5.** *Narrow appliances, especially those containing hot fluids, should not be located at the free ends of suites.*

*Wheels, castors or rollers should not be fitted to appliances containing hot liquids and frying oils.*

## 6 Gas installations

#### 6.1 General

Gas installation pipes shall be installed in accordance with appropriate standards.

COMMENTARY AND RECOMMENDATIONS ON  
**CLAUSE 6.1.** *Gas pipework is required by UK legislation to be installed in a sound and workman-like manner and be constructed of materials suitable for its purpose. Appropriate requirements are given in British Gas plc publication IM 16, "Guidance notes on the installation of gas pipework, boosters and compressors in customers' premises". Additional requirements for 3rd family gases are given in BS 5482.*

*Attention is also drawn to the Gas Safety (Installation and Use) Regulations 1984 and British Gas plc publication IM21 "Guidance notes on the Gas Safety (Installation and Use) Regulations 1984".*

#### 6.2 Emergency isolation systems

A manually operable valve shall be fitted to the gas supply to a kitchen to enable it to be isolated in an emergency. Wherever reasonably practicable this valve shall be located either outside the kitchen or near to an exit in a readily accessible position.

Where it is not practicable to locate the manual valve in a readily accessible position, an automatic isolation valve system shall be fitted which can be operated from a readily accessible position near to the exit. The valve shall either comply with BS 5963 or the relevant requirements of BS 5963 if it has an integral free handle reset facility, or shall be a low pressure cut-off valve incorporating a small solenoid-operated shut-off valve in the main valve's weep system.

Wherever an automatic isolation valve system is used, an automatic system of proving that all downstream gas supplies to the burners and pilots have been turned off shall be employed.

At locations where either the manual isolation valve is fitted or where an automatic system can be reset a notice shall be affixed stating that:

"All downstream burner and pilot valves must be turned off prior to attempting to restore the supply.

After extended shut-off, purge before restoring gas."

COMMENTARY AND RECOMMENDATIONS ON  
CLAUSE 6.2. *Low-pressure cut-off valves and safety proving systems are detailed in British Gas plc publication IM 20 "Weep by-pass low pressure cut-of systems".*

### 6.3 Corrosion

Pipework shall be resistant to, or protected against, corrosion caused by water and chemical cleaning materials.

Pipe entries through walls or floors shall be sleeved and such sleeves shall be sealed to the pipe. Sleeves shall terminate not less than 25 mm from the finished surface where water or chemical cleaning materials may be used.

### 6.4 Metering

Any primary or check meter shall be installed in a location where it will not suffer corrosion or mechanical damage.

### 6.5 Appliance isolation

Each fixed (non-mobile) appliance shall have a manual means of isolation for servicing or cleaning purposes. Where groups of appliances are all fitted with flexible connections (see 6.6) all having self-sealing plug and socket connections, a single manual valve to that group of appliances or to each appliance shall be fitted.

COMMENTARY AND RECOMMENDATIONS ON  
CLAUSE 6.5. *Reference should be made to British Gas plc publication IM 15, "Selection of manual valves".*

### 6.6 Mobile (movable) appliances

**6.6.1** Where appliances are fitted with wheels, castors or rollers, or are otherwise movable, they shall be connected to the installation pipe by a corrugated metallic flexible connection complying with BS 669-2 and incorporating a self-sealing plug and socket.

The self-sealing component shall be fitted to the installation pipe.

**6.6.2** Where wheels, castors or rollers are used, at least two shall be fitted at the front of appliances. They shall be fitted with a brake or locking device which shall, except for mobile servery counters, be accessible from the front.

Add-on wheels, castors or rollers shall not increase the overall declared height of the appliance unless agreed with the appliance manufacturer and the customer. Any such modification shall satisfy the stability tests in BS 5314.

Non-swivelling wheels or rollers shall be fitted to the back of the appliance, except for mobile servery counters, which shall be fitted with castors.

Wheels or castors shall be of at least 65 mm diameter  $\times$  20 mm width for appliances which weigh up to 50 kg, or 100 mm diameter  $\times$  25 mm width for appliances which weigh over 50 kg.

Rollers shall be at least 50 mm in diameter and at least 50 mm long.

COMMENTARY AND RECOMMENDATIONS ON  
CLAUSE 6.6.2. *Where an appliance is required to have wheels, castors or rollers added, the following points should be considered.*

- a) *The appliance manufacturer should be consulted to ensure that the appliance construction is suitable.*
- b) *The stability should comply with BS 5314.*
- c) *To enable appliances fitted with rollers to be, manoeuvred, full width rollers should not be fitted to appliances.*
- d) *Wheels, castors, or rollers should be suitable for use at 80 °C.*

**6.6.3** Where flexible pipes are fitted to appliances, they shall comply with BS 669-2, and a restraint shall be fitted of such length as to prevent excess movement of the appliance causing damage to the appliance flexible connection. Restraints shall not be fixed to gas supply pipes or to any point not sufficiently anchored.