

Specification for

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

ICS 97.040.20

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by Technical Committee GSE/30, Gas Installations (2nd and 3rd family gases), upon which the following bodies were represented:

- BG Plc
- British Flue and Chimney Manufacturer’s Association
- Centrica
- Combustion Engineers’ Association
- Consumer Policy Committee of BSI
- Council for Registered Gas Installers
- Department of Trade and Industry
- Gas Consumers Council
- Health and Safety Executive
- Institute of Domestic Heating and Environmental Engineers
- Institution of Gas Engineers
- Liquefied Petroleum Gas Industry Technical Association
- Society of British Gas Industries
- Co-opted members

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Foreword

This British Standard has been prepared by Technical Committee GSE30/11. It supersedes BS 6173:1990, which is withdrawn. This revision has been undertaken because of the need to cover current practices and changes to gas installation regulations. The standard now includes all gas-fired catering appliances including gas-fired tandoori ovens and gas-fired woks and new technology such as gas-fired micro-wave ovens. Information has been included on kitchen ventilation, hygiene and safety protection devices. A period of three months has been allowed for users of the old standard to convert to the new standard.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with this British Standard does not of itself confer immunity from legal obligations. In particular, attention is drawn to the following:

- [1] Statutory Instrument No. 2451:1998. The Gas Safety (Installation and Use) Regulations.
- [2] Statutory Instrument No. 2768:1991. Building Regulations (as amended).
- [3] Statutory Instrument No. 2179:1990. The Building Standards (Scotland) Regulations (as amended).
- [4] Statutory Rules of Northern Ireland No. 243:1994. The Building Regulations (Northern Ireland) (as amended).
- [5] Statutory Instrument No. 635:1989. Electricity at Work Regulations.
- [6] Statutory Instrument No. 2306:1998. Provision and Use of Work Equipment Regulations.
- [7] Statutory Instrument No. 1629:1995. The Gas Appliance (Safety) Regulations.
- [8] Statutory Instrument No. 1148:1999. The Water Supply (Water Fittings) Regulations (as amended).
- [9] Health and Safety at Work etc. Act 1974.
- [10] Fire Precautions Act 1971.
- [11] Statutory Instrument No. 1763:1995. Food Safety (General Food Hygiene Regulations)

It should be noted that persons working in catering establishments need to be aware of Food Hygiene Regulations before they enter the establishment. In many cases, chefs/managers will not permit entry until all persons are trained and instructed under these Regulations.

Summary of pages

This document comprises a front cover, an inside front cover, page i and ii, pages 1 to 17 and a back cover.

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1 Scope

This British Standard specifies the installation requirements of new and second-hand gas-fired appliances used in catering establishments burning 2nd or 3rd family gases.

This Specification does not apply to the installation of domestic hot water (DHW) boilers and air heaters in catering establishments.

NOTE 1 This specification also applies to the installation of typical domestic cookers or leisure appliances when installed in commercial catering sites or establishments. It is not intended to apply to primarily domestic premises, e.g. those supplying a small number of clients on a "bed and breakfast" basis. However, the general rules for hygiene and personal safety should be applied.

NOTE 2 This specification is intended to apply to new appliances conforming to BS 5809 or BS EN 203-3 as appropriate.

NOTE 3 This specification covers a wide range of appliances such as cookers, fish and chip frying ranges, fryers, ovens, cafe boilers and urns, bain-marie units, tandoori ovens, kebab grills, steamers, barbecues etc.

NOTE 4 It is essential that second hand appliances conform to 5.1.2.

In addition to the definitive requirements, this standard also requires the items detailed in Clause 4.1 and Clause 4.2 to be documented. For compliance with this standard, both the definitive requirements and the documented items have to be specified.

2 Normative references

This British Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are made at all appropriate places in the text and cited publications are listed on the inside back cover. For dated references, only the cited edition applies; any subsequent amendments to or revisions of the cited publications apply to the British Standard only when incorporated in the reference by amendment or revision. For undated references, the latest edition of the cited publication applies, together with any amendments.

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of this British Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. For undated references, the latest edition of the publication referred to applies.

BS 669-2, *Flexible hoses, end fittings and sockets for gas burning appliances. Specification for corrugated metallic flexible hoses, covers, end fittings and sockets for catering appliances burning 1st, 2nd and 3rd family gases.*

BS 1179-6, *Glossary of terms used in the gas industry. Combustion and utilization including installation at consumers' premises.*

BS 1363, *Specification for 13 A fused plugs and switched and unswitched socket-outlets.*

BS 5546, *Specification for installation of hot water supplies for domestic purposes, using gas-fired appliances of rated input not exceeding 70 kW.*

BS 5809, *Specification for safety and efficiency of the gas heating equipment of commercial dishwashing machines.*

BS 6700, *Specification for design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages.*

BS 7461, *Specification for electrically operated automatic gas shut-off valves fitted with throughput adjusters, proof of closure switches, closed position indicator switches or gas flow control.*

BS 7671, *Requirements for electrical installations. IEE Wiring Regulations. Sixteenth edition.*

BS 7838, *Specification for corrugated stainless steel semi-rigid pipe and associated fittings for low-pressure gas pipework of up to 28 mm.*

BS 8313, *Code of practice for accommodation of building services in ducts.*

BS EN 161, *Automatic shut-off valves for gas burners and gas appliances.*

BS EN 60309, *Plugs, socket-outlets and couplers for industrial purposes. General requirements.*

BS EN 60529, *Specification for degrees of protection provided by enclosures (IP code).*

CP 342-2, *Code of practice for centralized hot water supply. Buildings other than individual dwellings.*

3 Definitions

For the purposes of this British Standard, the definitions of BS 1179:1967 and BS 1179-6:1980 apply together with the following.

3.1

appliance restraint

a device that prohibits movement of the appliance away from the wall beyond the maximum extension of the device

NOTE Appliance restraints are normally fitted with a protective hygienic cover and used in conjunction with an appliance flexible connection.

3.2

flexible connection

a corrugated metallic flexible hose with braid, where fitted, with a protective hygienic cover and appropriate end fittings. It facilitates the connection of an appliance to an installation pipe which permits the appliance to be moved a short distance in order to ease connection and disconnection

3.3

downstream

a position after the outlet of a device or component

3.4

upstream

a position before the outlet of a device or component

3.5

second-hand appliance

one that has changed ownership (with or without payment) or one that has changed location from one site to another, e.g. a used appliance. It does not include an appliance moved within a kitchen

4 Information and requirements to be agreed and documented

4.1 Information to be supplied by purchaser

To ensure a safe and satisfactory installation, it is essential that collaboration should take place between those concerned with the design, selection, layout and installation of equipment, both at the planning stage and during the execution of the work. It is essential that attention is given to catering and food hygiene and any need for appliance mobility for cleaning purposes. To ensure that good ventilation practices are applied reference should be made to HVCA DW/171 Standard for Kitchen Ventilation systems with respect to good ventilation practice [13].

The following information to be supplied by the purchaser shall be fully documented. For compliance with the standard both the definitive requirements specified throughout the standard and the following documented items shall be satisfied.

- a) The means of providing adequate dispersal of combustion and cooking fume products, supply of combustion air and ventilation for all of the appliances and cooking processes. Adequate fresh air is also required in kitchens to provide air for combustion to limit the effects of heat and humidity. Reference should be made to Clause 10 of BS 5720, BS 5925, Annex B, HSE Catering Sheet and HVCA publication DW 171 [13].
- b) For new and refurbished kitchens, the provision of plans to indicate the termination points of all services, connection points, the positions of meters, the means of gas isolation, fuse boxes, electrical controls and water and waste isolation and termination.

COMMENTARY AND RECOMMENDATIONS ON 4.1.

Those involved in the collaboration process should consider, amongst other things, the following.

a) *Food service:*

- 1) *the number of meals required and peak time loads;*
- 2) *the nature of meals required and types of foods to be cooked.*

b) *Whether unprepared or convenience foods are to be used.*c) *Installation:*

- 1) *the method of food service and food storage (hot and cold), and the time over which service is to be provided;*
- 2) *peak energy requirements, whether the appliances are to be permanently fitted in a kitchen, moved from site to site or fitted within a mobile vehicle or vessel;*
- 3) *the location of the appliance;*
- 4) *hygiene, health and safety, where advice may be sought from the Local Environmental Officer;*
- 5) *appliances should not be located adjacent to customer services where hot surfaces may cause burns;*
- 6) *the location of gas meters, gas cylinders and other gas supply equipment in well ventilated positions where they will not suffer corrosion or damage;*
- 7) *the strength of floors and supports;*
- 8) *the width, depth and length of appliances to enable compact groups to be formed;*
- 9) *the need for flush (easy clean) panels to accessible sides, fronts and backs;*
- 10) *the need to avoid crevices between and behind appliances and pipework where spillage might lodge but where crevices are unavoidable, appliances should be removable for cleaning.*

NOTE Sealing methods and sealants should be vermin proof, waterproof, flexible and be food-safe grade.

- 11) *provision of other services should take account the requirements given in BS 5997, BS 8313 and BS 8206-1.*

d) *Ventilation:*

Frying, grilling and roasting produces greasy cooking odours and vapours and cleanable grease filters or sumps shall be provided in extract ducts.

This is especially important on fryers and fish and chip ranges.

These filters or sumps will normally need attention at least every month.

Inevitably some grease vapour will pass through the filters and it will then settle on any surface with a temperature below 150 °C and for this reason duct interiors need to be easily accessible with doors and panels.

NOTE See also BSRIA Report 78610 Specification for Ventilation Hygiene [14] and HVCA DW/143 [15], DW/144 [16], DW/TM2 [17] and TR/17 [18].

4.2 Requirements subject to agreement

The following items to be agreed between the contracting parties are specified in the clauses referred to and shall be fully documented.

For compliance with this standard both the definitive requirements specified throughout the standard and the following documented items shall be satisfied.

- a) Ensuring that an adequate supply of gas and electricity is available to agreed positions at the appropriate time in the project (5.2).
- b) Ensuring that satisfactory transport access to the kitchen and preparation of the floor and of any special bases is completed before appliances are delivered to the site. Delivery of the appliances should be at a time as near to occupation of the premises as possible when the site is clean (5.2).