

Specification for the installation and maintenance of open- flued, non-domestic gas-fired laundry appliances

ICS 97.060

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee GSE/30, Gas installations (1st, 2nd and 3rd family gases), upon which the following bodies were represented:

- Boiler and Radiator Manufacturers' Association Ltd
- British Flue and Chimney Manufacturers Association
- BSI Consumer Policy Committee
- Catering Equipment Suppliers' Association
- Centrica plc
- Council for Registered Gas Installers
- Department of Trade and Industry
- Health and Safety Executive
- Heating and Ventilating Contractors' Association
- ICOM Energy Association
- Institute of Domestic Heating and Environmental Engineers
- Institution of Gas Engineers and Managers
- L P Gas Association
- Society of British Gas Industries
- Co-opted members

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Foreword

This British Standard has been prepared by Technical Committee GSE/30 and comes into effect on 15 August 2005.

This standard reflects, where applicable, BS 7624:2004.

This specification has been prepared to address industry concerns about the safety of open-flued, non-domestic gas-fired laundry installations.

Attention is drawn to the hazards that exist in certain locations where the atmosphere or drying load can contain flammable vapours.

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

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

In particular, attention is drawn to the following statutory regulations:

- The Health and Safety at Work, etc, Act 1974 [1]
- The Management of Health and Safety at Work Regulations 1999 [2]
- The Dangerous Substances and Explosive Atmospheres Regulations 2002 [3]
- The Gas Safety (Installation and Use) Regulations 1998 [4]
- The Gas Safety (Installation and Use) (Northern Ireland) Regulations 2004 [5]
- The Gas Safety (Management) Regulations 1996 [6]
- The Electricity at Work Regulations 1989 [7]
- The Control of Substances Hazardous to Health Regulations 2002 [8]
- The Control of Asbestos at Work Regulations 2002 [9]
- The Gas Appliances (Safety) Regulations 1995 [10]
- The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 [11]
- The Provision and Use of Work Equipment Regulations 1998 [12]
- The Confined Spaces Regulations 1997 [13]
- The Construction (Design and Management) Regulations 1994 [14]
- The Construction (Health, Safety and Welfare) Regulations 1996 [15]
- The Pressure Systems Safety Regulations 2000 [16]
- The Building Regulations 2000, as amended [17]
- The Building (Scotland) Regulations 2004 [18]
- The Building Regulations (Northern Ireland) Statutory Rules 2000 [19]
- The Gas Safety (Application) Order 1996 (Isle of Man) [20]

Summary of pages

This document comprises a front cover, an inside front cover, pages i to ii, pages 1 to 19 and a back cover.

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1 Scope

This British Standard specifies the installation (see note) of non-domestic gas-fired tumble dryers and rotary ironers burning 2nd and 3rd family gases. This standard is applicable to both fixed and tilting tumble dryers.

The standard applies to open-flued laundry appliances only.

NOTE For the purposes of this standard, installation includes design, inspection and commissioning. It is recognised that each of these tasks can be performed by the same person.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) 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 6891, *Specification for installation of low pressure gas pipework of up to 28 mm (R1) in domestic premises (2nd family gas)*.

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*.

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

BS EN ISO 10380, *Pipework — Corrugated metal hoses and hose assemblies*.

3 Terms and definitions

For the purposes of this British Standard, the following terms and definitions apply.

3.1

2nd family gas

natural gases

3.2

3rd family gas

liquefied petroleum gases (LPG), including compressed propane and butane

3.3

appliance flexible connector

pipe with appropriate connector ends, designed to have a considerable degree of flexibility to facilitate the connection of a gas appliance to an installation pipe and allow the appliance to be moved a short distance without the need for disconnection [BS 669–1]

3.4

braid

layer(s) of cylindrically woven wires covering the hose

3.5

commissioning

process carried out to place and/or put a gas-fired appliance into operation, according to the manufacturer's specification

3.6

cover

any tubular outer cover used to improve the cleanliness and identification of an appliance flexible connector

3.7

dilution

mixture of air, products of combustion and lint

3.8

direct gas-fired tumble dryer

appliance in which textile material is dried by tumbling in a rotating drum through which heated air and products of combustion are forced or induced by mechanical means

3.9

direct gas-fired rotary ironer

appliance in which textile material is ironed by being passed across a rotating roller through which heated air and products of combustion are forced or induced by mechanical means

3.10

dry cleaner

appliance in which laundry is processed using solvents, e.g. perchloroethane

3.11

drying load capacity

maximum weight that a gas-fired laundry appliance is capable of accepting for each load, as specified by the manufacturer

3.12

end fitting

threaded component factory-fitted permanently to a flexible hose that allows gas-tight connections to other threaded pipework

3.13

exhaust duct

pipe used to transmit products of combustion and lint, together with the supersaturated warm drying air, to the outside atmosphere

3.14

exhaust products

gaseous mixture of air, water vapour, products of combustion and lint removed as a result of exhaust venting

3.15

exhaust venting

process of removing moist air, including products of combustion and lint, from an appliance in a room or internal space directly to the outside atmosphere

3.16

lint

fluff drawn off laundry fabrics being processed in the appliance

3.17

make-up air

permanent, non-closable air supply, specified by the manufacturer, that is required to replace that used by a laundry appliance during its operation

3.18

open flue system (type B)

flue system that evacuates the products of combustion to the outside air

NOTE The combustion air is drawn directly from the room or space containing the appliance.

3.19

open-flued appliance (type B)

appliance designed to be connected to an open flue system, its combustion air being drawn from the room or space in which it is installed

3.20**ventilation**

process of supplying fresh air to, and/or removing air, from a room, internal space, compartment or garage

4 Competence

Persons who carry out the work shall be competent.

The installation work shall be carried out by a business or self-employed person, who is a member of a class of persons approved for the time being by the Health and Safety Executive (HSE), as required by the Gas Safety (Installation and Use) Regulations [4 and 5].

Persons who design the system or installation shall have a knowledge and understanding of the standards and regulations that apply to ensure that the completed plans will produce a safe and satisfactory installation.

COMMENTARY AND RECOMMENDATIONS ON CLAUSE 4

At the time of publication, the body with HSE approval to operate and maintain a register of businesses who are members of a "class of persons" is the Council for Registered Gas Installers (CORGI). Therefore, it is essential that all businesses or self-employed gas installers are registered with CORGI.

Guidance on the individual competency required for gas work are those who, either hold a certificate of gas safety competence acceptable to CORGI which include (without limitation) the Accredited Certification Scheme (ACS) and/or the Gas Services S/NVQ that has been aligned to ACS.

5 Planning considerations and risk assessment**5.1 Design and planning**

The following shall be ascertained before planning of the installation begins:

- a) the availability of gas supplies;
- b) the availability of adequate ventilation;
- c) the proposed location of the laundry appliance in relation to doors, external walls (outside air) and to the probable position of fixtures, furniture and curtains;
- d) the electrical supplies available;
- e) the method of installation recommended in the laundry appliance manufacturer's literature;
- f) the availability of a stable and rigid base on which to site the laundry appliance;
- g) the likely proximity of the laundry appliance to other appliances;
- h) the best location for the make-up air inlet and exhaust grilles.

COMMENTARY AND RECOMMENDATIONS ON 5.1

Collaboration is essential between those concerned with the design of laundry appliance installations and those responsible for installing the appliances, both at the planning stage and during the execution of the work.

5.2 Risk assessment

Prior to the installation of any non-domestic laundry appliance, a risk assessment shall be carried out to ascertain the most appropriate location for the appliance.

COMMENTARY AND RECOMMENDATIONS ON 5.2

The duty of an employer to carry out a risk assessment is imposed by The Management of Health and Safety at Work Regulations 1999 [2]. The risk assessment should cover, but not necessarily be limited to:

- a) all matters described in this standard regarding installation requirements;
- b) matters affecting the health and safety of employees, self-employed and others during operation, maintenance, cleaning and installation.

It might be necessary for persons with knowledge of different areas to be involved in the risk assessment, e.g. the gas installer or the laundry operator.

For more information, reference should be made to IGE/SR/24: Risk Assessment Techniques [21].

6 Selection of laundry appliances

6.1 New laundry appliances

Any new laundry appliance selected for installation shall be one that has been marked by the manufacturer as being suitable for the gas with which it is to be used. It shall also be suitable for its intended location (see Clause 7).

The installer shall ensure that any new laundry appliance selected for installation is CE marked.

6.2 Used laundry appliances

Only used laundry appliances with which the manufacturers' instructions are supplied or are otherwise available shall be selected for installation.

COMMENTARY AND RECOMMENDATIONS ON CLAUSE 6

For a tumble dryer, the drying load capacity should be borne in mind during selection, together with the intended location and the provision of make-up air (see Clause 10) and exhaust venting, being particularly mindful of manufacturer's maximum permitted exhaust runs (see Clause 12).

For rotary ironers, the size of the laundry to be ironed through the roller should be borne in mind during the selection, together with the intended location, the requirements for space to feed and return the laundry from the iron, and the provision of make-up air (see Clause 10) and exhaust ducting, being particularly mindful of manufacturer's maximum permitted exhaust runs (see Clause 12). A typical rotary ironer is illustrated in Figure 1.

The laundry appliances covered by this standard are generally stand-alone. Appliance flexible connectors, ducting and make-up air grilles are not supplied with these laundry appliances.

The installer should check the data given with a laundry appliance to establish the basis on which the heat input is quoted.

For the purposes of this standard the ratio of gross: net heat input is 1:1.11. For example, to convert a 5kW input appliance, gross c.v. to the equivalent net c.v. heat input, the following equation is used.

$5/1.11 = 4.504 \text{ kW heat input.}$

New laundry appliances

Of the laundry appliances covered by this standard, new laundry appliances fall within the scope of the European Gas Appliances Directive [22], implemented in the UK by the Gas Appliances (Safety) Regulations [10], which require new laundry appliances to be CE marked. Accordingly, the installer should check that the laundry appliance is CE marked.

The installer should ensure that the packaging and the laundry appliance itself are marked with at least the following information:

- a) The letters "GB";
- b) The type of gas and appliance inlet pressure as follows:
 - 1) for an appliance adjusted for natural gas, G20 and/or natural gas 20 mbar plus the designation I_{2H} ;
 - 2) for an appliance adjusted for butane, G30 and/or butane 29 mbar plus the designation I_{3B} ;
 - 3) for an appliance adjusted for propane, G31 and/or propane 37 mbar plus the designation I_{3P} ;
 - 4) for an appliance which will burn either butane or propane gas at the correct pressure, G30/G31 and/or butane/propane 29/37 mbar plus the designation I_{3+} .

Where a laundry appliance's data plate carries the letters CAT I or CAT II followed by gas type designations, (i.e. $_{2H}$, $_{2P}$, $_{2B}$), then the laundry appliance may be used for different types of gases when adjusted to do so.

In such a case, the installer should ensure that the laundry appliance is correctly adjusted.