

Installation of domestic heating and cooking appliances burning solid mineral fuels —

Part 3: Recommendations for design and on site installation

IMPORTANT NOTE. Before reading this Part it is essential to read
BS 8303-1: *Specification for the design of installations* and
BS 8303-2: *Specification for installing and commissioning on-site*, issued separately.

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Engineering Sector Board to Technical Committee RHE/28, upon which the following bodies were represented:

- Association of British Solid Fuel Appliance Manufacturers
- British Ceramic Tile Council
- British Coal Corporation
- Consumer Policy Committee of BSI
- Department of Energy (Energy Efficiency Office)
- Department of the Environment
- HETAS Ltd.
- Incorporated Association of Architects and Surveyors
- Low Temperature Coal Distillers of Great Britain Ltd.
- METCOM
- National Fireplace Manufacturers' Association
- National Society for Clean Air
- Real Fire Association
- Solid Smokeless Fuels Federation
- Waterheater Manufacturers' Association
- Coopted members

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Foreword

This Part of BS 8303 has been prepared under the direction of the Engineering Sector Board and together with BS 8303-1 and BS 8303-2 supersedes BS 8303:1986 which is withdrawn.

BS 8303 covers the installation of domestic heating and cooking appliances burning solid mineral fuel.

BS 8303-1 details the design specification to be followed by the installation designer, when developing an acceptable appliance installation design for the particular application.

BS 8303 specifies the practices to be followed when installing the appliance in accordance with the design specification. It reflects good site supervision and working practices.

This Part of BS 8303 gives guidance to the designer and installer on options to be identified and the methods of achieving a safe and satisfactory installation.

BS 8303 does not deal with design or installation of hot water heating systems or hot water supply systems. However, where the appliance involves hot water services, attention is drawn to BS 5449:1990.

Attention is drawn to the need to ensure compliance with all local and general regulations as they affect the installation, including the following:

- planning permission;
- Building Regulations [1];
- Clean Air Act [2];
- Gas Safety (Installation and Use) Regulations [3].

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 10, 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.

1 Scope

This Part of BS 8303 gives guidance and recommendations on the design and installation of domestic heating and cooking appliances burning solid mineral fuels designed in accordance with BS 8303-1:1994 and installed in accordance with BS 8303-2:1994.

2 Definitions

For the purposes of this Part of BS 8303, the definitions given in BS 1846-1:1994 apply.

3 References

3.1 Normative references

This Part of BS 8303 incorporates, by dated or undated reference, provisions from other publications. These normative references are made at the appropriate places in the text and the cited publications are listed on the inside back cover. For dated references, only the edition cited applies; any subsequent amendments to or revisions of the cited publication apply to this Part of BS 8303 only when incorporated in it by amendment or revision. For undated references, the latest edition applies, together with any amendments.

3.2 Informative references

This Part of BS 8303 refers to other publications that provide information or guidance. Editions of these publications current at the time of issue of this standard are listed on the inside back cover, but reference should be made to the latest editions.

4 Chimney connection for free standing appliances

Where a freestanding appliance is to be installed without the use of a fireplace recess no part of the chimney should be supported by the appliance. This is necessary so that if an appliance needs to be removed for any reason it can be achieved without major disturbance to the chimney.

Masonry chimneys can be built up from ground level, a fireplace recess or part of the wall structure of the building. The connection between the appliance and the chimney is achieved via a flue pipe entry either vertically from underneath [Figure 1 a)] or into an opening in the side of the flue [Figure 1 b) or Figure 1 c)]. A factory made chimney is commonly supported on ceiling joists. In this case care should be taken that the length of chimney below the lowest support is correctly secured to the section above it and not allowed to rest on the appliance or any flue pipe.

5 Securing an appliance

The appliance should be secured to prevent movement which could cause joint separation at the flue pipe or chimney connection, and for open fires, at the hearth and fire surround. Joint separation could result in leakage of air into the flue or allow combustion products to escape into the building.

Securing is particularly important where an appliance relies for its connection to the flue on a seal between the appliance and the fireplace recess to prevent any leakage. Movement of the appliance can occur for a variety of reasons such as vigorous operation of the de-ashing mechanism or thermal expansion and contraction.

The manufacturer's recommendation for fixing should be followed. The most common method is to secure the base of the appliance to the hearth using rag bolts or screws into non-combustible plugs.

6 Air inlets

The combustion air inlet sizes specified in 5.3 of BS 8303-1 are the minimum that are required. Open fires require more air than closed appliances because of the additional air that enters the appliance above the firebed. The air is needed for secondary combustion and to prevent flue gas spillage from the fire. The throat created by the fireback and throat lintel are specially shaped to assist the flow into the flue.

The size of the combustion air inlets takes into account the fact that rooms are not usually airtight even when all doors and windows are closed. Consequently there is no requirement to have an air inlet for closed appliances with an output less than 5 kW, as enough adventitious air is usually available for satisfactory operation.

The ideal position for the air inlets is adjacent to the fireplace recess. Where it is not desirable to provide inlets from outside directly to this location so as to avoid cold draughts, a suitable place of entry is into an unoccupied area such as the hall. In this way there is an element of preheating of the air before it enters the living areas. Apertures of at least the size specified in 5.3 of BS 8303-1 should be provided in partitions between the air inlet and the appliance in order to allow an unrestricted route for the air to reach the appliance.