
British Standard Code of practice for

Installation of domestic heating and cooking appliances burning solid mineral fuels

(formerly CP 403)

Installation des appareils de chauffage et de cuisson domestiques utilisant des combustibles minéraux solides — Code de bonne pratique

Richtlinie für den Einbau von Haushaltheiz- und -kochgeräte für feste mineralische Brennstoffe

Foreword

This code of practice has been prepared under the direction of the Solid Mineral Fuels Standards Committee. It is a revision of CP 403 : 1974 which is withdrawn.

The code deals with the selection and installation of various types of domestic heating appliances burning solid mineral fuel. The construction associated with the installation of such appliances is controlled by the following regulations:

- (a) The Building Regulations 1985* ; applicable to England and Wales; or
- (b) The Building Standards (Scotland) Regulations 1981* (including the amendments of 1982 and 1984).

Where the expression 'comply with the relevant Building Regulations' is used, it means compliance with the above regulations or any revision currently in force.

The main changes in this edition relate to the following:

- (1) combination of the clauses concerning independent boilers and freestanding cookers;
- (2) exclusion of recommendations for fanned warm air heating units;
- (3) addition of recommendations for warm air heating units: natural convection;
- (4) an updating of references and alignment with current practice.

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

*Obtainable from HMSO.



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Code of practice for installation of
domestic heating and cooking appliances
burning solid mineral fuels

Revised text

AMD 5723
October 1987

Clause 7.3.2 Fireback

In line 2, delete 'six-piece' and substitute 'five-piece'.

AMD 5723
October 1987

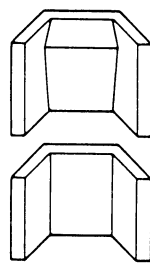
Clause 7.3.4 Throat

In paragraph 2, final sentence, delete 'as specified in BS 1251,'.

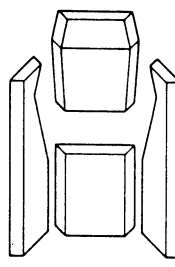
AMD 5723
October 1987

Figure 5. Firebacks

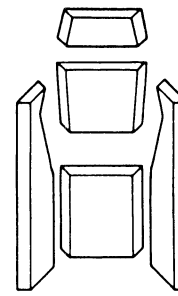
Delete the existing figure and substitute the attached figure.



Two-piece

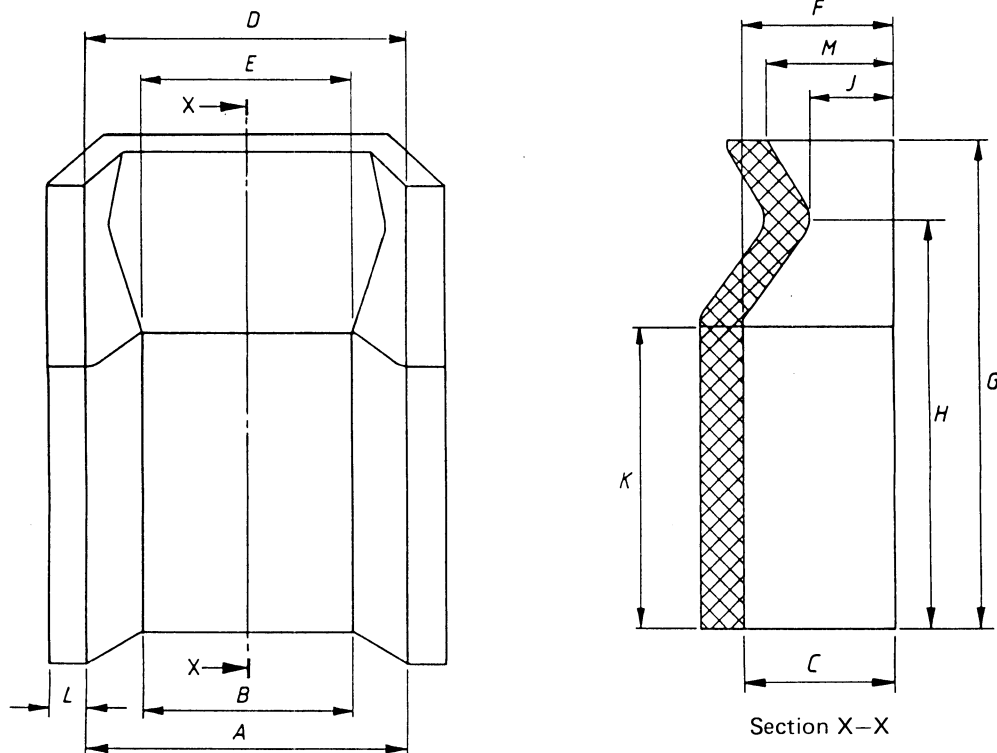


Four-piece



Five-piece

(a) Types of sectional fireback



Nominal size of fire	Dimension											
	A*	B*	C*	D	E	F	G†	H†	J‡	K§	L†	M†
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
350	330	200	170	0 to 3	0 to 3	0 to 3	560	470	100	340	43	150
400	380	250	170	>	>	>	560	470	100	340	43	150
450	430	300	170	A	B	C	560	470	100	340	43	150
500	480	350	170				560	470	100	340	43	150
Tolerances on dimensions:												
* +15 -0 mm												
† +10 -0 mm												
‡ ±10 mm												
§ +0 -10 mm												

(b) Fireback dimensions

Figure 5. Firebacks

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Code of practice

1 Scope

This code of practice gives recommendations for the selection and installation of various types of domestic heating and cooking appliances burning solid mineral fuel in both new and existing buildings. The appliances are considered in the following four main categories:

- (a) open fires without convection;
- (b) roomheaters;
- (c) independent boilers and freestanding cookers;
- (d) warm air heating appliances: natural convection.

The appliances in these categories incorporate provision for domestic hot water supply or space heating or both. This code does not deal with the design or installation of hot water heating systems or hot water supply systems (see 6.2). Certain aspects relating to the safety of warm air heating systems are dealt with in this code (see 6.3 and 10.3).

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

2 Definitions

For the purposes of this code of practice, the definitions given in BS 1846 : Part 1 apply.

3 Exchange of information

To ensure the best selection and correct installation of domestic heating appliances, exchange of information is necessary between the architect and other interested parties at the initial planning stage. Adequate scale drawings of the building and specifications of heat requirements should be made available. Specialist advice in the selection of appliances should be sought (see appendix A).

Provision should be made at the design stage for the inclusion of a chimney to permit maximum flexibility in the choice of fuel by the householder.

Consultation should take place regarding the position of the heating equipment, etc. and the following matters should be discussed and decided before the general work of the building is commenced:

- (a) any special dimensional or constructional requirements in a fireplace recess or surround or both;
- (b) arrangements for the provision of air for combustion and ventilation;
- (c) access for the installation and maintenance of pipework and/or warm air ductwork;
- (d) the position, size and type of chimney flue and access for sweeping.

4 Work on site

In preparing a programme of work for the installation of an appliance care should be taken to ensure that:

- (a) all accessories and materials for construction are available;
- (b) hearths and fireplace recesses are finished to the correct size for the insertion of the appliance, special regard being paid to any minimum/maximum sizes quoted in this code (it should be noted that some appliances require a special fireplace surround or hearth or both);
- (c) chases are formed true to size and correctly positioned;
- (d) lintels and flue-connecting blocks are built-in in their true relation to the appliance, hearth and chimney;
- (e) the pipework or warm air distribution system is ready for connection to the boiler or air heater as soon as the appliance has been fixed in its proper place;
- (f) if a duct formed in builder's work is required, it has been laid or constructed;
- (g) the fitter's work and finishing tradesmen's work are co-ordinated and protection provided for vulnerable surface finishes, e.g. hearths, floors.

The appliances, flue adaptors, fireplace surrounds, warm air outlets, etc. should normally be installed and, in general, the final water, flue and gas connections for the appliance should be made when the structural work is completed.

5 Materials, appliances, components and installation

All materials, appliances and components used in the installation of the appliances should comply with the following British Standards:

- (a) *materials*: BS 1387, BS 2871 : Part 1, BS 4127 : Part 2 and BS 5422;
- (b) *appliances*: BS 1252, BS 3376, BS 3377, BS 3378, BS 4433 : Parts 1 and 2 and BS 4834;
- (c) *components*: BS 41, BS 417 : Parts 1 and 2, BS 493, BS 699, BS 864 : Part 2, BS 1181, BS 1251, BS 1565 : Parts 1 and 2, BS 1566 : Parts 1 and 2, BS 2788, BS 3140, BS 3198, BS 3248 and BS 4543 : Part 2;
- (d) *installations*: CP 310, CP 342 : Part 1, BS 5449 : Part 1 and BS 6461 : Parts 1 and 2.

6 Structural and system design considerations

6.1 Structural fire precautions

6.1.1 General. The installation of a heating appliance too near to combustible material forming part of the construction of a building may result in a fire from any of the following causes:

- (a) direct radiation from the appliance;
- (b) conduction of heat from the appliance through non-combustible material;
- (c) embers falling from the appliance;
- (d) heat transfer from flue pipe and fittings.

Combustible material can be protected from heat by the provision of an air space and/or by a sufficient thickness of non-combustible material of low thermal conductivity placed between it and the appliance flue pipe and fittings. The danger from falling embers, where it exists, is met by providing adequate hearth projection or a curb or both. The large heat capacity of materials like brick and concrete is useful in damping the fluctuations of heat output from the appliance and may offset the effect of short periods of intense burning such as might arise in a chimney fire. However, if a chimney fire has occurred the flue should be inspected and repaired as necessary before the fire is relit.

6.1.2 Construction. Fireplace recesses may be of traditional construction or built from prefabricated components. Prefabricated fireplace recesses are usually made for use with factory-made insulated chimneys and formed in such a manner to provide the back, sides and combined top and lintel unit. A hearth slab may also be provided.

The constructional hearth and all forms of construction of walling above the hearth level should comply with the requirements of the relevant building regulations.

6.1.3 Flues. For safe and efficient operation each appliance should be connected to an appropriate flue and attention is drawn to the recommendations in BS 6461 : Parts 1 and 2.

6.2 Hot water heating and hot water supply systems

Recommendations for the design, choice of materials, installation, testing and maintenance of domestic hot water heating and hot water supply systems are contained in CP 310, CP 342 : Part 1 and BS 5449 : Part 1.

The use of indirect systems incorporating domestic hot water cylinders complying with either BS 1565 or BS 1566 is recommended for domestic hot water supply irrespective of the type of water or boiler material, and is a necessity with certain designs of boilers, and where radiators are served.

6.3 Warm air heating units: natural convection

It is essential to avoid the creation of negative pressure in the central chamber in which the warm air heating appliance is installed. Such a negative pressure may lead to the escape of products of combustion from openings in the appliance.

Extractor fans should not be installed in the room in which the central chamber is situated. Particular care should be taken to provide an adequate return air path to the central chamber.

6.4 Air for combustion and ventilation

Provision should be made for combustion and ventilation air, sufficient for the type of appliance. The requirements of the relevant building regulations should be observed. Reference should be made to the instructions of the appliance manufacturer for any special provisions concerning flue size or other combustion and ventilation air requirements.

It is essential to avoid the creation of a negative atmospheric pressure in the room or space in which the appliance is installed. Such a negative pressure may lead to the escape of products of combustion from openings in the appliance, which may be drawn into the room.

Extractor fans should not be installed in the same room or space in which a heating appliance is installed.

6.5 Flue pipe

The diameter of the flue pipe should be not less than the diameter of the flue outlet of the appliance.

The recommendations for the material and construction for flue pipes given in BS 6461 : Parts 1 and 2 should be followed except where otherwise stated in this code of practice.

7 Inset open fires without convection

7.1 Classification

For the purposes of installation, inset open fires* may be classified as follows:

- (a) without convection, without back boiler (see 7.3, figure 1 and figure 2);
- (b) without convection, with back boiler (see 7.4 and figure 3);
- (c) with underfloor air supply, with or without back boiler (see 7.5 and figure 4);
- (d) with fan-assisted air supply, with or without back boiler (see 7.6).

*Inset open fires are classified under the Domestic Solid Fuel Appliance Approvals Scheme (DSFAAS) as open fires with or without back boiler, with or without convection.