

BRITISH STANDARD 1251 : 1970

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METRIC UNITS

SPECIFICATION FOR
**OPEN FIREPLACE
COMPONENTS**

BRITISH STANDARDS INSTITUTION

SPECIFICATION FOR OPEN FIREPLACE COMPONENTS

BS 1251 : 1970

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The Institution desires to call attention to the fact that this British Standard does not purport to include all the necessary provisions of a contract.

In order to keep abreast of progress in the industries concerned, British Standards are subject to periodical review. Suggestions for improvements will be recorded and in due course brought to the notice of the committees charged with the revision of the standards to which they refer.

A complete list of British Standards, numbering over 5000, fully indexed and with a note of the contents of each, will be found in the British Standards Yearbook, price £1. The BS Yearbook may be consulted in many public libraries and similar institutions.

This standard makes reference to the following British Standards and Code of Practice:

- BS 12. Portland cement (ordinary and rapid-hardening).
- BS 146. Portland-blastfurnace cement.
- BS 882, 1201. Aggregates from natural sources for concrete (including granolithic).
- BS 915. High alumina cement.
- BS 1881. Methods of testing concrete.
- BS 1902. Methods of testing refractory materials.
Part 1A. Sampling and physical tests.
- BS 2788. Fireguards for solid fuel fires.
- BS 2845. Coke-burning inset open fires without boiler and without convection.
- BS 4449. Hot rolled steel bars for the reinforcement of concrete.

- BS 4461. Cold worked steel bars for the reinforcement of concrete.
- CP 403. Open fires, heating stoves and cookers burning solid fuel.

British Standards are revised, when necessary, by the issue either of amendment slips or of revised editions. It is important that users of British Standards should ascertain that they are in possession of the latest amendments or editions.

The following BSI references relate to the work on this standard:
Committee references SFE/13 and SFE/13/1
Draft for comment 69/18553

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CO-OPERATING ORGANIZATIONS

The Solid Fuel Industry Standards Committee, under whose supervision this British Standard was prepared, consists of representatives from the following Government departments and scientific and industrial organizations:

- Association of Consulting Engineers
- *BCURA Industrial Laboratories
- British Cast Iron Research Association
- *British Coke Research Association
- British Electrical and Allied Manufacturers' Association
- *British Ironfounders' Association
- British Mechanical Engineering Confederation
- *British Steel Industry
- Chamber of Coal Traders
- Chemical Industries Association
- *Coal Utilisation Council
- Coke Oven Managers' Association
- Council of Ironfoundry Associations
- Department of Trade and Industry
- *Domestic Solid Fuel Appliances Approval Council
- Electricity Council, the Central Electricity Generating Board and Area Boards in England and Wales
- *Gas Council
- Heating and Ventilating Contractors' Association
- Imperial Chemical Industries Limited
- Institute of British Foundrymen
- Institute of Fuel
- Institution of Gas Engineers
- *Institution of Heating and Ventilating Engineers
- Institution of Mechanical Engineers
- *Low Temperature Coal Distillers' Association of Great Britain Ltd.
- *Ministry of Housing and Local Government
- *Ministry of Public Building and Works
- *National Coal Board
- *Society of British Gas Industries
- Water-Tube Boilermakers' Association
- *Women's Advisory Council on Solid Fuel

The Government departments and scientific and industrial organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard:

- British Ceramic Research Association
- Ceramic Fireplace Tile Council
- Copper Cylinder and Boiler Manufacturers
- Institution of Municipal Engineers
- National Fireplace Manufacturers' Association
- National Federation of Builders and Plumbers Merchants
- Range Boiler Makers' Association Ltd.
- Royal Institute of British Architects
- Solid Smokeless Fuels Federation
- Vitreous Enamellers' Association
- Women's Advisory Committee of BSI

BRITISH STANDARD SPECIFICATION FOR OPEN FIREPLACE COMPONENTS

FOREWORD

The 1959 edition of this standard was limited in its scope to deal only with firebacks, surrounds and hearths, throat restrictors and lintels which, when assembled together in accordance with CP 403*, would provide a setting for an inset open fire. This objective has been retained in the present issue which, apart from the use of dimensions expressed in metric (SI) units, has only been changed where technical considerations have shown the need for such alteration. The four parts have also been brought together in one volume, since it is considered that there is an important and unavoidable link between them.

A typical assembly of the open fire components specified in this standard is illustrated in Fig. 4.

SPECIFICATION

O. SCOPE

This British Standard specifies requirements for the following components of an open fireplace.

- Section 1. Firebacks for use with inset open fires.
- Section 2. Fireplace surrounds and hearths.
- Section 3. Chimney-throat restrictors.
- Section 4. Precast concrete lintels.

1. FIREBACKS FOR USE WITH INSET OPEN FIRES

1.1 INTRODUCTION

This Section covers firebacks for use with inset open fires without boilers, of nominal sizes 350 mm, 400 mm and 450 mm, and is technically identical with Part 1 of the 1959 issue of BS 1251.

1.2 CONSTRUCTION

The fireback shall be designed for installation in two, four or six sections, divided as shown in Fig. 1, or alternatively it shall be constructed of pup bricks. Two-section firebacks may be manufactured in one piece, with suitable horizontal scribing to enable the sections to be readily separated before installation.

The individual sections shall be free from undue distortion.

* CP 403, 'Open fires, heating stoves and cookers burning solid fuel'.

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1.3 DIMENSIONS

The fireback when assembled without jointing shall conform to the dimensions given in Table 1.

The values given for dimension *L* are approximate but the thickness of the fireback shall nowhere be less than 40 mm.

The internal angles formed by the junction of the wings and the back may be rounded to a radius not exceeding 15 mm. The sharp angles at the front edges of the wings may be rounded to a radius not exceeding 10 mm. The dimensions *A* and *B* shall be measured at the point where straight lines along the wings intersect straight lines along the front and back of the fireback.

The fireback may be specially made with a shallow groove in the front face not less than 20 mm from the inner edge, to permit the insertion of asbestos rope to ensure that the surround forms an adequate seal. External edges at the rear of the fireback may be rounded to avoid risk of breakage.

TABLE 1. DIMENSIONS OF FIREBACKS

Nominal size of fire	Dimension (see Fig. 2)											
	A*	B*	C*	D	E	F	G†	H†	J‡	K§	L	M†
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
350	330	200	170	0-3 greater than A	0-3 B	0-3 C	560	470	100	340	50	150
400	380	250	170				560	470	100	340	50	150
450	430	300	170				560	470	100	340	50	150

Tolerances: * - 0 + 15 mm on dimensions marked.

† - 0 + 10 mm on dimensions marked.

‡ ± 10 mm on dimensions marked.

§ '+ 0 - 10 mm' on dimensions marked.



1.4 REFRACTORINESS

The refractoriness of a sample taken from any piece shall be not less than that of a standard cone equivalent to 1580 °C|| when tested in accordance with Section Six of BS 1902, Part 1A.¶

|| Nominally a British pyrometric cone No. 26, or ISO 158 in accordance with ISO Recommendation No. R1146, 'Pyrometric reference cones'.

¶ BS 1902, 'Methods of testing refractory materials', Part 1A, 'Sampling and physical tests'.