

Specification for

Fireguards for heating appliances —

(Gas, electric and oil-burning)

UDC 614.84:645.494:683.9

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

BSI
Documents

AVA

Document Sharing Hub

Co-operating Organizations

This British Standard was prepared by a technical committee consisting of representatives from the following Government departments and industrial, scientific and other organizations:

- Association of Manufacturers of Domestic Electrical Appliances Corporation of London
- Department of Employment (H.M. Factory Inspectorate)
- Department of Trade and Industry
- Electrical Association for Women
- Electricity Council, Generating Board and the Area Boards in England and Wales
- Fire Protection Association
- Gas Council
- Greater London Council
- Home Office
- Oil Appliance Manufacturers' Association
- Royal Society for the Prevention of Accidents
- Society of British Gas Industries
- Women's Advisory Committee of BSI
- Independent company

This British Standard was published under the authority of the Executive Board on 30 July 1971

© BSI 07-1999

First published February 1953
First revision July 1971

The following BSI references relate to the work on this standard:
Committee reference M/35
Draft for comment 70/30225

ISBN 580 06723 8

Amendments issued since publication

Amd. No.	Date of issue	Comments
940	April 1972	
1770	June 1975	Indicated by a sideline in the margin

Contents

	Page
Co-operating organizations	Inside front cover
Foreword	ii
1 General	1
1.1 Scope	1
1.2 Definitions	1
1.3 Design and performance requirements for all guards	1
1.4 Marking	2
2 Guards for gas fires	2
2.1 Design and performance requirements	2
3 Guards for electric heaters	2
3.1 Design and performance requirements	2
4 Guards for oil burning heaters	3
4.1 Design and performance requirements	3
Appendix A Spring-operated impact test apparatus	6
Appendix B Scorching test: material and method	8
Figure 1 — Gas fire and oil heater probes	4
Figure 2 — Electric heater test probe	5
Figure 3 — Impact test apparatus	7

Foreword

This standard makes reference to the following British Standards:

BS 3042, *Standard test fingers for checking protection against electric shock and mechanical hazard.*

BS 3300, *Kerosine (paraffin) unflued space heaters, cooking and boiling appliances for domestic use.*

BS 3456 *The testing and approval of household electrical appliances — Part 1:1969, General requirements — Part A.A1:1966, General requirements — Part A.A2:1962, Electric room heaters — Part 2.10, Room heating and similar appliances.* (In course of preparation.)

This British Standard brings together the requirements for guards for gas fires, electric, and oil-burning space heating appliances used in dwellings. The British Standards for the individual appliances mentioned are as follow:

BS 1250, *Domestic appliances burning town gas — Part 4: Space heating appliances.*

BS 2773, *Domestic single-room space heating appliances for use with liquefied petroleum gases.*

BS 3300, *Kerosine (paraffin) unflued space heaters, cooking and boiling appliances for domestic use.*

BS 3456, *The testing and approval of household electrical appliances: either Section A1:1966, General requirements in conjunction with Section A2:1962, Electric room heaters or Part 1:1969, General requirements in conjunction with Part 2.10, Room heating and similar appliances.* (In course of preparation.)

The requirements in this revision of the fireguards standard are more stringent than those in the 1953 edition. Editorial modifications have also been made in order to present the requirements in a more convenient way.

The purpose of the present revision is to introduce requirements to prevent young children from touching the source of heat, particularly electric bar type elements and also to introduce the metric system of measurement.

It will be appreciated that the only parts of this specification which have legal force are those expressly referred to in the schedule of the Regulations.

No footnote or explanatory note in this specification can be taken as an explanation of the Regulations; their interpretation is solely a matter for the courts.

Statutory requirements for guards fitted to heating appliances are set out in the Heating Appliances (Fireguards) Regulations 1973, which refer to BS 1945:1971 published on 30 July 1971, as amended by Amendment No. 1 published on 12 April 1972.

The new requirements apply at the point of sale under present or future regulations. They do not apply to heating appliances purchased or in use by the consumer prior to the regulations being made.

Appliances conforming to this standard are not necessarily suitable for use in premises to which the Offices, Shops and Railway Premises Act 1963 and the Factories Acts apply.

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 8 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. General

1.1 Scope

1.1.1 This British Standard prescribes standards of construction and fitting for guards attached to space heating appliances using gas, electricity or oil, for the purpose of preventing the risk of fire, injury from burns or electric shock resulting from accidental contact with or being in proximity to the source of heat.

1.1.2 The requirements apply to guards for all gas fires and electric or oil burning space heaters, whether of the portable or fixed type, incorporating radiants or heating elements or exposed flame and designed for household or similar use, the heating source being of such a nature or so positioned that if no guard were fitted to the appliance there would be a risk of

- 1) fire or injury from burns caused by direct physical contact, or by the contact or proximity of clothing, textile fabrics or other flammable material with the source of heat, or
- 2) electric shock through contact with the live part of heating elements.

1.1.3 The requirements do not apply to those types of heater intended solely for attachment to ceilings.

NOTE The titles of the British Standards referred to in this standard are listed on page ii.

1.2 Definitions

For the purposes of this British Standard the following definitions apply:

1.2.1

heating appliance

a gas fire, an electric heater or an oil-burning heater designed for household or similar use

1.2.2

guard

a device capable of meeting all the relevant requirements of this standard for the type of heater on which it is fitted for the purpose of reducing or preventing the risk of fire or injury or electric shock resulting from accidental contact with or proximity to flames, radiants or heating elements

the device may be in one unit or in separate parts, e.g. one part to prevent physical contact with the source of heat and the other to prevent clothing and other flammable materials becoming scorched or ignited

1.2.3

live parts

any part which is conductively connected to the live or neutral conductors within an appliance or is not insulated from the live and neutral by at least functional insulation complying with the requirements of the appropriate parts of BS 3456

1.2.4

maximum rated input (electrical)

the maximum rated input of an electric heating appliance when an input range is marked on the appliance, is the highest input of the range shown when the mean input only is marked the maximum rated input is given by the formula

$$\text{Mean rated input} \times \left(\frac{\text{maximum rated voltage}}{\text{mean rated voltage}} \right)^2$$

where the mean rated voltage is the arithmetic mean of the lower and upper limits of the rated voltage range

1.2.5

electric heating element

a heating resistor and element former together with any other parts necessary to it as a detachable unit

1.2.6

smoulder

to burn slowly without flame

NOTE The difference between scorching and smouldering is quite distinct and whether or not smouldering has commenced can be ascertained by quickly withdrawing the material from the guard at the end of 10 seconds' exposure. If smouldering has started it will be seen that a hole has formed in the material and that the edge of the hole glows red.

1.3 Design and performance requirements for all guards

1.3.1 All guards shall be capable of passing the tests specified in 1.3.2 and 1.3.3 and either 2, 3 or 4 as appropriate for the type of fuel used.

1.3.2 Effectiveness against smouldering or ignition. With the heating appliance operating under the conditions prescribed for the type of fire or heater concerned, a piece of dry flannelette 100 mm wide and conforming to the specification given in Appendix B shall be held in close contact with the guard at the hottest point and so that it reaches from top to bottom of the guard, or, for guards in a horizontal plane, from back to front.

The flannelette shall not smoulder or ignite within 10 seconds of being so held. Care shall be taken that the flannelette is kept taut and in close contact with the guard throughout the test.