BRITISH STANDARD

BS 5041-5: 1974

Incorporating Amendment No. 1

Fire hydrant systems equipment —

Part 5: Specification for Boxes for foam inlets and dry riser inlets

UDC 69.027.84:621.643.41:614.844

Co-operating organizations

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

Association of Municipal Corporations*
British Constructional Steelwork Association
Chief Fire Officers Association*
Concrete Society
Confederation of British Industry
County Councils Association
Department of Employment (HM Factory Inspectorate)
Department of the Environment*
Department of the Environment — (Joint Fire Research Organization and Fire Offices' Committee)*
Department of Trade and Industry (Marine Division)*
Fire Extinguishing Trades Association
Fire Offices' Committee*
Fire Protection Association
Greater London Council
Greater London Council (London Fire Brigade)*
Home Office*
Industrial Fire Protection Association of Great Britain
Institution of Civil Engineers
Institution of Fire Engineers*
Institution of Municipal Engineers*
Ministry of Defence, Procurement Executive
National Council of Building Material Producers
Royal Institute of British Architects

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:

Aluminium Federation
British Ironfounders Association
British Fire Services Association
British Valve Manufacturers' Association
Copper Development Association
Fire Hose Manufacturers Association
Ministry of Defence, Air Force Department
Ministry of Defence, Army Department
National Coal Board
National physical Laboratory (Ministry of Technology)
Individual manufacturers

This British Standard, having been approved by the Fire Standards Committee and endorsed by the Chairman of the Building Divisional Council, was published under the authority of the Executive Board on 26 February 1974

First published as BS 3980, March 1966
First published as BS 5041-5, February 1974

The following BSI references relate to the work on this standard:
Committee references FSM/6, FSB/6/4
Draft for approval 72/11307

ISBN 0 580 07561 3

Amendments issued since publication

Amd. No.	Date of issue	Comments
5505	March 1987	Indicated by a sideline in the margin

Contents

Foreword

This part of BS 5041 was originally published as BS 3980. However, while the metricated version of BS 3980 was being prepared, it was decided that it would be logical to issue the revised edition as Part 5 of BS 5041 "Fire hydrant systems equipment". Parts 1 to 4 of BS 5041, the titles of which are given below, are at present in course of preparation.

— *Part 1: Landing valves for wet risers;*

— *Part 2: Landing valves for dry risers;*

— *Part 3: Inlet breechings for dry risers;*

— *Part 4: Boxes for landing valves for dry risers.*

This standard was originally proposed by the London Fire Brigade and has been prepared under the authority of the Fire Standards Committee to provide detailed specifications for most of the special requirements for wet and dry risers and foam inlets described in BS 5306-1.

This part of BS 5041 supersedes BS 3980:1966 and is intended to fulfill the same purpose as that standard, that is, to define the standard sizes and details of boxes for foam inlets and dry riser inlets so as to enable architects and builders to specify a standard product in metric terms. The metric values are given in SI units; for further information on these, reference should be made to BS 3763 "The International System of units (SI)".

The work sizes have been selected to conform to the first or second preferences in BS 4011

"Recommendations for the co-ordination of dimensions in building. Basic sizes for building components and assemblies" and this has led to a slight reduction in the maximum permissible size of the box compared with that specified in BS 3980.

The boxes can also be used for other purposes, e.g. for fuel oil inlets and inlets for drencher systems.

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 4, 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 British Standard specifies the requirements for boxes for foam inlets or dry risers manufactured in a choice of materials to suit a particular application.

NOTE The titles of the British Standards referred to in this Standard are listed on the inside back cover.

2 Definitions

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

2.1
Box

a box containing the inlets of foam pipes or water mains, installed in, or within the boundaries of the site of a building, preferably recessed in a wall with inlets normally at street level through which foam or water can be pumped to provide a supply at discharge points situated at various levels in the building

2.2
Dry riser

a vertical pipe installed in a building for fire fighting purposes, fitted with inlet connections at the base and with landing valves at specified points, which is normally dry but which is capable of being charged with water by pumping from fire service appliances

3 Manufacture

3.1 Box. The box shall be of robust construction with seamed edges to guard against the ingress of water. The bottom of the box shall be provided with a fall of not less than 1 in 12 and be suitably drained. The box shall be supplied with flanges not less than 38 mm wide on the external face (see Figure 1 and Figure 2). The back of the box shall be provided with suitable holes to accommodate foam inlets (of diameter 65 mm or 80 mm) or dry risers (of diameter 100 mm or 150 mm) (see BS 4504).

When there is more than one foam inlet in one box they shall be spaced at not less than 175 mm centres.

The box shall be supplied with suitable fixing lugs or screw holes in the back of the box to enable it to be built into position.

3.2 Door. The frame of the door shall be of rigid construction and designed to accommodate a spring lock. The door shall be side hung and shall open through approximately 180°. The box shall have a striking plate to engage the lock when the door is closed. The spring lock shall be such that it can also be operated and opened from the inside without the aid of a key when the glass has been broken. The front of the door shall be glazed. The glazed portions of the door shall be large enough to enable delivery hose(s) or foam branch pipe(s) to be connected to the inlet(s) even if the door cannot be opened and the only means of access is by breaking the glass.

3.3 Hinges. The hinges shall be of the butt type and be so fixed that, in the event of damage, they can be removed and replaced with the box remaining in situ.

3.4 Glass fixing. The door shall be provided with removable rebated frame for housing the glass. The rebated frame shall be attached to the door with brass screws and nuts.

3.5 Lock. The lock shall be a spring cylinder lock (with key) capable of being released from the inside without the use of the key. The lock shall not be fitted with a safety catch. The lock shall be secured to the door frame by suitable means so that in the case of damage it can be removed and replaced.

3.6 Opening device. The external face of the door shall be provided with a countersunk finger hole to facilitate opening the door.

3.7 Designation

3.7.1 *On glass front.* The inside surface of the glass panel of the box shall be marked with the words "Dry riser inlet(s)" or "Foam inlet(s)" as appropriate. The sign shall comply with the requirements for fire equipment signs in BS 5499-1. The sign shall be rectangular, the wording shall be in white and the background red. The letters shall be in lower case except for the initial letter "D" or "F", which shall be in upper case. The letter height shall be either:

1) not less than 50 mm; or

2) of such smaller size as may be necessary because of the size of the glass panel.

3.7.2 *On indicator plates.* An indicator plate or plates (about 100 mm × 75 mm in size) shall be fixed within or on the outside of, or shall be provided for fixing adjacent to the inlet box to indicate the room or rooms with which the foam inlet(s) communicates. Where more than one inlet communicates with one compartment the position in the compartment shall be indicated.

The sign(s) shall comply with the requirements for fire equipment signs, or for supplementary signs, in BS 5499-1. They shall be rectangular, and the wording shall be in white and the background red or the wording shall be in black and the background white. The letters shall be in lower case except for the initial letter, which shall be in upper case.

4 Materials and thickness

4.1 Box

4.1.1 The material used for the manufacture of the box shall be selected by agreement between the purchaser and the manufacturer from the following:

1) Rust proof steel (either galvanized, zinc sprayed or metal coated)

2) Stainless steel to comply with the requirements of BS 1449-4

3) Brass to comply with the requirements of the series BS 2870 to BS 2875 for wrought material and BS 1400 for cast material

4) Aluminium alloy to comply with the requirements of BS 1490 or with the requirements of the series BS 1470 to BS 1475

4.1.2 Whatever the choice of materials for the box the thickness of it shall be not less than 1.5 mm and not more than 3.5 mm.

4.2 Hinges and pins

4.2.1 Hinges including pins shall be manufactured in suitable rustless material.

4.2.2 If aluminium alloy is to be used in a hinge or pin the choice unless otherwise specified by the purchaser shall be made from wrought alloy to comply with the requirements of the series BS 1470 to BS 1475 and selected from the following types:

Type N8

Type H9

Type H30.

4.3 Doors. Door frames shall be made of non-ferrous or rust proofed material not less than 3.5 mm thick.

4.4 Anti-corrosion

4.4.1 In all conditions the edges of any part made from material which is not itself rust-proof shall be suitably treated to resist corrosion.

4.4.2 When the purchaser requires the article for use in especially corrosive conditions, any aluminium alloy used in it shall be anodized.

4.5 Glazing. The glazing in the door shall be of wired glass 6 mm thick.

5 Dimensions

5.1 Boxes. Boxes shall conform to the dimensions shown in Table 1 and Table 2.

Table 1 — Foam inlet boxes

All sizes in millimetres

No. of inlets for which box is required	Length (across face of box)		Height (above lowest point of box)		Width (from front to back of box)	
	Work size[a]	Co-ord. size	Work size[a]	Co-ord. size	Work size[a]	Co-ord. size
One inlet	295	300	295	300	195	200
Two inlets —						
alternative 1	595	600	295	300	195	200
alternative 2	295	300	595	600	195	200
Three inlets —						
alternative 1	795	800	295	300	195	200
alternative 2	295	300	795	800	195	200

[a] Permissible deviations on work sizes are + 3 and – 0 for all sizes.

Table 2 — Boxes for dry risers

All sizes in millimetres

Diameter of riser for which box is required[b]	Length (across face of box)		Height (above lowest point of box)		Width (from front to back of box)	
	Work size[a]	Co-ord. size	Work size[a]	Co-ord. size	Work size[a]	Co-ord. size
100 —						
alternative 1	595	600	395	400	295	300
alternative 2	395	400	595	600	295	300
150	595	600	595	600	295	300

[a] Permissible deviations on work sizes are + 3 and – 0 for all sizes.
[b] Dry riser inlets are designed to take collecting heads for either two hose connections in the case of 100 mm mains, or four hose connections in the case of 150 mm mains.

5.2 Size of glazed opening in door. The size of glazed opening for all doors shall be governed by the requirements *a* and *b* given in Figure 1.

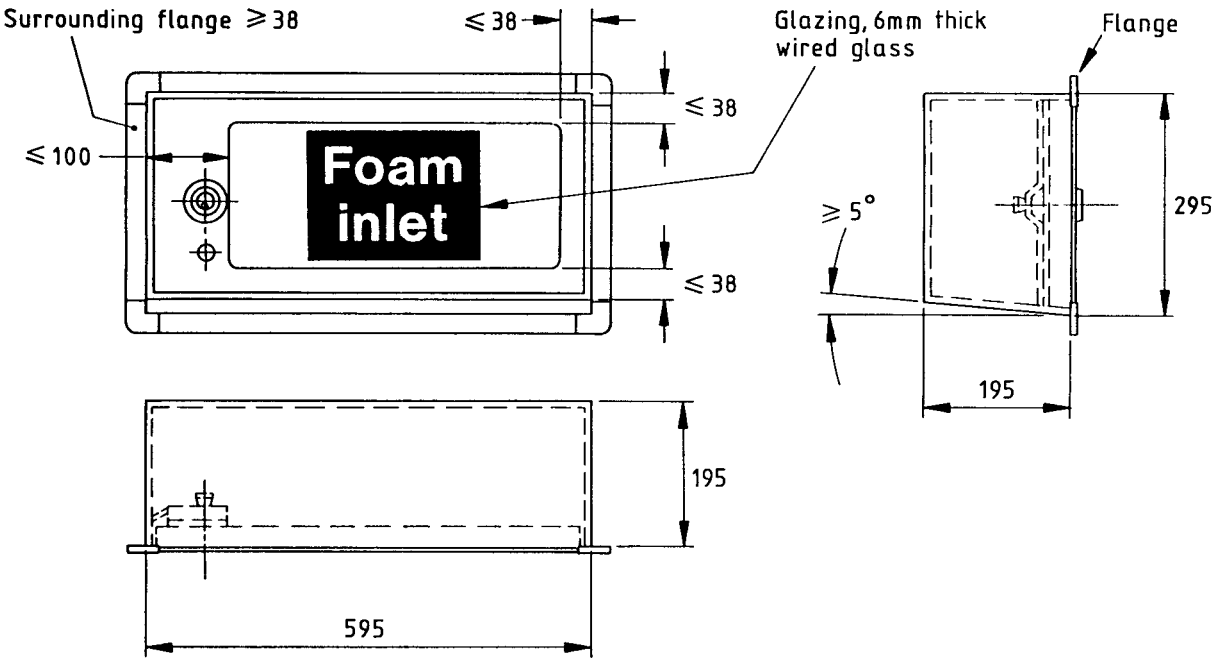
5.3 Size of glass in door frame. The size of glass shall be such that it shall extend not more than 15 mm beyond the opening in the door.

6 Manufacturer's certificate

If requested, the manufacturer shall forward a certificate of compliance with the requirements of this British Standard to the purchaser or his representative.

7 Marking

Every box conforming to the requirements of this specification shall be marked with the number of the British Standard, i.e. BS 5041-5[1)], as a claim by the manufacturer that the article complies with the requirements of the Standard.

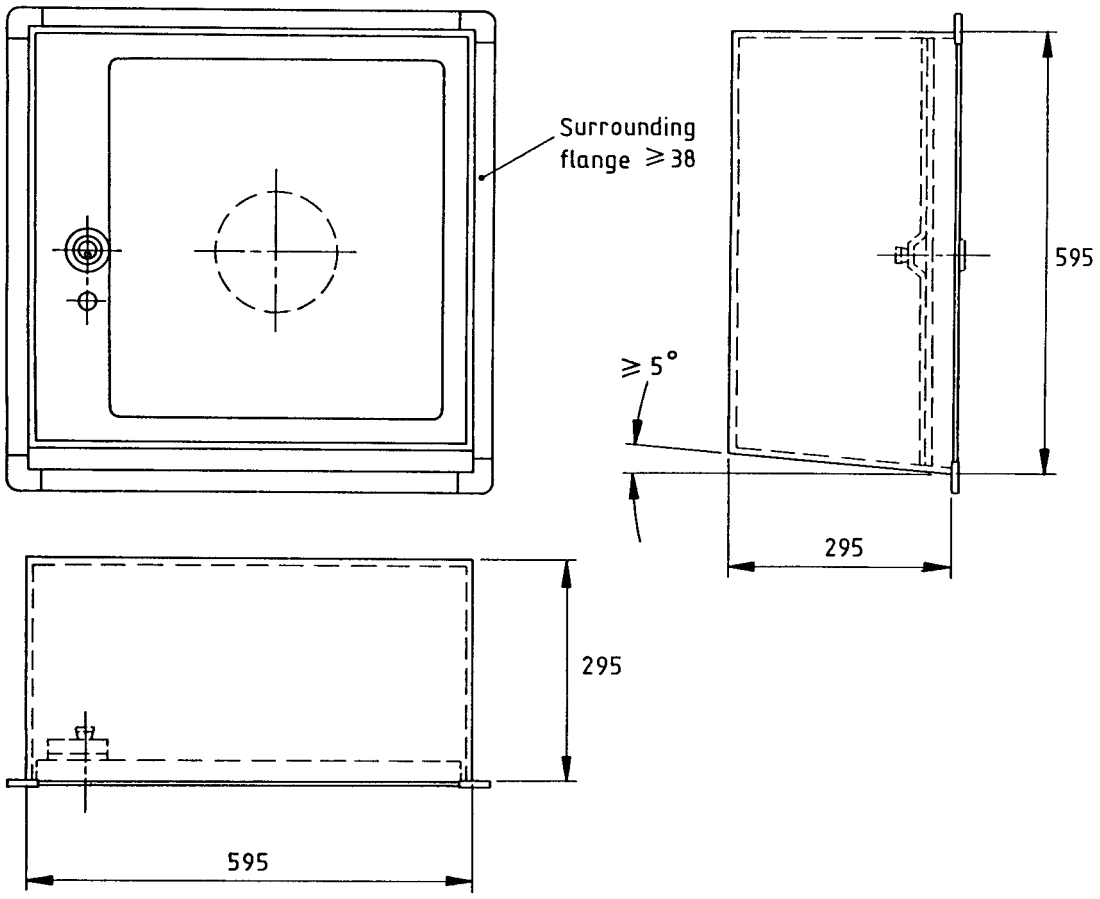


All dimensions are in millimetres.

Figure 1 — Typical drawing of box for 2 foam inlets

NOTE This amended figure shows the amended letter style for "Foam inlet" and corrects the proportions of the drawings; the actual dimensions of the box are unchanged.

[1)] Marking BS 5041-5 on or in relation to a product is a claim by the manufacturer that the product has been manufactured to the requirements of the standard. The accuracy of such a claim is therefore solely the manufacturer's responsibility. Enquiries as to the availability of third party certification should be addressed to the appropriate certification body.



All dimensions are in millimetres.

Figure 2 — Typical drawing of box for dry risers (4 inlets)

NOTE This amended figure corrects the apparent proportions of the drawings only; the actual dimensions of the box are unchanged.

Publications referred to

This standard makes reference to the following British Standards:

BS 1400, *Copper alloy ingots and copper and copper alloy castings.*

BS 1449, *Steel plate, sheet and strip.*

BS 1449-4, *Stainless and heat resisting plate, sheet and strip.*

BS 1470, *Wrought aluminium and aluminium alloys for general engineering purposes Plate, sheet and strip.*

BS 1471, *Wrought aluminium and aluminium alloys for general engineering purposes. Drawn tube.*

BS 1472, *Wrought aluminium and aluminium alloys for general engineering purposes. Forging stock and forgings.*

BS 1473, *Wrought aluminium and aluminium alloys for general engineering purposes. Rivet, bolt and screw stock.*

BS 1474, *Wrought aluminium and aluminium alloys for general engineering purposes. Bars, extruded round tube and sections.*

BS 1475, *Wrought aluminium and aluminium alloys for general engineering purposes. Wire.*

BS 1490, *Aluminium and aluminium ingots and castings.*

BS 2870, *Rolled copper and copper alloys. Sheet, strip and foil.*

BS 2871, *Copper and copper alloys, tubes.*

BS 2872, *Copper and copper alloys. Forging stock and forgings.*

BS 2873, *Copper and copper alloys. Wire.*

BS 2874, *Copper and copper alloys. Rods and sections (other than forging stock).*

BS 2875, *Copper and copper alloys. Plate.*

BS 4504, *Flanges and bolting for pipes, valves and fittings. Metric series.*

BS 5499, *Fire safety signs, notices and graphic symbols.*

BS 5499-1, *Specification for fire safety signs.*

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389 Chiswick High Road
London
W4 4AL