BRITISH STANDARD

BS 4880-1: 1973

Incorporating Amendment No. 1

CONFIRMED DECEMBER 2007

Specification for

Urinals —

Part 1: Stainless steel slab urinals

UDC 696.141.2

Co-operating organizations

The Sanitary Appliances 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 Public Health Inspectors*
British Bath Manufacturers' Association
British Plastics Federation*
British Waterworks Association
Council of British Ceramic Sanitaryware Manufacturers*
Department of the Environment (Building Research Station)
Department of the Environment (Housing and Construction Wing)
Department of the Environment (Local Government and Development Wing)*
Flushing Cistern Makers' Association
Greater London Council*
Institute of Plumbing*
Institution of Municipal Engineers*
Institution of Public Health Engineers
Metal Sink Manufacturers' Association
Ministry of Defence (Air Force)
National Brassfoundry Association*
National Federation of Building Trades Employers
Royal Institute of British Architects*
Royal Institute of Public Health and Hygiene*
Royal Society of Health*
Scottish Federation of Plumbers' and Domestic Engineers' (Employers') Associations
Water Companies Association

The Government department 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:

Copper Development Association
Department of Health and Social Security
Edinburgh Corporation
Institute of Purchasing and Supply
Metropolitan Water Board
Rural District Councils Association
Stainless Steel Development Association
Stainless Steel Fabricators Association of Great Britain

This British Standard, having been approved by the Sanitary Appliances Industry Standards Committee, was published under the authority of the Executive Board on 26 January 1973

The following BSI references relate to the work on this standard:
Committee reference SAB 13
Draft for comment 71/12230

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Amendments issued since publication

Amd. No.	Date of issue	Comments
1354	December 1973	Indicated by a sideline in the margin

Contents

Foreword

This British Standard has been prepared under the authority of the Sanitary Appliances Industry Standards Committee, for slab urinals made of stainless steel.

The recommendations for the co-ordination of dimensions in building as laid down in BS 2900, "*Recommendations for the co-ordination of dimensions in building: Glossary of terms*", BS 4011, "*Recommendations for the co-ordination of dimensions in building: Basic sizes for building components and assemblies*", and PD 6444, "*Recommendations for the co-ordination of dimensions in building. Co-ordinating sizes of fixtures, furniture and equipment*" Part 2 (Functional Group 5) are embodied, where appropriate, in this standard.

Attention is drawn to the Building Regulations 1972 in respect of statutory requirements for urinals Part P (Sanitary conveniences), and to Part M (Drainage and sanitary appliances) of the present Building Standards Scotland (Consolidation) Regulations, in particular the requirements in regulation M15 (4)(b) as to the internal diameter of soil pipes serving urinals.

It is intended that "Methods of tests" will follow later, as a separate Part of this standard, and it is hoped to include tests on the following items.

1) Heavy body impact test.

2) Hard body impact test.

This standard has been prepared in metric terms in accordance with the metrication programme of the British Standards Institution.

NOTE The metric values are given in SI units: for further information reference should be made to BS 3763, "*The International System of units (SI)*".

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 6, 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 General

1.1 Scope

This British Standard specifies the materials, dimensions and workmanship of stainless steel slab urinals, together with performance requirements.

NOTE The titles of the British Standards referred to in this standard are listed on page 6.

1.2 Supply and fixing

The manufacturer shall provide the necessary safeguards and instructions for protection and handling during transport and storage and shall supply detailed handling and fixing instructions.

1.3 Inspection

The purchaser or his representative shall be granted facilities for the purpose of inspection of the finished article to his order prior to delivery.

1.4 Rejection

The purchaser shall have the option of rejecting any article purporting to be supplied to the specifications of this standard, if it fails to meet any of the requirements laid down herein.

1.5 Defects

The urinal shall be free from faults affecting function or appearance.

1.6 Marking

Every unit shall be clearly and permanently marked so that it can be seen without dismantling the unit, with the following.

1) The manufacturer's name or identification mark.

2) The number of this British Standard, i.e. BS 4880

NOTE Attention is drawn to certification facilities offered by BSI; see the inside back cover of this standard.

2 Materials

2.1 General

Stainless steel slab urinals shall be manufactured from stainless steel sheet complying with grades 302S17, 304S16, 315S16, and 316S16 of BS 1449-4.

2.2 Thickness

The thickness of stainless steel shall be not less than 1.2 mm.

3 Design and construction

3.1 Design

Stainless steel slab urinals shall be single units or integrated multi-units. Units shall comply with the dimensions and permissible deviations shown in Table 1 and Figure 1 and Figure 2. These units shall be designed to operate with cisterns designed to the requirements of BS 1876.

3.2 Construction

Turned and beaded edges shall be completely sealed to exclude moisture, and there shall be no leakage through the construction.

When mild steel or any other metal or metal alloy structural members are introduced to brace and/or stiffen the appliance, they shall be confined to those unseen parts of the appliance not in contact with moisture, and they shall be protected against corrosion. Attention is drawn to the provisions of CP 2008 where applicable.

Provision shall be made in the construction of the appliance for the elimination of sound reverberation and drumming on the metal surfaces when it is in use. Where this involves the use of sound deadening materials, they shall be vermin and rot proof and shall be so constructed and attached as to remain in position and be effective throughout the life of the appliance.

3.3 Welding

Welding shall comply with the requirements of BS 3019-2.

3.4 Finish

The exposed surfaces of the urinal shall have a smooth finish of not rougher than 180 grit. All welds on the exposed surface shall be similarly ground smooth. When fixed in position, the exposed areas of the back slab, return end, channels and divisions shall have smooth surfaces without ridges and/or crevices which might impede cleaning.

3.5 Divisions

The urinals may be supplied with or without divisions; where divisions are supplied, they shall form an integral part of the appliance and there shall be no space between the back of the division and the back slab to which it is fixed.

3.6 Channels

The urinal channel shall have a rounded or "U" section waterway and shall have a fall towards the outlet of not less than 1 in 100, so as to drain out completely. The channel shall have a capacity of not less than 4.5 litres per unit, or 4.5 litres per 500 mm length of channel.

3.7 Outlets

Outlets shall be in the positions shown in Figure 1 and Figure 2 and shall in all cases be suitable for flanges of 100 mm diameter.

3.8 Waste hole

The waste holes shall be recessed and, subject to the tolerances shown, shall conform with the dimensions specified in Figure 2.

4 Flush pipes and spreaders

4.1 Materials

Flush pipes shall be manufactured from:

1) Stainless steel tubes complying with the requirements of BS 4127.

2) Copper and copper alloy tubes complying with the requirements of BS 2871-1 Table X.

3) Plastics tubes complying with the requirements of BS 1972 or BS 3505.

4.2 Fittings

Stainless steel fittings may be used with stainless steel tube and shall be of the grades listed in **2.1** plus the grades, 303S21, 303S41, and 304S15 of BS 970-4. Copper and copper alloy fittings to be used with copper and stainless steel tubes shall conform to the requirements of BS 864. Appropriate plastics fittings shall be used with plastics tube.

Where copper tubes and copper alloy fittings are required to be plated, the plating shall be nickel and chromium to BS 1224 (Service condition No.2).

4.3 Spreaders

Spreaders shall be made from stainless steel, copper or copper alloy, or plastics.

Where copper or copper alloy spreaders are required to be plated, the plating shall be nickel or chromium to BS 1224 (Service condition No. 2). Each unit or equivalent length of back slab shall be fitted with a spreader which shall be capable of distributing the flush water evenly over the full length of each unit or equivalent back slab, at a level not less than 750 mm above the level of the tread and without splashing.

5 Performance requirements for urinal flushing cisterns

5.1 General

The arrangement and sizing of flush pipes and spreaders shall be such that they shall not inhibit the free working of the flushing siphon, as described for performance requirements for siphons in BS 1876 and, subject to the tolerances quoted for nominal size of cisterns in BS 1876, shall deliver 4.5 litres of water to each unit, or each equivalent length of urinal back slab.

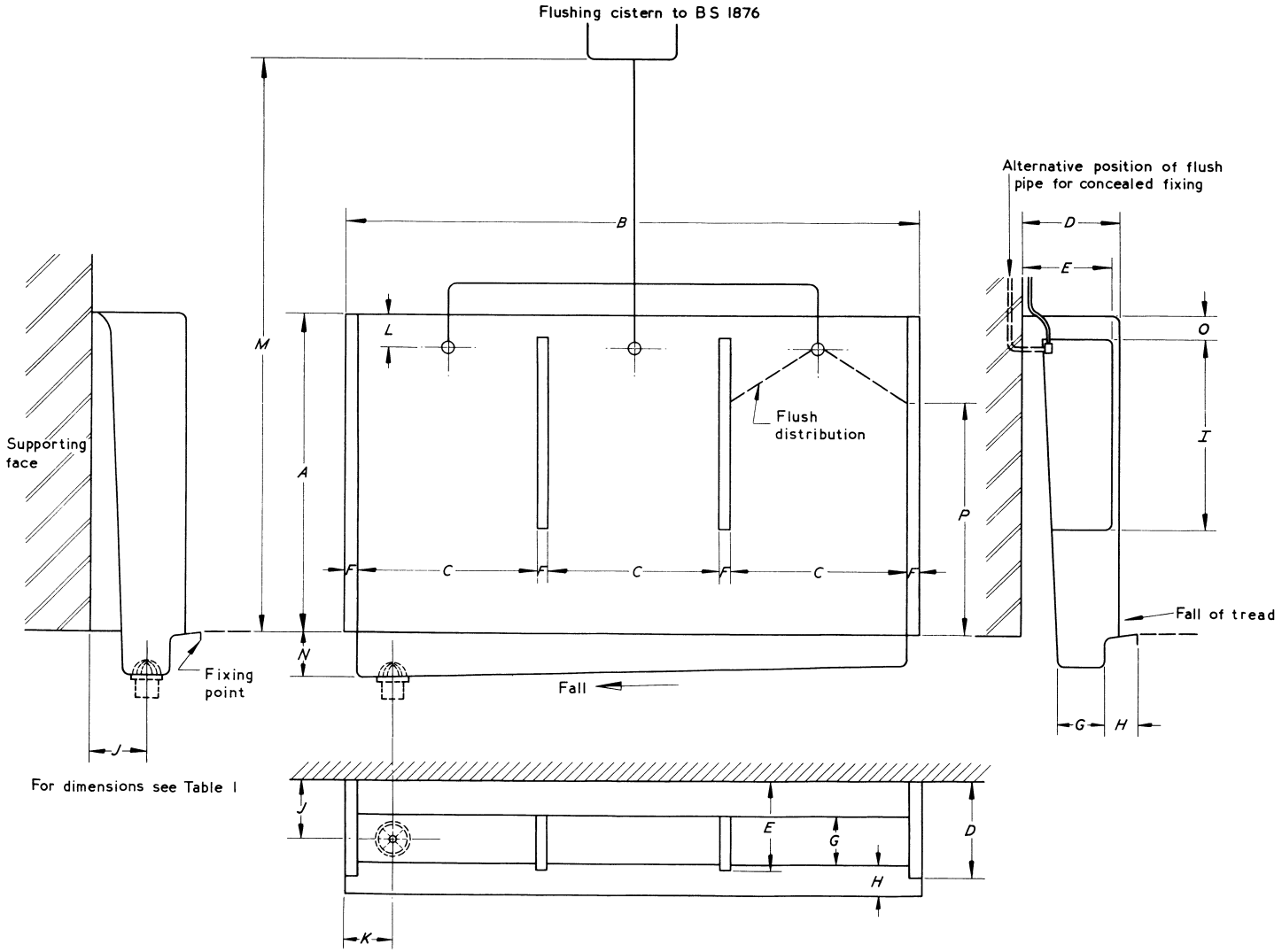
5.2 Height of flushing cistern

The height of the flushing cistern shall be compatible with the performance requirements for the flushing apparatus within the dimensional limits set in Table 1 of this specification.

Table 1 — Dimensions and permissible deviations

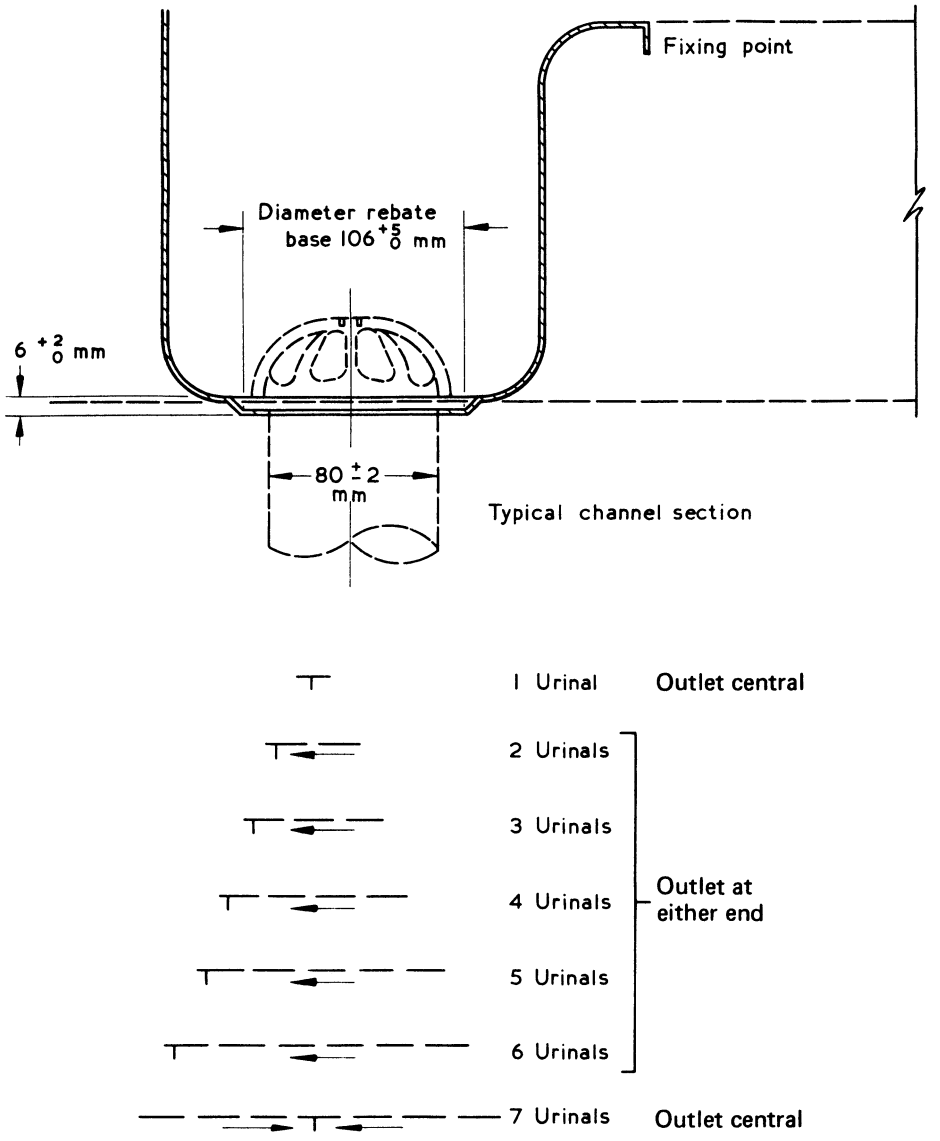
Code letters (see Figure 1)	Description	Dimensions	Permissible deviations
		mm	mm
A	Height (above tread level)	1 050	Minimum
B	Length	$n \times 600$	+ 0 – 10
C	Effective length of unit (between divisions)	$\frac{B - (\text{sum of } F)}{\text{No. of units}}$	—
D	Projection of return end	300	Minimum
E[a]	Projection of division	275	Minimum
F	Thickness of divisions and return end	30	Minimum
G	Width of channel	150	Minimum
H	Width of tread	60	Minimum
I	Height of division	600	Minimum
J	Centre of waste hole from back supporting face	175	+ 25 – 25
K	Centre of waste hole from return end supporting face, left or right hand	150	+ 0 – 10
	For single and 7 unit ranges (see Figure 2)	Central	—
L	Centre of spreader from top of slab	100	Maximum
M	Height of cistern (above tread level)	1 800 2 000	Minimum Maximum
N	Depth of channel at waste hole (below tread level)	150	Maximum
O	Top edge of slab to top edge of division	100	Maximum
P	Level above tread at which flush water shall extend to full length of unit	750	Minimum

[a] This dimension should not exceed dimension *D*.



NOTE Drawings are diagrammatic only.

Figure 1 — Plan elevations and sections of typical slab urinal



NOTE Drawings are diagrammatic only.

Figure 2 — Details of channel and channel outlet positions

Publications referred to

This standard makes reference to the following British Standards:

BS 864-2 (metric), *Capillary and compression fittings of copper and copper alloy for use with copper tubes complying with BS 659, BS 1386 and BS 3931 (to be combined in BS 2871).*

BS 970, *Wrought steels in the form of bars, billets and forgings up to 6 in ruling section for automobile and general engineering purposes. En series.*

BS 970-4, *Stainless and heat resisting valve steels.*

BS 1224, *Electroplated coatings of nickel and chromium.*

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

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

BS 1876, *Automatic flushing cisterns for urinals.*

BS 1972, *Polythene pipe (Type 32) for cold water services.*

BS 2871, *Copper and copper alloy.*

BS 2871-1, *Tubes for water, gas and sanitation.*

BS 2900, *Recommendations for the co-ordination of dimensions in building. Glossary of terms.*

BS 3019, *General recommendations for manual inert gas, tungsten arc welding.*

BS 3019-2, *Austenitic stainless and heat resisting steels.*

BS 3505, *Unplasticised PVC pipe for cold water services.*

BS 4127, *Light gauge stainless steel tubes.*

CP 2008, *Protection of iron and steel structures from corrosion.*

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