

Specification

Copper and copper alloy traps

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- British Plastics Federation
- Council of British Ceramic Sanitaryware Manufacturers*
- Department of the Environment*
- Environmental Health Officers' Association
- Greater London Council*
- Institute of Plumbing*
- Institution of Heating and Ventilation Engineers
- Institution of Municipal Engineers*
- Institution of Public Health Engineers
- Metal Sink Manufacturers' Association
- Ministry of Defence
- National Brassfoundry Association*
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- National Water Council
- Royal Institute of British Architects*
- Royal Institute of Public Health and Hygiene
- Royal Society of Health*
- Water Companies' Association

The 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 Lead Manufacturers' Association
- British Non-Ferrous Metals Technology Centre
- Copper Development Association
- Copper Tube Fittings Manufacturers Association
- Electrical, Electronic, Telecommunications and Plumbing Union
- Institute of British Foundrymen
- Lead Tap Manufacturers
- National Federation of Building Trades Employers
- Individual experts

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Foreword

This British Standard has been prepared under the authority of the Sanitary Appliances Standards Committee and is essentially a metricated version of BS 1184:1961.

This standard involves only minor changes in the technical requirements of the 1961 version, but the opportunity has been taken to integrate into the text the requirements for tubular (solid drawn) traps for baths, which were the subject of amendment no. 1 to that standard. The section covering hot formed traps has been omitted, it being considered that there is no longer any demand for these articles. The order of clauses, figures and tables has also been changed to provide a more logical sequence, and all details concerning collars and screw plugs have been transferred into a new section in view of the fact that these associated components are common to all types of trap with which this standard is concerned.

Information relating to screwed tail pipes and bent tail pipes, which formerly was included in BS 3380 "*Wastes for sanitary appliances and overflows for baths*", has now been included in this standard and deleted from BS 3380. It is considered more logical to include these items here in view of their essential relationship with the traps rather than with the wastes. The specification for these items is given in section 4.

The old referencing system has been abandoned as it was a numerological system based on inch-fractions, which would be likely in future to cause more confusion than help as the numbers would be liable to be mistaken for millimetre dimensions. Instead the referencing system in this standard reverts to use of the nominal size expressed in inches or fractions thereof. This fits in with the use of the same system in BS 3380 and avoids the possibility of confusion which might otherwise arise if the metric system of describing tube sizes by outside diameter were to be adopted.

Pipe threads also continue to be described in imperial units in accordance with BS 2779 "*Pipe threads where pressure-tight joints are not made on the threads*".

With these two exceptions all metric values are given in SI units. For further information reference should be made to BS 3763 "*The International System of units (SI)*".

The traps covered by this standard are essentially suitable for use with the following British Standards:

BS 1188, *Ceramic wash basins and pedestals*.

BS 1189, *Cast iron baths for domestic purposes*.

BS 1206, *Fireclay sinks. Dimensions and workmanship*.

BS 1244, *Metal sinks for domestic purposes*.

BS 1329, *Metal hand rinse basins*.

BS 1390, *Sheet steel baths for domestic purposes*.

BS 4135, *Sinks for domestic purposes made from cast acrylic sheet*.

BS 4305, *Baths for domestic purposes made from cast acrylic sheet*.

Unlike BS 1184:1961 this edition makes no provision for "Q" traps.

Certification. Attention is drawn to the certification facilities described on the inside back cover of this standard.

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 to iv, pages 1 to 22, 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.

Section 1. General

1 Scope

This British Standard covers copper and copper alloy traps of “S” and “P” types with nominal sizes¹⁾ of G1 ¼, G1 ½ and G2 for use with baths, basins, sinks, washtubs, tub and sink sets and similar appliances. The nominal size of the trap is taken as being the size of the BSP inlet coupling nut and the waste to which it connects.

2 References

The titles of the British Standards and code of practice referred to in this standard are listed on the inside back cover.

3 Definitions

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

3.1

trap

a tubular device designed to prevent by means of a water seal the passage of foul gases from a waste pipe into a building

3.2

“S” trap

a trap with the inlet vertical and the outlet parallel to but not in alignment with the inlet

3.3

“P” trap

a trap with the inlet vertical and the outlet inclined below the horizontal within the limits specified in this standard

3.4

water seal

the depth of water in a trap that acts as a barrier to the passage of air through the trap

3.5

associated components

tail pipes, coupling nuts, and screw plugs and sleeves

4 Nominal size

Traps shall be designated by their nominal size and shall comply in all respects with the requirements of this standard in relation to those nominal sizes.

5 Marking

All traps that comply with the requirements of this British Standard shall be marked or labelled in any suitable position with the following information:

- a) the manufacturer's name or mark;
- b) the number of this British Standard, i.e. BS 1184.

6 Ordering

When ordering traps to this specification it is necessary to state the following:

- a) the nominal size. In determining the size of trap to use with a particular sanitary appliance, reference should be made to CP 304;
- b) the class, viz. tubular (solid drawn, see section 2) or cast (see section 3);
- c) “S” or “P”;
- d) the depth of seal (see 10.4 and 15.4);
- e) the type of outlet (see 9.3 and 14.3);
- f) whether cleaning eyes are required (see 9.5.1 for tubular (solid drawn) traps);
- g) the external finish (see 8.2 and 13.2);
- h) in the case of bath traps, whether overflow connection and a blank cap or two blank caps are required.

Section 2. Tubular (solid drawn) traps

7 Materials

7.1 General. Tubes from which solid drawn traps are manufactured shall be made of copper complying with the requirements of BS 1172:1964 (type C 106) or BS 1174:1964 (type C 107).

7.2 Associated components

7.2.1 Castings. Where used, castings shall be of copper alloy complying with the requirements of BS 1400:1973, either type SCB1, SCB3, DCB1, DCB3, LG1, LG2 or PCB1, or of any other copper alloy not less suitable.

7.2.2 Pressings. Where used, pressings shall be of brass complying with the requirements of BS 2872:1969, CZ 122, or of any other copper alloy not less suitable.

¹⁾ For explanation as to why these sizes are not expressed in metric terms, see the foreword.

7.3 Washers. Vulcanized fibre washers, if used, shall comply with the requirements of BS 1737:1951, section 2.

7.4 Solder. Solder shall be as detailed in Table 1 of BS 219:1959 and shall be of grade A, B or C.

7.5 Brazing alloys. Brazing alloys shall comply with the requirements of BS 1845:1966, type CP1.

8 Workmanship

8.1 General. The walls of the completed trap shall be free from cracks and splits and shall be watertight. The bore shall be reasonably uniform and smooth throughout the trap.

8.2 External finish. The external surfaces of traps and associated components shall have one of the following finishes:

- a) self-coloured, free from grease and tool marks;
- b) polished;
- c) chromium plated. Plating shall comply with the requirements of BS 1224:1970, service condition no. 2 (classification Cu/Ni10b Cr r).

9 Design and construction

9.1 General. Tubular (solid drawn) traps shall conform to the appropriate figures and tables as follows.

Description		To conform to	
Trap	Outlet	dimensions as specified in figure no.	sizes as specified in table no.
Two-piece "P"	Plain	Figure 1	Table 1
One-piece "P"	Plain	Figure 2	Table 2
Two-piece "S"	Plain	Figure 3	Table 3
One-piece "S"	Plain	Figure 4	Table 4
One-piece "P" for baths	—	Figure 5	Table 5
Two-piece "P" for baths	Plain with overflow connection	Figure 6	Table 6

9.2 Inlet. Traps shall have a coupling nut on the inlet to couple to the waste.

The collar shall comply with the requirements of 10.3.

9.3 Outlet. The outlet of every trap shall be one of the following:

- a) a plain end (see Figure 1 to Figure 6);
- b) fitted with a class B external BSP fastening thread complying with all the requirements of BS 2779, except those regarding the length of engagement;

c) prepared with an integral capillary, compression or other end suitable for use with tube complying with the requirements of BS 2871-1;

d) prepared for use with a capillary or compression fitting suitable for use with tube complying with BS 2871-1, when the length of straight pipe at the outlet of "P" traps shall be not less than that specified in 10.6 of this standard.

9.4 Coupling nut. Coupling nuts shall comply with the requirements of BS 3380-1. When assembled without washers, coupling nuts shall have a minimum engagement of three full threads.

9.5 Inspection, cleaning and overflow openings

9.5.1 Cleaning eye. Two-piece traps, and one-piece traps so constructed as to be readily dismantled or removable, may be fitted with cleaning eyes at the request of the purchaser. All other traps shall be fitted with a cleaning eye, which shall be fitted with a screw plug. No part of the cleaning eye shall obstruct the waterway.

9.5.2 Screw plug and washer. These shall be as specified in clauses 18 and 19.

9.5.3 Overflow openings. Traps for baths may be provided with an overflow and/or cleaning eye connection at the request of the purchaser. The overflow connection shall be entirely within the water seal of the trap, and in form shall be identical with that of the cleaning eye specified in 10.7.

NOTE If a standard trap and a standard overflow fitting form part of a complete unit connected in some other way, any slight modification required to accommodate the connecting pipe and the necessary fittings should be regarded as complying with the specification provided that the bore is not reduced below the minimum internal diameter specified in this standard.

10 Sizes and dimensions

10.1 General. Sizes and dimensions of tubular (solid drawn) traps shall be as set out in the table appropriate to the trap concerned (see 9.1).

10.2 Thickness of metal. The thickness of the walls of the tube shall be not less than 1.0 mm before bending.

10.3 Inlet. The collar on the inlet of every tubular (solid drawn) trap shall conform to Figure 17 and with sizes as given in Figure 15.

10.4 Depth of seal. The minimum depth of water seal shall be either 38 mm or 76 mm as ordered.

10.5 Rake of outlet. In "P" traps the outlet shall have a rake of $1\frac{1}{4}^\circ$ minimum and 5° maximum below the horizontal when the axis of the inlet is vertical.

10.6 Length of outlet of “P” traps. For outlets prepared for use with capillary or compression fittings as specified in 9.3 d), the sizes given in column 7 of Table 1, Table 2, Table 5 and Table 6 shall apply.

For plain end outlets the sizes given in column 6 of Table 1, Table 2, Table 5 and Table 6 shall apply.

10.7 Cleaning eye. Cleaning eyes shall be screwed internally with a $\frac{1}{8}$ in Whitworth S thread²⁾ conforming to Table 13 of BS 84:1956 and having 20 threads per inch. Alternatively, cleaning eyes shall be screwed internally with a $\frac{3}{8}$ in BSP²⁾ complying with the requirements of BS 2779.

10.8 Overflow connection. The minimum bore of any overflow connection shall be 20 mm.

11 Tolerances

Except where otherwise stated in this standard, the deviations permitted from the sizes given in clause 10 are as follows.

11.1 Collar on inlets. This shall be as given in column 4 of Table 1, Table 2, Table 5 and Table 6.

11.2 Plain end outlets. These shall be as given in columns 6 and 7 of Table 1, Table 2, Table 5 and Table 6.

11.3 Associated components. Straight tail pipes shall conform to BS 3380-1 and screwed tail pipes shall conform to Table 13 of this standard.

11.4 Centre-line of inlet to end of outlet of “P” traps. For individual orders of “P” traps having the same type of outlet end, the “centre of inlet to end of outlet” dimensions shall not vary by more than 3 mm.

Section 3. Cast traps

12 Materials

12.1 Castings. Castings shall be made of copper alloy complying with the requirements of BS 1400:1973, either type SCB1 SCB3, DCB3, LG1, LG2 or PCB 1, or of any other copper alloy not less suitable.

12.2 Associated components. Pressings, where used, shall be of brass complying with the requirements of BS 2872:1969, CZ 122, or of any other copper alloy not less suitable.

12.3 Washers. Vulcanized fibre washers, if used, shall comply with the requirements of BS 1737:1951, section 2.

13 Workmanship

13.1 General. Castings shall be in all respects sound and good, free from laps, blow-holes and sand pitting, and both the external and the internal surfaces shall be clean, smooth and free from sand. They shall be neatly dressed and no casting shall be plugged, burned, stopped or patched.

13.2 External finish. The external surfaces of traps and associated components shall be one of the following finishes:

- a) self-coloured, free from grease and tool marks;
- b) polished;
- c) chromium plates. Plating shall comply with the requirements of BS 1224:1970, service condition no. 2 (classification Cu/Ni10b CR r).

14 Design and construction

14.1 General. Cast traps shall conform to the appropriate figures and tables as follows.

Description		To conform to	
Trap	Outlet	dimensions as specified in figure no.	sizes as specified in table no.
“P”	Externally screwed	Figure 7	Table 7
“P”	Plain	Figure 8	Table 8
“S”	Externally screwed	Figure 9	Table 9
“S”	Plain	Figure 10	Table 10
“P” for baths	Externally screwed with overflow connection	Figure 11 and Figure 12	Table 11
“P” for baths	Plain with overflow connection	Figure 13	Table 12

14.2 Inlet. The inlet of every trap shall be fitted with a tail pipe and a coupling nut. The coupling nut shall be so arranged as to fall below the collar when unscrewed.

14.3 Outlet. The outlet of every trap shall be one of the following:

- a) a plain end, suitable for connection to a lead pipe (see Figure 8, Figure 10 and Figure 13);
- b) an external BSP fastening thread complying with all the requirements of BS 2779:1973, class B, except those regarding length of engagement (see Figure 7, Figure 9 and Figure 11);

²⁾ For explanation as to why this size is not expressed in metric terms, see the foreword.