

Specification for

WC flushing cisterns (including dual flush cisterns and flush pipes)

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- Water Authorities Association

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Foreword

This revision of BS 1125 has been prepared under the direction of the Building Services Standards Committee.

BS 1125 was revised in 1969 to accommodate dual flush cisterns and to incorporate more detailed specifications for plastics WC flushing cisterns. It was again revised in 1973 to incorporate metric terms and include various amendments made in the interim period.

Because of the need for further amendments and the time lapse since the last full publication, it was necessary that a full revision be carried out accommodating the many changes incorporated into the standard since 1973.

Attention should be drawn to the fact that dual flush is now a general requirement for cisterns in domestic dwellings in use with washdown WC pans and the new model water byelaws give requirements on water economies relative to flushing cistern discharge. However, this revision of BS 1125 covers the requirements for replacement of existing installations.

Also the use of plastics materials is now established as suitable for cisterns and the use of possible new plastics materials is adequately covered by the physical test requirements which have proved effective in ensuring a satisfactory performance.

The standard no longer covers requirements for pressed steel, lead lined or copper lined wood-cased cisterns.

Reference in this standard to Water Authority listed float operated valves will be considered for deletion on the publication of BS 1212-4, which is in preparation.

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 12, 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

BS 1125 specifies requirements for WC flushing cisterns with valveless siphons, nominally 9 L (litres), for high level, low level and close coupled positions, together with the necessary flush pipes.

The cisterns specified are of the type which flushes 9 L only, (i.e. the single flush type), or of the type which flushes, as selected, either 4.5 L or 9 L, (i.e. the dual flush type).

Float operated valves and methods of fixing are not covered by BS 1125.

NOTE 1 Dual flush type cisterns are intended for use with washdown pans in domestic premises only.

NOTE 2 The titles of the publications 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

spill-over level

the level at which water in the flushing cisterns will first spill over if the rate of inflow exceeds the rate of outflow through the warning pipe

2.2

warning pipe

an overflow pipe so connected that its outlet, whether inside or outside a building, is in a conspicuous position where the discharge of any water from it can be readily seen

2.3

water line

a line marked inside the cistern to indicate the highest water level at which the float operated valve should be adjusted to shut off

3 Marking

Each cistern shall be marked with the following:

- a) the manufacturer's name or identification mark;
- b) the number of this British Standard, i.e. BS 1125¹⁾;
- c) the wording specified in 17.2 on dual flush type cisterns.

The marks required in a) and b) shall be capable of being seen after the installation of the cistern and before any cover is fitted.

NOTE The mark "BS 1125" on a cistern, with or without the certification mark, in no way refers to the suitability or otherwise of any float operated valve or float fitted in the cistern.

¹⁾ Marking BS 1125 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.

Section 2. Materials and design

4 General requirements

Cistern shells, siphons and associated components shall be made from materials which under the conditions of use are one of the following:

- a) non-corroding e.g. plastics;
- b) protected against the types of corrosion caused by the action on them of the water with which the cistern is to be used;
- c) highly resistant to corrosion by the action of the water with which the cistern is to be used, i.e. they corrode only at a rate which is insufficient to affect adversely the durability or efficiency of the cistern.

Before dissimilar metals are used in the construction of a cistern, the manufacturer shall ensure avoidance of the possibility of electrolytic action.

5 Requirements for particular materials

5.1 Ceramic ware cisterns

(see also clauses 14, 15 and 16)

5.1.1 The shell thickness of ceramic ware cisterns shall comply with either **5.1.2**, **5.1.3** or **5.1.4**. In addition vitreous china cisterns shall comply with BS 3402.

5.1.2 All ceramic ware cisterns, except vitreous china, shall have a minimum thickness of 12 mm.

5.1.3 Vitreous china cisterns shall have a minimum thickness of 10 mm, except as described in **5.1.4**.

5.1.4 Vitreous china cisterns with an internal width of less than 365 mm, designed for use with Water Authority listed float operated valves other than as specified in BS 1212, shall have a minimum thickness of 6 mm.

5.2 Rubber compound and plastics cisterns

5.2.1 General. Plastics materials and rubber compounds shall be such that, when assembled, the cistern shall comply with **5.2.2** to **5.2.8**.

5.2.2 Appearance. The cistern shall be free from blisters and delamination and reasonably free from flow lines, contamination, streaking or unintended colour variations on surfaces visible after installation.

5.2.3 Colour fastness to light. The colour fastness to light of the cistern and cover shall be not less than 5 when determined in accordance with BS 2782:Method 540B.

5.2.4 Opacity. When tested in accordance with BS 2782:Method 530A, the cistern and cover shall not transmit more than 0.2 % of the visible light falling on them.

5.2.5 Distortion resistance. The cistern, when tested in accordance with Appendix A, shall not bulge more than 6 mm and the cover shall not be dislodged.

5.2.6 Dead load test. The complete cistern, when installed and filled as described in Appendix A and tested by the application of a dead load of 23 kg for 30 s, shall not distort to such an extent that any part becomes detached.

5.2.7 Front thrust test for cisterns for use at low levels (including close coupled). The complete cistern, when installed and filled as described in Appendix A and tested by the method described in Appendix B, shall not distort to such an extent that any part becomes detached or inoperable.

5.2.8 Impact test. The complete cistern, when installed and filled as described in Appendix A and tested as described in Appendix C, shall show no defect after one impact, and after being emptied shall show no defect after one more impact.

6 Soft solder

Any soft solder used in the construction of cistern shells, siphons or associated components shall comply with the requirements of BS 219, and shall be of type F or type J as given in Table 1 of BS 219:1977.

7 Hard solder

Any hard solder or filler alloy used in the construction of cistern shells, siphons or associated components shall be of copper-silver-phosphorus or other corrosion resistant alloy, in accordance with type CP 2 or CP 3 of BS 1845.

8 Flushing apparatus

Cisterns shall have an efficient flushing apparatus of the valveless siphonic type which prevents the waste of water. The apparatus shall be capable of flushing directly the mechanism is operated when the water is at the water line, and shall be so constructed that water cannot flow down the flush pipe except while a flush is being properly delivered.

Flushing apparatus shall be detachable from the shell and suitable means shall be provided for ensuring and maintaining a watertight joint.

The underside of the bend in the siphon pipe (the siphon invert) or, in the dome pattern, the top of the straight discharge pipe, shall be at such a height that no water runs down the flush pipe when, after temporarily closing the warning pipe, the water level is raised to the spill-over level.

Any joint in a siphon assembly shall be watertight.