BS 1876:1990

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Specification for

Automatic flushing cisterns for urinals

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Building Services Standards Policy Committee (SEB/-) to Technical Committee SEB/1, upon which the following bodies were represented:

British Bathroom Council
British Plastics Federation
Clay Pipe Development Association Ltd.
Consumer Policy Committee of BSI
Department of the Environment (Building Research Establishment)
Department of the Environment for Northern Ireland
Department of the Environment (Property Services Agency)
Department of Health
Institute of Clerks of Works of Great Britain Inc.
Institute of Plumbing
Institute of Vitreous Enamellers
Institution of Environmental Health Officers
Institution of Water and Environmental Management
Metal Sink Manufacturers' Association
Royal Institute of British Architects
Vitreous Enamel Development Council
Water Services Association of England and Wales

This British Standard, having been prepared under the direction of the Building Services Standards Policy Committee, was published under the authority of the Board of BSI and comes into effect on
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The following BSI references relate to the work on this standard:
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Amendments issued since publication

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Contents

Foreword

This British Standard has been prepared under the direction of the Building Services Standards Policy Committee.

This edition supersedes BS 1876:1972, which is withdrawn.

The hourly discharge volume for an automatic flushing cistern is dependent on the adjustment of the inlet feed control. Inlet feeds should be adjusted to comply with Water Byelaws 82 and 83.

Tests for the performance of cistern assemblies have been included irrespective of the actual type and dimensions of cistern assembly used. No dimensions have been given except where considered essential to ensure correct functioning and a reasonable lifespan of the appliance when installed. It has not been considered necessary to detail the specific size and shape of the water storage portion of the appliance, but its minimum discharge rate in relation to the duty it has to perform is specified (see **3.3**).

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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 requirements for automatic, valveless siphon, exposed or concealed, flushing cisterns with or without covers, of the type used for flushing urinals.

NOTE The titles of the publications referred to in this standard are listed on the inside back cover.

2 Materials

2.1 Ceramic ware

The shell thickness of ceramic ware cisterns, except those in vitreous china, shall be not less than 12 mm. Vitreous china cisterns shall have a shell thickness of not less than 6 mm and shall comply with BS 3402.

2.2 Rubber compound and plastics cisterns

2.2.1 ***General***

Plastics materials and rubber compounds shall be such that, when assembled, the cistern shall comply with **2.2.2** to **2.2.4**, where appropriate.

2.2.2 ***Appearance***

2.2.2.1 *Cisterns*

Cisterns shall be free from blisters and delaminations.

2.2.2.2 *Exposed cisterns*

Exposed cisterns shall be reasonably free from flow lines or colour variations on visible surfaces after installation.

2.2.3 ***Distortion resistance***

When tested in accordance with Appendix A, cisterns shall not distort outwards by more than 6 mm and the cover, where supplied (see **3.2**), shall not be dislodged.

2.2.4 ***Exposed cisterns***

2.2.4.1 *Colour fastness to light*

When tested in accordance with BS 2782:Method 540B, the colour fastness to light shall be not less than 5.

2.2.4.2 *Opacity*

When tested in accordance with BS 2782:Method 1104A, the cistern and cover shall not transmit more than 10 % of the visible light falling on them.

2.3 Stainless steel cisterns

2.3.1 Stainless steel cisterns shall be manufactured from sheet complying with BS 1449-2 and shall have a minimum thickness of 1.2 mm before forming.

2.3.2 Stainless steel cisterns shall have no sharp edges.

2.3.3 Stainless steel cisterns, when fabricated, shall have all joints continuously welded.

2.4 Soft solder

Soft solder used in the construction of siphons or associated components shall be of type F or type J as specified in Table 1 of BS 219:1977.

2.5 Hard solder

Hard solder or filler alloy used in the construction of siphons or associated components shall be of copper-silver-phosphorus or other corrosion resistant alloy, in accordance with type CP2 or CP3 of BS 1845.

3 Design and construction

3.1 Depth of body

The depth of the body of the cistern shall provide for a clearance of not less than 25 mm between the highest level that can be reached by the water before siphonage commences and the spill-over level of the top of the cistern.

3.2 Cistern covers

Cisterns shall be supplied either with or without a cover.

NOTE Unless otherwise specified by the purchaser at the time of order, the cistern will be supplied with a cover.

3.3 Flushing apparatus

3.3.1 Siphons shall be constructed of either plastics materials which are impervious to water or corrosion-resistant copper or other non-ferrous metal.

The siphon shall be so constructed that water cannot flow down the flush pipe except while a flush is being delivered.

3.3.2 Cistern assemblies shall be capable of the following:

a) flushing automatically when the water reaches the discharge level;

b) discharging at a minimum rate of 0.5 L/s when fitted with a straight open-ended flush pipe, 1 m in length.

NOTE The length of the flush pipe used to measure discharge should be measured from the lower end of the threaded outlet of the siphon, on the under side of the cistern.

3.3.3 Outlets of siphons shall be threaded with parallel pipe male thread complying with BS 2779.

NOTE 1 Because of the precise relationship between the component parts, flush pipes, cisterns and urinals should be purchased from a single supplier/manufacturer.

NOTE 2 For fixing instructions contact the cistern manufacturer or see BS 6465.

4 Marking

Cisterns shall be permanently marked with the following information.

a) The manufacturer's name or identification mark.

b) The number of this British Standard, i.e. BS 1876[1)].

Cisterns intended only for concealed use shall be marked: "For concealed use only".

Marking shall be capable of being seen after the installation of the cistern and before any cover is fitted.

NOTE For the purposes of this standard, marking by means of a label complying with BS 4781-1 is considered to be permanent.

[1)] Marking BS 1876 on or in relation to a product represents a manufacturer's declaration of conformity, i.e. a claim by or on behalf of the manufacturer that the product meets the requirements of the standard. The accuracy of such a claim is therefore solely the responsibility of the person making the claim. Such a declaration is not to be confused with third party certification of conformity, which may also be desirable.

Appendix A Distortion tests

A.1 Fasten the cistern, complete with its fitments and cover if required, by its normal fixing devices to a solid background. Fill the cistern with water to a level just before the automatic siphon begins to function.

A.2 Record in millimetres any outward distortion in the cistern or dislodgement of the cover.

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Publication(s) referred to

BS 219, *Specification for soft solders.*

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

BS 1449-2, *Specification for stainless and heat-resisting steel plate, sheet and strip.*

BS 1845, *Specification for filler metals for brazing.*

BS 2779, *Specification for pipe threads for tubes and fittings where pressure-tight joints are not made on the threads (metric dimensions).*

BS 2782, *Methods of testing plastics.*

BS 2782:Method 540B, *Methods of exposure to laboratory light sources (xenon arc lamp, enclosed carbon arc lamp, open-flame carbon arc lamp, fluorescent tube lamps).*

BS 2782:Method 1104A, *Measurement of opacity of thermoplastics pipes and fittings.*

BS 3402, *Specification for quality of vitreous china sanitary appliances.*

BS 4781, *Specification for pressure-sensitive adhesive plastics labels for permanent use.*

BS 6465, *Sanitary installations.*

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