

Precast concrete pipes and ancillary concrete products —

Part 2: Specification for inspection chambers

ICS 23.040.50

Cooperating organizations

The Cement, Gypsum, Aggregates and Quarry Products Standards Committee, under whose direction this British Standard was prepared, consists of representatives from the following:

- Association of Consulting Engineers*
- Association of County Councils
- Association of District Councils
- Association of Metropolitan Authorities*
- Autoclaved Aerated Concrete Products Association
- British Precast Concrete Federation Ltd*
- British Quarrying and Slag Federation*
- British Railways Board
- British Ready Mixed Concrete Association
- British Steel Industry
- Cement Admixtures Association
- Cement and Concrete Association*
- Cement Makers' Federation*
- Chemical Industries Association
- Concrete Society Limited*
- County Surveyors' Society*
- Department of the Environment (Building Research Establishment)
- Department of the Environment (Housing and Construction)
- Department of the Environment (PSA)
- Department of the Environment (Transport and Road Research Laboratory)*
- Department of Transport*
- Federation of Civil Engineering Contractors*
- Gypsum Products Development Association
- Institute of Quarrying
- Institution of Civil Engineers*
- Institution of Highway Engineers*
- Institution of Municipal Engineers*
- Institution of Public Health Engineers*
- Institution of Structural Engineers*
- Institution of Water Engineers and Scientists*
- National Federation of Building Trades Employers
- National Environment Research Council (Institute of Geological Science)
- Royal Institute of British Architects
- Royal Institution of Chartered Surveyors
- Sand and Ballast Hauliers and Allied Trades Alliance
- Sand and Gravel Association Limited*
- Society of Chemical Industry
- Stone Federation

The organizations marked with an asterisk in the above list, together with the following, were directly represented on the Technical Committee entrusted with the preparation of this British Standard:

- Concrete Pipe Association
- Ministry of Agriculture, Fisheries and Food
- National Water Council
- Pipe Jacking Association

Amendments issued since publication

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The following BSI references relate to the work on this standard:
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Foreword

The original edition and first amendment to this British Standard were prepared under the direction of the Cement, Gypsum, Aggregates and Quarry Products Standards Committee. The preparation of subsequent amendments has been entrusted to Technical Committee B/505, Waste water engineering.

As part of the new approach to harmonization of standards in Europe, work on a specification for inspection chambers is being undertaken in CEN/TC 165, Waste water engineering and the requirements for inspection chambers specified in the amended 1982 edition are now subject to a standstill agreement. Standstill is an obligation accepted by members of CEN/CENELEC not to take any action, during the preparation of a European Standard (EN), which could prejudice the harmonization process.

BS EN 752-3, BS EN 1295-1 and BS EN 1610 deal with the design, installation and testing of inspection chambers on drains and sewers. The original National Annex NB of BS EN 752-3:1997 gave information about traditional UK practice as described in BS 8301 and BS 8005-1, both of which are now withdrawn. The annex was amended on 15 November 2000 to take account of *Safe Work in Confined Spaces – Approved Code of Practice, Regulations and Guidance*, issued by the Health and Safety Commission under the provisions of the *Confined Spaces Regulations 1997 (SI 1997 No. 1713)* [1]. Members of CEN/CENELEC are permitted under the duty of care owed by the publisher of documents having a recognized national status to amend their existing national standards accordingly in such circumstances. Therefore, Amendment No. 3 to this standard reflects the revised information in National Annex NB of BS EN 752-3:1997, as amended by Amendments Nos. 1 and 2 as regards safe working in inspection chambers.

For certain products, Amendment No. 3 to this standard necessitates planned changes to manufacturing equipment which cannot be achieved overnight. In view of this and in order to complete the changeover with the orderly disposal of stock, the amendment comes into effect on 01 May 2001. For some products, consequently, the original requirements are retained for the time being and supplemented by an amended specification for corresponding ones. The former will be withdrawn by a further amendment as soon as the technical committee judges it reasonable to do so.

As regards the performance of units in service, it should be noted that the tests in this Part are intended to ensure that the units do not leak or suffer structural damage, provided that the method of installation and the general conditions under which they are operating are suited to the original design concept.

For an enquiry or order to be fully understood it is essential that the manufacturer be given the information set out in Appendix A of this Part of BS 5911.

Product certification/inspection/testing. Users of this British Standard are advised to consider the desirability of third-party certification/inspection/testing of product conformity with this British Standard. Appropriate conformity attestation arrangements are described in BS EN ISO 9002:1994. Users seeking assistance in identifying appropriate conformity assessment bodies or schemes may ask BSI to forward their enquires to the relevant association.

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 10, an inside back cover and a back cover.

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Section 1. Specification

1 Scope

This Part of BS 5911 specifies requirements for precast concrete inspection chambers, unreinforced or reinforced, for use over a drain or sewer not exceeding nominal size DN 250, in areas of light loading (see 3.5). Requirements for covers and frames are specified in BS EN 124.

2 References

The titles of the publications referred to in this Part of BS 5911 are listed on the inside back cover.

3 Definitions

For the purposes of this Part of BS 5911, the following definitions apply:

3.1

component

an individually cast piece of concrete which when assembled with other components makes up into a unit

3.2

unit

an inspection chamber

3.3

inspection chamber

a chamber constructed over a drain or sewer so as to provide access thereto for inspecting, testing or the clearance of obstruction

3.4

cover slab

unit forming the horizontal roof of a chamber or shaft and having an access opening, above which a frame and cover is designed to fit. Some designs have no frame, the cover being supported directly in a recess around the perimeter of the opening

3.5

light loading

normal pedestrian and occasional wheel loads not exceeding 1 tonne (10 kN)

3.6

batch

the number of units or components of a particular specification produced under uniform conditions during a given production period by the same process

4 Cement

The cement shall comply with the relevant requirements of one of the following standards.

Type of cement

Standard to be complied with

Ordinary and rapid-hardening Portland

BS 12

Portland-blastfurnace

BS 146

Sulfate-resisting Portland

BS 4027

5 Aggregates

5.1 General. Aggregates shall consist of materials complying with the requirements of BS 882 except that the manufacturer shall be permitted to modify grading requirements of clause 5 of that standard (see clause 0 of BS 882:1992).

NOTE Typical samples of aggregates and evidence of satisfactory performance of the concrete manufactured with such aggregates should be made available to purchasers on request (see Appendix A).

5.2 Size. The maximum nominal size of aggregate shall not exceed the least of the following:

- a) 20 mm;
- b) the concrete cover to steel reinforcement (see clause 8);
- c) three-quarters of the minimum clear distance between reinforcing bars.

6 Other concrete materials

6.1 Water. Water shall be clean and free from harmful amounts of deleterious matter, either in suspension or in solution.

6.2 Admixtures. The composition and use of admixtures, including calcium chloride, shall follow the recommendations of 6.1.5 of BS 8110-1:1985.

7 Concrete

7.1 Cement content. The fully compacted concrete shall contain not less than 300 kg of cement per cubic metre.

7.2 Design mix. The 28-day characteristic strength of the concrete shall be not less than 30 N/mm², assessed in accordance with the requirements of BS 5328-2.

For each mix design, samples of freshly made concrete shall be taken from not less than 2 % of the total number of batches of concrete. Sampling shall be at a rate of not less than one sample per 20 m³ of fresh concrete taken daily.

7.3 Chloride content. The total chloride ion content of the concrete mix shall follow the recommendations of 6.2.5.2 of BS 8110-1:1985.