

Cast iron rainwater goods — Specification

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee PSE/10, Iron pipes and fittings, upon which the following bodies were represented:

British Compressed Gases Association
Cast Metals Federation
Ductile Iron Pipe Committee
Galvanizers Association
Institution of Mechanical Engineers

Amendments issued since publication

Amd. No.	Date	Comments
15095	29 November 2004	Data changed in Table A.1 Ogee gutter Data changed in Table B.1 Dimensions of pipes, socket and ears Data changed in Table E.1 Half round gutter Data changed in Table F.1 Half round beaded gutter
16890	31 July 2007	Annex A – was Annex B – key added to figure; Annex B – was Annex C – Table headings altered; Annex C – was Annex E – Table and figure amended; Annex D – was Annex F – Table and figure amended; Annex E – was Annex A – Nominal size 125, internal width changed; Annex F – was Annex D – Now informative with some amendments to the figures.
17425 Corrigendum No.1	28 September 2007	See foreword
Corrigendum No. 2	30 November 2009	See foreword

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

This British Standard was prepared by Technical Committee PSE/10. It supersedes BS 460:1964, which is withdrawn.

Text introduced or altered by Amendments No. 1 and No. 2 is described in the amendment table (see inside front cover). Text introduced or altered by Corrigenda Nos. 1 and 2 is indicated by tag **1** **1** and **2** **2**.

Although BS 460:1964 has been deemed out of date for some time, work on this standard was delayed due to related work being carried out by CEN TC 203 and CEN TC 165. Following completion of those parts of the committees' work programmes relating to pressure and non-pressure systems, it became clear that the scope of BS 460 did not interfere with any part of the work of either of these two CEN committees and subsequently could be revised.

This revision takes account of changes to the foundry practice concerned with the making of cast iron rainwater goods and the use of metrication for the specification of dimensions.

It introduces alternative gutter and socket profiles which permit interchangeability and/or alternative gutter jointing methods including socketless systems.

Coatings specifications have also been reviewed and improved to take account of newer technology and have been more clearly defined.

To achieve economy in cutting to length, the option of using double spigoted pipes and gutters which are connected with separate sockets/joints has been included.

This standard does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot 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 15 and a back cover.

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1 Scope

This British Standard specifies the requirements for cast iron rainwater systems for use on buildings. The sizes of the rainwater system extend from DN 50 to DN 150.

This standard specifies the requirements for the materials, dimensions, tolerances, mechanical properties, surface condition, primary coatings, jointing methods and marking for the following components of the rainwater system:

- rainwater pipes, fittings and components used for assembly or support;
- gutters, including half-round, ogee and beaded, fittings and components used for assembly or support.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this British Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. For undated references, the latest edition of the publication referred to applies.

BS 3900-H2:1983, *Methods of test for paints — Part H2: Designation of degree of blistering*.
[ISO 4628-2:1982]

BS 3900-H3:1983, *Methods of test for paints — Part H3: Designation of degree of rusting*.
[ISO 4628-3:1982]

BS EN 1561:1997, *Founding — Grey cast irons*.

BS EN 10088-1, *Stainless steels — Part 1: List of stainless steels*.

BS EN 10088-2, *Stainless steels — Part 2: Technical delivery conditions for sheet/plate and strip for general purposes*.

BS EN 10088-3, *Stainless steels — Part 3: Technical delivery conditions for semi-finished products, bars, rods and sections for general purposes*.

BS EN ISO 7253, *Paints and varnishes — Determination of resistance to neutral salt spray (fog)*.

3 Terms and definitions

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

3.1

rainwater system

above ground system external to a building for the conveyance of rainwater from the building, excluding any pipework that has either entered the building or the ground

3.2

nominal size (DN)

alphanumeric designation of size for components of a pipework system, which is used for reference purposes

NOTE The nominal size comprises the letters DN followed by a dimensionless whole number which is indirectly related to the physical size, in millimetres, of the bore or outside diameter of the end connections

[BS EN ISO 6708:1996, 2.1]

3.3

cast iron

alloy of iron and carbon, in which graphite can be present in different forms

3.4

pipe

casting of uniform bore, straight in axis, normally having plain ends but which can also be socketed

3.5

ear

projection on pipes or fittings which allows attachment of the rainwater system to the building

3.6

fitting

cast iron component, other than a pipe or gutter, which allows a deviation, a change in direction, diameter or profile

3.7

gutter

open channel casting of defined profile which is designed to evacuate rainwater from the roof area

NOTE 1 The profile of gutters may be socketed or socketless.

NOTE 2 Ogee is a particular shape of gutter profile (see Annex E).

3.8

joint

connection between the ends of pipes, gutters and/or fittings, by either clamping components or integrally cast sockets incorporating either mastic or elastomeric seals

3.9

effective length

overall length minus the socket depth

4 Technical requirements

4.1 Dimensions

4.1.1 *Nominal size*

The nominal size (DN) of pipes and fittings shall be one of the following:

DN 50; DN 65; DN 75; DN 100; DN 150.

4.1.2 *Pipes and fittings*

Pipes and pipe fittings shall conform to the dimensions given in Annex A.

All other dimensions shall be as specified by the manufacturer.

NOTE Typical examples of types of fitting are given in Annex B for pipes and Annex F for gutters.

4.1.3 *Gutters and fittings*

Gutters and gutter fittings shall conform to the dimensions and tolerances given in **[C1]** Annex C **[C1]**, **[C1]** Annex D **[C1]** and **[C1]** Annex E **[C1]**.

4.1.4 *Manufacturer's declared length*

The declared length and effective length of pipe and gutter shall be as specified by the manufacturer.

Lengths of all pipes and gutters shall have a tolerance of ± 20 mm when measured with equipment accurate to 1.0 mm.

The declared length and effective length of fittings shall be as specified by the manufacturer.

Lengths of fittings shall have a tolerance of ± 5 mm when measured with equipment accurate to 1.0 mm.

4.1.5 *Angles of fittings*

Angles of fittings shall be as specified by the manufacturer and shall have a tolerance of $\pm 2^\circ$.

4.1.6 *Wall thickness*

The wall thickness of pipes, fittings and gutters shall be as specified in **[C2]** Annex A, **[C2]** **[C1]** Annex C **[C1]**, **[C1]** Annex D **[C1]** and **[C1]** Annex E **[C1]** when measured with equipment accurate to 0.1 mm.

4.1.7 *Straightness*

When measured in accordance with **5.1.3**, pipes and gutters shall be straight with a maximum deviation of 1.5 mm per metre length for pipes and 2.5 mm per metre length for gutters.

NOTE Typical methods of measuring straightness are given in Annex **[C2]** G **[C2]**.