BS 8530:2010

BSI Standards Publication

Traditional-style half round, beaded half round, Victorian ogee and moulded ogee aluminium rainwater systems – Specification

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ISBN 978 0 580 66239 3

ICS 91.060.20

The following BSI references relate to the work on this standard:
Committee reference B/542/6
Draft for comment 09/30196573 DC

Publication history
First published July 2010

Amendments issued since publication

Date	Text affected

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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.

Foreword

Publishing information

This British Standard is published by BSI and came into effect on 31 July 2010. It was prepared by Subcommittee B/542/6, *Corrugated sheeting materials*, under the authority of Technical Committee B/542, *Roofing and cladding products for discontinuous laying*. A list of organizations represented on these committees can be obtained on request to its secretary.

Supersession

This British Standard supersedes BS 2997:1958, which is withdrawn.

Relationship with other publications

Harmonization of European standards led to the British Standard for aluminium rainwater goods, BS 2997:1958, being withdrawn in 2007 and left the United Kingdom with no standard for its traditional generic styles of aluminium gutter and rainwater pipe systems.

This British Standard covers UK styles of traditional cast and extruded aluminium gutters and fittings, together with extruded aluminium rainwater pipes with cast aluminium sockets and fittings, all of which are excluded from BS EN 612 and BS EN 1462.

Information about this document

It is an objective of this British Standard to maintain the historic appearance, dimensional integrity and interchange ability between system manufacturers.

As the majority of this product type is now supplied with a factory-painted finish, the coating specifications are included to ensure only external grade architectural quality paints are applied to this product range. Specifications for pipe and gutter assembly and fixing components are also included.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Contractual and legal considerations

This publication 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.

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1 Scope

This British Standard specifies requirements for cast and extruded aluminium rainwater systems for use on buildings. It covers extruded aluminium rainwater pipes sized between DN 65 and DN 100.

It specifies the materials, dimensions, tolerances, mechanical properties, surface conditions, coatings, jointing methods, fixings and marking for the following components of the rainwater systems:

a) gutters, including half round, beaded half round, beaded deep half round, Victorian ogee and moulded ogee gutters, fittings and accessories used for assembly or support;

b) rainwater pipes, fittings and accessories used for assembly or support.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 4842, *Specification for liquid organic coatings for application to aluminium alloy extrusions, sheet and preformed sections for external architectural purposes, and for the finish on aluminium alloy extrusions, sheet and preformed sections coated with liquid organic coatings*

BS 6496, *Specification for powder organic coatings for application and stoving to aluminium alloy extrusions, sheet and preformed sections for external architectural purposes, and for the finish on aluminium alloy extrusions, sheet and preformed sections coated with powder organic coatings*

BS EN 603-2, *Aluminium and aluminium alloys – Wrought forging stock – Part 2: Mechanical properties*

BS EN 755-2, *Aluminium and aluminium alloys – Extruded rod/bar, tube and profiles – Part 2: Mechanical properties*

BS EN 755-3, *Aluminium and aluminium alloys – Extruded rod/bar, tube and profiles – Part 3: Round bars, tolerances on dimensions and form*

BS EN 755-4, *Aluminium and aluminium alloys – Extruded rod/bar, tube and profiles – Part 4: Square bars, tolerances on dimensions and form*

BS EN 755-5, *Aluminium and aluminium alloys – Extruded rod/bar, tube and profiles – Part 5: Rectangular bars, tolerances on dimensions and form*

BS EN 755-7, *Aluminium and aluminium alloys – Extruded rod/bar, tube and profiles – Part 7: Seamless tubes, tolerances on dimensions and form*

BS EN 755-9, *Aluminium and aluminium alloys – Extruded rod/bar, tube and profiles – Part 9: Profiles, tolerances on dimensions and form*

BS EN 1462:2004, *Brackets for eaves gutters – Requirements and testing*

BS EN 1559-1, *Founding – Technical conditions of delivery – Part 1: General*

BS EN 1559-4, *Founding – Technical conditions of delivery – Part 4: Additional requirements for aluminium alloy castings*

BS EN 1706:2010, *Aluminium and aluminium alloys – Castings – Chemical composition and mechanical properties*

BS EN 1774, *Zinc and zinc alloys – Alloys for foundry purposes – Ingot and liquid*

BS EN 2070-1, *Specification for aluminium and aluminium alloy wrought products – Technical specification – Part 1: General requirements*

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 of corrosion resisting steels for general purposes*

BS EN 10088-3, *Stainless steels – Part 3: Technical delivery conditions for semi-finished products, bars, rods, wire, sections and bright products of corrosion resisting steels for general purposes*

BS EN 12020-1, *Aluminium and aluminium alloys – Extruded precision profiles in alloys EN AW-6060 and EN AW-6063 – Part 1: Technical conditions for inspection and delivery*

BS EN 12206-1, *Paints and varnishes – Coating of aluminium and aluminium alloys for architectural purposes – Part 1: Coatings prepared from coating powder*

BS EN ISO 3506-1, *Mechanical properties of corrosion-resistant stainless steel fasteners – Part 1: Bolts, screws and studs*

BS EN ISO 3506-4, *Mechanical properties of corrosion-resistant stainless steel fasteners – Part 4: Tapping screws*

BS EN ISO 9227, *Corrosion tests in artificial atmospheres – Salt spray tests*

3 Terms and definitions

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

3.1 accessories
bolts, nuts, washers and screws for fixing gutters and pipes to a building

3.2 aluminium

3.2.1 cast aluminium
type of aluminium formed by pouring molten aluminium into a mould form

3.2.2 extruded aluminium
type of aluminium whereby linear shapes are formed by forcing a preheated softened aluminium mass under extreme pressure through a die, the opening of which corresponds to the required cross-sectional profile

3.3 angle
corner fitting which changes the gutter's direction

3.4 direct fix spacer
spacer component allowing the direct fixing of specific gutter types to the fascia board or background without a fascia bracket

NOTE The rear up stand to Victorian ogee and moulded ogee gutters is not vertical. Therefore, when fixing gutters without fascia brackets, a wedge-shaped aluminium spacer is placed against the outside rear face of the gutter in alignment with fixing holes provided, through which a screw is inserted and fixed directly to the fascia board or background, thereby supporting the gutter without a visible fascia bracket.

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3.5 ear
projection on the pipe socket or fitting which allows attachment to the building

3.6 effective length
<gutter> overall length of gutter, excluding the length of either the joint socket or spigot

3.7 effective length
<pipe> overall length of a pipe, excluding the depth of the joint socket

3.8 fitting
<gutter> angle, outlet, stop end or double socket/spigot joint union for use with gutters

3.9 fitting
<pipe> shoe, offset (double bend), bend, branch, loose socket or hopper head for use with pipes

3.10 gutter
open channel casting or extrusion of defined profile which evacuates rainwater from the roof area

NOTE One end of the gutter is socketed or spigoted depending on the gutter type.

3.11 gutter brackets

3.11.1 gutter bracket
item for retaining/supporting a gutter or pipe on a building

3.11.2 fascia bracket
gutter bracket suitable for fixing to a vertical surface which runs parallel to the gutter

3.11.3 side rafter bracket
gutter bracket suitable for fixing to the side of a roofing rafter

3.11.4 top rafter bracket
gutter bracket suitable for fixing to the top of a roofing rafter

3.11.5 rise and fall bracket
gutter bracket assembly for fixing into masonry below the gutter, which provides height adjustment via a vertical threaded bar connected to the gutter supporting cradle

3.12 joint
connection between the ends of gutters, fittings or pipes

3.13 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

3.14 pipe
extrusion of uniform bore tube, straight in axis, having a cast socketed end

NOTE The cast socketed end allows pipes to be jointed together.

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

4 Dimensions

4.1 General

4.1.1 Gutters and gutter fittings

The dimensions of gutters and gutter fittings shall conform to:

a) Annex A, for half round and beaded half round gutters;

b) Annex B, for Victorian ogee gutters;

c) Annex C, for moulded ogee gutters.

All other dimensions shall be as specified by the manufacturer.

NOTE 1 Typical examples of types of gutter fittings are given in Annex D (half round and beaded half round), Annex E (Victorian ogee) and Annex F (moulded ogee).

NOTE 2 Typical examples of gutter brackets are given in Annex G.

4.1.2 Pipes and pipe fittings

The dimensions of pipes shall conform to:

a) Annex H, for round pipes;

b) Annex I, for square and rectangular pipes.

Internal and external dimension tolerances of pipes and pipe fittings made of extruded aluminium shall conform to the relevant part of BS EN 755.

All other dimensions shall be as specified by the manufacturer.

NOTE Typical examples of types of pipe fittings are given in Annex J (round) and Annex K (square and rectangular).

4.2 Nominal size of pipes and pipe fittings

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

a) DN 65;

b) DN 75;

c) DN 100.

4.3 Declared and effective lengths of fittings

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

4.4 Gutter angles and angled pipe fittings

The extent to which gutter angles and pipe fittings are angled shall be as specified by the manufacturer and shall have a tolerance of ±0.5°.

4.5 Bolt holes

All gutters and fittings shall have a 15 mm × 7 mm longitudinal slot at one end and a 7 mm diameter hole at the other end (see Figure A.1, Figure A.2, Figure B.1 and Figure C.1).

4.6 Straightness

When tested in accordance with Annex L, gutters and pipes shall be straight with the following maximum deviations:

a) for gutters:
   1) 6.5 mm for open side gutters (see Figure L.1);
   2) 3.5 mm for closed side gutters (see Figure L.2);

b) for pipes:
   1) 1.5 mm per 1 m length;
   2) 3.0 mm per 2 m length;
   3) 4.5 mm per 3 m length.

5 Materials

5.1 Cast aluminium gutters and fittings

Cast aluminium gutters and fittings shall conform to BS EN 1559-1, BS EN 1559-4, BS EN 1774 and BS EN 1706:2010, grade AC-46100, AC-45200, AC-44100, AC-46500 or AC-42000.

5.2 Extruded aluminium gutters, pipes and fittings

Extruded aluminium gutters, pipes and fittings shall conform to BS EN 755-2, BS EN 755-3, BS EN 755-4, BS EN 755-5, BS EN 755-7, BS EN 755-9 and BS EN 12020-1, and shall be of the 6000 series, grade T4, T5 or T6, as specified in BS EN 755-2.

5.3 Accessories

Bolts, nuts, washers and screws for the assembly and fixing of gutters and pipes shall be manufactured from:

a) stainless steel conforming to BS EN ISO 3506-1, BS EN ISO 3506-4 or BS EN 10088-1, as appropriate; or

b) wrought aluminium and alloys conforming to BS EN 2070-1 and BS EN 603-2.

NOTE Guidance on corrosion at bimetallic contacts is given in PD 6484.

6 Surface conditions

NOTE All gutters, pipes and fittings that are factory coated with a decorative surface finish should be protected with appropriate packaging for transportation and site handling.

When visually inspected:

a) the internal and external surfaces of gutters shall be free from die joint lines and sink marks (recesses in the flatness of the surface) deeper than 0.4 mm and shall have a consistent surface texture;

b) the external surfaces of pipes shall be free from dents and shall have a consistent surface texture;

c) cast pipe joint sockets shall be free from die joint lines and shall have a consistent surface texture.

7 Coatings

7.1 General

7.1.1 Gutters and gutter fittings

Internal and external surfaces of gutters and gutter fittings shall have an even coating finish of architectural grade in accordance with BS 6496, BS EN 12206-1 or BS 4842.

7.1.2 Pipes and pipe fittings

Externally visible surfaces of pipes and pipe fittings shall have an even coating finish of architectural grade in accordance with BS 6496, BS EN 12206-1 or BS 4842.

7.2 Film thickness

When tested in accordance with BS EN 12206-1:

a) the average film thickness of the coating shall be not less than 50 µm;

b) the film thickness of the coating shall be not less than 40 µm at any point.

NOTE The control of the film thickness is technically difficult and is largely dependent on the geometry of the part to be coated. Therefore, it might not always be possible to ensure any given maximum thickness whilst maintaining a minimum film.

8 Fitting connections and fixings

8.1 Pipe sockets

Pipe sockets shall be cast and permanently fitted to pipes or fittings by welding or other means capable of achieving a watertight seal and supporting the full weight of the pipe.

Ears to pipe sockets or fittings shall have 8 mm Ø bore fixing holes.

NOTE Loose pipe sockets with or without ears can also be supplied for on-site fitting to off cuts of pipe.

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8.2 Gutter joints

Gutters lengths shall have an integral jointing socket or spigot to one end of the gutter as shown in Annex A, Annex B and Annex C, as appropriate.

The mating face of the gutter socket or spigot shall have either cast or formed one or more raised dimples to a height of not less than 2 mm and not more than 3 mm, such that a thickness of sealant is maintained within the joint, when the two faces are bolted together.

NOTE It is recommended that manufacturers provide advice to purchasers on durable joint sealants for jointing both painted and unpainted aluminium gutters, and that they supply jointing instructions.

8.3 Gutter brackets

8.3.1 General

Gutter brackets shall be one of the following types:

a) rise and fall;

b) side and top rafter arm;

c) fascia.

NOTE Typical examples of gutter brackets are shown in Annex G.

When fitted at the manufacturer's recommended spacings and tested in accordance with BS EN 1462:2004, Annex B, gutter brackets shall be capable of supporting a load of 750 N.

8.3.2 Fixing holes

Brackets for fixing to a vertical background shall be cast aluminium and have at least two horizontally opposed 7 mm Ø bore fixing holes. If two vertically slotted holes are provided for fixing adjustment, an additional 7 mm Ø hole shall be provided for a locking screw fixing to the background.

Victorian ogee and moulded ogee gutters shall be supplied with 12 mm × 7 mm horizontal holes positioned 20 mm below the rear top edge of the gutter at not less than 685 mm centres to enable the gutter to be:

a) screw-fixed directly to the fascia, thus securing the gutter against wind lift when the gutter is supported by fascia brackets;

b) screw fixed with a direct fix spacer between the rear face of gutter and fascia when supported without fascia brackets.

8.3.3 Lugs

Brackets for half round and beaded half round gutters (see Annex A) shall have lugs to the top of the supporting cradle to retain the gutter against wind lift while allowing the gutter to move freely from side to side within the brackets.

*NOTE Brackets for Victorian ogee and moulded ogee gutters (see Annex B and Annex C) do not have gutter top retaining lugs (see **8.3.2**).*

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8.3.4 Rise and fall brackets and side and top rafter arm brackets

In order to ensure resistance to corrosion and stabilization against the effects of electrolytic corrosion, rise and fall brackets and side and top rafter arm brackets shall be manufactured from one of the following types of steel:

a) austenitic stainless steel conforming to BS EN 10088-2 or BS EN 10088-3; or

b) electro-plated or galvanized mild steel, which;

   1) does not corrode when subjected to a salt spray test of at least 350 h in accordance with BS EN ISO 9227; and

   2) has an additional paint coating in accordance with BS 6496, BS EN 12206-1 or BS 4842.

9 Marking

Gutters, pipes and all fittings shall be legibly marked with the following information:

a) the number and date of this British Standard [1)];

b) the nominal size;

c) if applicable, the angle of the fitting;

d) a mark to identify the manufacturer.

NOTE Markings may be either integrally cast onto a visible surface or inwardly stamped.

[1)] Marking BS 8530:2010 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 the claim is solely the claimant's responsibility. Such a declaration is not to be confused with third-party certification of conformity.

Annex A (normative) Dimensions of half round and beaded half round gutters and gutter fittings

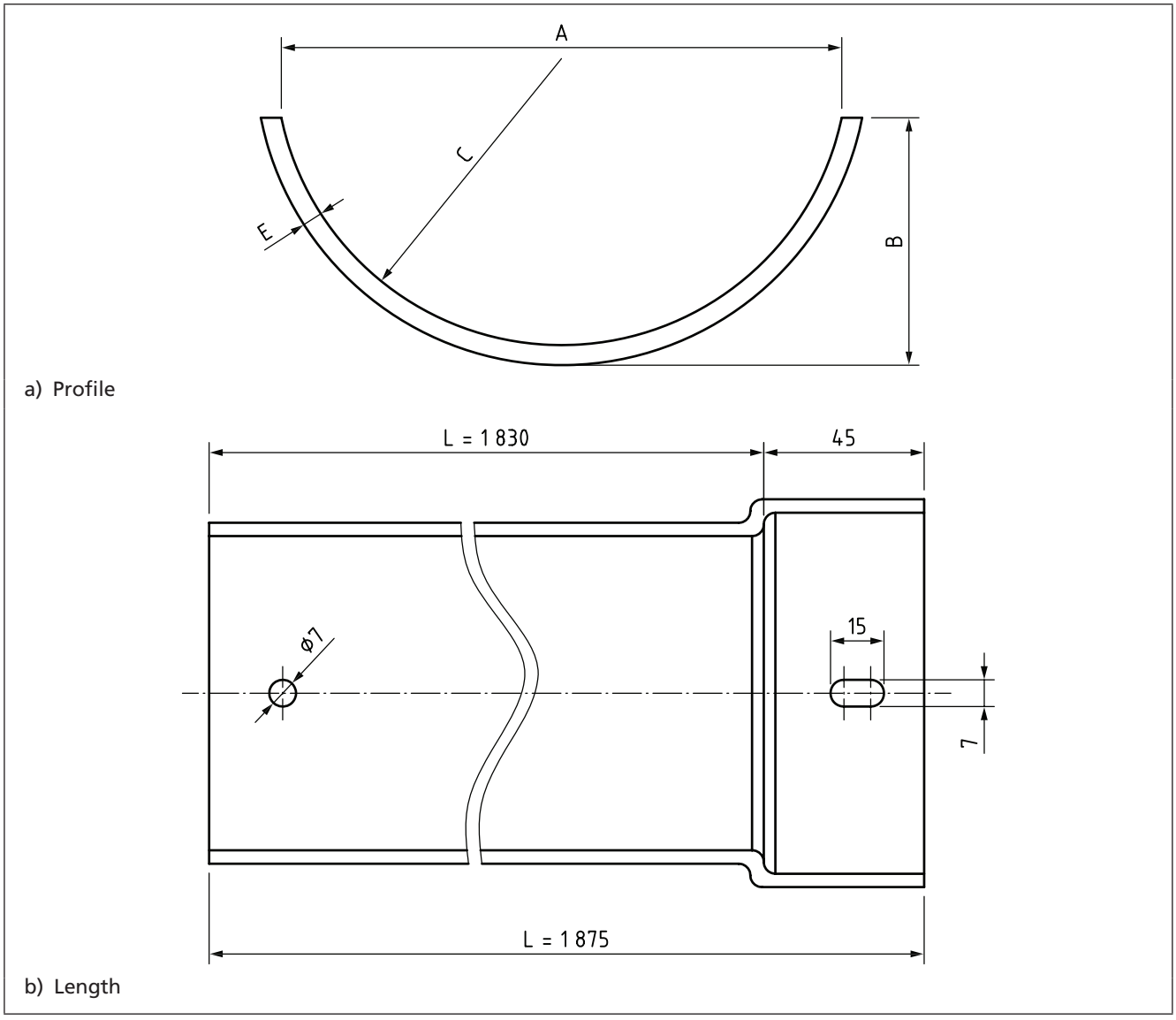
A.1 Half round gutters and gutter fittings

The dimensions of half round gutters and gutter fittings shall be in accordance with Table A.1 and Figure A.1.

Table A.1 **Half round gutter dimensions**
Dimensions in mm

Nominal size	Internal width	Depth	Radius	Thickness
	A	B	C	E
100 (4")	100.0 ±2.0	47.0	50.0	4.0 ±1.0
115 (4½")	113.0 ±2.0	52.0	57.0	4.0 ±1.0
125 (5")	125.0 ±2.0	60.0	63.5	4.0 ±1.0
150 (6")	150.0 ±2.0	71.0	76.0	4.0 ±1.0

Figure A.1 **Half round gutter profile and length**



A.2 Beaded half round gutters and gutter fittings

The dimensions of beaded half round gutters and gutter fittings shall be in accordance with Table A.2 or Table A.3, as appropriate, and Figure A.2.

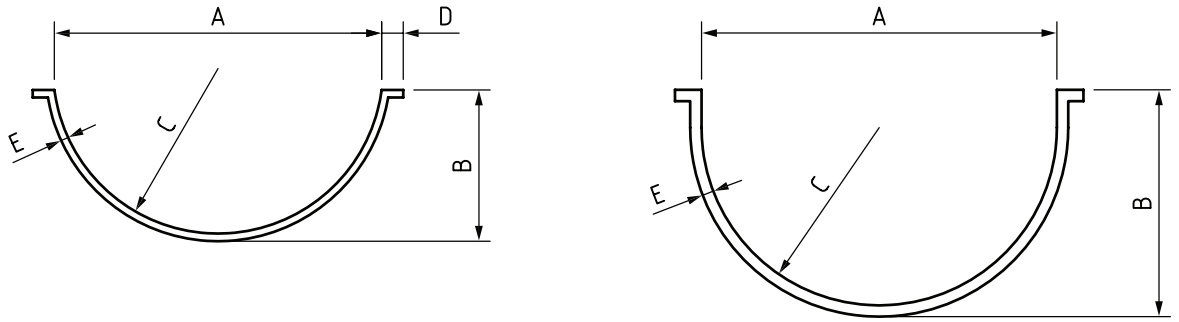
Table A.2 **Beaded half round gutter dimensions**
Dimensions in mm

Nominal size	Internal width	Depth	Radius	Bead width	Thickness
	A	B	C	D	E
115 (4½")	114.5 ±2.0	52.0	58.0	8.0	4.0 ±1.0
125 (5")	125.0 ±2.0	60.0	65.0	8.0	4.0 ±1.0

Table A.3 **Deep beaded half round gutter dimensions**
Dimensions in mm

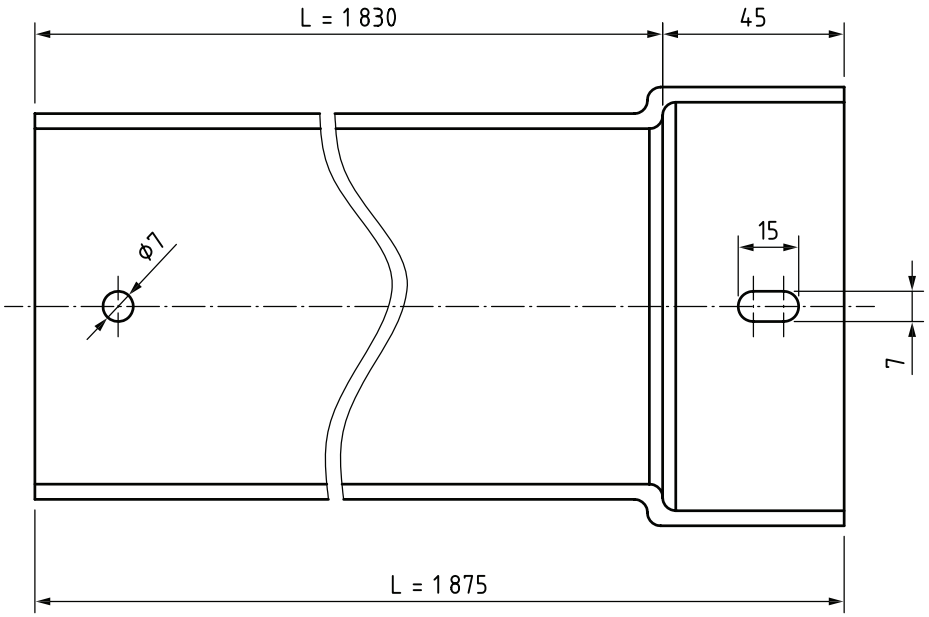
Nominal size	Internal width	Depth	Radius	Bead width	Thickness
	A	B	C	D	E
115 (4½")	114.5 ±2.0	88.0	68.0	9.0	4.0 ±1.0

Figure A.2 **Beaded half round gutter profile and length**



a) Beaded half round gutter profile

b) Deep beaded half round gutter profile



c) Length

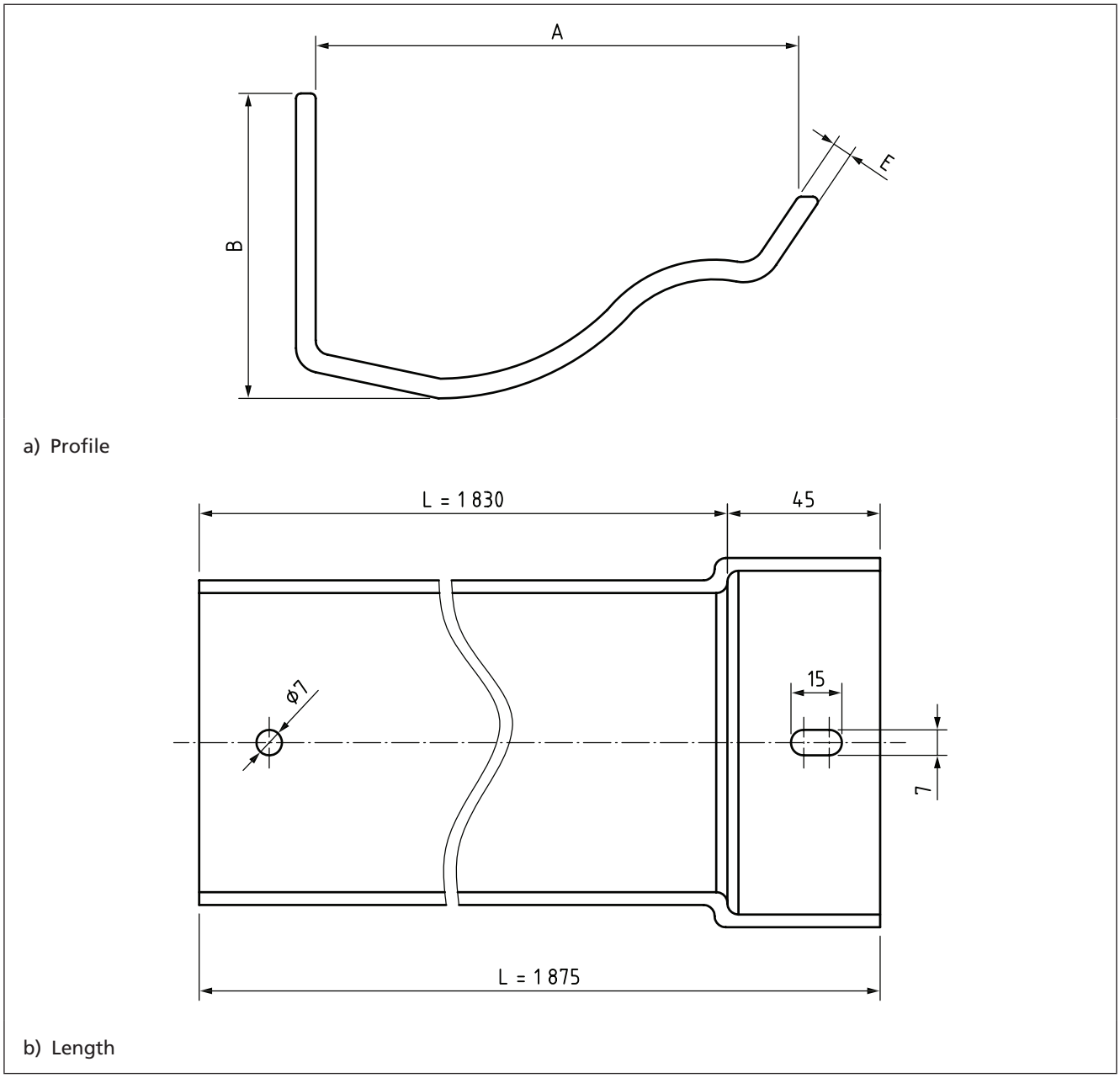
Annex B (normative) Dimensions of Victorian ogee gutters and gutter fittings

The dimensions of Victorian ogee gutters and gutter fittings shall be in accordance with Table B.1 and Figure B.1.

Table B.1 **Victorian ogee gutter dimensions**
Dimensions in mm

Nominal size	Internal width	External depth	Thickness
	A	B	E
100 (4")	101.0 ±2.0	56.0	4.0 ±1.0
115 (4½")	114.5 ±2.0	61.5	4.0 ±1.0
125 (5")	127.5 ±2.0	67.5	4.0 ±1.0

Figure B.1 **Victorian ogee gutter profile and length**



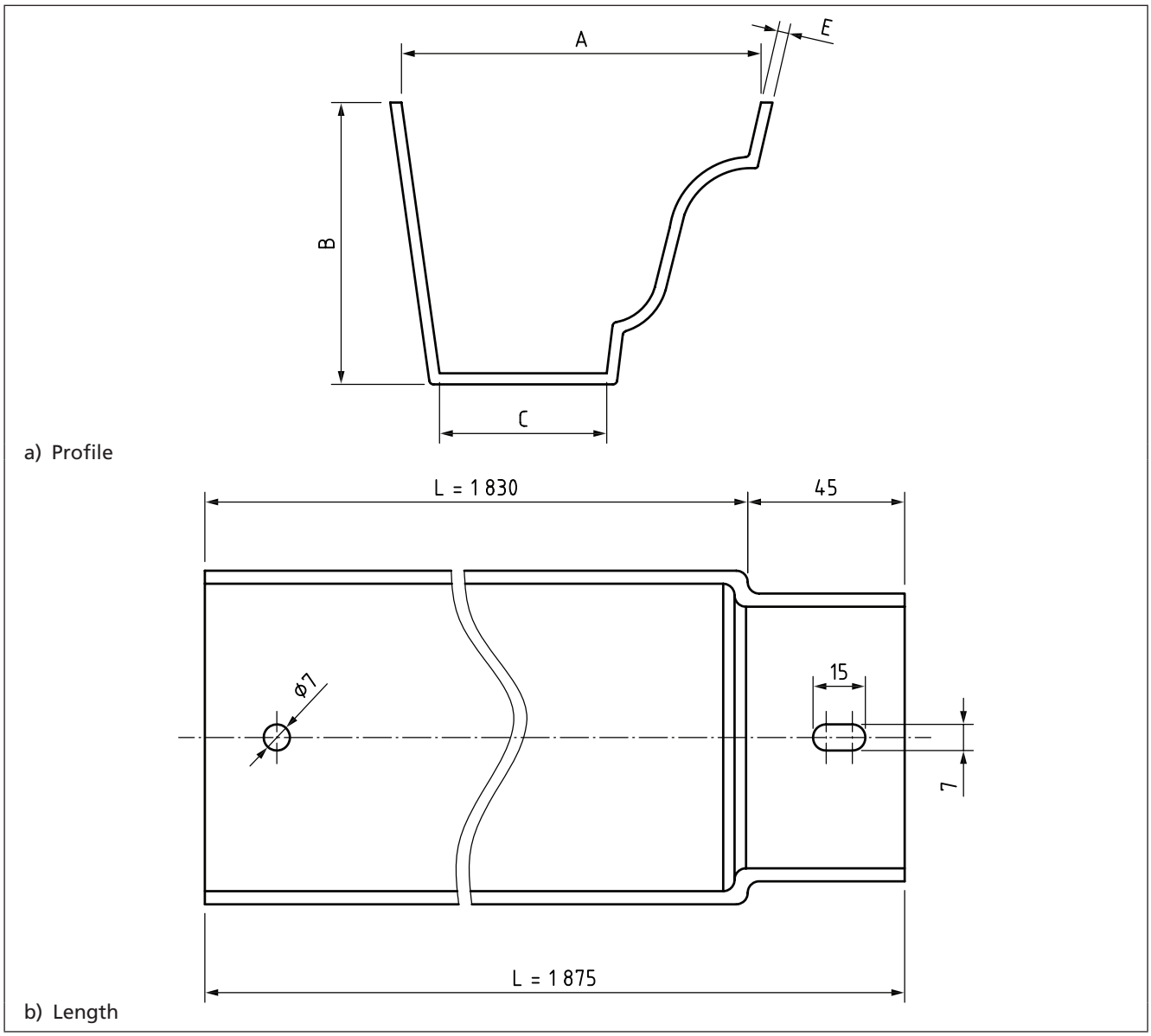
Annex C (normative) Dimensions of moulded ogee gutters and gutter fittings

The dimensions of moulded ogee gutters and gutter fittings shall be in accordance with Table C.1 and Figure C.1.

Table C.1 **Moulded ogee gutter and fitting spigot dimensions**
Dimensions in mm

Nominal size	Internal width	Depth	Base	Thickness
	A	B	C	E
100 × 75 (4" × 3")	101.0 ±2.0	76.0	53.0	4.0 ±1.0
125 × 100 (5" × 4")	132.5 ±2.0	102.0	62.5	4.0 ±1.0
150 × 100 (6" × 4")	152.0 ±2.0	102.0	76.0	4.0 ±1.0

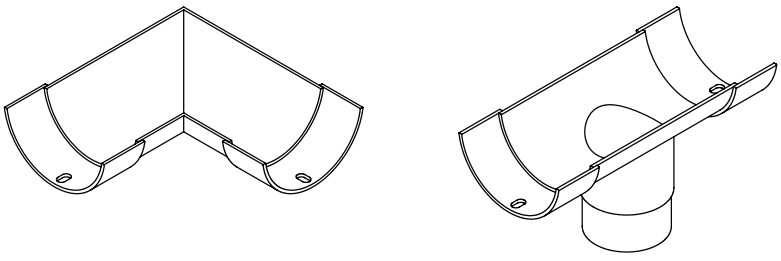
Figure C.1 **Moulded ogee gutter profile and length**



Annex D (informative) Typical fittings for half round and beaded half round gutters

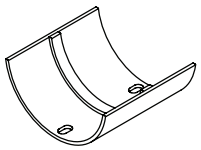
Typical fittings for half round and beaded half round gutters are shown in Figure D.1.

Figure D.1 **Examples of typical fittings for half round and beaded half round gutters**

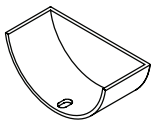


a) Angle (internal and external angles can be either 90° or 135°)

b) Running outlet



c) Loose union

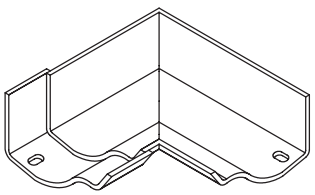


d) Stop ends (internal for socket; external for spigot)

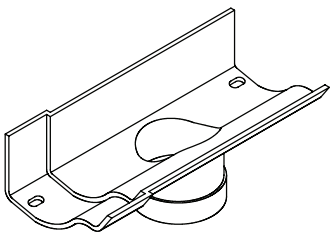
Annex E (informative) Typical fittings for Victorian ogee gutters

Typical fittings for Victorian ogee gutters are shown in Figure E.1.

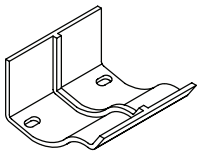
Figure E.1 **Examples of typical fittings for Victorian ogee gutters**



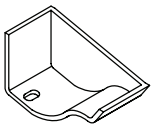
a) Angle (internal and external angles can be either 90° or 135°)



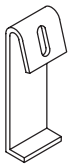
b) Outlet



c) Loose union



d) Stop ends (internal for socket; external for spigot)

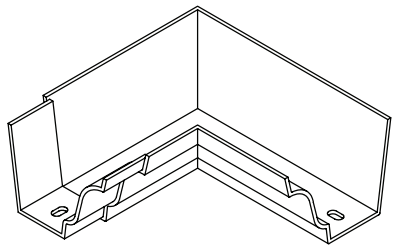


e) Direct fix spacer

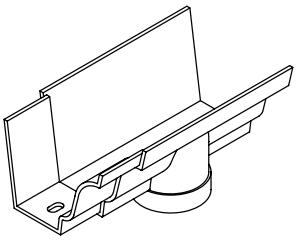
Annex F (informative) Typical fittings for moulded ogee gutters

Typical fittings for moulded ogee gutters are shown in Figure F.1.

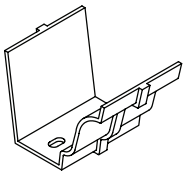
Figure F.1 **Examples of typical fittings for moulded ogee gutters**



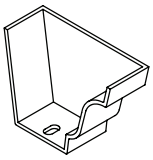
a) Angle (internal and external angles can be either 90° or 135°)



b) Outlet



c) Loose union



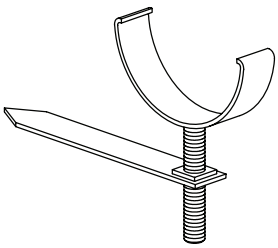
d) Stop ends (internal for socket; external for spigot)

e) Direct fix spacer

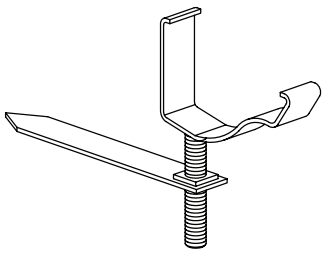
Annex G (informative) Typical gutter and pipe support brackets

Typical gutter and pipe support brackets are shown in Figure G.1, Figure G.2, Figure G.3 and Figure G.4.

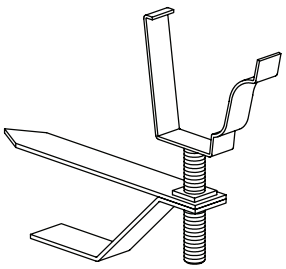
Figure G.1 **Examples of typical rise and fall brackets**



a) Half round and beaded half round

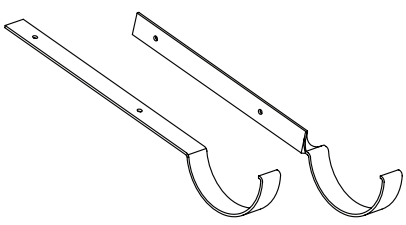


b) Victorian ogee

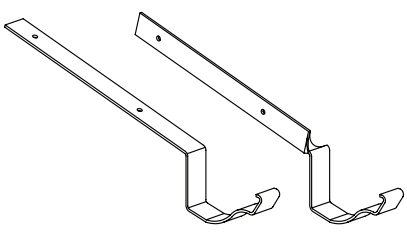


c) Moulded ogee

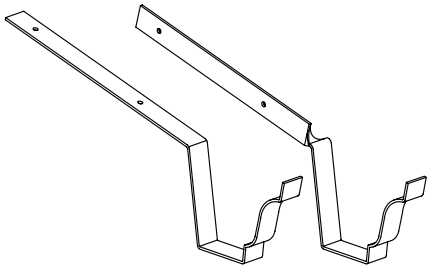
Figure G.2 **Examples of typical side and top rafter arm brackets**



a) Half round and beaded half round



b) Victorian ogee



c) Moulded ogee

Figure G.3 **Examples of typical fascia brackets**

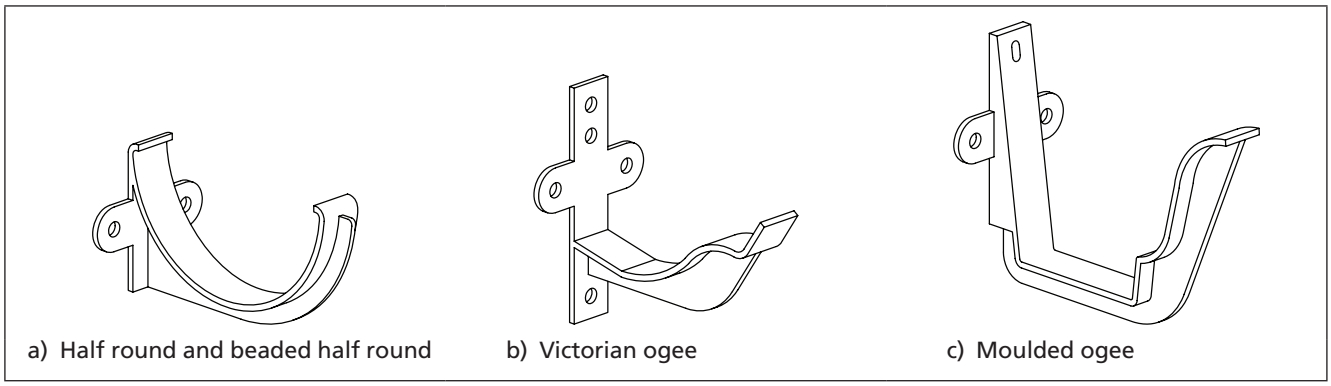
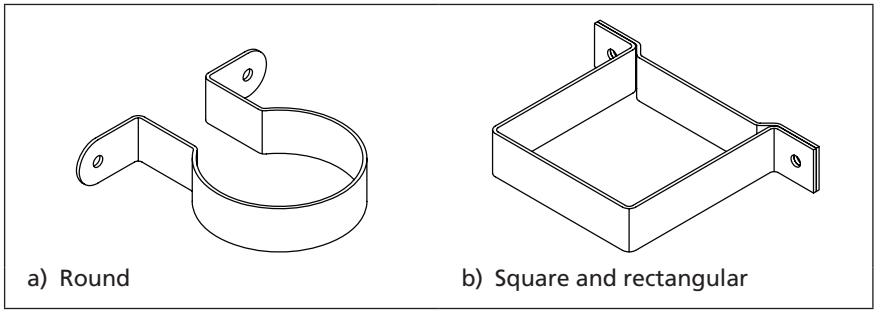


Figure G.4 **Examples of typical pipe clips**



Annex H (normative) Dimensions of round pipes

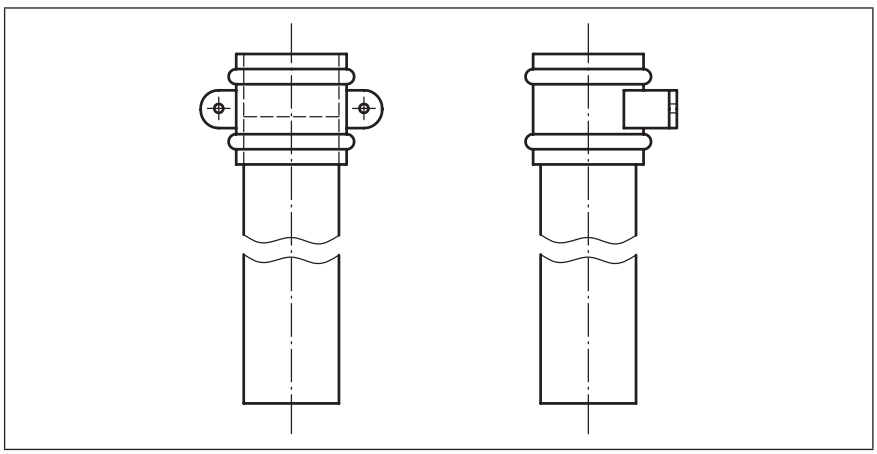
The dimensions of round pipes shall be in accordance with Table H.1.

NOTE Typical sockets for round pipes are shown in Figure H.1.

Table H.1 **Dimensions of round pipes**
Dimensions in mm

Nominal size (DN)	Internal diameter (min.)	External diameter (max.)	Wall thickness (min.)
65	60.24	63.5	1.63
75	72.94	76.2	1.63
100	98.34	101.6	1.63

Figure H.1 **Example of typical eared round pipe sockets**



Annex I (normative) Dimensions of square and rectangular pipes

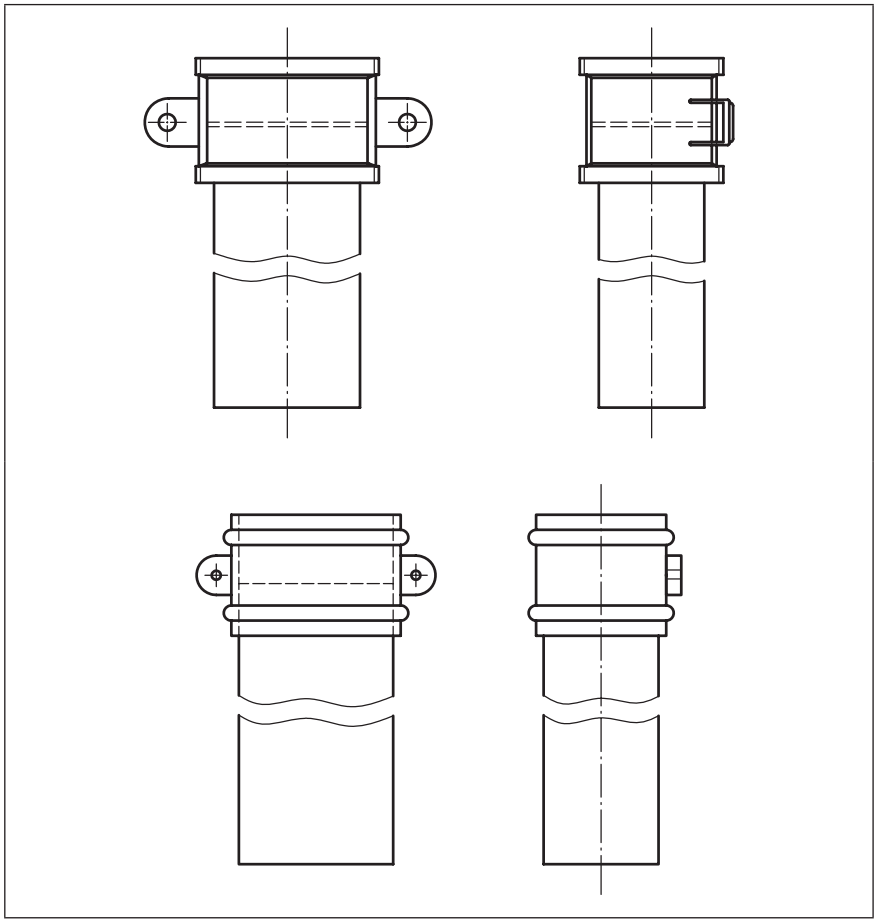
The dimensions of square and rectangular pipes shall be in accordance with Table I.1.

NOTE Typical fittings for square and rectangular pipes are shown in Figure I.1.

Table I.1 **Dimensions of square and rectangular pipes**
Dimensions in mm

Nominal size (DN)	Internal dimensions (min.)	External dimensions (max.)	Wall thickness (min.)
75 × 75	68.8 × 68.8	72 × 72	1.6
100 × 75	98.4 × 73	101.6 × 76.2	1.6
100 × 100	97.94 × 97.94	101.6 × 101.6	1.83

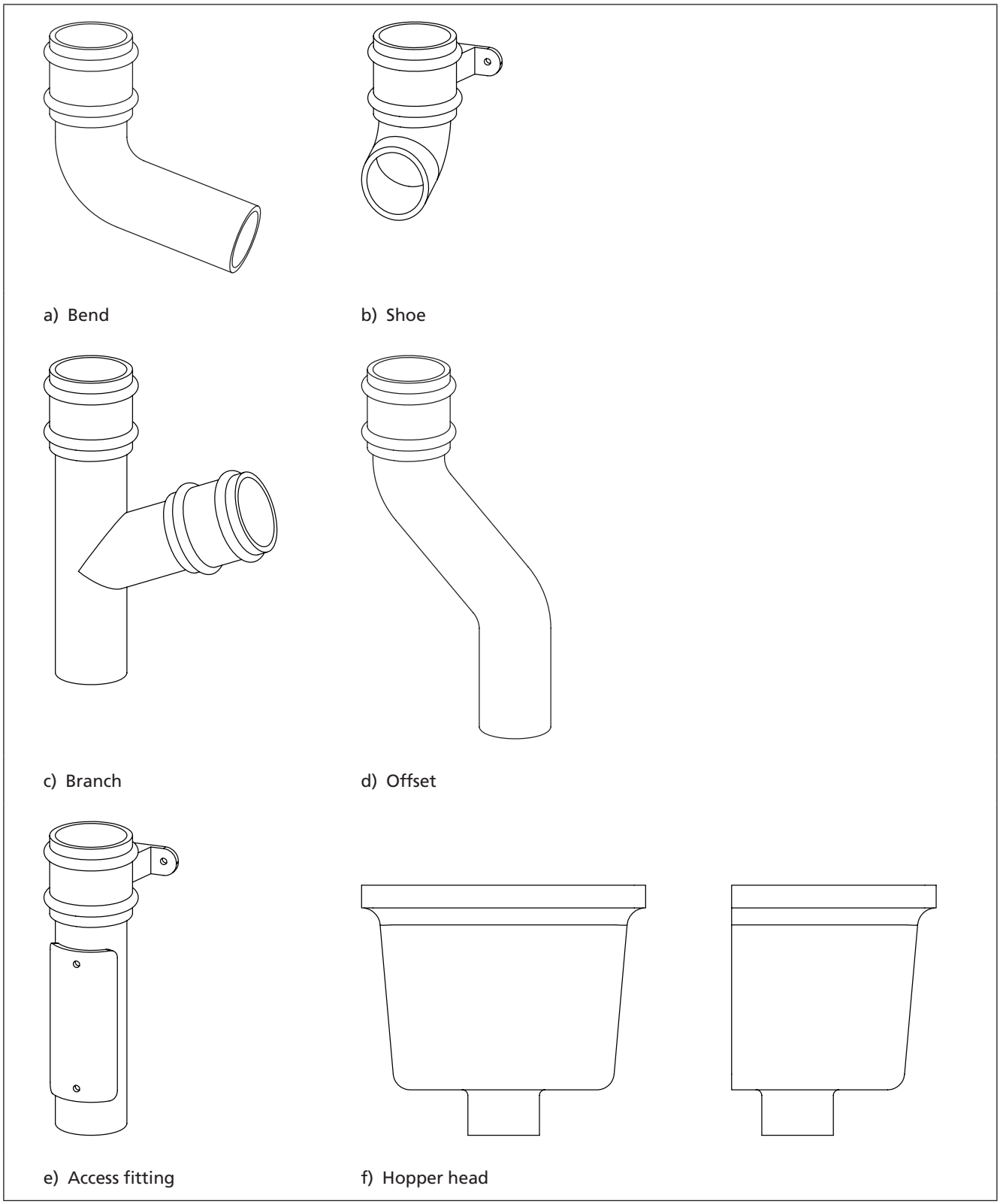
Figure I.1 **Examples of typical square and rectangular pipe sockets**



Annex J (informative) Typical fittings for round pipes

Typical fittings for round pipes are shown in Figure J.1.

Figure J.1 **Examples of typical fittings for round pipes**



Annex K (informative) Typical fittings for square and rectangular pipes

Typical fittings for square and rectangular pipes are shown in Figure K.1.

Figure K.1 **Examples of typical fittings for square and rectangular pipes**

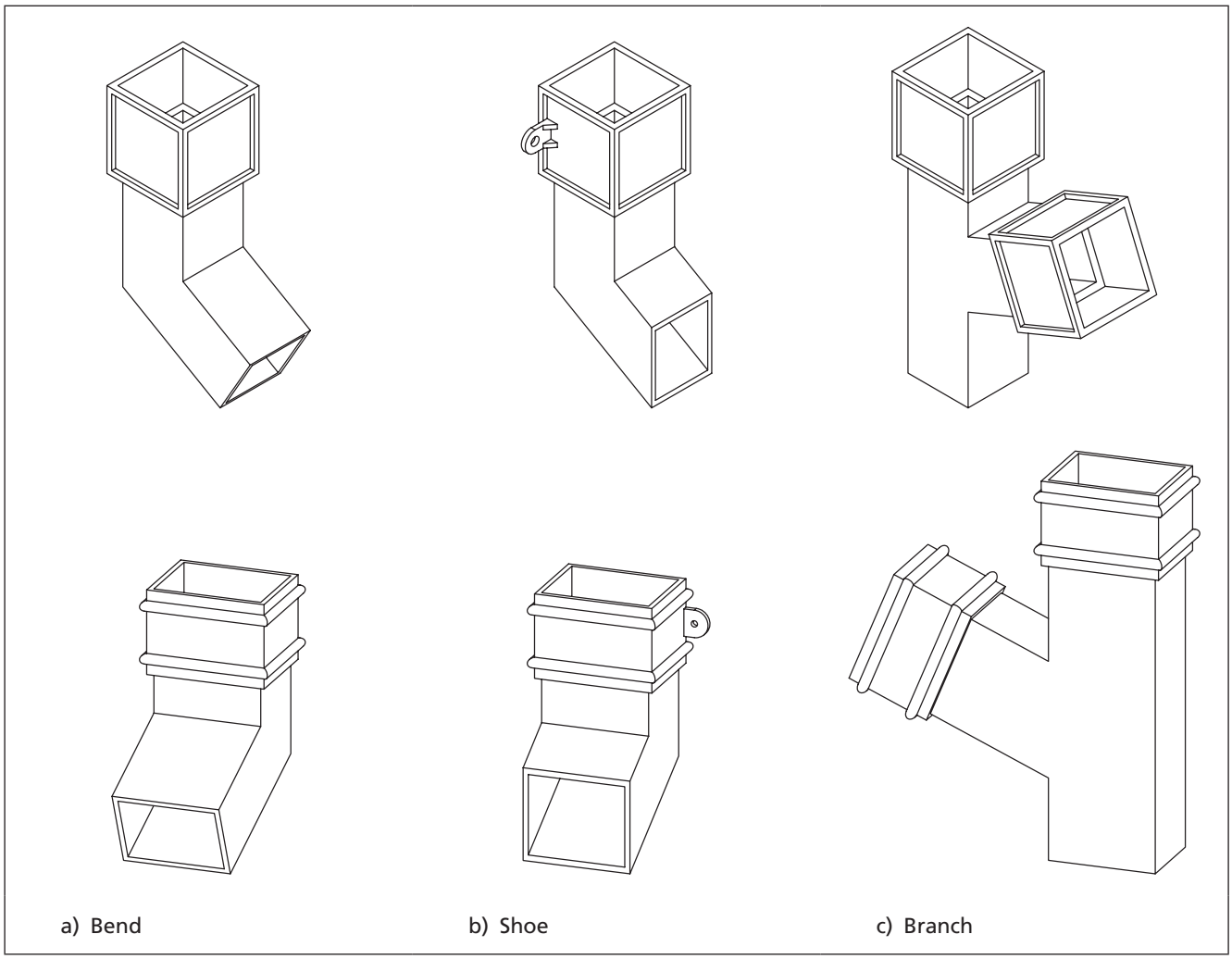
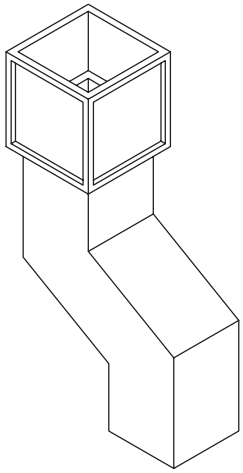
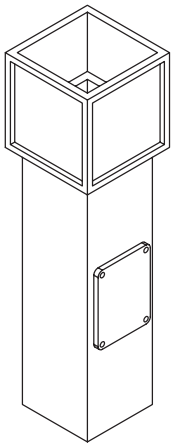
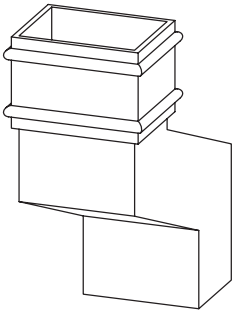
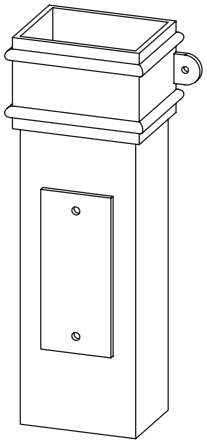


Figure K.1 **Examples of typical fittings for square and rectangular pipes** *(continued)*



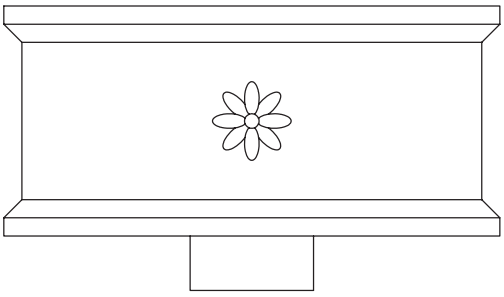


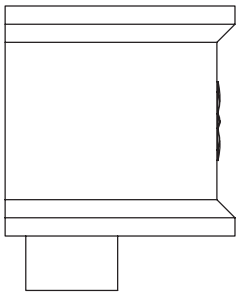




d) Offset

e) Access fitting





f) Hopper head

Annex L (normative) Measuring straightness

L.1 Gutters

The gutter shall be placed with the open sides on a flat, level surface (see Figure L.1). Any gap along the length of the gutter shall be measured.

The gutter shall then be rotated through 90° on the flat, level surface (see Figure L.2). Any gap along the length of the gutter shall be measured.

The maximum deviation in straightness shall be determined.

The test shall be repeated for each edge of the gutter.

Figure L.1 **Open side gutter straightness**

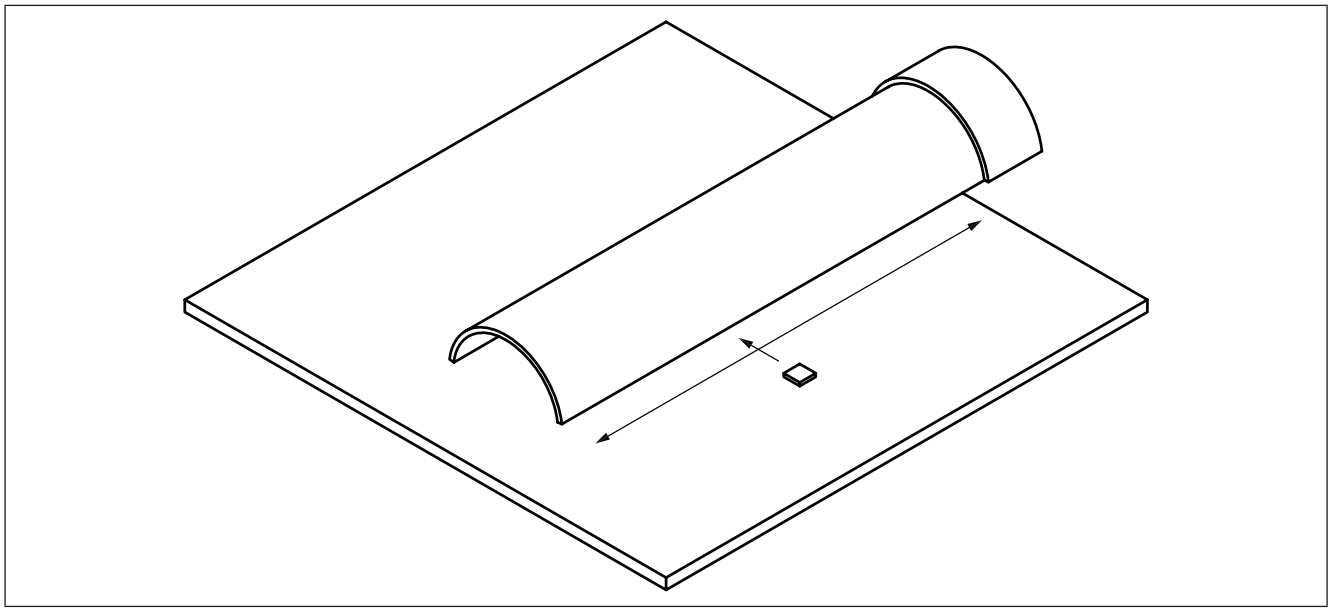
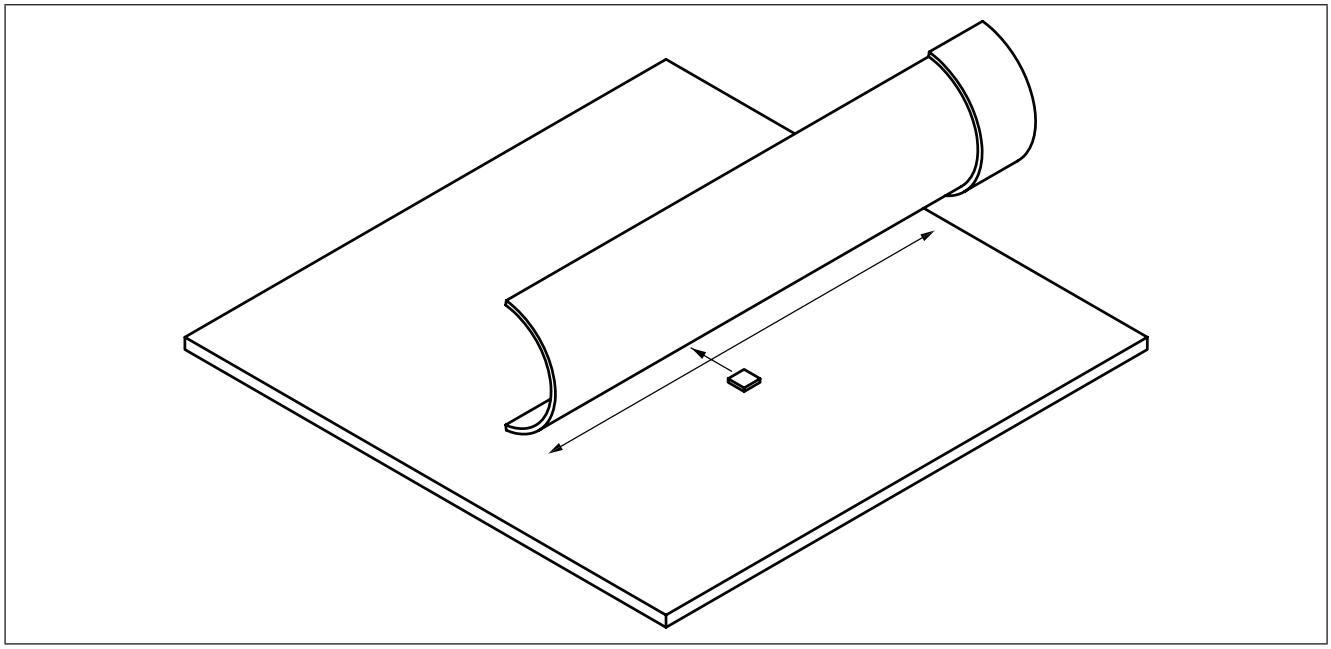


Figure L.2 **Closed side gutter straightness**



L.2 Pipes

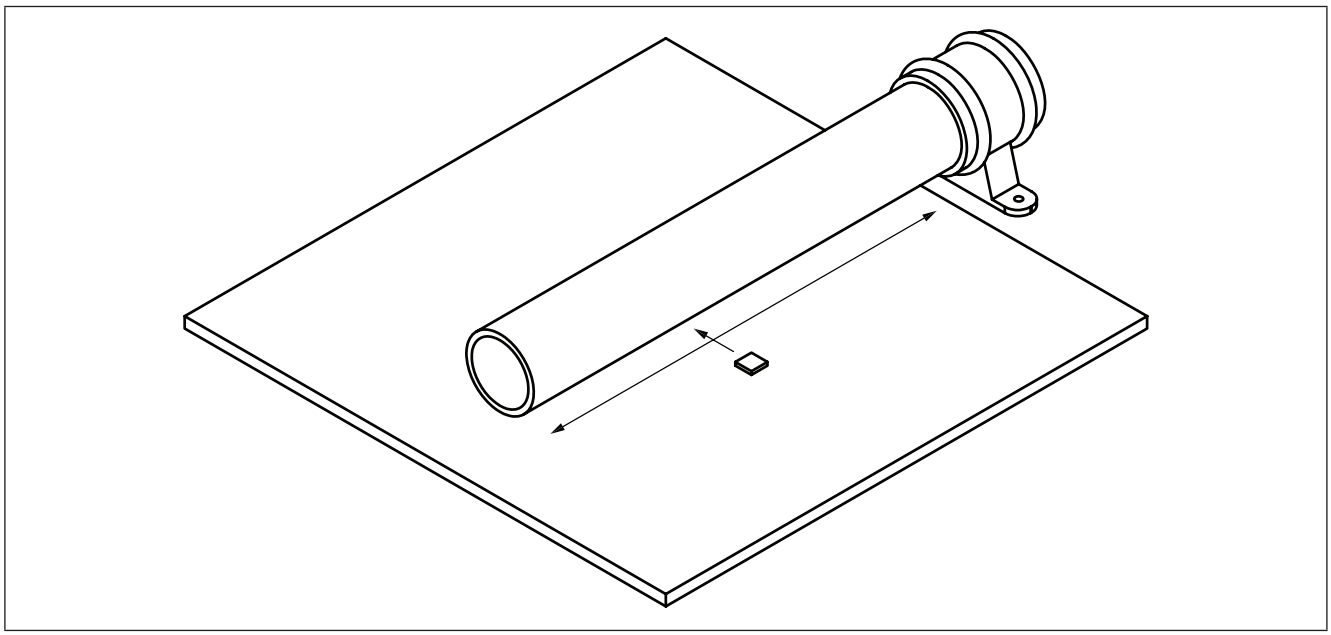
Round pipe shall be placed on a flat, level surface in accordance with Figure L.3 and rolled along that surface for the complete circumference of the pipe. Any deviation in straightness along the length of the pipe shall be measured.

Square or rectangular pipe shall be placed with one side down onto the flat surface and any deviation in straightness along the length of the pipe shall be measured. The test shall be repeated on the three remaining sides.

In both instances, the maximum deviation in straightness shall be determined.

NOTE The socket should not be included in this test.

Figure L.3 **Pipe straightness**



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BS EN 612, *Eaves gutters with bead stiffened fronts and rainwater pipes with seamed joints made of metal sheet*[2)]

PD 6484, *Commentary on corrosion at bimetallic contacts and its alleviation*

[2)] Referred to in the foreword only.

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