भारतीय मानक

Indian Standard

IS 3989 : 2024

अपकेन्द्री ढले (स्पन) के लोहे के स्पिगट तथा सॉकेट, पाइप, फिटिंग्स तथा सहायक उपकरण — विशिष्टि

(चौथा पुनरीक्षण)

Centrifugally Cast (Spun) Iron Spigot and Socket Pipes, Fittings and Accessories — Specification

(Fourth Revision)

ICS 77.140.75; 91.140.80

भारतीय मानक ब्यूरो
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February 2024 **Price Group 11**

Pig Iron and Cast Iron Sectional Committee, MTD 06

FOREWORD

This Indian Standard (Fourth Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Pig Iron and Cast Iron Sectional Committee had been approved by the Metallurgical Engineering Division Council.

This standard was first published in 1967 and subsequently revised in 1970, 1984 and 2009. While reviewing this standard in the light of the experience gained during these years, the Committee decided to revise it to bring in line with the present manufacturing and trade practices being followed in the country in this field.

As the construction activities have advanced with fast, easy and improved technology in place, it is obvious and certain to accommodate the requirements in building drainage system codes and specifications for products. Also, the construction and development of high-rise residential buildings are the latest trend and have the designs demanding higher diameter sizes. Hence, to provide practical solutions with respect to actual site usage for drainage system, higher diameter sizes of DN 250, DN 300 and DN 400 pipes, fittings and accessories are introduced in this revision of the standard.

Accordingly, in this revision, following changes are made:

a) Title and scope of the standard have been modified with respect to **1.1**, for better clarity amongst customers for its specific uses, scope and point of discharge;

b) All the amendments issued to third revision to this standard have been incorporated;

c) Clause **2** on references have been modified. Since, no manufacturer in India and abroad is using ductile iron for manufacturing of these pipes, fittings and accessories, hence IS 1865 : 1991 for iron castings with spheroidal or nodular graphite that is ‘ductile iron’ has been deleted from the references;

d) Clause **7** on sizes and mass has been modified by deleting ‘mass’ and incorporating additional sizes of DN 250, DN 300 and DN 400 pipes, fittings and accessories. Accordingly, the related clauses have been modified suitably;

e) Clause **8**, Table 1 has been modified by replacing ‘dimensions of sockets and spigots of pipe’ with ‘dimensions of sockets and spigots of pipe and fittings’;

f) Clauses **4.1**, **6** and **8** have been modified;

g) Clause **9** on coating has been modified by incorporating coating application and method of coating for more clarity on the subject and to avoid confusion. Minimum thickness of coating is specified to have proper protective surface coating for cast iron material. Also, retention period for sample was missing earlier, hence added; and

h) In Table **7**, word ‘Taper’ is replaced with ‘Reducer’.

The composition of the Committee responsible for the formulation of this standard is given in Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

CENTRIFUGALLY CAST (SPUN) IRON SPIGOT AND SOCKET PIPES, FITTINGS AND ACCESSORIES — SPECIFICATION

(Fourth Revision)

1 SCOPE

1.1 This standard covers the requirement for centrifugally cast (spun) iron spigot and socket pipes, fittings and accessories for discharge of soil, waste, rainwater and for ventilation.

1.2 These pipe and fittings are intended for non-pressure application, normally as gravity drainage systems, inside and outside discharge of building to a sewer, septic tank or to the point of disposal.

1.3 The fittings and accessories covered in this standard shall be manufactured by sand casting method.

2 REFERENCES

The standards given below contain provisions which through reference in this text, constitute provision of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of these standards:

IS No.	*Title*
IS 210 : 2009	Grey iron castings — Specification (*fifth revision*)
IS 1387 : 1993	General requirements for the supply of metallurgical materials (*second revision*)
IS 1500 (Part 1) : 2019/ ISO 6506-1 : 2014	Metallic materials — Brinell hardness test: Part 1 Test method (*fifth revision*)
IS 5519 : 1979	Deviations for untoleranced dimensions and mass of grey iron castings (*first revision*)

3 SUPPLY OF MATERIAL

General requirements relating to the supply of material shall be as laid down in IS 1387.

4 MATERIALS AND MANUFACTURE

4.1 Cast iron used for the manufacture of pipes, fittings and accessories shall conform to FG 150 grade (min), as specified in IS 210. The relative density of cast iron can be taken as 7.15 Kg/dm^3 for the purpose of calculation.

4.2 The pipes and fittings shall be stripped with all precautions necessary to avoid warping or shrinking defects. The pipes and fittings shall be free from defects, other than any unavoidable surface imperfections which result from the method of manufacture and which do not affect the use of the pipes and fittings. By agreement between the purchaser and the manufacturer minor defects may be rectified.

4.3 The pipes and fittings shall be capable of being cut with the tools normally used for installation. In case of dispute, they shall be considered acceptable provided the hardness of the external unmachined surface of pipes does not exceed 230 HBW when tested as per IS 1500 (Part 1).

4.3.1 In case hardness is higher than 230 HBW, a destructive test shall be carried out for observing the fracture which shall be grey (without chilling effect).

4.4 For joining of pipes and fittings, lead or joint sealant or rubber ring can be used.

4.4.1 In case of rubber joints, the spigot ends shall be suitably chamfered for smooth entry of pipes in the socket fitted with the rubber gasket.

4.5 Spigot beads are optional and may be provided to the fittings. Dimensions of the bead are at the discretion of the manufacturer.

5 HAMMER TEST

Each pipe, when tested for soundness by striking with a light hand hammer, shall emit a clear ringing sound.

6 HYDROSTATIC TEST

6.1 Each pipe and fitting shall be tested at factory for hydrostatic pressure of 0.07 MPa (N/mm^2). These shall not show any sign of leakage, sweating or other defects of any kind.

6.2 The pressure shall be applied internally and shall be steadily maintained for a period of 15 s.

6.3 Test shall be carried out before the application of surface coating by the manufacturer.

6.4 However, in the case of third party inspection of pipes and fittings, the test shall be carried out after the application of surface coating.

7 SIZES

7.1 The range of nominal diameter *DN* of pipes and fittings followed in this standard is as follows:

50 mm, 75 mm, 100 mm, 150 mm, 200 mm, 250 mm, 300 mm and 400 mm

NOTE — Nominal diameter, *DN*, is a number used to classify pipes and corresponds approximately to their internal diameter.

7.2 Design and dimensions of socket and spigot of pipes and fittings for nominal diameter specified are given in Table 1.

7.3 Nominal thickness and dimensions of uncoated pipes and fittings are given in Table 2 to Table 22.

8 TOLERANCES

8.1 Tolerances on external diameter of the barrel, internal diameter of the socket and the depth of the socket shall be as given below (*see* Fig. in Table 1):

Sl No.	*Dimensions*	*Nominal Diameter DN* (*mm*)	*Tolerance for Lead Joint/Pipe Joint Sealant* (*mm*)	*Tolerance for Rubber Joint* (*mm*)
(1)	(2)	(3)	(4)	(5)
i)	External diameter of barrel, *DE*	50, 75	± 3.0	+ 3.0 - 0
		100	± 3.5	+ 3.5 - 0
		150	± 4.0	+ 4.0 - 0
		200	± 4.0	+ 4.0 - 0
		250	± 4.0	+ 4.0 - 0
		300	± 5.0	+ 5.0 - 0
		400	± 5.0	+ 5.0 - 0
ii)	Internal diameter of socket, *DI*	50, 75, 100, 150, 200	± 3.0	+ 3.0 - 0
		250, 300, 400	± 4.0	+ 4.0 - 0
iii)	Depth of socket, *P*	All diameters	± 10.0	± 10.0

8.1.1 The maximum and minimum jointing space resulting from the tolerances shall be such that the jointing of the pipe and fittings is not adversely affected.

8.2 The tolerance on length of the pipes shall be ± 20 mm.

8.3 The tolerances on dimensions of fittings shall be as given below:

a) For sizes 50 mm, 75 mm, 100 mm, 150 mm and 200 mm:

Sl No.	*Type of Casting*	*Dimension*	*Tolerance* (*mm*)
(1)	(2)	(3)	(4)
i)	Bend pipes	*a*	+ 25 - 10
		b	+ 20 - 10
ii)	Branches with equal branch pipes	*a*	+ 25 - 10
		b	+ 25 - 10
iii)	Branches with unequal branch pipe	*L*	+ 30 - 20
iv)	S shape casting	*L*	+ 50 - 10
v)	Taper collars	*L*	+ 25 - 10
vi)	Others	*L*	+ 20 - 10

b) For sizes 250 mm, 300 mm and 400 mm:

Sl No.	*Type of Casting*	*Dimension*	*Tolerance* (*mm*)
(1)	(2)	(3)	(4)
i)	Bend pipes	*a*	+ 35 - 20
		b	+ 30 - 15
ii)	Branches with equal branch pipes	*a*	+ 35 - 20
		b	+ 35 - 20
		L	+ 40 - 25
iii)	Taper collars	*L*	+ 35 - 20
iv)	Others	*L*	+ 30 - 15

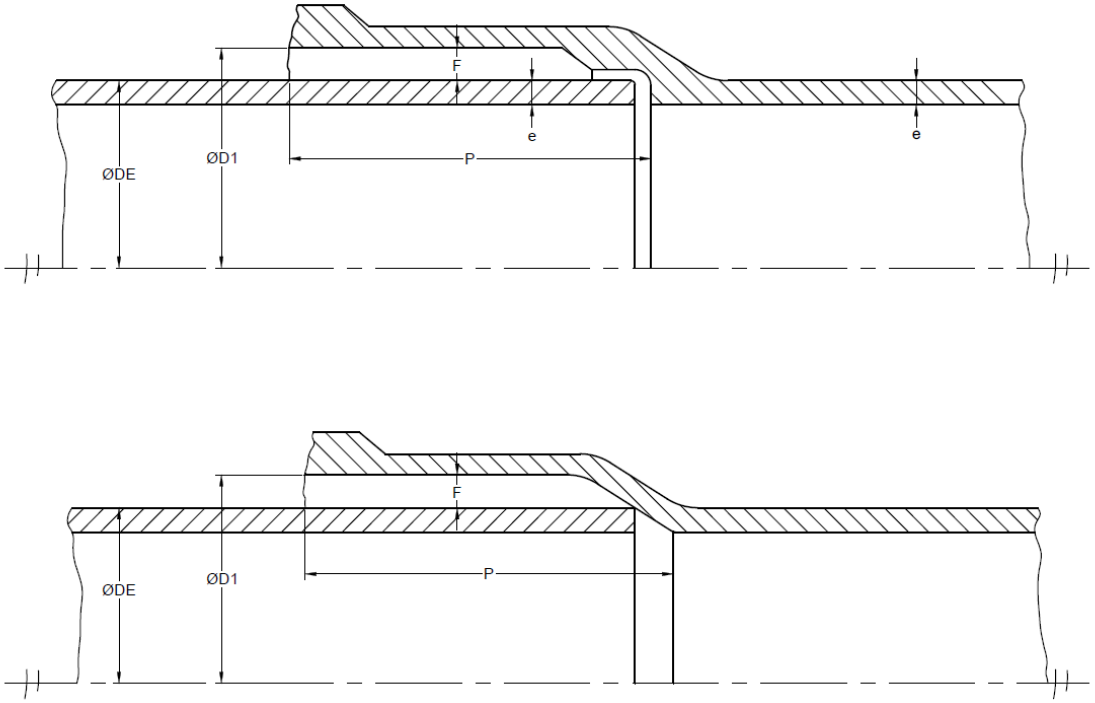
8.4 Tolerance on wall thickness shall be limited to 15 percent negative. No limit for plus tolerance is specified.

8.5 Untoleranced dimensions given in the standard are for guidance only.

Table 1 Dimensions of Socket and Spigot of Pipe and Fittings

[*Clauses* 7.2, 8.1, (*Note of Table* 2, *Table* 3, *Table* 4, *Table* 5, *Table* 6, *Table* 7, *Table* 9, *Table* 10, *Table* 13, *Table* 14, *Table* 15, *Table* 16, *Table* 17, *Table* 18, *Table* 19, *Table* 21 *and Table* 22)]

All dimensions in millimeters.

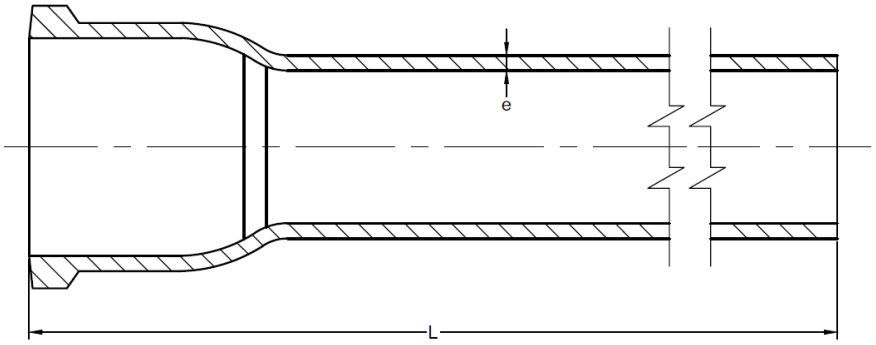


Sl No.	Nominal Diameter	Barrel		Socket		Joint Thickness
	DN	*e*	*DE*	*DI*	*P*	*F*
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	50	3.5	57	73	60	8.0
ii)	75	3.5	83	99	65	8.0
iii)	100	4.0	109	126	70	8.5
iv)	150	5.0	161	179	75	9.0
v)	200	6.0	212	242	85	15.0
vi)	250	6.0	262	302	95	20.0
vii)	300	7.0	314	364	105	25.0
viii)	400	9.0	418	488	115	35.0

Table 2 Nominal Thickness and Dimensions of Socket and Spigot Pipes

(*Clause* 7.3)

All dimensions in millimeters.



Sl No.	Nominal Diameter	Thickness	Length
	DN	*e*	*L*
(1)	(2)	(3)	(4)
i)	50	3.5	300 mm to 3 000 mm
ii)	75	3.5	300 mm to 3 000 mm
iii)	100	4.0	300 mm to 3 000 mm
iv)	150	5.0	300 mm to 3 000 mm
v)	200	6.0	300 mm to 3 000 mm
vi)	250	6.0	300 mm to 3 000 mm
vii)	300	7.0	300 mm to 3 000 mm
viii)	400	9.0	300 mm to 3 000 mm

NOTES

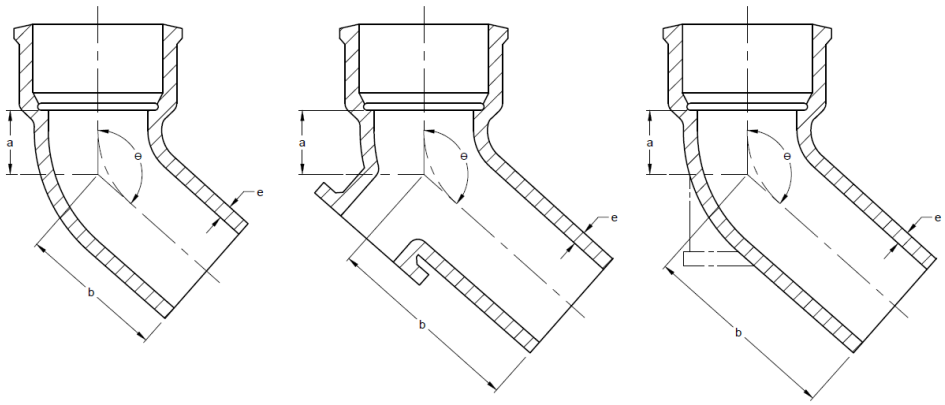
1 For socket and spigot dimensions, (*see* Table 1).

2 Pipes of intermediate lengths (L) from 300 mm to 3 000 mm can be produced and also can be obtained by cutting a longer pipe.

Table 3 Bends with and without Access Doors

(*Clause* 7.3)

All dimensions in millimeters.



Sl No.	Angle	Nominal Diameter	Dimensions		
	Θ	*DN*	*e*	*a*	*b*
(1)	(2)	(3)	(4)	(5)	(6)
i)	92.5º	50	3.5	65	123
		75	3.5	78	140
		100	4.0	91	157
		150	5.0	117	186
		200	6.0	165	285
		250	6.0	255	385
		300	7.0	340	410
		400	9.0	430	490
ii)	112.5º	50	3.5	52	110
		75	3.5	61	123
		100	4.0	71	137
		150	5.0	90	158
iii)	135º	50	3.5	41	94
		75	3.5	47	104
		100	4.0	53	114
		150	5.0	65	129
		200	6.0	80	206
		250	6.0	105	310
		300	7.0	119	350
		400	9.0	155	425

NOTES

1 For socket and spigot dimensions, (*see* Table 1).

2 For details of access door, (*see* Table 8). The centre of an access door when fitted, should be approx. Symmetrical with the centre line of the fitting and as near the intersection of the two axes as possible.

3 Width of base plate of heel rest should be two-thirds of diameter. Thickness should not be less than 6 mm.

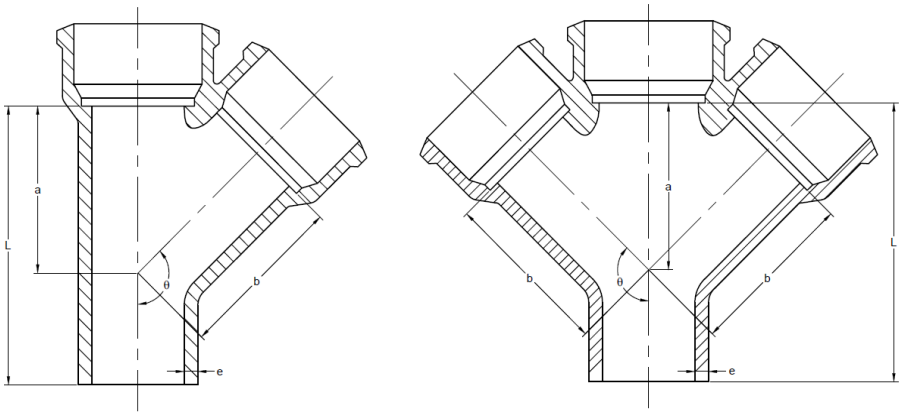
4 Thickness of web shall be not less than 4 mm from outside edge of the pipe.

5 In case of 135º bend to be supplied with door and heel rest, the dimension 'b' of 92.5º. Bend shall be applicable.

Table 4 Equal Branches with and without Access Door

(*Clause* 7.3)

All dimensions in millimeters.



Sl No.	Angle	Nominal Diameter	Dimensions			
	Θ	*DN*	*e*	*L*	*a*	*b*
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	92.5°	50	3.5	176	38	38
		75	3.5	207	52	52
		100	4.0	238	66	66
		150	5.0	294	93	93
		200	6.0	385	125	125
		250	6.0	475	160	160
		300	7.0	565	195	195
		400	9.0	695	258	258
ii)	112.5°	50	3.5	168	53	53
		75	3.5	200	72	72
		100	4.0	233	91	91
		150	5.0	293	130	130
iii)	135°	50	3.5	192	88	88
		75	3.5	233	119	119
		100	4.0	276	152	152
		150	5.0	355	216	216
		200	6.0	460	295	300
		250	6.0	600	390	390
		300	7.0	695	455	455
		400	9.0	870	595	595
		100	4.0	276	152	152

NOTES

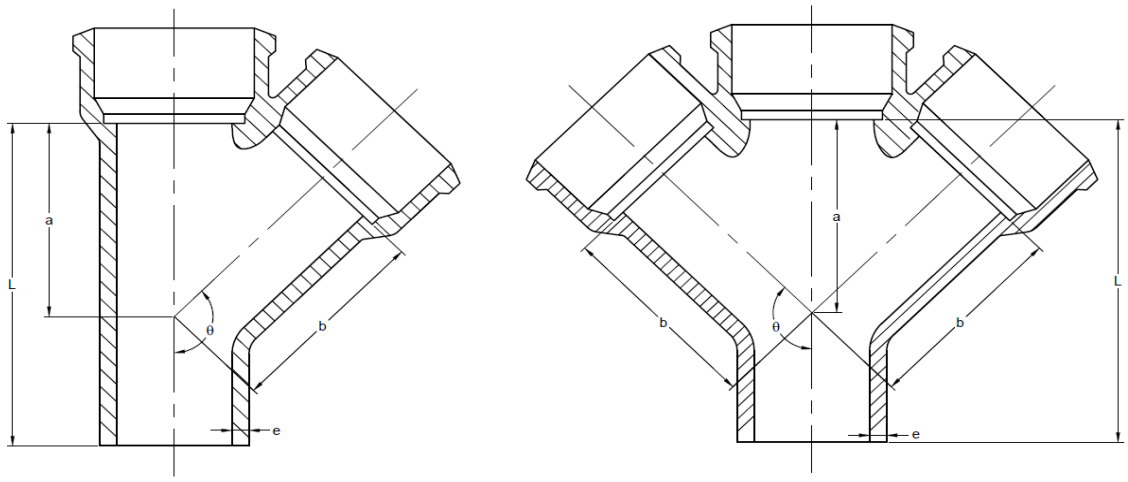
1 For socket and spigot dimensions, (*see* Table 1).

2 For details of access door, (*see* Table 8).

Table 5 Unequal Branches with and without Access Door

(*Clause* 7.3)

All dimensions in millimeters.



SINGLE BRANCH DOUBLE BRANCH

Sl No.	Angle Θ	Nominal Diameter *DN*		Dimensions			
				e	*L*	*a*	*b*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
i)	92.5°	75	50	3.5	181	39	51
		100	50	3.5	190	40	63
		100	75	4.0	211	52	65
		150	100	5.0	242	67	92
		200	100	6.0	325	100	160
		200	150	6.0	325	125	175
		250	150	6.0	385	132	187
		250	200	6.0	435	148	196
		300	150	7.0	398	135	212
		300	200	7.0	452	148	218
		300	250	7.0	502	170	220
		400	250	9.0	515	177	260
		400	300	9.0	585	210	275
ii)	112.5°	75	50	3.5	175	60	69
		100	50	3.5	285	70	85
		100	75	4.0	208	80	89
		150	100	5.0	241	105	123
iii)	135°	75	50	3.5	197	101	106
		100	50	3.5	210	115	125
		100	75	4.0	239	133	139
		150	100	5.0	283	179	190
		200	75	6.0	355	200	210
		200	100	6.0	355	230	250
		200	150	6.0	395	275	295
		250	150	6.0	420	285	305

Table 5 (*Concluded*)

Sl No.	Angle Θ	Nominal Diameter DN		Dimensions			
				e	L	a	b
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		250	200	6.0	505	335	355
		300	150	7.0	445	318	350
		300	200	7.0	531	365	380
		300	250	7.0	602	403	414
		400	150	9.0	463	372	410
		400	200	9.0	545	421	455
		400	250	9.0	623	465	480
		400	300	9.0	713	510	521

NOTES

1 For socket and spigot dimensions, (*see* Table 1).

2 For details of access door, (*see* Table 8).

9 COATING

9.1 Each pipe and fitting shall be coated in accordance with **9.1.1** to **9.1.5**.

9.1.1 Coating shall not be applied to any pipe, fitting and accessories, unless its surface is clean, dry and free from rust. The coating can be either hot applied or cold applied.

9.1.2 Unless otherwise agreed to between the purchaser and the manufacturer, all pipes, fittings and accessories shall be uniformly coated externally and internally with the same material. The method of coating can be by dipping or brushing or spraying. The mean thickness of coating shall not be less than 70 µm and the local minimum thickness shall not be less than 50 µm.

9.1.3 The coating material shall set rapidly with good adherence and shall not scale off.

9.1.4 Where the coating material has a tar, bitumen or similar base, it shall be smooth, tenacious and hard enough not to flow when exposed to a temperature of 65º C, but not so brittle at a temperature of 0º C as to chip off when scribbled lightly with a penknife. The retention period of sample at above temperature shall be up to 5 min.

9.1.5 In the case of pipes, fittings and accessories which are imperfectly coated or where coating does not set or conform to the qualities specified in **9.1.1** to **9.1.4**, the coating shall be removed and the pipes, or fittings or accessories recoated.

10 MARKING

10.1 Each pipe and fitting shall have cast, stamped or indelibly painted on it the following:

a) Manufacturer's name, initials or identification mark;

b) The nominal diameter;

c) The last two digits of the year of manufacture; and

d) Any other mark required by the purchaser.

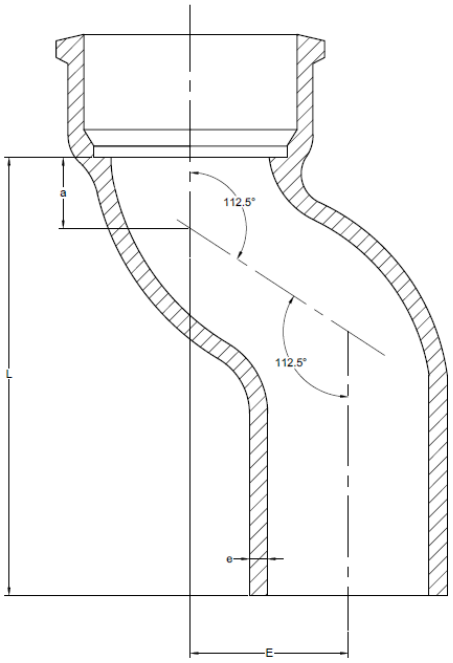
10.2 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations framed thereunder and the products may be marked with the Standard Mark.

Table 6 Off-Sets

(*Clause* 7.3)

All dimensions in millimeters.



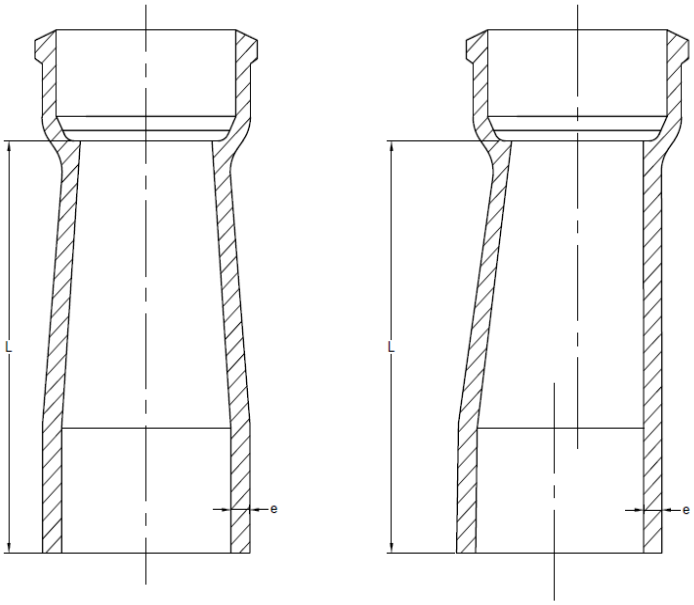
Sl No.	Off-set	Nominal Diameter	Dimensions		
	E	*DN*	*a*	*e*	*L*
(1)	(2)	(3)	(4)	(5)	(6)
i)	75	50	40	3.5	200
		75	45	3.5	225
		100	55	4.0	250
		150	75	5.0	275
ii)	115	50	40	3.5	200
		75	45	3.5	225
		100	55	4.0	250
		150	75	5.0	290
iii)	150	50	40	3.5	200
		75	45	3.5	225
		100	55	4.0	250
		150	75	5.0	300

NOTE — For socket and spigot dimensions, (*see* Table 1).

Table 7 Reducer

(*Clause* 7.3 *and Foreword*)

All dimensions in millimeters.



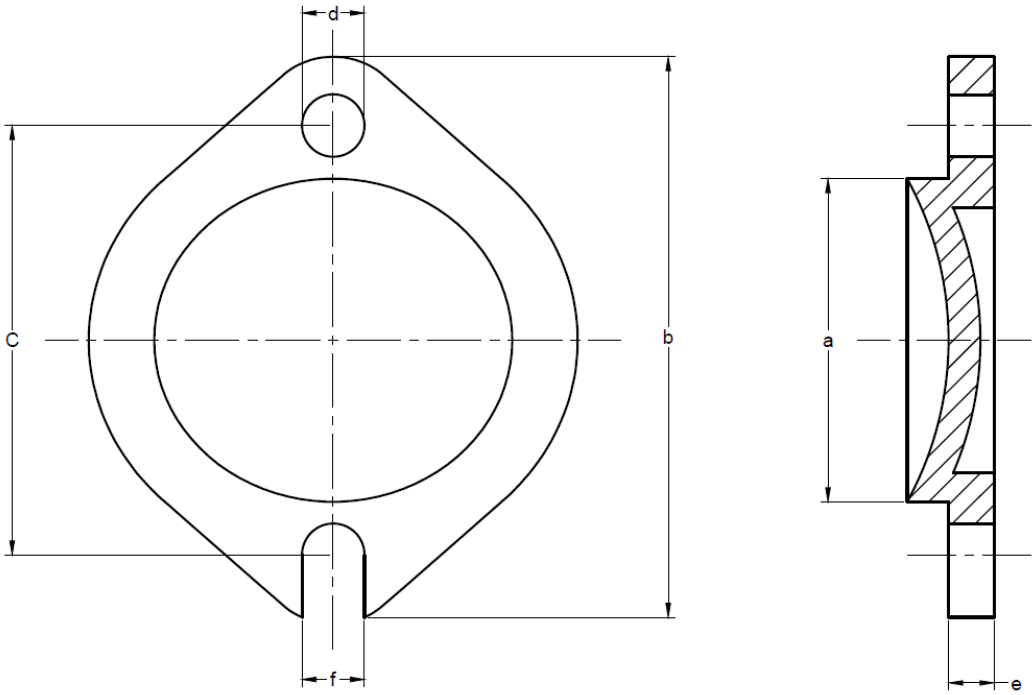
Sl No.	**Nominal Diameter**		**Dimensions**	
	Spigot *DN*	Socket *DN*	***e***	***l***
(1)	(2)	(3)	(4)	(5)
i)	75	50	3.5	200
ii)	100	50	4.0	200
iii)	100	75	4.0	200
iv)	150	100	5.0	200
v)	200	150	6.0	250
vi)	250	150	6.0	250
vii)	250	200	6.0	250
viii)	300	150	7.0	300
ix)	300	200	7.0	300
x)	300	250	7.0	300
xi)	400	200	9.0	300
xii)	400	250	9.0	300
xiii)	400	300	9.0	300

NOTE — For socket and spigot dimensions, (*see* Table 1).

Table 8 Access Door

[*Clause* 7.3, (*Note* 2 *of Table* 3, *Table* 4, *Table* 5 *and Table* 17)]

All dimensions in millimeters.



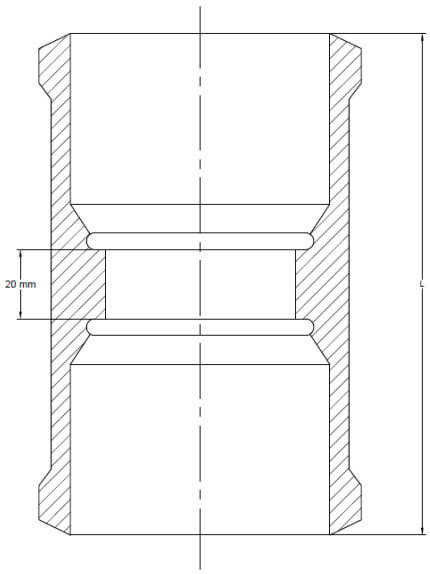
Sl No.	Nominal Diameter	Dimensions					
	DN	*e*	*a*	*b*	*c*	*d*	*f*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
i)	50	6	35	73	55.0	8	8
ii)	75	6	55	93	75.0	8	8
iii)	100	6	75	133	105.0	12	12
iv)	150	6	95	153	125.0	12	12

NOTE — Screws shall be of brass or cadmium plated steel and rubber gasket of minimum 3 mm thickness shall be provided for packing along with access door. Design of rubber gasket shall be at the sole discretion of manufacturer.

Table 9 Collars (Double Socket)

(*Clause* 7.3)

All dimensions in millimeters.



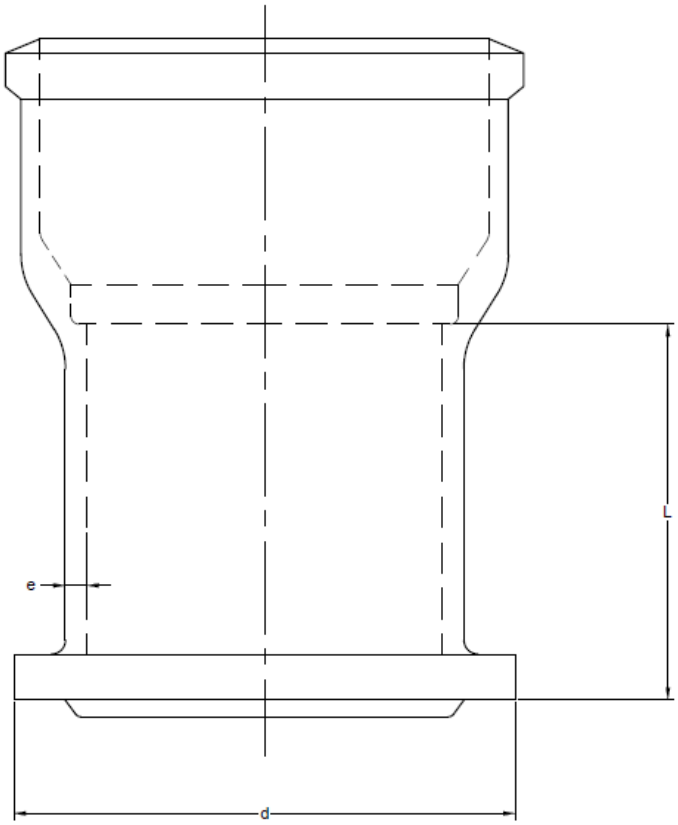
Sl No.	Nominal Diameter *DN*	*L*
(1)	(2)	(3)
i)	50	140
ii)	75	150
iii)	100	160
iv)	150	170
v)	200	195
vi)	250	220
vii)	300	240
viii)	400	280

NOTE — For socket and spigot dimensions, (*see* Table 1).

Table 10 Connectors (C.I. to Stoneware)

(*Clause* 7.3)

All dimensions in millimeters.



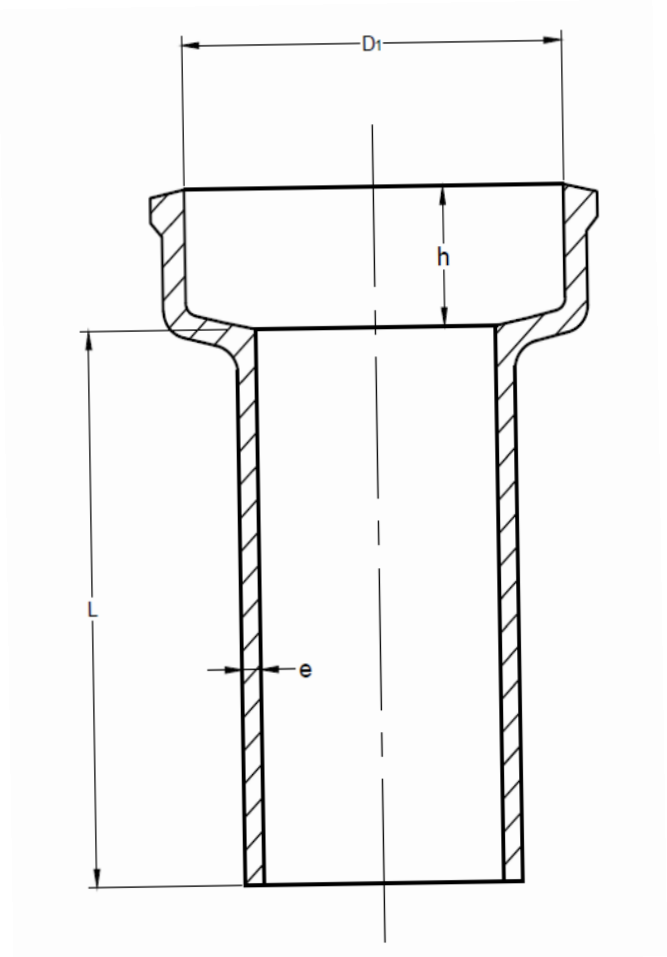
Sl No.	Nominal Diameter	Dimensions		
	DN	*L*	*d*	*e*
(1)	(2)	(3)	(4)	(5)
i)	100	100	145	4.0
ii)	150	100	200	5.0

NOTE — For socket and spigot dimensions, (*see* Table 1).

Table 11 Connectors (Stoneware to C.I.)

(*Clause* 7.3)

All dimensions in millimeters.

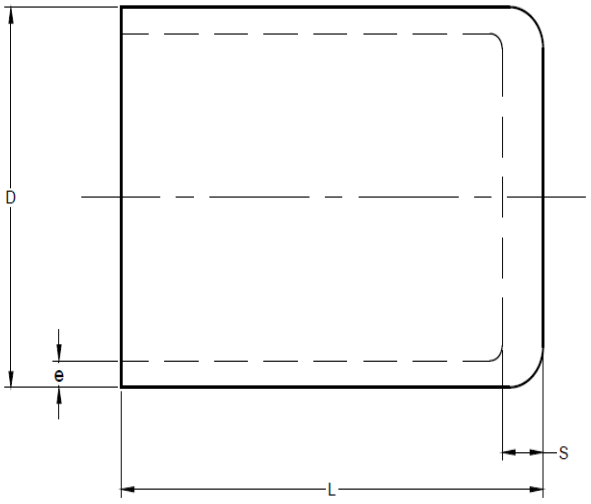


Sl No.	Nominal Diameter	Dimensions			
	DN	*e*	D_1	*h*	*L*
(1)	(2)	(3)	(4)	(5)	(6)
i)	100	4.0	160	60	230
ii)	150	5.0	220	70	270

Table 12 Connectors - Plug (Stopper)

(*Clause* 7.3)

All dimensions in millimeters.



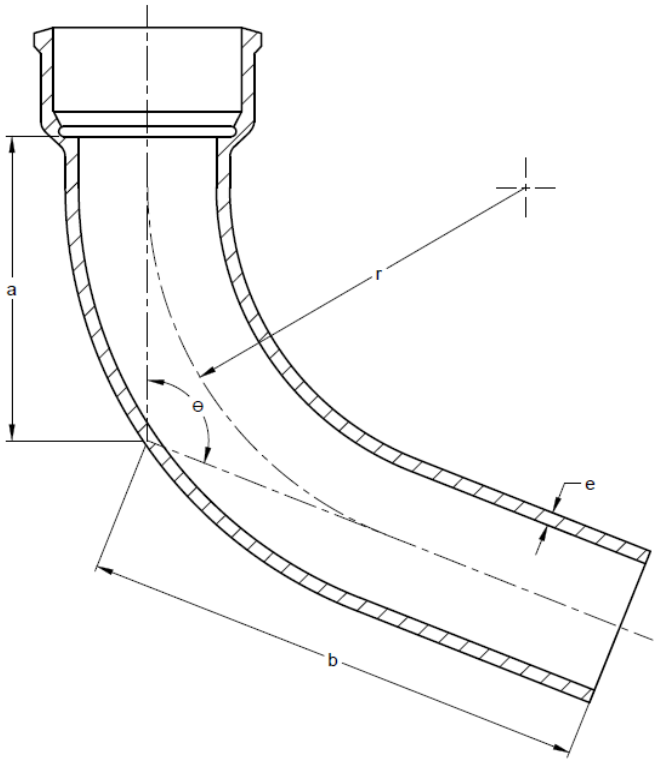
Sl No.	Nominal Diameter	Dimensions			
	DN	*e*	*S*	*D*	*L*
(1)	(2)	(3)	(4)	(5)	(6)
i)	50	3.5	7	57	75
ii)	75	3.5	7	83	80
iii)	100	4.0	8	109	85
iv)	150	5.0	8	161	90

NOTE — For tolerances on external diameter D, (*see* **8.1)**.

Table 13 Larger Radius Bends

(*Clause* 7.3)

All dimensions in millimeters.



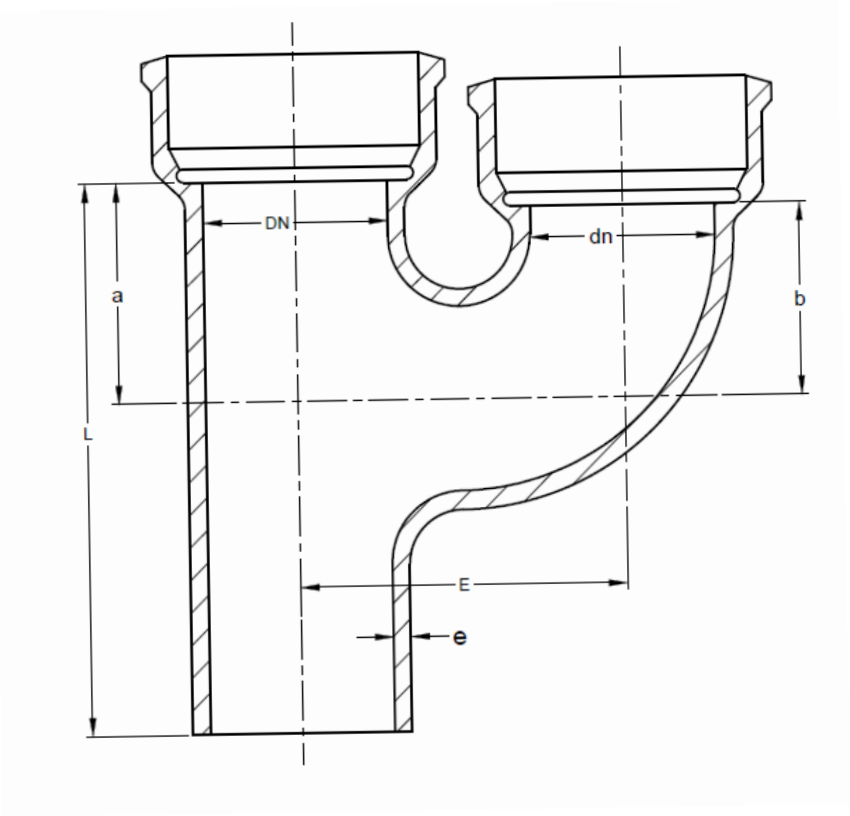
Sl No.	Angle	Nominal Diameter	Dimensions			
	Θ	*DN*	*e*	*a*	*b*	*r*
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	92.5º	75	3.5	210	292	190
		100	4.0	222	305	205
		150	5.0	248	330	230
ii)	112.5º	75	3.5	184	279	240
		100	4.0	190	292	250
		150	5.0	210	318	275
iii)	135º	75	3.5	159	260	325
		100	4.0	159	273	325
		150	5.0	159	298	325

NOTE — For socket and spigot dimensions, (*see* Table 1).

Table 14 Equal and Unequal Single Parallel Branches

(*Clause* 7.3)

All dimensions in millimetres.



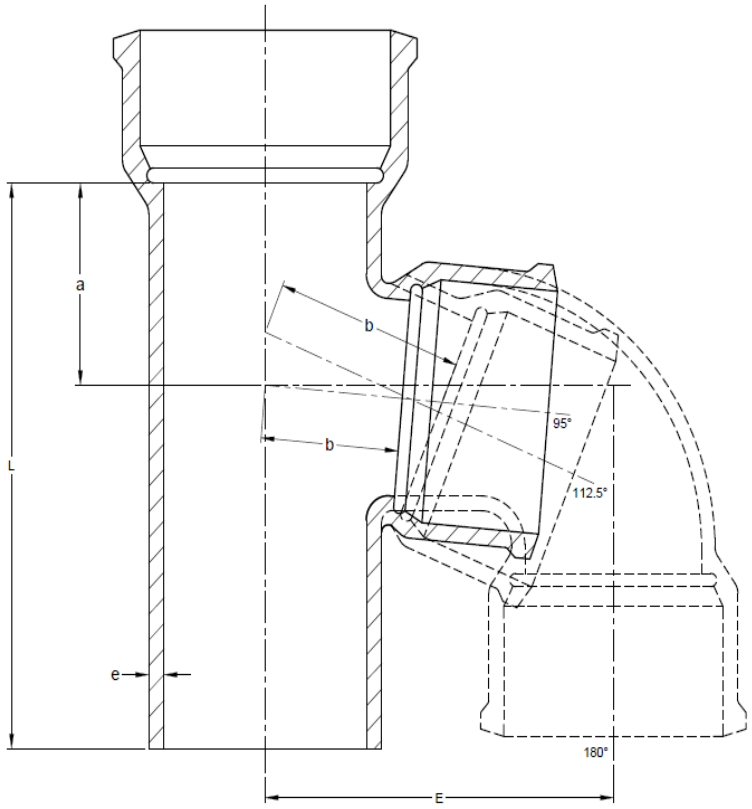
Sl No.	Nominal Diameter		Dimensions				
	Body *DN*	Branch *DN*	*e*	*L*	*E*	*a*	*b*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
i)	100	100	4.0	280	167	116	102
ii)	100	50	4.0	240	140	89	90

NOTE — For socket and spigot dimensions, (*see* Table 1).

Table 15 Equal and Unequal Inverted Branches Socket Type

(*Clause* 7.3)

All dimensions in millimetres.



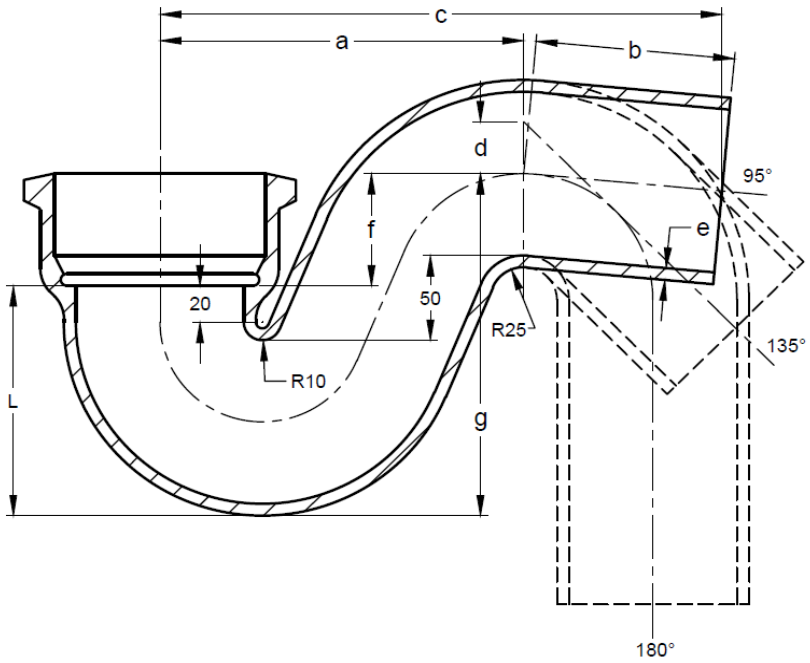
Sl No.	Angle	Nominal Diameter		Dimensions				
	Θ	Body *DN*	Branches *DN*	*a*	*b*	*E*	*L*	*e*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
i)	95°	100	100	98	66	—	276	4.0
		100	50	70	63	—	210	4.0
ii)	112.5°	100	100	79	91	—	276	4.0
		100	50	54	85	—	210	4.0
iii)	180°	100	100	98	102	167	276	4.0
		100	50	70	90	140	210	4.0

NOTE — For socket and spigot dimensions, (*see* Table 1).

Table 16 Traps

(*Clause* 7.3)

All dimensions in millimeters.



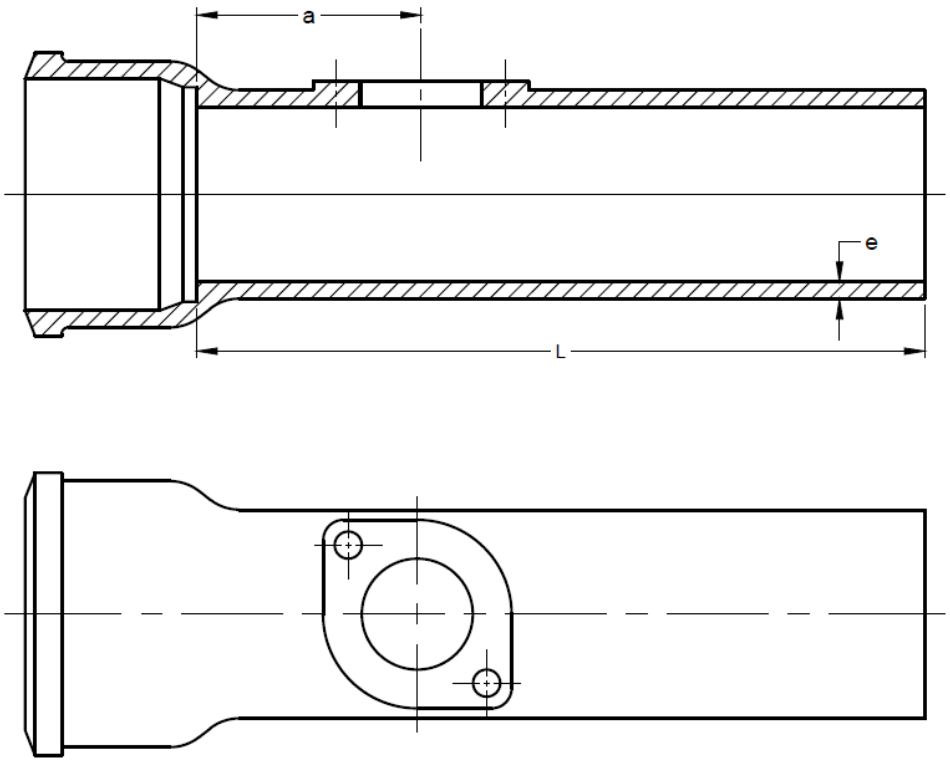
Sl No.	Angle	Nominal Diameter	Dimensions							
	Θ	*DN*	*e*	*a*	*b*	*c*	*d*	*L*	*f*	*g*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
i)	95º	50	3.5	137	99	236	—	86	47	133
		75	3.5	170	105	275	—	110	55	165
		100	4.0	214	116	330	—	135	71	206
		150	5.0	285	140	425	—	186	98	284
ii)	135º	50	3.5	137	131	228	21	86	47	133
		75	3.5	170	149	277	25	110	55	165
		100	4.0	214	175	338	32	135	71	206
		150	5.0	285	235	455	39	186	98	284
iii)	180º	50	3.5	137	125	189	—	86	47	133
		75	3.5	170	159	231	—	110	55	165
		100	4.0	214	184	291	—	135	71	206
		150	5.0	285	239	387	—	186	98	284

NOTE — For socket and spigot dimensions, (*see* Table 1).

Table 17 Straight Inspection Piece

(*Clause* 7.3)

All dimensions in millimetres.



Sl No.	Nominal Diameter	Dimensions		
	DN	*a*	*e*	*L*
(1)	(2)	(3)	(4)	(5)
i)	50	70	3.5	238
ii)	75	80	3.5	272
iii)	100	100	4.0	292
iv)	150	135	5.0	338
v)	200	170	6.0	390

NOTES

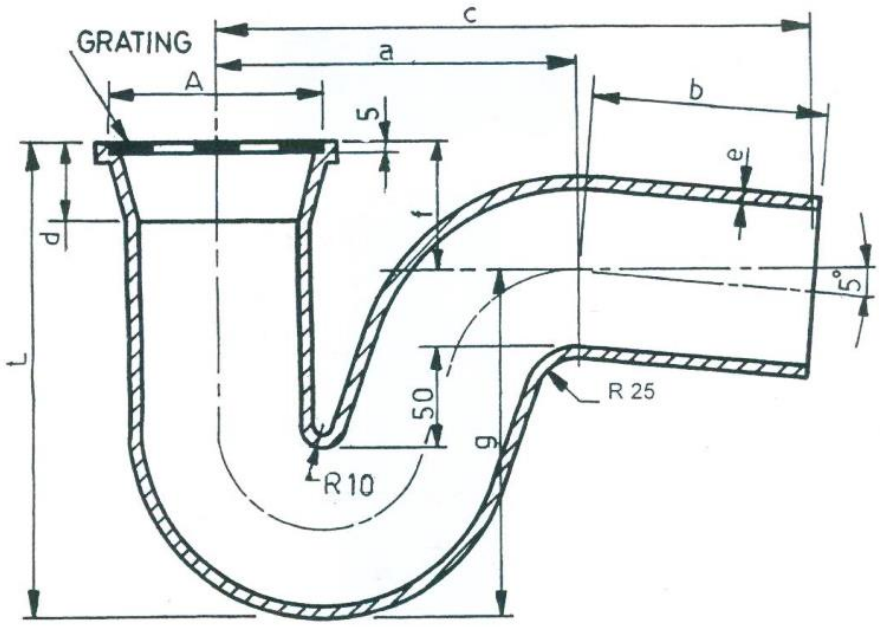
1 For socket and spigot dimensions, (*see* Table 1).

2 For details of access door, (*see* Table 8).

Table 18 Floor Trap

(*Clause* 7.3)

All dimensions in millimeters.



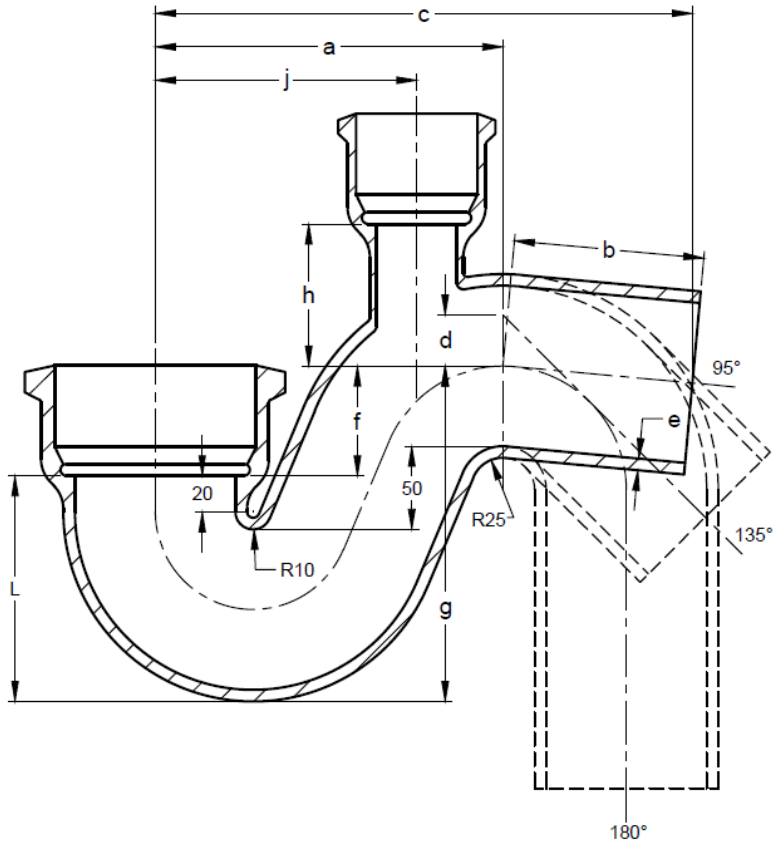
Sl No.	Nominal Diameter	Dimensions								
	DN	*A*	*a*	*b*	*c*	*d*	*e*	*f*	*g*	*L*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
i)	50	75	137	99	236	30	3.5	45	133	175
ii)	75	100	170	105	275	40	3.5	60	165	225
iii)	100	125	214	116	330	60	4.0	90	206	296

NOTE — For socket and spigot dimensions, (*see* Table 1).

Table 19 Traps with Vent

(*Clause* 7.3)

All dimensions in millimeters.



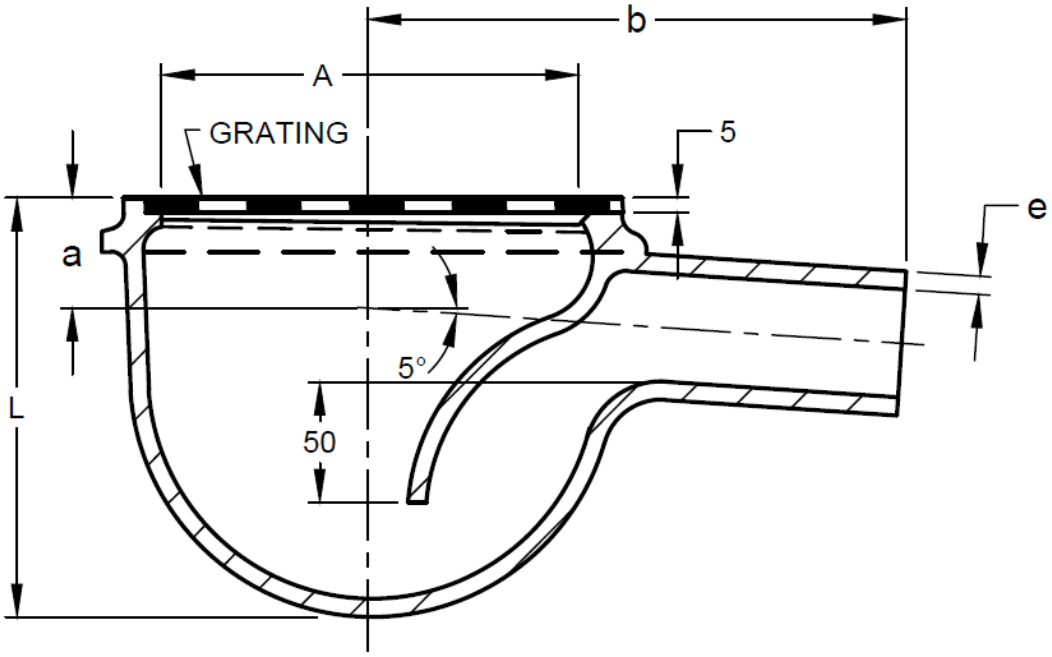
Sl No.	Angle	Diameter		Dimensions									
	Θ	Body *DN*	Vent *DN*	*a*	*b*	*c*	*d*	*e*	*L*	*f*	*h*	*j*	*g*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
i)	95º	100	50	214	116	330	—	4.0	135	71	80	165	206
ii)	135º	100	50	214	175	338	32	4.0	135	71	80	165	206
iii)	180º	100	50	214	184	291	—	4.0	135	71	80	165	206

NOTE — For socket and spigot dimensions (*see* Table 1).

Table 20 Floor Trap (Nahani)

(*Clause* 7.3)

All dimensions in millimeters.

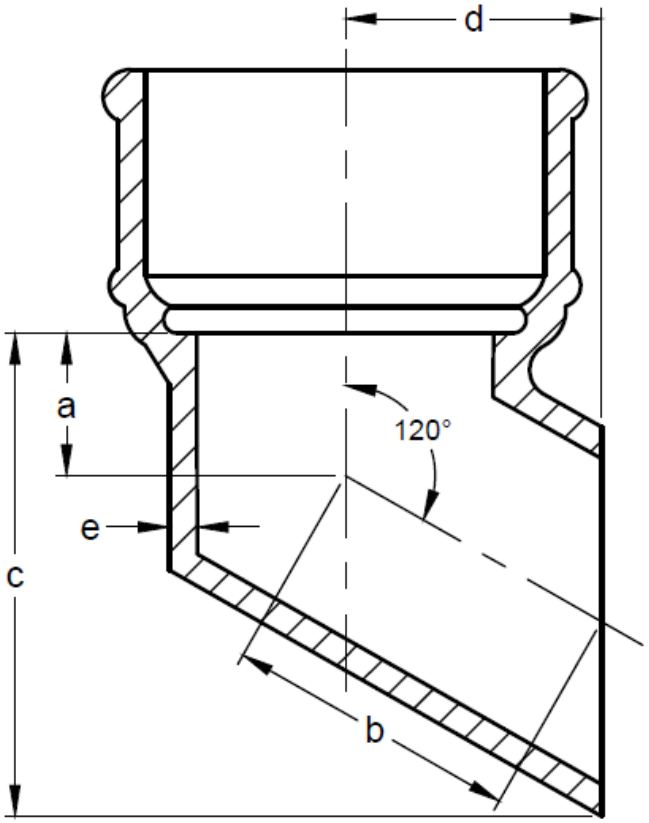


Sl No.	Nominal Diameter	Dimensions				
	DN	*L*	*A*	*a*	*b*	*e*
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	50	175	165	45	205	4.0
ii)	75	225	165	60	215	4.0

Table 21 Shoe Bends

(*Clause* 7.3)

All dimensions in millimeters.



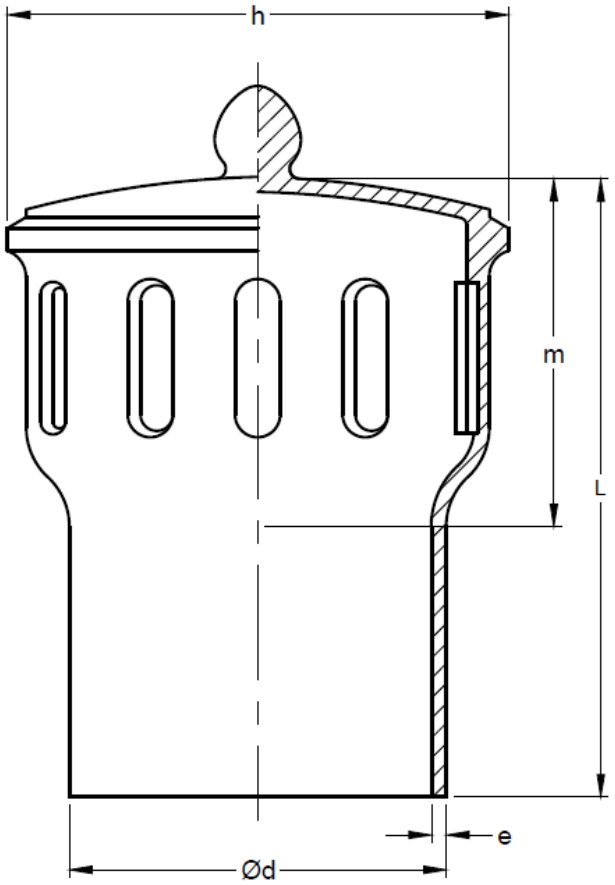
Sl No.	Nominal Diameter	Dimensions				
	DN	*a*	*b*	*c*	*d*	*e*
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	50	36	66	100	54	3.5
ii)	75	38	75	117	64	3.5
iii)	100	52	92	161	80	4.0
iv)	150	55	123	200	105	5.0

NOTE — For socket and spigot dimensions, (*see* Table 1).

Table 22 Cowel

(*Clause* 7.3)

All dimensions in millimeters.



Sl No.	Nominal Diameter	Dimensions				
	DN	*e*	*m*	*d*	*L*	*h*
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	50	3.5	90	57	160	90
ii)	75	3.5	95	82	175	115
iii)	100	4.0	110	109	200	145
iv)	150	5.0	110	161	210	195

NOTE — For socket and spigot dimensions, (*see* Table 1).

ANNEX A

(*Foreword*)

COMMITTEE COMPOSITION

Pig Iron and Cast Iron Sectional Committee, MTD 06

Organization	*Representative(s)*
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