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**IS : 1537 - 1976**  
( Reaffirmed 2005 )

***Indian Standard***

**SPECIFICATION FOR  
VERTICALLY CAST IRON PRESSURE PIPES  
FOR WATER, GAS AND SEWAGE**

**( *First Revision* )**

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**BUREAU OF INDIAN STANDARDS  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002**

# *Indian Standard*

## SPECIFICATION FOR VERTICALLY CAST IRON PRESSURE PIPES FOR WATER, GAS AND SEWAGE

### ( *First Revision* )

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( Continued on page 2 )

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(Continued on page 17)

*Indian Standard*  
SPECIFICATION FOR  
VERTICALLY CAST IRON PRESSURE PIPES  
FOR WATER, GAS AND SEWAGE  
( *First Revision* )

**0. FOREWORD**

**0.1** This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 30 January 1976, after the draft finalized by the Cast Iron and Malleable Cast Iron Sectional Committee had been approved by the Structural and Metals Division Council.

**0.2** This standard was first published in 1960. As a result of experience gained during these years, it has been decided to revise this standard incorporating the following modifications:

- a) Amendment No. 1 issued earlier has been incorporated,
- b) Appendices A and B have been deleted, and
- c) With the publication of IS : 7181-1974\*, the notes below Tables 8 and 9 have been deleted.

**0.3** This standard contains clauses which require the purchaser to specify his requirements, if necessary, while placing an order. These clauses are 3.2, 6.1.2, 9.1.2 and 10.2.

**0.4** 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 : 2-1960†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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**1. SCOPE**

**1.1** This standard covers the requirements for cast iron pipes for pressure main lines of water, gas and sewage manufactured by vertical casting in sand moulds.

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\*Specification for horizontally cast iron double flanged pipes for water, gas and sewage.

†Rules for rounding off numerical values (*revised*).

**1.2** This standard is applicable to pipes with sockets ( for lead joints ) or flanges. The standard may also be made applicable to other types of joints specially rubber joints, where overall measurements shall be adhered to, to ensure interchangeability.

## **2. SUPPLY OF MATERIAL**

**2.1** The general requirements relating to the supply of material shall be as laid down in IS : 1387-1967\*.

## **3. MANUFACTURE**

**3.1** The metal used for the manufacture of pipes shall be of quality not less than that of Grade 15 of IS : 210-1970†.

**3.2** The pipes shall be stripped with all precautions necessary to avoid warping or shrinking defects. The pipes 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. By agreement between the manufacturer and the purchaser, minor defects may be rectified.

**3.3** The pipes shall be such that they could be cut, drilled or machined. In case of dispute, pipes may be accepted provided the hardness of the external unmachined surface does not exceed 210-B.

**3.4** In the case of spigot and socket pipes for lead joints, the socket shall be without the centring ring.

**3.5** In the case of flanged pipes, the flanges shall be at right angles to the axis of the pipe and machined on face. The bolt holes shall be drilled.

## **4. MECHANICAL TEST**

**4.0** Mechanical tests shall be carried out during manufacture of pipes after every 4-hourly intervals. The results so obtained shall be taken to represent all the pipes of different sizes manufactured during that period.

**4.1 Tensile Test** — Two tensile tests shall be conducted on bars cast from the same metal in accordance with IS : 2078-1962‡. The results of the tests shall show a minimum tensile strength of 150 N/mm<sup>2</sup> ( 15 kgf/mm<sup>2</sup> ).

**4.2 Hardness Test** — If required, the Brinell hardness test shall be carried out in accordance with IS : 1789-1961§.

\*General requirements for the supply of metallurgical materials ( *first revision* ).

†Specification for grey iron castings ( *second revision* ).

‡Method for tensile testing of grey cast iron.

§Method for Brinell hardness test for grey cast iron.



## 5. RE-TESTS

5.1 If any test piece representing a lot fails to pass the test in the first instance, two additional tests shall be made on test pieces made from the same metal used for that lot. Should either of these additional test pieces fail to pass the test, the lot shall be liable for rejection.

## 6. HYDROSTATIC TEST

6.1 For hydrostatic tests, the pipes shall be kept under pressure for 15 seconds; they may be struck moderately with a 700-g hammer. They shall withstand the pressure test without showing any leakage, sweating or other defect of any kind. As far as possible, the hydrostatic test shall be conducted before coating the pipes.

6.1.1 Vertically cast pipes shall withstand the pressure specified in Table 1.

**TABLE 1 HYDROSTATIC TEST PRESSURE FOR VERTICALLY CAST PIPES**

NOMINAL DIAMETER	TEST PRESSURE IN $N/mm^2$ ( $kgf/cm^2$ )			
	Socket and Spigot Pipes		Flanged Pipes	
	Class A	Class B	Class A	Class B
Up to and including 300 mm	2.0 (20)	2.5 (25)	2.0 (20)	2.5 (25)
Over 300 mm and up to and including 600 mm	2.0 (20)	2.5 (25)	1.5 (15)	2.0 (20)
Over 600 mm and up to and including 1 000 mm	1.5 (15)	2.0 (20)	1.0 (10)	1.5 (15)
Over 1 000 mm to 1 500 mm	1.0 (10)	1.5 (15)	1.0 (10)	1.0 (10)

6.1.2 When pipes are required for higher test pressures, the test pressures are subject to special agreement between the supplier and the purchaser.

## 7. SIZES

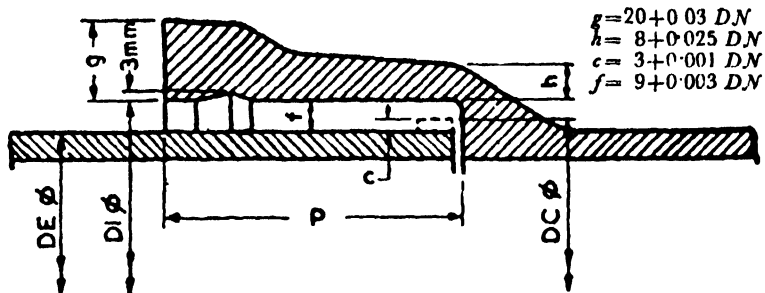
7.1 The dimensions of pipes, sockets, spigots and flanges shall conform to the sizes specified in Tables 2 to 8.

7.2 The pipes have been designated in accordance with the series adopted in IS : 1536-1976\*, where pipes have been classified as LA, A and B according to their thickness. Class LA pipes have been taken as the basis for evolving the series of pipes. Class A allows a 10 percent increase in thickness over Class LA. Class B allows a 20 percent increase in thickness over Class LA. For vertically cast pipes, class LA has not been taken as standard.

\*Specification for centrifugally cast (spun) iron pressure pipes for water, gas and sewage (second revision)

TABLE 2 DIMENSIONS OF SOCKETS AND SPIGOTS OF PIPES

(Clauses 7.1 and 9.1)



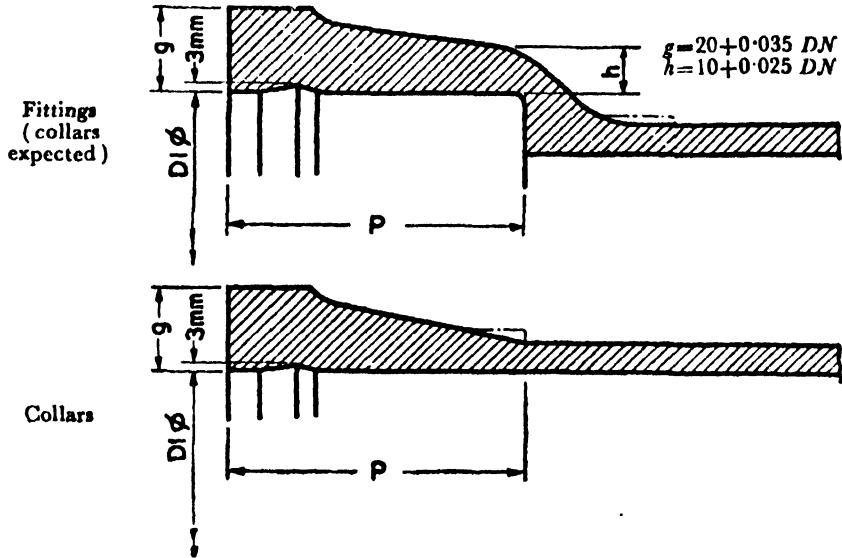
NOMINAL DIAMETER (DN)	BARREL DE	SOCKET				BEAD		JOINT THICKNESS f
		DI	P	g*	h*	DC	c	
mm	mm	mm	mm	mm	mm	mm	mm	mm
80	98	116	84	22.5	10	104	3	9
100	118	137	88	23	10.5	124	3	9.5
125	144	163	91	24	11	150	3	9.5
150	170	189	94	24.5	12	176	3	9.5
200	222	241	100	26	13	228	3	9.5
250	274	294	103	27.5	14.5	281	3.5	10
300	326	346	105	29	15.5	333	3.5	10
350	378	398	107	30.5	17	385	3.5	10
400	429	449	110	32	18	436	3.5	10
450	480	501	112	33	19	487	3.5	10
500	532	553	115	35	20.5	539	3.5	10.5
600	635	657	120	38	23	642	3.5	11
700	738	760	122	41	25.5	745	3.5	11
750	790	813	123	42.5	27	798	4	11.5
800	842	865	125	44	28	850	4	11.5
900	945	960	128	47	30.5	953	4	11.5
1 000	1 048	1 072	130	50	33	1 056	4	12
1 100	1 152	1 177	135	53	35.5	1 160	4	12.5
1 200	1 256	1 281	140	56	38	1 264	4	12.5
1 500	1 567	1 594	150	65	45.5	1 576	4.5	13.5

\*Dimensional figures  $g$  and  $h$  do not affect interchangeability; they only indicate minimum permissible thicknesses.

**TABLE 3 DIMENSIONS OF SOCKETS OF FITTINGS**

(For Information Only)

(Clauses 7.1 and 9.1)

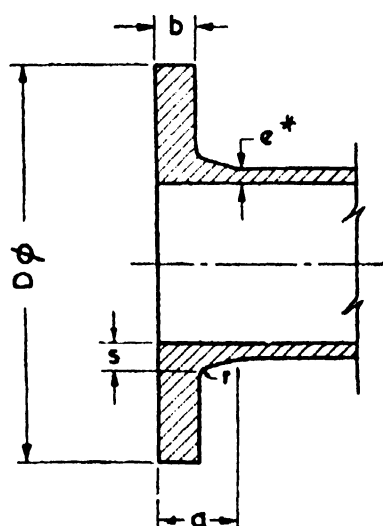


NOMINAL DIAMETER (DN)	SOCKET			
	DI	P	g*	h*
mm	mm	mm	mm	mm
80	116	84	23	12
100	137	88	23	12.5
125	163	91	24.5	13
150	189	94	25.5	14
200	241	100	27	15
250	294	103	29	16.5
300	346	105	30.5	17.5
350	398	107	32.5	19
400	449	110	34	20
450	501	112	36	21
500	553	115	37.5	22.5
600	657	120	41	25
700	760	122	44.5	27.5
750	813	123	46	29
800	865	125	48	30
900	968	128	51.5	32.5
1 000	1 072	130	55	35
1 100	1 177	135	58.5	37.5
1 200	1 281	140	62	40
1 500	1 594	150	72.5	47.5

\*Dimensional figures  $g$  and  $h$  are not measurements affecting interchangeability; they only indicate minimum permissible thicknesses.

TABLE 4 DIMENSIONS OF FLANGES OF PIPES AND FITTINGS

(Clauses 7.1 and 9.1)



$$b = 19 + 0.028 \text{ DN}$$

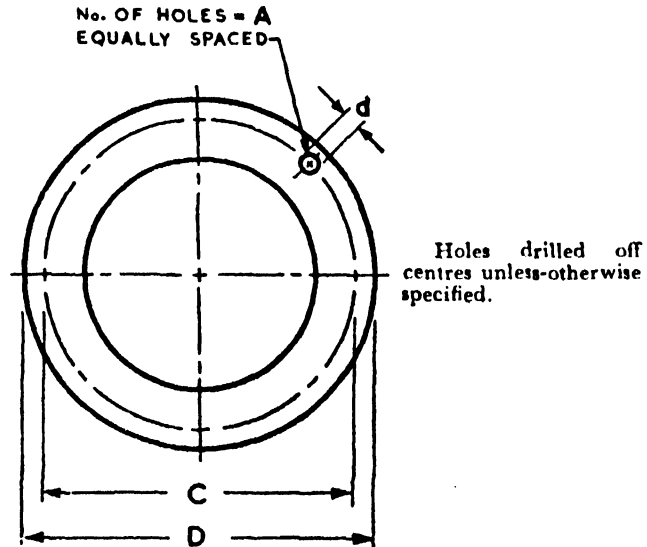
$$s = 10.5 + 0.03 \text{ DN}$$

NOMINAL DIAMETER (DN)	D	a	b	s	r
mm	mm	mm	mm	mm	mm
80	200	40	21	13	6
100	220	42	22	13.5	6
125	250	44.5	22.5	14.5	6
150	285	47	23	15	6
200	340	52	24.5	16.5	8
250	395	57	26	18	8
300	445	61	27.5	19.5	8
350	505	66	29	21	8
400	565	71	30	22.5	10
450	615	76	31.5	24.0	10
500	670	81	33	25.5	10
600	780	90	36	28.5	10
700	895	100	38.5	31.5	10
750	960	105	40	33	12
800	1015	110	41.5	34.5	12
900	1115	120	44	37.5	12
1 000	1 230	130	47	40.5	12
1 100	1 340	140	50	43.5	15
1 200	1 455	150	53	46.5	15
1 500	1 800	180	61	55.5	18

\*Thickness  $e$  is equal to the thickness of pipe or fitting comprising the flange. Not to exceed  $s$  value.

**TABLE 5 STANDARD FLANGE DRILLING OF FLANGED  
PIPES AND FITTINGS**

(Clauses 7.1 and 9.1)

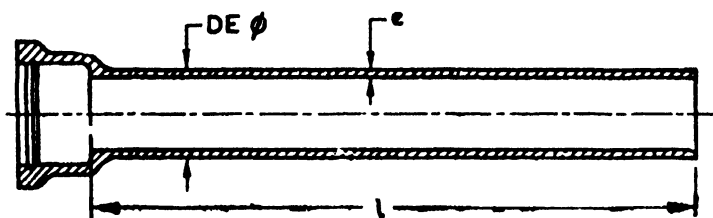


NOMINAL DIAMETER DN	D	C	HOLES		DIAMETER OF BOLTS
			Number A	Diameter d	
mm	mm	mm		mm	mm
80	200	160	4	19	16
100	220	180	8	19	16
125	250	210	8	19	16
150	285	240	8	23	20
200	340	295	8	23	20
250	395	350	12	23	20
300	445	400	12	23	20
350	505	460	16	23	20
400	565	515	16	28	24
450	615	565	20	28	24
500	670	620	20	28	24
600	780	725	20	31	27
700	895	840	24	31	27
750	960	900	24	31	27
800	1 015	950	24	34	30
900	1 115	1 050	28	34	30
1 000	1 230	1 160	28	37	33
1 100	1 340	1 270	32	37	33
1 200	1 455	1 380	32	40	36
1 500	1 800	1 710	40	43	39

TABLE 6 SOCKET AND SPIGOT PIPES — CLASS A

(Clauses 7.1 and 9.1)

$$e = \frac{11}{12} (7 + 0.02 DN)$$

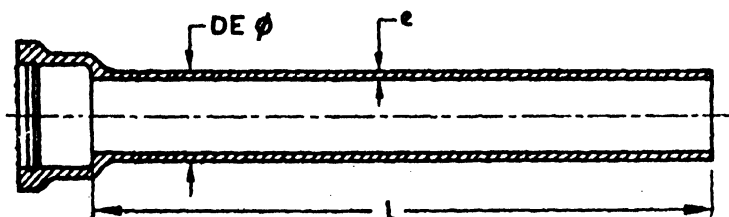


NOMINAL DIA- METER  (DN)	BARREL			SOCKET MASS (APPROX)	TOTAL MASS FOR ONE WORKING LENGTH / IN METRES				
	DE	e	Mass for One Metre (Approx)		3.66	4	4.88	5	5.5
					kg	kg	kg	kg	kg
80	98	7.9	16.0	5.5	64	69.5	—	85.5	—
110	118	8.3	20.5	7.1	82	89	—	109	120
125	144	8.7	26.4	9.2	106	115	—	141	155
150	170	9.2	33.2	11.5	133	144	—	178	194
200	222	10.1	48.1	16.8	193	209	251	257	281
250	274	11.0	65.0	22.9	261	283	340	348	380
300	326	11.9	84.0	29.8	337	366	440	450	492
350	378	12.8	105.0	37.5	422	458	550	563	615
400	429	13.8	128.7	46.3	517	561	674	690	754
450	480	14.7	156.0	56.0	627	680	817	836	914
500	532	15.6	181.0	66.0	728	790	949	971	1 061
600	635	17.4	241.4	89.3	973	1 055	1 267	1 296	1 417
700	738	19.3	311.6	116.8	1 257	1 363	—	1 675	1 830
750	790	20.2	348.9	131.7	1 409	1 527	—	1 876	2 051
800	842	21.1	389.1	147.8	1 568	1 704	—	2 093	2 288
900	945	22.9	474.3	182.6	1 917	2 080	—	2 554	2 791
1 000	1 048	24.8	570.0	222.3	2 303	2 502	—	3 072	3 357
1 100	1 152	26.6	672.4	265.6	2 726	2 955	—	3 628	3 966
1 200	1 256	28.4	783.1	313.3	3 175	3 446	—	4 229	4 623
1 500	1 567	33.9	1 222.1	501.1	4 974	5 389	—	6 612	7 223

TABLE 7 SOCKET AND SPIGOT PIPES — CLASS B

(Clauses 7.1 and 9.1)

$$e = 7 + 0.02 DN$$

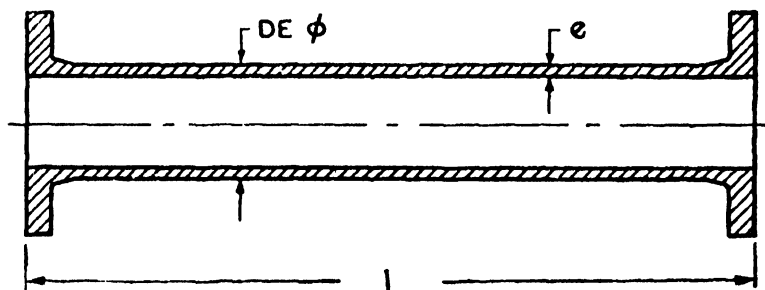


NOMI- NAL DIA- METER (DN)	BARREL			SOCKET MASS (APPROX)	TOTAL MASS FOR ONE WORKING LENGTH <i>l</i> IN METRES				
	DE	<i>e</i>	Mass for One Metre (Approx)		3.66	4	4.88	5	5.5
	mm	mm	kg	kg	kg	kg	kg	kg	kg
80	98	8.6	17.3	5.5	69	74.5	—	92	—
100	118	9.0	22.0	7.1	88	95	—	117	128
125	144	9.5	28.7	9.2	114	124	—	153	167
150	170	10.0	35.9	11.5	143	155	—	191	209
200	222	11.0	52.1	16.8	207	225	271	278	304
250	274	12.0	70.6	22.9	281	305	368	376	411
300	326	13.0	91.4	29.8	364	395	476	487	533
350	378	14.0	114.5	37.5	457	495	596	610	667
400	429	15.0	139.5	46.3	557	604	727	744	814
450	480	16.0	169.0	56.0	675	732	881	901	986
500	532	17.0	196.7	66.0	786	853	1 026	1 026	1 148
600	635	19.0	262.9	89.3	1 052	1 141	1 372	1 404	1 535
700	738	21.0	388.2	116.8	1 355	1 470	—	1 808	1 977
750	790	22.0	380.6	131.7	1 525	1 644	—	2 035	2 225
800	842	23.0	423.1	147.8	1 696	1 840	—	2 263	2 475
900	945	25.0	516.6	182.6	2 073	2 249	—	2 766	3 024
1 000	1 048	27.0	619.2	222.3	2 489	2 699	—	2 318	3 628
1 100	1 152	29.0	739.0	265.6	2 970	3 192	—	3 923	4 326
1 200	1 256	31.0	851.6	313.2	3 430	3 725	—	4 578	4 993
1 500	1 567	37.0	1 331.1	501.1	5 380	5 834	—	7 167	7 833

TABLE 8 FLANGED PIPES, SAND CAST — CLASS A

(Clauses 7.1 and 9.1)

$$e = \frac{11}{12} (7 + 0.02 \text{ DN})$$



NOMINAL DIAMETRE (DN)	BARREL		FLANGE		WORKING LENGTH* l
	DE	e	Mass for One Metre (Approx)	Mass for One Flange (Approx)	
m	mm	mm	kg	kg	m
100	118	7.9	16.0	3.7	2 to 3
125	144	8.3	20.5	4.2	2 to 4
150	170	8.7	26.4	5.3	2 to 4
200	222	9.2	33.2	6.7	2 to 4
250	274	10.1	48.1	9.3	2 to 4
300	326	11.0	65.0	12.0	2 to 4
350	378	11.9	84.0	14.8	2 to 4
400	429	12.8	105.0	19.0	2 to 4
450	480	13.8	128.7	23.4	2 to 4
500	532	14.7	156.0	26.5	2 to 4
600	635	15.6	181.0	32.1	2 to 4
700	738	17.4	241.4	44.0	2 to 4
750	790	19.3	311.6	59.9	2 to 4
800	842	20.2	348.9	69.8	2 to 4
900	945	21.1	389.1	80.8	2 to 4
1 000	1 048	22.9	474.3	94.6	2 to 4
1 100	1 152	24.8	570.0	120.0	2 to 4
1 200	1 256	26.6	672.4	139.0	2 to 4
1 500	1 567	28.4	783.1	173.0	2 to 4
		33.9	1 222.1	276.2	2 to 4

\*Depending on manufacturer's facilities.



7.2.1 For special uses, Classes C, D, E, etc., may be derived after allowing corresponding increases of thickness of 30, 40, 50 percent, etc., over Class LA.

## 8. TOLERANCES

**8.1 Tolerances on the External Diameter of the Barrel the Internal Diameter of the Socket and the Depth of the Socket** — The tolerances shall be as follows:

<i>Dimension</i>	<i>Nominal Diameter</i> ( <i>DN</i> )	<i>Tolerance</i> mm
External diameter of barrel ( <i>DE</i> )	All diameters	$\left\{ \begin{array}{l} +\frac{1}{2}f \\ -\frac{1}{2}f \end{array} \right.$
Internal diameter of socket ( <i>DI</i> )	All diameters	$\left\{ \begin{array}{l} +\frac{1}{2}f \\ -\frac{1}{2}f \end{array} \right.$
Depth of socket ( <i>P</i> )	Up to and including 600 mm	$\pm 5$
	Over 600 mm and up to and including 1 000 mm	$\pm 10$
	Over 1 000 mm and up to and including 1 500 mm	$\pm 15$

where  $f$  is the caulking space of the joint in millimetres and is equal to  $9 + 0.003 DN$ .

**NOTE** — The nominal diameter is the diameter denoting the approximate bore of the pipe.

8.1.1 The maximum or minimum jointing space resulting from these tolerances is such that the jointing of the pipes and fittings is not adversely affected.

**8.2 Tolerances on Thickness** — The tolerances on the wall thickness and flange thickness of pipes shall be as follows:

<i>Dimension</i>	<i>Tolerance</i> mm
Wall thickness	$-(1 + 0.05 e)^*$
Flange thickness	$\pm (2 + 0.05 b)$

where

$e$  = the thickness of the wall in millimetres, and

$b$  = the thickness of the flange in millimetres.

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\*No limit for the plus tolerances is specified.

**8.3 Tolerances on Length** — The tolerances on lengths of pipes normally manufactured shall be as follows:

<i>Type of Casting</i>	<i>Tolerance</i>
	mm
Socket and spigot, and plain-ended pipes	$\pm 20$
Flanged pipes	$\pm 10$

Of the total number of socket and spigot pipes to be supplied in each diameter, the manufacturer may supply up to 10 percent in lengths shorter than the specified lengths as follows:

<i>Specified Length,</i>	<i>Decrease in Length,</i>
m	m
Up to 4	0.5, 1
Over 4	0.5, 1, 1.5, 2

**8.4 Permissible Deviation from a Straight Line** — The pipes shall be straight. When rolled along two gantries separated by approximately two-thirds the lengths of the pipe to be checked, the maximum deviation  $f_m$ , in millimetres, should not be greater than 1.25 times the length  $l$  in metres of this pipe, thus  $f_m \leq 1.25 l$ .

## 9. MASS

**9.1** The standard masses are those as given in Tables 2 to 9. The masses have been calculated for each of the lengths generally used by taking into account in each case the mass of socket or flanged fixed arbitrarily as a proportion of the mass of the pipe barrel. For this purpose the density of cast iron has been taken as  $7.15 \text{ kg/dm}^3$  (see Table 9).

**9.1.1** The permissible tolerances on standard mass of pipes shall be  $\pm 5$  percent.

**9.1.2** If mutually agreed upon, the pipes of heavier mass than the maximum may be accepted, provided they comply in every other respect with the requirements of this standard.

## 10. COATING

**10.0** After inspection and hydrostatic test, each pipe shall be coated as given under 10.1 to 10.6.

**10.1** Coating shall not be applied to any pipe unless its surface is clean dry and free from rust.

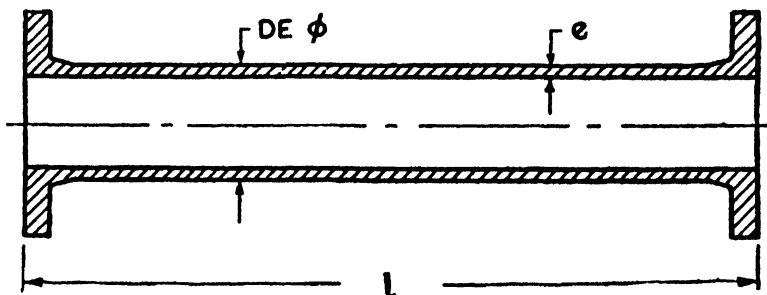
10.2 Except when otherwise agreed to between the manufacturer and the purchaser, all pipes shall be coated externally and internally with the same material, the pipes being heated prior to total immersion in a bath containing a uniformly heated composition having a tar or other suitable base.

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

**TABLE 9 FLANGED PIPES, SAND CAST — CLASS B**

( Clause 9.1 )

$$e = 7 + 0.02 DN$$



NOMINAL DIAMETER ( DN )	BARREL		FLANGE		WORKING LENGTH* l
	DE	e	Mass for One Metre ( Approx )	Mass for One Flange ( Approx )	
mm	mm	mm	kg	kg	m
80	98	8.6	17.3	3.7	2 to 3
100	118	9.0	22.0	4.2	2 to 4
125	144	9.5	28.7	5.3	2 to 4
150	170	10.0	35.9	6.7	2 to 4
200	222	11.0	52.1	9.3	2 to 4
250	274	12.0	70.6	12.0	2 to 4
300	326	13.0	91.4	14.8	2 to 4
350	378	14.0	114.5	19.0	2 to 4
400	429	15.0	139.5	23.4	2 to 4
450	480	16.0	169.0	26.5	2 to 4
500	532	17.0	196.7	32.1	2 to 4
600	635	19.0	262.9	44.0	2 to 4
700	738	21.0	338.2	59.9	2 to 4
750	790	22.0	380.6	69.8	2 to 4
800	842	23.0	423.1	80.8	2 to 4
900	945	25.0	516.6	94.6	2 to 4
1 000	1 048	27.0	619.2	120.0	2 to 4
1 100	1 152	29.0	739.0	139.0	2 to 4
1 200	1 256	31.0	851.6	173.0	2 to 4
1 500	1 567	37.0	1 333.1	276.2	2 to 4

\*Depending on manufacturer's facilities.

**10.4** In all instances where the coating material has a tar or similar base, it shall be smooth and tenacious and hard enough not to flow when exposed to a temperature of 77°C but not so brittle at a temperature of 0°C as to chip off when scribed lightly with a penknife.

**10.5** When the pipes are to be used for conveying potable water, the inside coating shall not contain any constituent soluble in water or any ingredient which could impart any taste or odour whatsoever to the potable water after sterilization and suitable washing of the mains.

**10.6** In the case of pipes (wholly or partially coated) which are imperfectly coated or where the coating does not set or conform to the quality specified above, the coating shall be removed and the pipes re-coated.

## **11. MARKING**

**11.1** Each pipe shall have cast, stamped or indelibly painted on it the following appropriate marks:

- a) Manufacturer's name, initials or identification mark;
- b) The nominal diameter;
- c) Class reference;
- d) Mass of pipe;
- e) The number of this Indian Standard; and
- f) The last two digits of the year of manufacture.

**11.2** Marking may be done on the outsides of the sockets or towards the ends of the barrels of pipes.

**11.3** Any other marks required by the purchaser may be painted on.

### **11.4 BIS Certification Marking**

The product may also be marked with Standard Mark.

**11.4.1** The use of the Standard Mark is governed by the provisions of the Bureau of Indian Standards Act, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

**SRI H. VINOD**  
**SRI C. R. RAMA RAO,**  
**Director (Struc & Met)**

**Oil and Natural Gas Commission, Dehra Dun**  
**Director General, ISI ( *Ex-officio Member* )**

**SRI SHANTI SWARUP**  
Assistant Director ( Metals ), ISI

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SRI P. J. SHENOY	Kesoram Spun Pipes and Foundries, Calcutta
SRI R. R. JOSHI ( <i>Alternate</i> )	
SUPERINTENDING SURVEYOR OF WORKS ( DELHI ADM ZONE ), NEW DELHI	Central Public Works Department, New Delhi
SURVEYOR OF WORKS-II ( SOUTH WESTERN ZONE ), BOMBAY ( <i>Alternate</i> )	

## BUREAU OF INDIAN STANDARDS

### Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002

Telephones: 323 0131, 323 3375, 323 9402

Fax : 91 11 3234062, 91 11 3239399, 91 11 3239382

Telegrams : Manaksanstha  
(Common to all Offices)

### Central Laboratory:

Plot No. 20/9, Site IV, Sahibabad Industrial Area, Sahibabad 201010

Telephone

8-77 00 32

### Regional Offices:

Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002 323 76 17

\*Eastern : 1/14 CIT Scheme VII M, V.I.P. Road, Maniktola, CALCUTTA 700054 337 86 62

Northern : SCO 335-336, Sector 34-A, CHANDIGARH 160022 60 38 43

Southern : C.I.T. Campus, IV Cross Road, CHENNAI 600113 235 23 15

†Western : Manakalaya, E9, Behind Marol Telephone Exchange, Andheri (East),  
MUMBAI 400093 832 92 95

### Branch Offices::

'Pushpak', Nurmohamed Shaikh Marg, Khanpur, AHMEDABAD 380001 550 13 48

‡Peenya Industrial Area, 1st Stage, Bangalore-Tumkur Road,  
BANGALORE 560058 839 49 55

Gangotri Complex, 5th Floor, Bhadbhada Road, T.T. Nagar, BHOPAL 462003 55 40 21

Plot No. 62-63, Unit VI, Ganga Nagar, BHUBANESHWAR 751001 40 36 27

Kalaikathir Buildings, 670 Avinashi Road, COIMBATORE 641037 21 01 41

Plot No. 43, Sector 16 A, Mathura Road, FARIDABAD 121001 8-28 88 01

Savitri Complex, 116 G.T. Road, GHAZIABAD 201001 8-71 19 96

53/5 Ward No.29, R.G. Barua Road, 5th By-lane, GUWAHATI 781003 54 11 37

5-8-56C, L.N. Gupta Marg, Nampally Station Road, HYDERABAD 500001 20 10 83

E-52, Chitaranjan Marg, C-Scheme, JAIPUR 302001 37 29 25

117/418 B, Sarvodaya Nagar, KANPUR 208005 21 68 76

Seth Bhawan, 2nd Floor, Behind Leela Cinema, Naval Kishore Road,  
LUCKNOW 226001 23 89 23

NIT Building, Second Floor, Gokulpat Market, NAGPUR 440010 52 51 71

Patliputra Industrial Estate, PATNA 800013 26 23 05

Institution of Engineers (India) Building 1332 Shivaji Nagar, PUNE 411005 32 36 35

T.C. No. 14/1421, University P. O. Palayam, THIRUVANANTHAPURAM 695034 6 21 17

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\*Sales Office is at 5 Chowringhee Approach, P.O. Princep Street,  
CALCUTTA 700072 27 10 85

†Sales Office is at Novelty Chambers, Grant Road, MUMBAI 400007 309 65 28

‡Sales Office is at 'F' Block, Unity Building, Narashimaraaja Square,  
BANGALORE 560002 222 39 71

**IS:1537-1976 SPECIFICATION FOR VERTICALLY CAST IRON  
PRESSURE PIPES FOR WATER, GAS AND SEWAGE**

**(First Revision)**

**AMENDMENT NO. 1 JULY 1977**

**Alterations**

**(Page 4, clause 3.3, line 3) - Substitute  
'210 HB' for '210-B'.**

**(Page 10, Table 6, col 1) - Substitute '100' for  
'110'.**

**AMENDMENT NO. 2 OCTOBER 1978**

**Alteration**

**(Page 14, clause 9.1.2) - Substitute the  
following for the existing clause:**

**'9.1.2 The pipes of the heavier mass than the  
maximum shall be accepted, provided they comply in  
every other respect with the requirements of this  
standard.'**

**AMENDMENT NO. 3 MARCH 1980**

**Addenda**

**(Page 8, Table 4) - Add the following new note  
at the end:**

**'NOTE - The dimensions  $\alpha$ ,  $r$  and  $s$  generally do  
not affect the interchangeability and are for  
guidance only.'**

(Para 14, clause 8.4) - Add the following new clauses under 8.4:

"8.5 Tolerances for the various dimensions of flanges not specified above shall be as follows:

<i>Description</i>	<i>Size, DN</i> <del>mm</del>	<i>Tolerance</i> <del>mm</del>
<i>D</i> (as cast)	Up to 250	+3.0 -1.0
	Above 250	+5.0 -1.5
<i>C</i>	Up to 250	+1.0 -1.5
	Above 250	+1.5 -1.5
<i>d</i>	Up to 300	+2 -0
	Above 300	+3 -0

8.6 Tolerances for dimensions other than those specified above shall be as given in IS:5519-1979 'Deviations for untoleranced dimensions of grey iron castings (first revision)'."

AMENDMENT NO. 4 MARCH 1983

Alteration

[Page 16, clause 11.1(e)] - Delete.

(SMDC 9)



**AMENDMENT NO. 5 MAY 1994  
TO  
IS 1537 : 1976 SPECIFICATION FOR  
VERTICALLY CAST IRON PRESSURE PIPES FOR  
WATER, GAS AND SEWAGE  
( First Revision )**

( *Amendment No. 3, page 2, clause 8.6* ) -- Substitute the following for the existing clause:

**'8.6** Untoleranced dimensions given in the standard are for guidance only.'

( MTD 6 )

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