

**AMENDMENT NO. 7 NOVEMBER 2024**  
**TO**  
**IS 3589 : 2001 STEEL PIPES FOR WATER AND SEWAGE (168.3 TO 2 540 mm**  
**OUTSIDE DIAMETER) — SPECIFICATION**  
*( Third Revision )*

*(Page 4, clause 11.1)* — Substitute the following for the existing and insert **11.2**:

**11.1** The preferred outside diameter, minimum thickness and nominal mass per metre of the pipes are specified in Table 5. No negative tolerance shall be applied to the minimum thickness specified in Table 5. Other diameters of pipes not mentioned in the table may be supplied as per the agreement between the manufacturer and the purchaser, however, the agreed diameter shall be between 168.3 mm and 2 540 mm and the thickness of the supplied pipe shall not be less than the minimum thickness of pipe of next higher diameter mentioned in Table 5.

**11.1.1** Mass per meter run of pipes can be calculated by the formula as under:

$$M = (D - T) \times T \times 0.024\ 661\ 5$$

where

$M$  = mass of the pipe, kg/m;

$D$  = nominal outside diameter of the pipe, in mm; and

$T$  = nominal thickness of the pipe, in mm.

**11.2** Preferred outside diameter and thicknesses of pipes upto outside diameter 457 mm are given in Annex E for guidance purpose.

*(Page 4, clause 11.1, Note, see also Amendment No. 5)* — Substitute the following for the existing note.

NOTE — While calculating final minimum thickness the pipe designer may follow following steps:

- a) Ensure that the selected minimum thickness is not less than that specified in Table 5 and no negative tolerance is applied on minimum thickness specified in Table 5.
- b) Check sufficiency of the selected thickness (Step a) as per requirements of the working pressure and test pressure inclusive of surge and if required increase thickness suitably to meet these requirements.
- c) Check sufficiency of the selected thickness (Step b) as per relevant design approach and methodology for external load conditions subjected to various laying situations and if required increase thickness suitably to meet these requirements.
- d) Apply corrosion allowance, with respect to area of laying, lining and coating and adopted corrosion protections systems.
- e) Further, permitted manufacturing tolerance may be considered with respect to provision of positive tolerances.
- f) For welded pipes, it is advisable to refer to IS 5822 : 1994 'Code of practice for laying of electrically welded steel pipes for water supply'.

*(Page 6, Table 5)* — Substitute the following for the existing:

**Table 5 Preferred Outside Diameter, Minimum Thickness and Mass per Meter Length of Pipes**

*(Clause 11.1)*

SI No.	Outside Diameter OD mm	Minimum Thickness mm	Mass kg/m
(1)	(2)	(3)	(4)
(i)	168.3	2.6	10.6
(ii)	219.1	2.6	13.9
(iii)	273	3.6	23.9
(iv)	323.9	4.0	31.6
(v)	355.6	4.0	34.7

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**Table 5 (Concluded)**

<b>Sl No.</b>	<b>Outside Diameter OD mm</b>	<b>Minimum Thickness mm</b>	<b>Mass kg/m</b>
(1)	(2)	(3)	(4)
(vi)	406.4	4.0	39.7
(vii)	457	5.0	55.7
(viii)	508	5.0	62.0
(ix)	610	6.3	93.6
(x)	711	6.3	109.3
(xi)	813	6.5	128.8
(xii)	914	7.3	163.4
(xiii)	1 016	7.6	188.6
(xiv)	1 067	7.7	200.6
(xv)	1 118	7.8	212.7
(xvi)	1 219	8.4	251.3
(xvii)	1 422	8.4	293.4
(xviii)	1 626	10.5	416.4
(xix)	1 829	10.9	489.4
(xx)	2 032	12.1	603.6
(xxi)	2 235	13.3	729.8
(xxii)	2 540	15.1	938.9

(Page 16, Annex D) — Insert the following new Annex E after Annex D:

**ANNEX E**

(Clause 11.2)

**DIMENSIONS AND MASS PER METER LENGTH OF PIPES FOR GUIDANCE PURPOSE**

<i>Sl No.</i>	<i>Outside Diameter OD mm</i>	<i>Thickness mm</i>	<i>Mass kg/m</i>
(1)	(2)	(3)	(4)
i)	168.3	2.6	10.6
		3.2	13.0
		4.0	16.2
		4.5	18.2
ii)	219.1	2.6	13.9
		3.6	19.1
		4.5	23.8
		6.3	33.1
iii)	273	3.6	23.9
		4.0	26.5
		5.0	33
		6.3	41.4
iv)	323.9	4.0	31.6
		4.5	35.4
		5.6	44
		7.1	55.5

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<i>Sl No.</i>	<i>Outside Diameter OD</i> <i>mm</i>	<i>Thickness</i> <i>mm</i>	<i>Mass</i> <i>kg/m</i>
(1)	(2)	(3)	(4)
v)	355.6	4.0	34.7
		5.0	43.2
		5.6	48.3
		8.0	68.6
vi)	406.4	4.0	39.7
		5.0	49.5
		6.3	62.2
		8.8	86.3
vii)	457	5.0	55.7
		6.3	70
		10.0	110