

## GOST 9583-75 CAST IRON CENTRIFUGALLY AND SEMI-CONTINUOUSLY CAST PIPE FOR PRESSURE WATER SUPPLY SYSTEMS

Pipe and tubes to the standard are manufactured in three grades (LA, A and B) depending on wall thickness.

Size range of uncoated tubes and pipe are given in table 1 & 2.

Tubes and pipe shall be of multiple or random length with 500 mm positive tolerance per length.

Ten percent of tubes with nominal bore equal or smaller than 150 mm may be 20% shorter; tubes with nominal bore over 150 mm may be 25% shorter than the lengths specified below.

Limit tolerances, mm:

- tube length -  $\pm 20$
- wall thickness -  $(1 + 0.055 \text{ w.t.})$
- barrel part diameter, for nominal bore  $\leq 300 \text{ mm}$   $\pm (4.5 + 0.0015 \text{ NB})$ .

For tubes with nominal bore 900 and 1000 mm the maximum cylindrical diameter of the pipe section entering the bell may be increased up to  $[(+ (4.0 + 0.003 \text{ NB})) - (- (5.0 + 0.003 \text{ NB}))]$ .

Positive tolerance for wall thickness is limited by mass tolerance.

Actual tube mass shall not differ from calculated mass by not more than +5%.

Inside diameter D1 of the bell part shall be  $[(+ (2.5 + 0.002 \text{ NB})) - (- (1.5 + 0.002 \text{ NB}))]$ .

Bell part (table 2) depth shall be  $\pm 5$  or  $\pm 10$  for tubes with nominal bore up to 600 mm and over 600 mm respectively.

Repair of tubes by welding is allowed.

Tube curvature per any meter length shall not exceed the values given below for different nominal bores:

under 200 mm	3.5 mm
200 to 300 mm	2.5 mm
over 300 mm	1.25 mm

Deviation from the right angle between the tube end and its axis shall not be over 0.5%.

Table 1 Size range and length of cast iron tubes and pipe

Дусл мм	Dн, мм	Длина L, м	Класс ЛА		Класс А		Класс Б		Масса растру- ба, кг
			S, мм	масса 1 м, кг	S, мм	масса 1 м, кг	S, мм	масса 1 м, кг	
Nomi- nal bore, mm	OD mm	Length, m	Grade LA		Grade A		Grade B		Mass of bell, kg
			S, mm	mass 1 m, kg	S, mm	mass 1 m, kg	S, mm	mass 1 m, kg	
65	81	2; 3	6.7	11.7	7.4	12.4	8.0	13.3	4.1
80	98	3; 4	7.2	14.9	7.9	16.2	8.6	17.5	4.9
100	118	3; 4; 5; 6	7.5	18.9	8.3	20.8	9.0	22.3	6.3
125	144	3-6	7.9	24.5	8.7	26.8	9.5	29.1	7.8
150	170	3-6	8.3	30.5	9.2	33.7	10.0	36.4	10.2
200	222	4-6	9.2	44.6	10.1	48.8	11.0	52.9	14.6
250	274	4-6	10.0	60.1	11.0	65.9	12.0	71.6	20.0
300	326	4-6	10.8	77.6	11.9	85.2	13.0	92.7	26.0
350	378	4-6	11.7	97.6	12.8	106.5	14.0	116.1	31.9
400	429	4-6; 7; 8; 9; 10	12.5	118.6	13.8	130.5	15.0	141.4	40.9
500	532	4-10	14.2	167.5	15.6	183.5	17.0	199.4	59.6
600	635	4-10	15.8	222.9	17.4	244.8	19.0	266.6	79.5
700	738	4-6	17.5	287.2	19.3	316.0	21.0	342.9	102
800	842	4-6	19.2	359.8	21.1	394.0	23.0	429.0	136
900	945	4-6	20.6	437.8	22.3	480.9	25.0	523.9	174
1000	1048	4-6	22.5	525.6	24.8	578.0	27.0	627.9	222

Tube coating shall be tar or other non-toxic materials coated with temperature resistance up to 60 degrees C.

Technical requirements.

Tubes shall be manufactured of grey machinable iron. Tube metal hardness on inside and outside surfaces shall be not over 230 HB, for widwall locations not over 215 HB.

Tube metal Strength

Условный диам. Nominal bore, mm	до under 300	350	400	500	600	700	800	900	1000
Прочность Strength, МПа	392	334	275	255	255	245	245	235	235

Table 2 Bell part dimensions, mm

Труба (Tube)		Раструб (Bell)		
Дусл NB	Дн OD	Двн ID	S w.t.	глубина depth
65	81	99	24	80
80	98	116	25	80
100	118	137	26	85
125	144	163	27	85
150	170	189	28	90
200	222	241	30	90
250	274	294	32	95
300	326	346	34	100
350	378	398	36	110
400	429	449	39	110
500	532	553	42	115
600	635	657	45	125
700	738	760	48	130
800	842	865	52	145
900	945	968	56	150
1000	1048	1072	60	160

Tensile strength tests are accomplished by using ring specimens 25 mm wide cut off from the tube plain end.

Tubes shall be tested hydrostatically; test pressures are given below, MPa:

Table 3

Диаметр (Nominal bore), мм	Вид труб (for different grades)		
	ЛА	А	Б
До 300 (under 300)	250	350	400
Свыше 300 до 600 (over 300 to 600)	200	300	350
Свыше 600 (over 600)	200	250	300

Bending strength of tube metal by tension testing of circular specimens is calculated by using a special formula.

Tube metal strength shall not be lower than the values given below:

Hardness tests are accomplished to GOST 9012-59.

Marking and transportation.

Each tube length shall have the manufacturer's trade mark, nominal bore indication and year on its bell end surface.

Tubes shall be transported in bundles or stacks with the mass not over 3 tons.