



ANSI B 36.19 STAINLESS STEEL PIPE DIMENSION IN MM & WEIGHT PER KG.

Nominal Pipe size		Outside Diameter	Schedule 5S		Schedule 10S		Schedule 20S		Schedule 40S		Schedule 80S		Schedule 160S		Schedule XXS							
MM	INCH	MM	W.T.	KG/M	W.T.	KG/M	W.T.	KG/M	W.T.	KG/M	W.T.	KG/M	W.T.	KG/M	W.T.	KG/M						
3	1/8	10.3	1.2	0.26	1.24	0.28	1.5	0.33	1.73	0.37	2.41	0.47	-	-	-	-						
6	1/4	13.7	1.2	0.37	1.65	0.49	2.00	0.58	2.24	0.630	3.02	0.80	-	-	-	-						
10	3/8	17.1	1.2	0.47	1.65	0.63	2.00	0.74	2.31	0.840	3.20	1.10	-	-	-	-						
15	1/2	21.3	1.65	0.80	2.11	1.00	2.30	1.07	2.77	1.27	3.73	1.62	4.78	1.94	7.47	2.55						
20	3/4	26.7	1.65	1.02	2.11	1.28	2.55	1.52	2.87	1.69	3.91	2.20	5.56	2.90	7.82	3.64						
25	1	33.4	1.65	1.30	2.77	2.09	2.55	1.94	3.38	2.50	4.55	3.24	6.35	4.24	9.09	5.45						
32	1.1/4	42.2	1.65	1.65	2.77	2.70	3.00	2.90	3.56	3.39	4.85	4.47	6.35	5.61	9.70	7.77						
40	1.1/2	48.3	1.65	1.90	2.77	3.11	3.00	3.35	3.68	4.05	5.08	5.41	7.14	7.25	10.15	9.55						
50	2	60.3	1.65	2.39	2.77	3.93	3.00	4.24	3.91	5.44	5.54	7.48	8.74	11.11	11.07	13.44						
65	2.1/2	73.0	2.11	3.69	3.05	5.26	4.00	6.81	5.16	8.63	7.01	11.41	9.53	14.91	14.02	20.39						
80	3	88.9	2.11	4.51	3.05	6.45	4.00	8.37	5.49	11.29	7.62	15.27	11.1	21.30	15.24	27.68						
100	4	114.3	2.11	5.84	3.05	8.36	4.50	12.18	6.02	16.07	8.56	22.32	13.49	33.54	17.12	41.03						
125	5	141.3	2.77	9.47	3.40	11.57	5.00	16.80	6.55	21.8	9.53	30.97	15.88	49.11	19.05	57.43						
150	6	168.3	2.77	11.32	3.40	13.82	6.35	25.36	7.11	28.26	10.97	42.56	18.25	67.53	21.95	79.22						
200	8	219.1	2.77	14.78	3.76	19.96	6.35	33.31	8.18	42.55	12.7	64.64	23.01	111.27	22.23	107.92						
250	10	273.1	3.40	22.61	4.19	27.78	6.35	41.77	9.27	60.31	12.7	81.55	28.58	172.33	25.40	155.15						
300	12	323.8	3.96	31.24	4.57	36.00	6.35	49.7	9.53	73.85	12.7	97.43	33.32	238.68	25.40	186.90						
350	14	355.6	3.96	34.34	4.78	41.30	7.92	67.90	11.13	94.54	ASTM A 312 GR. TP 304/304L ()											
400	16	406.4	4.19	41.56	4.78	47.34	7.92	77.82	12.7	123.30							ASTM A 312 GR. TP 316/316L ()					
450	18	457.2	4.19	46.81	4.78	53.32	7.92	87.74	14.27	155.86												
500	20	508.0	4.78	59.31	5.54	68.64	9.53	117.14	15.09	183.42												
600	24	610.0	5.54	82.57	6.35	94.52	9.53	141.11	17.48	255.41												

All Dimensions in millimeters. W.T. = Wall Thickness. KG/M = Kilograms per Meter.

ANSI SPECIFICATION & TOLERANCE FOR TUBING & PIPING

Specification	Allowable Outside Diameter Variation in mm			Allowable wall Thickness Variation		Exact Length Tolerances in mm		Testing
	Nominal Diameter	Over	Under	Over %	Under%	Over	Under	
ASTM A - 213 Seamless Boiler, Superheater and Heat Exchanger Tubes	Upto 25.4	0.1016	0.1016	+20	-0	3.175	0	Macro Test Flattening Test Tension Test Flare Test Hardness Test 100%Hydrostatic Test Refer to ASTM A-450
	25.4 - 38.1 incl.	0.1524	0.1524	+20	-0	3.175	0	
	38.1 - 50.8 incl.	0.2032	0.2032	+22	-0	3.176	0	
	50.8 - 63.5 incl.	0.2540	0.2540	+22	-0	3.760	0	
	63.5 - 73.2 incl.	0.3048	0.3048	+22	-0	4.760	0	
ASTM A - 249 Welded Boiler, Superheater, Heat Exchanger And Condenser Tubes	Under 25.4	0.1016	0.1016	+10	-10	3.175	0	Tension Test, Flattening Test Flare Test Reverse Bend Test Hardness Test 100% Hydrostatic Test
	25.4 -38.1 incl.	0.1524	0.1524	+10	-10	3.175	0	
	38.1 - 50.8 excl.	0.2032	0.2032	+10	-10	3.175	0	
	50.8 - 63.5 excl.	0.2540	0.2540	+10	-10	3.760	0	
	63.5 - 76.2 excl.	0.3048	0.3048	+10	-10	4.760	0	
	76.2 - 101.6 incl.	0.3810	0.3810	+10	-10	4.760	0	
	Minimum Wall tubes + 18%0 available on request							
ASTM A - 269 Seamless & Welded Tubing for General Service	Upto 12.7	0.13	0.13	+15	-15	3.2	0	Flare Test (Seamless only) Flange Test (Welded only) Hardness Test Reverse Flattening test (Welded only) 100% Hydrostatic Test Refer to ASTM A-269
	12.7 -38.1 excl.	0.13	0.13	+10	-10	3.2	0	
	38.1 - 88.9 excl.	0.25	0.25	+10	-10	4.8	0	
	88.9 - 139.7 excl.	0.38	0.38	+10	-10	4.8	0	
	139.7 - 203.2 excl.	0.76	0.76	+10	-10	4.8	0	
ASTM A - 312 Seamless & Welded ERW Pipes	13.7 - 48.3 incl.	0.40	0.79	Minimum Wall tubes 12.5% under wall nominal Specification	6.4	6.4	0	Tension Test Flattening Test 100% Hydrostatic Test
	38.1 - 1016 incl.	0.79	0.79			6.4	0	
	114.3 - 220 incl.	1.59	0.79			6.4	0	
	(Normally Random Lengths ordered)							
ASTM A - 358 ERW Welded Pipe	219.08 - 750mm or 0.01 inch	+0.5%		-0.3			6.0	Refer to ASTM A - 530
ASTM A - 409 Welded ERW	355.6 - 750mm	+0.2% to + 0.4%			-0.46			Refer to ASTM A - 530



CARBON STEEL & ALLOY STEEL PIPE DIMENSIONS ANSI B 36.10

Nominal Pipe size		O/D	Schedule 10		Schedule 20		Schedule 30		Schedule STD		Schedule 40		Schedule 60		Schedule XS		Schedule 80		Schedule 100		Schedule 120		Schedule 140		Schedule 160		Schedule XXS		
MM	INCH	MM	W.T.	KG/M	W.T.	KG/M	W.T.	KG/M	W.T.	KG/M	W.T.	KG/M	W.T.	KG/M	W.T.	KG/M	W.T.	KG/M	W.T.	KG/M	W.T.	KG/M	W.T.	KG/M	W.T.	KG/M	W.T.	KG/M	
3	1/8	10.3							1.73	0.37	1.73	0.37			2.41	0.47	2.41	0.47											
6	1/4	13.7							2.24	0.63	2.24	0.63			3.02	0.80	3.02	0.80											
10	3/8	17.1							2.31	0.84	2.31	0.84			3.20	1.10	3.20	1.10											
15	1/2	21.3							2.77	1.27	2.77	1.27			3.73	1.62	3.73	1.62							4.78	1.95	7.5	2.55	
20	3/4	26.7							2.87	1.69	2.87	1.69			3.91	2.20	3.91	2.20							5.56	2.90	7.82	3.64	
25	1	33.4							3.38	2.50	3.38	2.50			4.55	3.24	4.55	3.24							6.35	4.24	9.1	5.45	
32	1 1/4	42.2							3.56	3.39	3.56	3.39			4.85	4.47	4.85	4.47							6.35	5.61	9.7	7.77	
40	1 1/2	48.3							3.68	4.05	3.68	4.05			5.08	5.41	5.08	5.41							7.14	7.25	10.2	9.56	
50	2	60.3							3.91	5.44	3.91	5.44			5.54	7.48	5.54	7.48							8.74	11.11	11.1	13.4	
65	2 1/2	73.0							5.16	8.63	5.16	8.63			7.01	11.41	7.01	11.41							9.53	14.92	14.0	20.4	
80	3	88.9							5.49	11.3	5.49	11.3			7.62	15.3	7.62	15.3							11.13	21.35	15.24	27.7	
90	3 1/2	101.6							5.74	13.57	5.74	13.57			8.08	18.63	8.08	18.63							-				
100	4	114.3							6.02	16.07	6.02	16.07			8.56	22.3	8.56	22.3			11.13	28.32			13.5	33.5	17.12	41.03	
125	5	141.3							6.55	21.77	6.55	21.77			9.53	30.9	9.53	30.9			12.7	40.2			15.9	49.11	19.0	57.4	
150	6	168.3							7.11	28.26	7.11	28.26			10.97	42.5	10.97	42.5			14.3	54.2			18.3	67.5	21.95	79.22	
200	8	219.1			6.35	33.3	7.0	36.8	8.18	42.5	8.18	42.5	10.31	53.1	12.7	64.6	12.7	64.5	15.1	75.92	18.3	90.4	20.6	100.9	23.0	111.27	22.23	108.0	
250	10	273.0			6.35	41.7	7.8	51.3	9.27	60.3	9.27	60.3	12.7	81.5	12.7	81.5	15.1	96.0	18.3	114.7	21.44	133.0	25.4	155	28.6	172.3	25.4	155.0	
300	12	323.8			6.35	49.7	8.4	65.2	9.53	73.8	10.31	79.7	14.27	109.0	12.7	97.4	17.5	132.0	21.4	160.0	25.4	187.0	28.6	208	33.3	238.7	25.4	187.0	
350	14	355.6	6.35	54.7	7.92	68.1	9.53	81.3	9.53	81.3	11.13	94.6	15.09	126.0	12.7	107.0	19.0	158.0	23.8	195.0	27.8	224.0	31.8	253.5	35.7	281			
400	16	406.4	6.35	62.6	7.92	77.9	9.53	93.3	9.53	93.3	12.7	123.0	16.66	160.0	12.7	123.0	21.44	203.0	26.2	245.0	30.9	286.0	36.53	333	40.5	366.0			
450	18	457.2	6.35	70.6	7.92	87.7	11.13	122.0	9.53	105.0	14.20	156.0	19.05	206.0	12.7	139.0	23.8	254.6	29.36	310.0	34.0	363.0	39.7	408.3	45.2	459.0			
500	20	508.0	6.35	78.5	9.53	117.2	12.7	155.1	9.53	117.2	15.09	183.0	20.62	248.0	12.7	155.1	26.2	311.0	32.5	381.0	38.1	441.0	44.4	508	50.0	564.0			
550	22	558.8	6.35	86.6	9.53	129.0	12.7	171.0	9.53	129.0			22.2	294.0	12.7	171.0	28.6	373.0	34.9	451.0	41.3	527.0	47.6	600	54.0	672.0			
600	24	610.0	6.35	94.5	9.53	141.0	14.3	210.0	9.53	141.0	17.48	255.0	24.61	355.0	12.7	187.0	30.9	442.08	38.8	547.7	46.0	640.0	52.4	720.15	59.5	808.22			
650	26	660.0	7.92	127.3	12.7	203.0			9.53	153.0					12.7	202													
700	28	711.0	7.92	137.4	12.7	218.0	15.88	272.0	9.53	165.0					12.7	218													
750	30	762.0	7.92	147.9	12.7	234.6	15.88	292.2	9.53	176.0					12.7	235													
800	32	812.8	7.92	157.9	12.7	250.6	15.88	312.0	9.53	188.2	17.48	342.0			12.7	251													
850	34	863.6	7.92	167.9	12.7	266.5	15.88	331.7	9.53	200.0	17.48	364.9			12.7	266													
900	36	914.4	7.92	176.9	12.7	282.4	15.88	352.2	9.53	212.0	19.05	420.6			12.7	282													



All Dimensions in millimeters. W.T. = Wall Thickness. KG/M = Kilograms per Meter.



MILD STEEL PIPES CONFIRMING TO IS : 1239 (PART 1) - 1979

Nominal Bore		Outside Diameter		Light		Medium		Heavy	
Inch	In mm	In	mm	Thickness mm	Weight kg/mtr	Thickness mm	Weight Kg/Mtr.	Thickness mm	Weight Kg/Mtr.
1/8"	3 mm	0.406	10.32	1.80	0.361	2.00	0.407	2.65	0.493
1/4"	6 mm	0.532	13.49	1.80	0.517	2.35	0.650	2.90	0.769
3/8"	10 mm	0.872	17.10	1.80	0.674	2.35	0.852	2.90	1.02
1/2"	15 mm	0.844	21.43	2.00	0.952	2.65	1.122	3.25	1.45
3/4"	20 mm	1.094	27.20	2.35	1.410	2.65	1.580	3.25	1.90
1"	25 mm	1.312	33.80	2.65	2.010	3.25	2.440	4.05	2.97
1.1/4"	32 mm	1.656	42.90	2.65	2.580	3.25	3.140	4.05	3.84
1.1/2"	40 mm	1.906	48.40	2.90	3.250	3.25	3.610	4.05	4.43
2"	50 mm	2.375	60.30	2.90	4.110	3.65	5.100	4.47	6.17
2.1/2"	65 mm	3.004	76.20	3.25	5.840	3.65	6.610	4.47	7.90
3"	80 mm	3.500	88.90	3.25	6.810	4.05	8.470	4.85	10.1
4"	100 mm	4.500	114.30	3.65	9.890	4.50	12.10	5.40	14.4
5"	125 mm	5.500	139.70	-	-	4.85	16.20	5.40	17.8
6"	150 mm	6.500	165.10	-	-	4.85	19.20	5.40	21.2

BIG DIAMETER ERW PIPES CONFIRMING TO IS 3589

Wall Thickness in mm	Nominal Bore 7" NB 193.7 mm OD	Nominal Bore 8" NB 219.1 mm OD	Nominal Bore 10" NB 273 mm OD	Nominal Bore 12" NB 323.7 mm OD	Nominal Bore 14" NB 355.6 mm OD	Nominal Bore 16" NB 406.4 mm OD	Nominal Bore 18" NB 457 mm OD	Nominal Bore 20" NB 508 mm OD
kg/mtr	kg/mtr	kg/mtr	kg/mtr	kg/mtr	kg/mtr	kg/mtr	kg/mtr	kg/mtr
4.85	22.59	25.62	32.07	38.13	-	-	-	-
5.20	24.17	27.43	34.34	40.85	-	-	-	-
5.60	26.00	29.28	36.93	43.93	48.11	-	-	-
6.00	27.88	31.53	39.50	47.02	51.49	61.00	69.00	-
6.35	29.34	33.28	41.73	49.67	54.43	62.35	70.50	78.50
7.01	32.27	36.76	46.43	55.45	61.82	69.04	-	-
7.94	-	41.00	50.95	61.85	67.98	77.92	87.80	-
8.18	-	42.56	53.42	65.12	-	-	-	-
9.53	-	51.50	60.24	73.75	81.21	93.13	105.00	117.00
12.70	-	-	-	-	107.28	123.30	139.00	155.00

Tolerance on Thickness and Weight : as per IS 1239
The following manufacturing tolerance shall be permitted on the tubes and sockets.

- (a) **Thickness**
- (1) **Butt welded Light tubes** + Not limited
- 8 percent
- Medium and Heavy tubes** + Not Limited
- 10 percent
- (2) **Seamless tubes** + Not Limited
- 12.5 percent
- (b) **Weight :**
- (1) **Single tube (light series)** + 10 percent
- 8 percent
- (2) **Single tube (medium and heavy series)** + 10 percent

MAXIMUM PERMISSIBLE PRESSURE AND TEMPERATURE FOR TUBES WITH STEEL COUPLINGS OR SCREWED AND SOCKETED JOINTS

Nominal Bore mm	Maximum Permissible	
	Pressure N/mm ²	Temperature °C
Upto and Including 25 mm	1.20	12.24
Over 25 mm upto and Including 40 mm	1.03	10.50
Over 40 mm upto and Including 80 mm	0.86	8.77
over 80 mm upto and Including 100 mm	0.69	7.04
	0.83	8.47
Over 100 mm upto and Including 125 mm	0.69	7.04
Over 125 mm upto and Including 150 mm	0.50	5.10

For tubes fitted with appropriate fittings of suitably butt welded together, the Max. permissible pressure shall be 21.00 Kg/cm² and Max. permissible temp. 260°C