



# IS: 1978- 1982

Ladle Analysis Percent						
Grade	Carbon	Manganese		Sulphur	Phosphorus	
	Max	Min	Max	Max	Min	Max
YSt 170 class I	0.21	0.3	0.6	0.06	-	0.045
YSt 170 class II	0.21	0.3	0.6	0.06	0.045	0.08
YSt 210	0.22	-	0.9	0.05	-	0.04
YSt 240	0.27	-	1.15	0.05	-	0.04

NOTE - Class (II) Steel is re-phosphorized and is beneficial for threading operations.

Table 1 Dimensions, Weights And Test Pressures Of Standard-weight Threaded Line Pipe								
Nominal Size	Outside Diameter	Wall Thickness	Inside Diameter	Calculated Weight		Test Pressure		
	D	T	d	Plain End	*Threads & Coupling	Min		
					ew	Grade YSt 170	Grade YSt 210	Grade YSt 240
				Wpe				
1	2	3	4	5	6	7	8	9
mm	mm	mm	mm	Kg/m	Kg	100	100	100
						kPa	kPa	kPa
15	21.3	2.8	15.7	1.28	0.09	48	48	48
20	26.7	2.9	20.9	1.7	0.09	48	48	48
25	33.4	3.4	26.6	2.52	0.09	48	48	48
32	42.2	3.6	35	3.43	0.27	69	69	76
40	48.3	3.7	40.9	4.07	0.18	69	69	76
50	60.3	3.9	52.5	5.42	0.54	69	69	76
65	73	5.2	62.6	8.69	0.82	69	69	76
80	88.9	5.5	77.9	11.31	0.82	69	69	76
90	101.6	5.7	90.2	13.48	1.45	83	83	90
100	114.3	6	102.3	16.02	2	83	83	90
125	141.3	6.6	128.1	21.92	2.54	-	83	90
150	168.3	7.1	154.1	28.22	3.27	-	83	90
200	219.1	7	205.1	36.61	6.72	-	80	93
200	219.1	8.2	202.7	42.65	6.36	-	92	108
250	273	7.1	258.9	46.51	9.01	-	64	75
250	273	7.8	257.5	51.03	8.72	-	71	83
250	273	9.3	254.5	60.5	7.9	-	84	99

# IS: 1978- 1982



Table 2 Dimensions, Weights And Test Pressure Of Plain-end Line Pipe

Nominal Size	Designation	Outside Diameter D	Plain End Weight Wpe	Wall Thickness	Inside Diameter	Test Pressure, Min				
						Grade YSt 210		Grade YSt 240		Grade YSt 170
						Standard	Alternate	Standard	Alternate	Standard
1	2	3	4	5	6	7	8	9	10	11
mm		mm	Kg/m	mm	mm	100	100	100	100	100
						kPa	kPa	kPa	kPa	kPa
6	Std	10.3	0.36	1.7	6.9	48	-	48	-	48
6	XS	10.3	0.47	2.4	5.5	59	-	59	-	59
8	Std	13.7	0.62	2.2	9.3	48	-	48	-	48
8	XS	13.7	0.79	3	7.7	59	-	59	-	59
10	Std	17.1	0.84	2.3	12.5	48	-	48	-	48
10	XS	17.1	1.1	3.2	10.7	59	-	59	-	59
15	Std	21.3	1.28	2.8	15.7	48	-	48	-	48
15	XS	21.3	1.61	3.7	13.9	59	-	59	-	59
15	XXS	21.3	2.55	7.5	6.3	69	-	69	-	69
20	Std	26.7	1.7	2.9	20.9	48	-	48	-	48
20	XS	26.7	2.19	3.9	18.9	59	-	59	-	59
20	XXS	26.7	3.64	7.8	11.1	69	-	69	-	69
25	Std	33.4	2.52	3.4	26.6	48	-	48	-	48
25	XS	33.4	3.21	4.5	24.4	59	-	59	-	59
25	XXS	33.4	5.45	9.1	15.2	69	-	69	-	69
32	Std	42.2	3.43	3.6	35	83	-	90	-	69
32	XS	42.2	4.51	4.9	32.4	124	-	131	-	90
32	XXS	42.2	7.77	9.7	22.8	152	-	158	-	96
40	Std	48.3	4.07	3.7	40.9	83	-	90	-	96
40	XS	48.3	5.43	5.1	38.1	124	-	131	-	90
40	XXS	48.3	9.58	10.2	27.9	152	-	158	-	96
50	-	60.3	3.01	2.1	56.1	87	-	101	-	41
50	-	60.3	3.97	2.8	54.7	-	-	-	-	55
50	-	60.3	4.51	3.2	53.9	-	-	-	-	69
50	-	60.3	5.03	3.6	53.1	-	-	-	-	69
50	Std	60.3	5.42	3.9	52.5	161	-	172	-	69
50	-	60.3	6.07	4.4	51.5	172	-	172	-	76
50	-	60.3	6.57	4.8	50.7	172	-	172	-	83
50	XS	60.3	7.43	5.5	49.3	172	-	172	-	90
50	-	60.3	8.51	6.4	47.5	172	-	172	-	96
50	-	60.3	9.31	7.1	46.1	172	-	172	-	96
50	XXS	60.3	13.47	11.1	38.1	172	-	172	-	96
65	-	73	3.67	2.1	68.8	71	-	83	-	41
65	-	73	4.85	2.8	67.4	-	-	-	-	55
65	-	73	5.51	3.2	66.6	-	-	-	-	69
65	-	73	6.16	3.6	65.8	-	-	-	-	69
65	-	73	6.81	4	65	136	-	158	-	69
65	-	73	7.44	4.4	64.2	150	-	172	-	69
65	-	73	8.07	4.8	63.4	163	-	172	-	69
65	Std	73	8.69	5.2	62.6	172	-	172	-	69
65	-	73	9.16	5.5	62	172	-	172	-	76
65	-	73	10.51	6.4	60.2	172	-	172	-	83
65	XS	73	11.39	7	59	172	-	172	-	90
65	XXS	73	20.37	14	45	172	-	172	-	96



# IS: 1978- 1982

Table 2 Dimensions, Weights And Test Pressure Of Plain-end Line Pipe

Nominal Size	Designation	Outside Diameter D	Plain End Weight Wpe	Wall Thickness	Inside Diameter	Test Pressure, Min				
						Grade YSt 210		Grade YSt 240		Grade YSt 170
						Standard	Alternate	Standard	Alternate	Standard
1	2	3	4	5	6	7	8	9	10	11
mm		mm	Kg/m	mm	mm	100	100	100	100	100
						kPa	kPa	kPa	kPa	kPa
80		88.9	4.5	2.1	84.7	59	-	68	-	41
80		88.9	5.95	2.8	83.3	-	-	-	-	55
80		88.9	6.76	3.2	82.5	89	-	104	-	69
80		88.9	7.57	3.6	81.7	-	-	-	-	69
80		88.9	8.37	4	80.9	112	-	130	-	69
80		88.9	9.17	4.4	80.1	123	-	143	-	69
80		88.9	9.95	4.8	79.3	134	-	156	-	69
80	Std	88.9	11.31	5.5	77.9	154	-	172	-	69
80		88.9	13.02	6.4	76.1	172	-	172	-	-
80		88.9	14.23	7.1	74.7	172	-	172	-	-
80	XS	88.9	15.24	7.6	73.7	172	-	172	-	90
80	XXS	88.9	27.63	15.2	58.5	172	-	172	-	-
90		101.6	5.15	2.1	97.4	51	-	60	-	-
90		101.6	6.82	2.8	96	68	-	80	-	41
90		101.6	7.76	3.2	95.2	78	-	91	-	-
90		101.6	8.7	3.6	94.4	88	-	102	-	55
90		101.6	9.63	4	93.6	98	-	114	-	-
90		101.6	10.55	4.4	92.8	108	-	125	-	69
90		101.6	11.46	4.8	92	117	-	137	-	83
90		101.6	13.48	5.7	90.2	139	-	162	-	-
90	Std	101.6	13.48	5.7	90.2	-	-	-	-	83
90		101.6	15.02	6.4	88.8	156	-	182	-	-
90		101.6	16.55	7.1	87.4	174	-	193	-	-
90	XS	101.6	18.68	8.1	85.4	193	-	193	-	117
100		114.3	5.81	2.1	110.1	46	-	53	-	-
100		114.3	7.7	2.8	108.7	61	-	71	-	-
100		114.3	8.77	3.2	107.9	70	-	81	-	155
100		114.3	9.83	3.6	107.1	78	-	91	-	-
100		114.3	10.88	4	106.3	87	-	101	-	69
100		114.3	11.92	4.4	105.5	96	-	111	-	-
100		114.3	12.96	4.8	104.7	104	-	121	-	83
100		114.3	13.99	5.2	103.9	113	-	132	-	-
100		114.3	15.01	5.6	103.1	122	-	142	-	83
100	Std	114.3	16.02	6	102.3	130	-	152	-	83
100		114.3	17.03	6.4	101.5	139	-	162	-	-
100		114.3	18.77	7.1	100.1	154	-	180	-	-
100		114.3	20.73	7.9	98.5	172	-	193	-	-
100	XS	114.3	22.42	8.6	97.1	187	-	193	-	117
100		114.3	28.25	11.1	92.1	193	-	193	-	-
100		114.3	33.56	13.5	87.3	193	-	193	-	-
100	XXS	114.3	40.99	17.1	80.1	193	-	193	-	-
125		141.3	7.21	2.1	137.1	37	-	43	-	-
125		141.3	10.9	3.2	134.9	56	-	65	-	-
125		141.3	13.94	4	133.3	70	-	82	-	-
125		141.3	16.16	4.8	131.7	84	-	98	-	-
125		141.3	18.74	5.6	130.1	98	-	115	-	-
125		141.3	21.92	6.6	128.1	116	-	135	-	-
125		141.3	23.5	7.1	127.1	125	-	145	-	-
125		141.3	25.99	7.9	125.5	139	-	162	-	-
125		141.3	28.45	8.7	123.9	153	-	178	-	-
125	XS	141.3	30.88	9.5	122.3	167	-	193	-	-
125		141.3	40.28	12.7	115.9	193	-	193	-	-
125		141.3	49.17	15.9	109.5	193	-	193	-	-
125	XXS	141.3	57.56	19.1	103.1	193	-	193	-	-



Table 2 Dimensions, Weights And Test Pressure Of Plain-end Line Pipe

Nominal Size	Designation	Outside Diameter D	Plain End Weight Wpe	Wall Thickness	Inside Diameter	Test Pressure, Min				
						Grade YSt 210		Grade YSt 240		Grade YSt 170
						Standard	Alternate	Standard	Alternate	Standard
1	2	3	4	5	6	7	8	9	10	11
mm		mm	Kg/m	mm	mm	100	100	100	100	100
						kPa	kPa	kPa	kPa	kPa
150	-	168.3	8.61	2.1	164.1	31	39	36	45	-
150	-	168.3	11.43	2.8	162.7	41	52	48	60	-
150	-	168.3	13.03	3.2	161.9	47	59	55	69	-
150	-	168.3	14.62	3.6	161.1	53	66	62	77	-
150	-	168.3	16.21	4	160.3	59	74	76	86	-
150	-	168.3	17.78	4.4	159.5	65	81	74	95	-
150	-	168.3	19.35	4.8	158.7	71	89	81	103	-
150	-	168.3	20.91	5.2	158.9	77	96	89	112	-
150	-	168.3	22.47	5.6	157.1	83	103	96	120	-
150	-	168.3	25.55	6.4	155.5	94	118	110	137	-
150	-	168.3	28.22	7.1	154.1	105	131	122	153	-
150	-	168.3	31.15	7.9	152.5	117	146	136	170	-
150	-	168.3	34.24	8.7	150.9	128	161	149	187	-
150	XS	168.3	37.2	9.5	149.3	140	177	163	193	-
150	-	168.3	42.67	11	146.3	162	193	189	193	-
150	-	168.3	48.73	12.7	142.9	187	193	193	193	-
150	-	168.3	54.31	14.3	139.7	193	193	193	193	-
150	-	168.3	59.76	15.9	136.5	193	193	193	193	-
150	-	168.3	67.69	18.3	131.7	193	193	193	193	-
150	-	168.3	70.27	19.1	130.1	193	193	193	193	-
150	XXS	168.3	79.06	21.9	124.5	193	193	193	193	-
200	-	219.1	17.04	3.2	212.7	36	45	42	53	-
200	-	219.1	21.22	4	211.1	45	57	53	66	-
200	-	219.1	25.37	4.8	209.5	54	68	63	79	-
200	-	219.1	29.48	5.6	207.9	63	79	74	92	-
200	-	219.1	33.57	6.4	206.3	73	91	84	106	-
200	-	219.1	36.61	7	205.1	79	99	92	115	-
200	-	219.1	41.14	7.9	203.3	90	112	104	130	-
200	-	219.1	42.65	8.2	202.7	93	116	108	135	-
200	-	219.1	45.14	8.7	201.7	99	123	115	144	-
200	-	219.1	49.1	9.5	200.1	108	135	125	157	-
200	-	219.1	56.94	11.1	196.9	126	157	147	183	-
200	XS	219.1	64.64	12.7	193.7	144	180	168	193	-
200	-	219.1	72.22	14.3	190.5	162	193	189	193	-
200	-	219.1	79.67	15.9	187.3	180	193	193	193	-
200	-	219.1	90.62	18.3	182.5	193	193	193	193	-
200	-	219.1	94.2	19.1	180.9	193	193	193	193	-
200	-	219.1	100.84	20.6	177.9	193	193	193	193	-
200	XXS	219.1	107.79	22.2	174.7	193	193	193	193	-
250	-	273.1	26.54	4	265.1	36	45	42	53	-
250	-	273.1	31.76	4.8	263.5	44	55	51	64	-
250	-	273.1	36.94	5.6	261.9	51	64	59	74	-
250	-	273.1	42.09	6.4	260.3	58	73	68	85	-
250	-	273.1	46.57	7.1	258.9	65	81	75	94	-
250	-	273.1	51.03	7.8	257.5	71	89	83	103	-
250	-	273.1	56.72	8.7	255.7	79	99	92	115	-
250	-	273.1	60.5	9.3	254.5	85	106	98	123	-
250	-	273.1	71.72	11.1	250.9	101	126	118	147	-
250	XS	273.1	81.55	12.7	247.7	116	144	134	168	-
250	-	273.1	91.26	14.3	244.5	130	163	151	189	-
250	-	273.1	100.85	15.9	241.3	145	181	168	193	-
250	-	273.1	114.99	18.3	236.5	166	193	193	193	-
250	-	273.1	119.64	19.1	234.9	174	193	193	193	-
250	-	273.1	128.27	20.6	231.9	187	193	193	193	-
250	-	273.1	137.36	22.2	228.7	193	193	193	193	-
250	-	273.1	146.32	23.8	225.5	193	193	193	193	-
250	-	273.1	155.15	25.4	222.3	193	193	193	193	-



# IS: 1978- 1982

Outside Diameter - The outside diameter tolerances shall be as follows.	
Pipe Body	
For Size	Tolerance
48.3 and less	+0.40mm
	-0.80mm
60.3 and above	± 1 percent

**Note:** Pipe Ends OD 273 mm and Smaller and 0.4 mm smaller than the specified OD for the space of 100 mm from the end of Pipe and shall permit the passage over and for resistance of 100 mm of a ring gauge which has a bore of 1.6 mm larger and specified OD of pipe.

Wall Thickness - The tolerances on the wall thickness of line pipes shall be as follows :		
Type	For	Tolerance, percent
Welded pipes	73.00mm and smaller	+20
		-12.5
	88.9 mm OD	+18
		-12.5
Welded pipes	101.6mm OD to 457.2mm OD inclusive	+15
		-12.5

Physical Properties		
Grade of Pipe	Yield Strength	Tensile Strength
Min	Min	Min
1	2	3
	MPa	MPa
YSt 170	170	310
YSt 210	210	330
YSt 240	240	410