KPI PRODUCTS
SPECIFICATION

MATERIAL & PIPE SPECIFICATION

Standard Specification	Chemical Composition (%)						Mechanical Strength			
	Grade	Application	C	Mn	P	S	Yield Strength		Ultimate Tensile Strength	
			max	max	max	max	Psi	N/mm2	Psi	N/mm2
API SL (*)	A25	Oil & Gas Line Pipe	0.21	0.60	0.03	0.03	25,382.00	175.0	44,962.40	310.0
	A		0.22	0.90	0.03	0.03	30,458.40	210.0	48,588.40	335.0
	B		0.26	1.20	0.03	0.03	35,534.80	245.0	60,191.60	415.0
	X42		0.26	1.30	0.03	0.03	42,061.60	290.0	74,695.60	515.0
	X46		0.26	1.40	0.03	0.03	46,412.80	320.0	63,092.40	435.0
	X52		0.26	1.40	0.03	0.03	52,214.40	360.0	66,718.40	460.0
	X56		0.26	1.40	0.03	0.03	56,565.60	390.0	71,069.60	490.0
	X60		0.26	1.40	0.03	0.03	60,191.60	415.0	75,420.80	520.0
	X65		0.26	1.45	0.03	0.03	65,268.00	450.0	77,596.40	535.0
	X70		0.26	1.65	0.03	0.03	70,344.40	485.0	82,672.80	530.0
ASTM A252	1	Steel Pipe Piles	-	-	0.050	-	29,733.20	205.0	50,038.80	345.0
	2		-	-	0.050	-	34,809.60	240.0	60,191.60	415.0
	3		-	-	0.050	-	44,962.40	310.0	65,993.20	455.0
ASTM A139	A	Steel Pipe Piles	0.25	1.00	0.0350	0.0350	29,733.20	205.0	47,863.20	330.0
	B		0.26	1.00	0.0350	0.0350	34,809.60	240.0	60,191.60	415.0
	C		0.28	1.20	0.0350	0.0350	42,061.60	290.0	60,191.60	415.0
	D		0.30	1.30	0.0350	0.0350	45,687.60	315.0	60,191.60	415.0
	E		0.30	1.40	0.0350	0.0350	52,214.40	360.0	65,993.20	455.0
ASTM A283	A	Steel pipe Piles	0.14	0.9	0.035	0.04	23,931.60	165.0	44,962.40	310.0
									60,191.60	415.0
	B		0.17	0.9	0.035	0.04	26,832.40	185.0	50,038 80	345.0
									65,268.00	450.0
	C		0.24	0.9	0.035	0.04	29,733.20	205.0	55,115.20	380.0
									74,695.60	515.0
	D		0.27	0.9	0.035	0.04	33,359.20	230.0	60,191.60	415.0
									79,772.00	550.0
ASTM A53	A	Electric Resistance Welded	0.25	0.95	0.05	0.045	29,733.20	205.0	47,863.20	330.0
	B		0.30	1.20	0.05	0.045	34,809.60	240.0	60,191.60	415.0
ASTM A134	The Steel Grade Conform to ASTM A283									
JIS A5525	SKK 41/400	Steel Pipe Piles	0.25	-	0.04	0.04	34,084.40	235.0	58,016.00	400.0
	SKK 50/490		0.18	1.50	0.04	0.04	45,687.60	315.0	71,069.60	490.0
JIS A5530	SKY 41/400	Steel Pipe Piles	0.25	-	0.04	0.04	34,084.40	235.0	58,016.00	400.0
	SKY 50/480		0.18	1.50	0.04	0.04	45,687.60	315.0	71,069.60	490.0
JIS G3444	STK 30/290	General Structural Purpose	-	-	0.05	0.05	-	-	42,061.60	290.0
	STK 41/400		0.25	-	0.04	0.04	34,084.40	235.0	58,016.00	400.0
	STK 51/500		0.24	1.30	0.04	0.04	51,489.20	355.0	72,520.00	500.0
	STK 50/490		0.18	1.50	0.04	0.04	45,687.60	315.0	71,069.60	490.0
	STK 55/540		0.23	1.50	0.04	0.04	56,565.60	390.0	78,321.60	540.0
JIS G3101	SS 380	General Structural Purpose	-	-	0.050	0.050	28,282.80	195.0	47,863.20	330.0
									62,367.20	430.0
	SS 400		-	-	0.050	0.050	34,084.40	235.0	58,016.00	400.0
									73,970.40	510.0
	SS 490		-	-	0.050	0.050	39,886.00	275.0	71,069.60	490.0
									88,474.40	610.0
	SS 540		0.30	1.60	0.040	0.040	56,565.60	390.0	78,321.60	540.0
AWWA C200	The Steel Grade Conform to ASTM A283									
BS EN 10025**	S 275 JR	General Structural Purpose	0.20	1.50	0.035	0.035	39,885	275	59466/81221	410/560
	S 355 J0		0.20 [2][3]	1.60	0.035	0.035	51,489	355	68168/91374	470/630
	S 355 JR		0.22	1.60	0.035	0.035	51,489	355	68168/91374	470/630

* Applies only to API 5L 44th Ed PSL 1, for PSL 2 is as defined in API Spesification for Line Pipe book, table 5 & 7

** Detail specification refers to BS EN 10025 Standard

SPIRAL WELDED

1		2		3		4	5	6	7	8	9	10	11	12	13	14	15	16
Size Outside Diameter		Weight		Wall Thickness		Inside Diameter	Minimum Pressure, kpa x 100											
							Grade A		Grade B									
in	mm	lb/ft	kg/m	in	mm	mm	Std	Alt	Std	Alt	Grade X42	Grade X46	Grade X52	Grade X56	Grade X60	Grade X65	Grade X70	Grade X80
D				t		d												
12 3/4	323.9	29.31	43.96	0.219	5.6	312.7	43	53	50	62	65	92	105	113	121	131	141	162
12 3/4	323.9	33.38	50.11	0.250	6.4	311.1	49	61	56	71	96	105	119	129	138	150	162	185
12 3/4	323.9	37.42	55.47	0.281	7.1	309.7	54	68	64	80	108	119	134	145	155	168	181	207
12 3/4	323.8	41.45	61.56	0.312	7.9	308.1	61	76	71	88	121	132	149	161	172	186	200	207
12 3/4	323.8	43.77	65.35	0.330	8.4	307.1	64	80	75	94	127	139	158	169	182	197	207	207
12 3/4	323.8	45.58	67.62	0.344	8.7	306.5	67	83	78	98	132	145	165	177	189	205	207	207
14	355.6	32.23	48.33	0.219	5.6	344.4	.....	.....	.....	.....	77	84	95	103	110	119	128	148
14	355.6	36.71	55.11	0.250	6.4	342.8	44	55	52	65	88	96	109	117	125	136	147	169
14	355.6	41.17	61.02	0.281	7.1	341.4	50	62	58	72	99	108	122	132	141	153	163	187
14	355.6	45.61	67.74	0.312	7.9	339.8	55	69	65	61	110	120	136	146	156	169	183	207
14	355.6	50.17	74.42	0.344	8.7	338.2	61	76	71	89	121	132	150	161	173	187	261	207
14	355.6	54.57	81.08	0.375	9.5	336.6	66	83	77	97	132	144	163	176	188	204	207	207
16	406.4	31.75	47.54	0.188	4.8	396.8	29	37	34	43	58	63	72	77	83	90	96	111
16	406.4	34.25	51.45	0.203	5.2	396.0	32	39	37	46	63	68	77	83	89	96	104	120
16	406.4	36.91	55.39	0.219	5.6	395.2	34	43	39	50	68	74	83	90	96	104	112	129
16	406.4	42.05	63.13	0.250	6.4	393.6	39	48	45	56	77	84	95	103	110	119	128	148
16	406.4	47.17	69.91	0.281	7.1	392.2	43	54	51	63	86	94	107	115	123	134	144	164
16	406.4	51.27	77.63	0.312	7.9	390.6	48	61	56	70	96	105	119	128	137	148	160	82
16	406.4	57.52	85.32	0.344	8.7	389.0	53	67	62	78	106	116	131	141	151	164	176	201
16	406.4	62.58	92.98	0.375	9.5	387.4	58	72	68	85	115	126	143	154	165	178	192	207
16	406.4	67.62	100.61	0.406	10.3	385.8	.....	.....	.....	.....	125	136	154	167	178	193	207	207
16	406.4	72.80	108.20	0.438	11.1	384.2	68	85	79	99	134	147	167	180	192	207	207	207
16	406.4	77.79	115.77	0.496	11.9	382.6	.....	.....	.....	.....	144	158	178	192	206	207	207	207
16	406.4	82.32	123.30	0.500	12.7	381.0	77	97	90	113	154	168	190	205	207	207	207	207
16	406.4	92.66	138.27	0.563	14.3	377.8	87	97	90	113	154	168	190	205	207	207	207	207
16	406.4	102.63	153.11	0.626	15.9	374.6	63	121	113	141	192	207	207	207	207	207	207	207
18	457.0	35.76	53.53	0.188	4.8	447.4	26	32	30	38	52	56	63	68	74	79	85	98
18	457.0	41.59	62.34	0.219	5.6	445.8	30	38	35	44	60	65	74	80	85	92	100	115
18	457.0	47.39	71.12	0.250	6.4	444.2	34	43	40	50	68	75	85	91	98	105	114	131
18	457.0	53.18	78.77	0.281	7.1	442.8	39	43	45	56	76	84	95	103	110	119	128	146
18	457.0	58.94	87.49	0.312	7.9	441.2	43	54	50	63	85	94	105	114	122	132	142	162
18	457.0	64.87	96.18	0.344	8.7	439.6	48	59	55	69	94	103	116	127	136	145	156	178
18	457.0	70.59	104.84	0.375	9.5	438.0	52	65	61	75	103	112	127	136	146	158	171	195
18	457.0	76.29	113.46	0.406	10.3	436.4	.....	.....	.....	.....	111	121	137	148	158	172	185	207
18	457.0	82.15	122.05	0.438	11.1	434.8	61	76	70	88	120	131	148	160	171	185	207	207
18	457.0	87.81	130.62	0.469	11.9	433.2	.....	.....	.....	.....	128	141	158	171	183	198	207	207
18	457.0	93.45	139.15	0.500	12.7	431.6	69	86	81	101	136	150	169	182	195	207	207	207
18	457.0	104.67	156.11	0.563	14.3	428.4	77	96	90	113	154	168	190	205	207	207	207	207
18	457.0	115.98	172.95	0.626	15.9	425.2	86	107	101	125	171	187	207	207	207	207	207	207

1		2		3		4	5	6	7	8	9	10	11	12	13	14	15	16
Size Outside Diameter		Weight		Wall Thickness		Inside Diameter	Minimum Pressure, kpa x 100											
							Grade A		Grade B		Grade X42	Grade X46	Grade X52	Grade X56	Grade X60	Grade X65	Grade X70	Grade X80
in	mm	lb/ft	kg/m	in	mm	mm	Std	Alt	Std	Alt								
D				t		d												
20	508.0	16.27	69.38	0.219	5.6	496.8	27	34	32	39	57	63	71	77	82	89	96	109
20	508.0	52.73	79.16	0.250	6.4	495.2	31	39	36	45	65	72	81	83	94	102	109	125
20	508.0	59.18	87.70	0.281	7.1	493.8	35	43	41	51	71	80	90	97	104	113	121	139
20	508.0	65.60	97.43	0.312	7.9	492.2	39	48	45	56	81	89	100	108	116	125	135	154
20	508.0	72.21	107.12	0.344	8.7	490.6	43	53	50	62	89	98	111	119	128	138	149	170
20	503.0	78.60	116.78	0.375	9.5	489.0	47	58	54	68	97	107	121	130	139	151	162	185
20	508.0	84.96	126.41	0.406	10.3	487.4	.....	.....	.....	.....	106	116	131	141	151	164	176	201
20	508.0	91.51	136.01	0.438	11.1	485.8	54	68	63	79	114	125	141	152	163	176	190	207
20	508.0	97.83	145.58	0.469	11.9	484.2	.....	.....	.....	.....	122	134	151	163	174	189	204	207
20	508.0	104.13	155.12	0.500	12.7	482.6	62	77	72	90	147	143	161	174	186	202	207	207
20	508.0	116.67	174.10	0.563	14.3	479.4	70	87	81	102	163	161	182	196	207	207	207	207
20	508.0	129.33	192.95	0.626	15.9	476.2	77	97	90	113	180	179	202	207	207	207	207	207
20	508.0	141.90	211.68	0.689	17.5	473.0	85	107	99	125	196	197	207	207	207	207	207	207
20	508.0	154.19	230.27	0.752	19.1	469.8	93	116	109	136	207	207	207	207	207	207	207	207
20	508.0	166.40	247.60	0.811	20.6	466.8	101	126	118	147	207	207	207	207	207	207	207	207
22	559.0	50.94	76.42	0.219	5.6	547.8	25	31	29	36	52	57	65	70	75	81	87	99
22	559.0	58.07	87.21	0.250	6.4	546.2	28	35	33	41	60	65	74	80	85	92	99	114
22	559.0	65.18	96.63	0.281	7.1	544.8	32	39	37	46	66	73	82	88	9S	102	110	126
22	559.0	72.27	107.36	0.312	7.9	543.2	35	44	41	51	74	81	91	99	105	114	123	140
22	559.0	79.56	118.06	0.344	8.7	541.6	39	48	45	56	81	89	100	108	116	126	135	154
22	559.0	86.61	128.73	0.375	9.5	540.0	42	53	50	61	89	97	110	118	127	137	148	169
22	559.0	93.63	139.37	0.406	10.3	538.4	.....	.....	.....	.....	96	105	119	128	137	149	160	183
22	559.0	100.86	149.97	0.438	11.1	536.8	50	62	58	72	104	114	128	138	148	160	173	197
22	559.0	107.85	180.55	0.469	11.9	535.2	.....	.....	.....	.....	111	122	137	148	159	172	185	207
22	559.0	114.81	171.09	0.500	12.7	533.6	56	70	65	82	118	130	147	158	169	183	197	207
22	559.0	128.67	192.08	0.563	14.3	530.4	63	79	74	92	133	146	165	178	190	207	207	207
22	559.0	142.68	212.95	0.626	15.9	527.2	70	88	82	103	148	162	184	198	207	207	207	207
22	559.0	156.60	233.68	0.689	17.5	524.0	78	97	90	113	163	179	202	207	207	207	207	207
22	559.0	170.21	254.30	0.752	19.1	520.8	85	105	99	123	178	195	207	207	207	207	207	207
22	559.0	183.75	273.51	0.811	20.6	517.8	92	114	107	134	192	207	207	207	207	207	207	207
24	610.0	63.41	95.26	0.250	6.35	596.9	26	32	30	38	54	59	68	72	77	84	91	104
24	610.0	71.18	105.56	0.281	7.14	594.3	29	37	34	42	61	67	76	81	87	94	101	115
24	610.0	78.93	117.30	0.312	7.92	593.8	32	40	38	47	68	74	84	90	96	105	113	128
24	610.0	86.91	129.45	0.344	8.7	592.6	36	44	41	52	74	81	92	99	106	115	124	154
24	610.0	94.62	140.94	0.375	9.5	591.0	39	48	45	56	81	89	101	108	116	126	135	154
24	610.0	102.31	152.39	0.406	10.3	589.4	.....	.....	.....	.....	88	96	109	117	126	136	147	167
24	610.0	110.22	164.17	0.438	11.1	587.8	45	56	53	66	95	104	118	127	136	147	158	180
24	610.0	117.86	175.55	0.469	11.2	586.2	.....	.....	.....	.....	102	112	126	136	145	158	169	193
24	610.0	125.49	186.92	0.500	12.7	584.6	52	65	61	75	109	119	134	145	155	158	181	206
24	610.0	156.03	232.94	0.626	15.9	578.2	65	81	75	94	136	149	168	181	194	207	207	207
24	610.0	171.29	255.69	0.689	17.5	575.0	71	89	83	103	150	164	185	199	207	207	207	207
24	610.0	186.23	278.32	0.752	19.1	571.8	77	97	90	113	163	179	202	207	207	207	207	207
24	610.0	201.09	299.41	0.811	20.6	568.8	84	105	98	123	176	193	207	207	207	207	207	207
26	660.0	68.75	103.15	0.250	6.4	647.2	24	30	28	34	50	55	62	67	72	78	84	96
26	660.0	77.18	114.31	0.281	7.1	645.8	27	34	31	39	56	61	70	75	81	87	93	107
26	660.0	85.60	127.04	0.312	7.9	6442	30	37	34	43	63	68	77	83	90	96	104	119
26	660.0	94.26	139.73	0.344	8.7	642.6	33	41	39	48	69	76	85	92	99	107	115	131
26	660.0	102.63	152.39	0.375	9.5	641.0	36	45	42	52	75	82	93	100	107	116	125	143
26	660.0	110.98	165.02	0.406	10.3	639.4	.....	.....	.....	.....	81	89	101	108	116	126	136	155
26	660.0	119.57	177.62	0.438	11.1	637.8	42	52	49	61	88	96	109	117	125	136	146	167

1		2		3		4	5	6	7	8	9	10	11	12	13	14	15	16
Size Outside Diameter		Weight		Wall Thickness		Inside Diameter	Minimum Pressure, kpa x 100											
							Grade A		Grade B		Grade X42	Grade X46	Grade X52	Grade X56	Grade X60	Grade X65	Grade X70	Grade X80
in	mm	lb/ft	kg/m	in	mm	mm	Std	Alt	Std	Alt								
D				t		d												
26	660.0	127.88	190.19	0.469	11.9	636.2	.....	.....	.....	.....	94	103	116	125	134	138	157	179
26	660.0	152.68	227.70	0.563	14.3	631.4	54	67	63	78	113	124	140	151	161	175	188	207
26	660.0	169.38	252.55	0.626	15.9	628.2	60	74	70	87	126	138	155	167	179	184	207	207
26	660.0	185.99	277.27	0.689	17.5	625.0	65	82	76	96	138	151	165	184	201	207	207	207
26	660.0	202.00	301.87	0.752	19.1	621.8	72	90	83	104	151	165	187	201	207	207	207	207
26	660.0	218.43	324.81	0.811	20.6	618.8	77	97	90	113	163	178	201	207	207	207	207	207
28	711.0	74.09	110.36	0.250	6.4	698.5	22	28	25	32	47	51	58	62	66	72	78	89
28	711.0	83.19	123.91	0.281	7.1	696.9	25	31	29	37	52	57	65	70	74	81	87	99
28	711.0	92.26	137.42	0.312	7.9	695.4	28	34	32	40	58	63	72	77	83	90	96	110
28	711.0	101.61	151.35	0.344	8.7	693.7	.....	.....	.....	.....	64	70	79	85	92	99	107	121
28	711.0	110.64	164.80	0.375	9.5	692.2	33	41	39	48	70	76	86	93	100	108	116	133
28	711.0	119.65	178.22	0.406	10.3	690.6	.....	.....	.....	.....	76	83	94	101	108	117	126	144
28	711.0	128.93	192.04	0.438	11.1	688.9	39	48	45	56	81	90	101	109	116	126	136	155
28	711.0	137.90	205.40	0.469	11.9	687.4	.....	.....	.....	.....	88	96	108	116	125	135	145	166
28	711.0	146.85	218.69	0.500	12.7	685.6	44	55	52	65	93	102	115	124	133	144	155	177
28	711.0	164.69	245.68	0.563	14.3	682.4	50	62	58	72	105	114	130	139	150	162	174	199
28	711.0	182.73	272.54	0.626	15.9	679.2	55	69	65	81	116	127	144	155	166	180	194	207
28	711.0	200.68	299.28	0.689	17.5	676.0	61	76	71	89	128	140	158	171	183	198	207	207
28	711.0	218.27	325.89	0.752	19.1	672.8	66	83	77	97	139	153	173	186	199	207	207	207
28	711.0	235.78	350.72	0.811	20.6	669.8	72	90	84	105	151	165	187	201	207	207	207	207
30	762.0	79.4S	118.31	0.250	6.4	749.3	21	25	24	30	43	48	54	58	62	68	72	83
30	762.0	89.19	131.85	0.281	7.1	747.7	23	29	27	34	49	54	61	65	70	76	81	92
30	762.0	98.93	147.36	0.312	7.9	746.2	25	32	30	38	54	59	67	72	77	84	90	103
30	762.0	108.95	162.28	0.344	8.7	744.5	.....	.....	.....	.....	60	65	74	80	85	92	99	113
30	762.0	118.65	176.73	0.375	9.5	743.0	31	39	36	45	65	72	81	87	93	101	109	124
30	762.0	128.32	191.13	0.406	10.3	741.4	.....	.....	.....	.....	70	77	88	94	101	109	118	134
30	762.0	138.29	205.98	0.438	11.1	739.7	37	45	42	53	76	83	94	101	109	118	127	144
30	762.0	147.92	220.32	0.469	11.9	738.2	.....	.....	.....	.....	81	89	101	109	116	126	136	155
30	762.0	157.53	234.64	0.500	12.7	736.6	41	52	48	61	87	95	107	116	124	134	145	165
30	762.0	176.69	263.18	0.562	14.3	733.5	46	58	54	68	98	107	121	130	139	151	163	186
30	762.0	196.08	292.54	0.625	15.9	730.2	52	65	61	75	109	119	134	145	155	168	181	207
30	762.0	215.38	321.29	0.689	17.5	727.0	57	71	66	83	119	131	148	159	171	185	199	207
30	762.0	234.29	349.91	0.752	19.1	723.8	62	77	72	90	130	143	161	174	186	201	207	207
30	762.0	253.12	376.63	0.811	20.6	720.8	67	84	79	98	141	154	174	188	201	207	207	207
30	762.0	272.17	405	0.874	22.2	717.6	72	90	84	105	152	167	188	203	207	207	207	207
32	813.0	84.77	126.26	0.250	6.4	800.1	19	24	23	28	41	45	50	54	58	63	63	78
32	813.0	95.19	141.79	0.281	7.1	798.5	22	28	25	32	45	50	56	61	65	71	76	87
32	813.0	105.59	157.28	0.312	7.9	797.0	24	30	28	35	51	56	63	68	72	79	85	96
32	813.0	116.30	173.23	0.344	8.7	795.3	.....	.....	.....	.....	56	61	70	74	80	87	93	106
32	813.0	126.66	188.66	0.375	9.5	793.8	29	37	34	43	61	67	76	81	88	94	102	116
32	813.0	136.99	204.05	0.406	10.3	792.2	.....	.....	.....	.....	66	72	82	95	94	102	110	126
32	813.0	147.64	219.91	0.438	11.1	790.5	34	43	39	50	71	78	88	102	102	110	119	135
32	813.0	157.94	235.25	0.469	11.9	798.0	.....	.....	45	.....	76	83	94	109	109	118	127	145
32	813.0	168.21	250.55	0.500	12.7	787.4	39	48	51	56	81	89	101	109	116	126	136	155
32	813.0	188.70	281.07	0.562	14.3	784.3	43	54	56	63	92	100	113	122	131	141	152	174
32	813.0	209.43	312.54	0.625	15.9	781.0	48	61	56	71	102	112	126	136	145	158	169	194
32	813.0	230.08	343.30	0.689	17.5	778.0	53	67	62	78	112	123	138	150	160	174	187	207
32	813.0	250.31	373.93	0.752	19.1	774.8	58	72	68	85	122	134	151	163	174	189	203	207
32	813.0	270.47	40254	0.811	20.6	771.8	63	79	74	92	132	145	164	176	489	205	207	207
32	813.0	290.86	432.93	0.874	22.2	768.6	68	85	79	99	143	156	176	190	203	207	207	207

1		2		3		4	5	6	7	8	9	10	11	12	13	14	15	16
Size Outside Diameter		Weight		Wall Thickness		Inside Diameter	Minimum Pressure, kpa x 100											
							Grade A		Grade B		Grade X42	Grade X46	Grade X52	Grade X56	Grade X60	Grade X65	Grade X70	Grade X80
in	mm	lb/ft	kg/m	in	mm	mm	Std	Alt	Std	Alt								
D				t		d												
34	864.0	90.11	134.22	0.250	6.4	850.9	18	23	21	27	39	42	48	51	54	59	64	73
34	864.0	101.19	150.72	0.281	7.1	849.3	21	25	24	30	43	47	53	57	61	67	72	82
34	864.0	112.25	167.20	0.312	7.9	847.8	23	28	27	33	48	52	59	63	68	74	80	91
34	864.0	123.65	184.18	0.344	8.7	848.1	.....	.....	.....	.....	52	58	65	70	75	81	88	100
34	864.0	134.67	200.58	0.375	9.5	844.6	28	34	32	40	57	63	71	76	82	89	96	109
34	864.0	145.67	216.85	0.406	10.3	843.0	.....	.....	.....	.....	62	68	77	83	89	104	103	118
34	864.0	157.00	233.85	0.438	11.1	841.3	32	40	37	47	67	74	83	90	96	111	112	127
34	864.0	167.95	250.16	0.469	11.9	839.8	.....	.....	.....	.....	72	79	89	96	103	119	120	137
34	864.0	178.89	266.46	0.500	12.7	838.2	37	45	43	53	76	84	95	102	110	133	127	146
34	864.0	200.70	298.94	0.562	14.3	835.1	41	51	48	60	86	94	107	115	123	148	143	164
34	864.0	222.78	331.83	0.625	15.9	831.8	45	57	53	67	96	105	119	127	137	148	160	183
34	864.0	244.77	365.31	0.689	17.5	829.0	50	63	59	73	105	116	130	141	151	163	176	201
34	864.0	266.33	397.95	0.752	19.1	825.8	54	68	64	80	115	126	142	153	164	178	192	207
34	864.0	287.81	428.44	0.811	20.6	822.8	59	74	69	86	125	136	154	166	178	192	207	207
34	864.0	309.55	460.85	0.874	22.2	819.6	64	80	74	93	134	147	166	178	192	207	207	207
36	914.0	95.45	142.17	0.250	6.35	901.1	17	21	20	25	36	40	45	48	52	56	61	89
36	914.0	107.20	159.67	0.281	7.14	900.1	19	24	23	28	41	45	50	54	58	63	68	77
36	914.0	118.92	177.12	0.312	7.92	898.6	21	27	25	31	45	50	58	60	65	70	75	86
36	914.0	131.00	195.12	0.344	8.74	896.9	.....	.....	.....	.....	50	54	61	66	71	77	83	94
36	914.0	142.68	212.52	0.375	9.52	895.4	26	32	30	38	54	59	68	72	77	84	90	103
36	910.0	154.34	142.17	0.406	10.3	893.8	.....	.....	.....	.....	59	64	73	79	84	91	98	112
36	910.0	166.35	247.78	0.438	11.1	892.1	30	38	35	44	63	70	79	85	90	98	105	120
36	910.0	177.97	265.09	0.469	11.9	890.6	.....	.....	.....	.....	68	74	84	90	97	105	113	129
36	910.0	189.57	282.36	0.500	12.7	889.0	34	43	40	40	72	79	90	96	103	112	121	138
36	910.0	212.70	316.82	0.562	14.3	885.9	39	48	45	56	81	89	101	108	116	125	136	155
36	910.0	236.13	351.72	0.625	15.9	882.6	43	54	50	63	90	99	112	121	130	140	151	173
36	910.0	259.47	386.88	0.689	17.5	879.0	48	59	55	69	99	109	123	133	142	154	166	190
36	910.0	282.35	421.50	0.752	19.1	875.8	52	65	61	75	109	119	134	145	155	168	181	207
36	910.0	305.16	453.84	0.811	20.6	872.8	56	70	65	81	118	129	145	157	168	182	196	207
36	910.0	328.24	488.22	0.874	22.2	869.6	61	75	70	88	127	138	157	168	181	196	207	207
38	965.0	125.58	187.05	0.312	7.9	949.4	21	25	23	30	43	47	53	57	61	66	71	81
38	965.0	138.35	206.07	0.344	8.7	949.7	23	28	26	33	47	52	59	63	68	73	79	89
38	965.0	153.69	224.45	0.375	9.5	966.2	25	30	28	36	52	56	63	68	74	79	85	98
38	965.0	163.01	242.80	0.406	10.3	944.6	26	33	31	39	56	61	69	74	79	86	93	106
38	965.0	175.71	261.72	0.438	11.1	942.9	28	36	33	42	60	65	70	80	85	93	100	114
38	965.0	187.99	280.01	0.469	11.9	941.4	30	39	36	45	64	70	80	85	92	99	107	122
38	985.0	200.25	298.27	0.500	12.7	939.8	32	41	38	48	68	75	85	92	98	106	114	131
38	965.0	224.71	324.71	0.562	14.3	936.7	37	46	45	54	77	84	as	103	110	119	128	147
38	965.0	249.48	371.60	0.625	15.9	933.4	41	51	48	59	85	94	106	107	123	132	143	163
38	965.0	274.16	408.89	0.689	17.5	930	45	56	52	65	94	103	116	126	135	146	157	180
38	965.0	298.37	445.52	0.752	19.1	926.8	49	61	57	72	103	112	127	137	147	159	172	196
38	965.0	322.50	479.75	0.811	20.6	923.8	53	66	62	77	112	122	138	148	159	172	185	207
38	965.0	346.93	516.14	0.874	22.2	920.6	57	72	67	83	120	132	149	160	172	185	200	207
40	1,016.0	132.25	196.99	0.312	7.9	1,000.2	19	24	23	28	41	45	50	54	58	63	68	77
40	1,016.0	145.69	217.01	0.344	8.7	998.5	21	23	25	31	45	49	55	60	64	70	81	85
40	1,016.0	158.70	236.38	0.375	9.5	997.0	23	29	27	34	49	54	61	65	70	76	74	93
40	1,016.0	171.68	255.72	0.406	10.3	995.4	25	32	30	37	53	68	65	70	76	82	83	101
40	1,016.0	185.06	275.65	0.438	11.1	993.7	27	34	32	39	57	63	70	76	81	88	95	108
40	1,016.0	198.01	294.94	0.469	11.9	992.2	29	37	34	43	61	67	76	81	88	94	102	116
40	1,016.0	21093	314.18	0.500	12.7	990.6	31	39	36	45	65	72	81	87	93	101	109	124
40	1,016.0	236.71	352.58	0.562	14.3	987.5	35	43	41	51	73	80	91	98	105	113	122	140

1		2		3		4	5	6	7	8	9	10	11	12	13	14	15	16
Size Outside Diameter		Weight		Wall Thickness		Inside Diameter	Minimum Pressure, kpa x 100											
							Grade A		Grade B		Grade X42	Grade X46	Grade X52	Grade X56	Grade X60	Grade X65	Grade X70	Grade X80
in	mm	lb/ft	kg/m	in	mm	mm	Std	Alt	Std	Alt								
D				t		d												
40	1,016.0	262.83	391.49	0.625	15.9	984.2	39	48	45	56	81	89	101	109	116	126	136	155
40	1,016.0	288.86	430.26	0.688	17.5	981.0	43	53	50	62	90	98	111	119	128	138	150	171
40	1,016.0	314.39	468.28	0.750	19.1	977.9	47	58	54	68	98	107	121	130	139	152	163	186
40	1,016.0	339.84	506.19	0.812	20.6	974.8	50	63	59	74	105	116	131	141	151	164	176	201
40	1,016.0	365.62	544.59	0.875	22.2	971.6	54	68	63	79	114	125	141	152	163	176	190	207
42	1,067.0	153.04	227.95	0.344	8.7	1,049.3	20	25	23	30	43	47	53	57	61	66	71	81
42	1,067.0	166.71	248.31	0.375	9.5	1,047.8	22	28	26	32	47	51	58	62	66	72	78	88
42	1,067.0	180.35	268.63	0.406	10.3	1,046.2	24	30	28	35	50	55	62	67	72	78	84	96
42	1,067.0	194.42	289.59	0.438	11.1	1,044.5	26	32	38	54	59	68	72	78	84	84	90	103
42	1,067.0	208.03	309.86	0.469	11.9	1,043.0	28	34	32	41	58	63	72	78	83	90	97	111
42	1,067.0	221.61	330.09	0.500	12.7	1,041.4	30	37	34	43	62	68	76	83	89	96	103	118
42	1,067.0	248.72	370.47	0.562	14.3	1,038.3	33	41	39	48	70	76	86	93	100	108	116	133
42	1,067.0	276.18	411.37	0.625	15.9	1,935.0	37	46	43	54	77	85	96	103	111	120	130	148
42	1,067.0	303.55	452.14	0.688	17.5	1,031.8	41	51	48	59	85	94	105	114	122	132	142	163
42	1,067.0	339.41	492.15	0.750	19.1	1,028.7	44	55	52	65	93	102	115	124	133	114	155	148
42	1,067.0	357.19	532.03	0.812	20.6	1,025.8	48	60	56	70	101	110	125	134	144	156	168	163
42	1,067.0	384.31	572.43	0.875	22.2	1,022.6	52	65	61	75	109	119	134	145	155	168	181	178
44	1,118.0	160.39	237.99	0.344	8.7	1,100.6	19	24	23	28	41	45	50	54	59	63	68	77
44	1,118.0	174.72	259.69	0.375	9.5	1,099.0	21	26	25	31	44	49	55	59	63	69	74	84
44	1,118.0	189.03	281.35	0.406	10.3	1,090.4	23	29	27	23	48	52	59	64	69	74	80	91
44	1,118.0	203.78	302.99	0.438	11.1	1,095.8	25	31	29	36	52	56	64	69	74	80	86	98
44	1,118.0	218.04	324.59	0.469	11.9	1,094.2	26	33	31	39	56	61	69	74	79	86	92	106
44	1,118.0	232.29	346.16	0.500	12.7	1,092.6	28	25	33	41	59	65	73	79	85	92	99	113
44	1,118.0	260.72	389.21	0.562	14.3	1,089.4	32	39	37	46	67	73	83	89	95	103	111	127
44	1,118.0	289.53	432.13	0.625	15.9	1,086.2	35	44	41	52	74	81	92	99	105	114	123	141
44	1,118.0	318.25	474.92	0.688	17.5	1,083.0	39	48	55	56	81	89	101	109	116	126	136	155
44	1,118.0	346.43	517.59	0.750	19.1	1,079.8	42	53	50	61	89	97	110	119	127	137	148	169
44	1,118.0	374.53	557.47	0.812	20.6	1,076.8	45	57	54	67	96	105	119	128	137	149	161	183
44	1,118.0	403.00	599.90	0.875	22.2	1,073.6	50	61	58	72	103	114	128	138	148	161	173	197
46	1,168.0	167.74	249.85	0.344	8.7	1,150.9	19	23	21	27	39	43	48	52	56	60	65	74
46	1,168.0	182.73	272.18	0.375	9.5	1,149.4	20	25	23	30	43	47	52	56	61	65	71	81
46	1,168.0	197.70	294.47	0.406	10.3	1,147.8	22	28	25	32	46	50	57	61	65	71	76	87
46	1,168.0	213.13	317.46	0.438	11.1	1,146.1	23	30	28	34	50	54	61	66	71	76	83	94
46	1,168.0	228.06	339.70	0.469	11.9	1,144.6	25	32	30	37	53	58	65	71	76	82	88	101
46	1,168.0	242.97	361.90	0,500	12.7	1,143.0	27	34	32	39	56	62	70	76	81	88	94	108
46	1,168.0	272.73	406.23	0.562	14.3	1,139.9	30	38	35	44	63	70	79	85	91	99	106	121
46	1,168.0	302.88	451.14	0.625	15.9	1,136.6	34	42	39	49	71	77	88	94	101	110	118	135
46	1,168.0	332.95	495.93	0.688	17.5	1,133.4	37	46	43	54	48	85	96	104	112	121	130	149
46	1,168.0	362.45	539.87	0.750	19.1	1,130.3	41	50	47	59	85	93	105	113	121	132	141	162
46	1,168.0	391.88	583.70	0.812	20.6	1,126.8	44	54	51	64	92	101	114	123	132	143	153	175
46	1,168.0	421.69	627.27	0.875	22.2	1,123.6	47	59	55	69	99	109	123	132	141	154	165	189
48	1,219.0	175.08	260.78	0.344	8.74	1,201.7	18	22	21	26	37	37	46	50	53	58	62	71
48	1,219.0	190.74	284.11	0.375	9.52	1,200.2	19	24	23	28	41	41	50	54	58	63	68	77
48	1,219.0	206.37	307.11	0.406	10.31	1,198.6	21	26	25	30	44	44	54	59	63	68	74	84
48	1,219.0	222.49	331.40	0.438	11.13	1,196.9	23	28	26	33	48	48	59	63	74	74	79	90
48	1,219.0	238.08	354.62	0.469	11.91	1,196.4	24	30	28	35	51	51	63	68	73	79	85	97
48	1,219.0	253.65	377.81	0.500	12.70	1,193.8	26	32	30	38	54	54	68	72	77	84	90	103
48	1,219.0	284.73	424.11	0.562	14.3	1,190.7	29	37	34	42	61	61	76	81	87	94	102	116
48	1,219.0	316.23	417.02	0.625	15.9	1,t87.4	32	41	38	47	68	68	84	90	97	105	113	129
48	1,219.0	347.64	517.81	0.688	17.5	1,184.2	36	44	41	52	74	74	92	99	107	116	125	142

1		2		3		4	5	6	7	8	9	10	11	12	13	14	15	16
Size Outside Diameter		Weight		Wall Thickness		Inside Diameter	Minimum Pressure, kpa x 100											
							Grade A		Grade B		Grade X42	Grade X46	Grade X52	Grade X56	Grade X60	Grade X65	Grade X70	Grade X80
in	mm	lb/ft	kg/m	in	mm	mm	Std	Alt	Std	Alt								
D				t		d												
48	1,219.0	378.47	563.47	0.750	19.1	1,181.1	39	48	45	56	81	81	101	109	116	126	136	155
48	1,219.0	409.22	609.53	0.812	20.6	1,177.8	42	52	49	61	88	96	109	118	126	136	147	168
48	1,219.0	440.38	655.94	0.875	22.2	1,174.6	45	56	53	66	95	104	118	127	136	147	158	181
52	1,321.0	206.76	307.97	0.375	9.5	1,301.8	18	22	21	26	39	41	47	50	54	58	63	71
52	1,321.0	223.72	333.23	0.406	10.3	1,300.2	19	24	23	28	41	45	50	54	58	63	68	77
52	1,321.0	241.20	359.27	0.438	11.1	1,298.5	21	26	24	30	44	48	54	59	63	68	73	83
52	1,321.0	258.11	384.45	0.469	11.9	1,297.0	22	28	26	32	47	52	58	63	67	13	79	89
52	1,321.0	275.01	409.63	0.500	12.7	1,295.4	24	30	28	34	50	55	62	67	72	78	83	95
52	1,321.0	208.74	459.87	0.562	14.3	1,292.3	27	34	31	39	56	61	70	75	81	87	94	107
52	1,321.0	342.93	510.79	0.625	15.9	1,289.1	30	37	34	43	63	69	78	83	90	97	104	119
52	1,321.0	377.03	561.59	0.688	17.5	1,285.8	33	41	39	48	69	76	85	92	99	107	115	131
52	1,321.0	410.51	611.45	0.750	19.1	1,281.7	36	45	42	52	75	82	98	100	107	116	125	143
52	1,321.0	443.91	661.2	0.812	20.6	1,279.8	39	48	45	56	81	89	101	108	116	126	138	155
52	1,321.0	477.76	711.62	0.875	22.2	1,276.6	42	52	49	61	88	96	109	117	125	136	146	167
56	1,422.0	222.78	331.83	0.375	9.5	1,403.4	17	21	19	24	35	38	43	46	50	54	58	66
56	1,422.0	241.06	359.06	0.406	10.3	1,401.8	18	23	21	26	38	41	47	50	54	S9	63	72
56	1,422.0	259.91	387.14	0.438	11.1.	1,400.1	19	24	23	28	41	45	50	54	58	63	68	77
56	1,422.0	278.15	414.30	0.469	11.9	1,398.6	21	26	24	30	43	48	54	58	62	68	73	83
56	1,422.0	269.37	441.44	0.500	12.7	1,397.0	22	28	26	32	47	51	58	62	66	72	78	89
56	1,422.0	332.75	495.63	0.562	14.3	1,393.9	25	31	29	37	52	57	65	70	74	81	87	100
56	1,422.6	369.63	550.56	0.625	15.9	1,390.7	28	34	32	41	58	63	72	77	83	90	97	111
56	1,422.0	406.42	605.36	0.688	17.5	1,387.4	30	38	36	45	64	70	79	85	92	99	107	122
56	1,422.0	442.55	659.18	0.750	19.1	1,384.3	33	41	39	48	70	76	86	93	100	108	116	133
56	1,422.0	478.60	712.87	0.812	20.6	1,330.8	36	45	42	52	76	83	94	101	108	117	126	144
56	1,422.0	515.14	767.30	0.872	22.2	1,377.6	39	48	55	56	81	89	101	108	116	126	136	155
60	1,524.0	238.80	355.69	0.375	9.5	1,505.0	16	19	18	23	32	36	41	43	47	50	54	62
60	1,524.0	258.40	384.89	0.406	10.3	1,503.4	17	21	19	25	35	39	43	47	50	54	59	67
60	1,524.0	278.62	415.00	0.438	11.1	1,501.7	18	23	21	26	38	41	47	51	54	59	63	72
60	1,524.0	298.19	444.15	0.469	11.9	1,500.2	19	24	23	28	41	45	50	47	58	63	68	77
60	1,524.0	317.73	473.26	0.500	12.7	1,498.6	21	26	24	30	43	48	54	58	62	68	72	83
60	1,524.0	356.76	531.39	0.562	14.3	1,495.5	23	29	27	34	49	54	61	65	70	76	81	93
60	1,524.0	396.33	590.33	0.625	15.9	1,492.3	26	32	30	38	54	59	68	72	78	84	90	103
60	1,524.0	435.81	649.14	0.688	17.5	1,489.0	28	36	33	41	60	65	74	80	85	92	99	114
60	1,524.0	474.59	706.90	0.750	19.1	1,485.9	31	39	37	45	65	71	81	87	93	101	109	124
60	1,524.0	513.29	764.54	0.812	20.6	1,482.8	34	42	39	49	71	77	88	94	101	109	118	134
60	1,524.0	552.52	822.98	0.875	22.2	1,479.6	37	45	42	53	76	83	94	101	109	118	127	144
64	1,626.0	297.33	442.87	0.438	11.1	1,603.3	17	21	20	25	36	39	44	48	51	55	59	66
64	1,626.0	318.22	473.99	0.469	11.9	1,601.8	18	23	21	26	38	42	48	51	54	59	63	73
64	1,626.0	339.09	505.07	0.500	12.7	1,600.2	19	24	23	28	41	45	50	54	58	63	68	78
64	1,626.0	380.76	567.14	0.562	14.3	1,597.1	22	28	25	32	45	50	56	61	65	71	76	87
64	1,626.0	423.03	630.10	0.625	15.9	1,593.9	24	30	28	35	54	56	63	68	72	79	85	97
64	1,626.0	465.21	692.93	0.688	17.5	1,590.6	27	33	31	39	56	61	70	74	80	87	93	107
64	1,626.0	506.63	754.63	0.750	19.1	1,587.5	29	37	34	43	61	67	76	81	88	94	102	117
64	1,626.0	547.98	818.21	0.812	20.6	1,584.8	32	39	37	46	66	72	82	88	94	102	110	126
64	1,626.0	589.90	878.65	0.875	22.2	1,581.6	34	43	39	50	71	78	88	95	102	110	119	136
68	1,727.0	338.26	503.84	0.469	11.9	1,703.4	17	21	20	25	36	39	45	48	51	56	60	68
68	1,727.0	360.45	536.89	0.500	12.7	1,701.8	18	23	21	27	39	42	48	51	54	59	64	73
68	1,727.0	404.77	602.90	0.562	14.3	1,698.7	21	25	24	30	43	47	53	57	61	67	72	82

1		2		3		4	5	6	7	8	9	10	11	12	13	14	15	16
Size Outside Diameter		Weight		Wall Thickness		Inside Diameter	Minimum Pressure, kpa x 100											
							Grade A		Grade B		Grade X42	Grade X46	Grade X52	Grade X56	Grade X60	Grade X65	Grade X70	Grade X80
in	mm	lb/ft	kg/m	in	mm	mm	Std	Alt	Std	Alt								
D				t		d												
68	1,727.0	449.73	669.87	0.625	15.9	1,695.5	23	28	27	33	48	52	59	64	68	74	80	91
68	1,727.0	494.60	736.71	0.688	17.5	1,692.2	25	32	29	37	52	58	65	70	75	81	88	101
68	1,727.0	538.67	802.35	0.750	19.1	1,698.1	28	34	32	40	57	63	71	76	82	89	96	110
68	1,727.0	582.66	869.64	0.812	20.6	1,685.8	30	37	34	43	62	68	77	83	89	96	103	118
68	1,727.0	627.28	936.24	0.875	22.2	1,682.6	32	40	37	47	67	74	83	90	96	104	112	127
72	1,829.0	381.81	568.83	0.500	12.7	1,803.6	17	21	20	25	37	39	45	48	52	56	60	69
72	1,829.0	428.78	639.93	0.562	14.3	1,800.4	19	24	23	28	41	45	50	54	58	63	68	78
72	1,829.0	476.43	710.91	0.625	15.9	1,797.2	21	27	25	32	45	50	56	60	65	70	75	86
72	1,829.0	523.99	781.75	0.688	17.5	1,794.0	23	30	28	34	50	54	61	66	71	77	83	95
72	1,829.0	570.71	852.47	0.750	19.1	1,790.8	26	32	30	38	54	59	68	72	78	84	90	104
72	1,829.0	617.35	918.66	0.811	20.6	1,787.8	28	35	32	41	59	64	73	79	84	91	98	112
72	1,829.0	664.66	989.14	0.874	22.2	1,784.6	30	38	35	44	63	70	79	84	90	98	105	120
76	1,930.0	403.17	600.46	0.500	12.7	1,904.6	17	21	19	24	37	37	43	45	49	53	57	53
76	1,930.0	452.79	675.55	0.562	14.3	1,901.4	19	23	21	27	39	42	48	52	55	60	64	60
76	1,930.0	503.13	750.51	0.625	15.9	1,898.2	21	25	24	30	43	47	53	57	61	66	72	66
76	1,930.0	553.38	825.34	0.688	17.5	1,895.0	23	28	26	33	47	52	59	63	68	73	79	73
76	1,930.0	602.75	900.05	0.750	19.1	1,891.8	25	30	28	36	52	56	63	68	74	79	85	79
76	1,930.0	652.04	969.97	0.812	20.6	1,888.8	26	33	31	39	56	61	69	74	79	86	93	86
76	1,930.0	702.04	1,044.43	0.875	22.2	1,885.6	28	36	33	41	60	65	74	80	85	93	100	93
80	2,032.0	476.80	710.19	0.562	14.3	2,003.5	17	22	21	25	37	40	45	49	52	56	61	56
80	2,032.0	529.83	789.04	0.625	15.9	2,000.3	19	24	23	28	41	45	50	54	58	63	68	63
80	2,032.0	582.77	868.04	0.688	17.5	1,997.0	21	27	25	31	45	49	55	69	64	79	74	70
80	2,032.0	634.79	945.52	0.750	19.1	1,993.9	23	29	27	34	49	54	61	65	70	76	81	76
80	2,032.0	686.73	1,022.88	0.812	20.6	1,990.8	25	32	30	37	53	58	65	70	76	82	88	82
80	2,032.0	739.42	1,101.36	0.875	22.2	1,987.6	27	34	32	39	57	63	70	76	81	88	95	88

ERW/HFRW

Nominal Size : Dia. 1/2' 20'
Wall Thickness : 3.2 – 16 mm
Pipe Length : 5 up to 18 meter/pcs

Line Pipe : API 5L Grade A up to API 5L X 80
Structural & General Purposes : ASTM A53, ASTM A252, AWWA C200, AS 1163, AS 1396, BS 1387, JIS G3444, SNI.

ASTM A53 Steel Line Pipe Grade A & B

Nominal Size In	Outside Diameter		Wall Thickness		Sch.No.	Weight		Test Pressure			
								Grade A		Grade B	
	In	mm	In	mm		lbs/ft	kg/m	psi	kPa	psi	kPa
1/2	0.840	21.3	0.109	2.77	40/STD	0.85	1.27	700	4800	700	4800
3/4	1.050	26.7	0.113	2.87	40/STD	1.13	1.69	700	4800	700	4800
1	1.315	33.4	0.133	3.38	40/STD	1.68	2.50	700	4800	700	4800
1 1/4	1.660	42.2	0.140	3.56	40/STD	2.27	3.39	1200	8300	1300	9000
1 1/2	1.900	48.3	0.145	3.68	40/STD	2.72	4.05	1200	8300	1300	9000
2	2.375	60.3	0.154	3.91	40/STD	3.66	5.44	2300	15900	2500	17200
2 1/2	2.875	73	0.203	5.16	40/STD	5.80	8.63	2500	17200	2500	17200
3	3.500	88.9	0.125	3.18	-	4.51	6.72	1290	8900	1500	1000
			0.156	3.96	-	5.58	8.29	1600	11000	1870	12900
			0.188	4.78	-	6.66	9.92	1930	13330	2260	15600
			0.216	5.49	40/STD	7.58	11.29	2220	15300	2500	17200
4	4.500	114.3	0.188	4.78	-	8.66	12.91	1500	10340	1750	12070
			0.219	5.56	-	10.01	14.91	1750	12070	2040	14070
			0.237	6.02	40/STD	10.79	16.07	1900	13100	2210	15240
			0.250	6.35	-	11.35	16.90	2000	13790	2330	16060
6	6.625	168.3	0.188	4.78	-	12.92	19.27	1020	7030	1190	8200
			0.219	5.56	-	14.98	22.31	1190	8200	1390	9580
			0.250	6.35	-	17.02	25.36	1360	9380	1580	10890
			0.280	7.11	40/STD	18.97	28.26	1520	10480	1780	12270
			0.312	7.92	-	21.04	31.32	1700	11720	1980	13650
			0.344	8.74	-	23.08	34.39	1870	12890	2180	15030
			0.375	9.52	-	25.03	37.28	2040	14070	2380	16410
8	8.625	219.1	0.188	4.78	-	16.94	25.26	780	5380	920	6340
			0.203	5.16	-	18.26	27.22	850	5860	1000	6890
			0.219	5.56	-	19.66	29.28	910	6270	1070	7380
			0.250	6.35	20	22.36	33.31	1040	7170	1220	8410
			0.277	7.04	30	24.70	36.31	1160	7800	1350	9310
			0,312	7.92	-	27.70	41.24	1300	8960	1520	10480
			0.322	8.18	40/STD	28.55	42.55	1340	9240	1570	10820
			0.344	8.74	-	30.42	45.34	1440	9930	1680	11580
			0.375	9.52	-	33.04	49.20	1570	10820	1830	12620
			0.406	10.31	60	35.64	53.08	1700	11720	2000	13790
			0.438	11.13	-	38.30	57.08	1830	12620	2130	14690
			0.500	12.70	80	43.39	64.64	2090	14410	2430	16750
10	10.750	273.0	0.188	4.78	-	21.23	31.62	630	4300	730	5000
			0.203	5.16	-	22.89	34.08	680	4700	800	5500
			0.219	5.56	-	24.65	36.67	730	5000	860	5900
			0.250	6.35	20	28.06	41.75	840	5800	980	6800
			0.279	7.09	-	31.23	46.49	930	6400	1090	7500
			0.307	7.80	30	34.27	51.01	1030	7100	1200	8300
			0.344	8.74	-	38.27	56.96	1150	7900	1340	9200
			0.365	9.27	40/STD	40.52	60.29	1220	8400	1430	9900
			0.438	11.13	-	48.28	71.87	1470	10100	1710	11800
			0.500	12.70	60/XS	54.79	81.52	1670	11500	1950	13400
			0.594	15.09	80	64.49	95.97	1990	13700	2320	16000
			0.719	18.26	100	77.10	114.70	2410	16600	2800	19300
			0.844	21.44	120	89.38	133.00	2800	19300	2800	19300
			1.000	25.40	140/XXS	104.23	155.09	2800	19300	2800	19300
			1.125	28.57	160	115.75	172.21	2800	19300	2800	19300

Nominal Size In	Outside Diameter		Wall Thickness		Sch.No.	Weight		Test Pressure			
								Grade A		Grade B	
	In	mm	In	mm		lbs/ft	kg/m	psi	kPa	psi	kPa
12	12.750	323.8	0.203	5.16	-	27.23	40.55	570	3900	670	4600
			0.219	5.56	-	29.34	43.63	620	4300	720	5000
			0.250	6.35	20	33.41	49.71	710	4900	820	5700
			0.281	7.14	-	37.46	55.75	790	5400	930	6400
			0.312	7.92	-	41.48	61.69	880	6100	1030	7100
			0.330	8.38	30	43.81	65.18	930	6400	1090	7500
			0.344	8.74	-	45.62	67.90	970	6700	1130	7800
			0.375	9.52	STD	49.61	73.78	1060	7300	1240	8500
			0.406	10.31	40	53.57	79.70	1150	7900	1340	9200
			0.438	11.13	-	57.65	85.82	1240	8500	1440	9900
			0.500	12.70	XS	65.48	97.43	1410	9700	1650	11400
			0.562	14.27	60	73.22	108.92	1590	11000	1850	12800
			0.688	17.48	80	88.71	132.04	1940	13400	2270	15700
			0.844	21.44	100	107.42	159.86	2390	16500	2780	19200
			1.000	25.40	120/XXS	125.61	186.91	2800	19300	2800	19300
			1.125	28.57	140	139.81	208.00	2800	19300	2800	19300
			1.312	33.32	160	160.42	238.68	2800	19300	2800	19300
14	14.000	355.6	0.210	5.33	-	30.96	46.04	540	3700	630	4300
			1.219	5.56	-	32.26	47.99	560	3900	660	4500
			0.250	6.35	10	36.75	54.69	640	4400	750	5200
			0.281	7.14	-	41.21	61.35	720	5000	840	5800
			0.312	7.92	20	45.65	67.90	800	5500	940	6500
			0.344	8.74	-	50.22	74.76	880	6100	1030	7100
			0.375	9.52	30/STD	54.62	81.25	960	6600	1120	7700
			0.438	11.13	40	63.50	94.55	1130	7800	1310	9000
			0.469	11.91	-	67.84	100.94	1210	8300	1410	9700
			0.500	12.70	XS	72.16	107.39	1290	8900	1500	10300
			0.594	15.09	60	85.13	126.71	1530	10500	1790	12300
			0.750	19.05	80	106.23	158.10	1930	13300	2250	15500
			0.938	23.83	100	130.98	194.96	2410	16600	2800	19300
			1.094	27.79	120	150.93	224.65	2800	19300	2800	19300
			1.250	31.75	140	170.37	253.56	2800	19300	2800	19300
			1.406	35.71	160	189.29	281.70	2800	19300	2800	19300
			2.000	50.80	-	256.56	381.83	2800	19300	2800	19300
			2.125	53.97	-	269.76	401.44	2800	19300	2800	19300
			2.200	55.88	-	277.51	413.01	2800	19300	2800	19300
			2.500	63.50	-	307.34	457.40	2800	19300	2800	19300
16	16.000	406.4	0.219	5.56	-	36.95	54.96	490	3400	570	3900
			0.250	6.35	10	42.09	62.64	560	3900	660	4500
			0.281	7.14	-	47.22	70.30	630	4300	740	5100
			0.312	7.92	20	52.32	77.83	700	4800	820	5700
			0.344	8.74	-	57.57	85.71	770	5300	900	6200
			0.375	9.52	30/STD	62.64	93.17	840	5800	980	6800
			0.438	11.13	-	72.86	108.49	990	6800	1150	7900
			0.469	11.91	-	82.85	115.86	1060	7300	1230	8500
			0.500	12.70	40/XS	107.60	123.30	1120	7700	1310	9000
			0.656	16.66	60	136.74	160.12	1480	10200	1720	11900
			0.844	21.44	80	164.98	203.53	1900	13100	2220	15300
			1.031	26.19	100	192.61	245.56	2320	16000	2710	18700
			1.219	30.96	120	223.85	286.64	2740	18900	2800	19300
			1.438	36.53	140	223.85	333.19	2800	19300	2800	19300
			1.594	40.49	160	245.48	365.35	2800	19300	2800	19300

Nominal Size In	Outside Diameter		1.969Wall Thickness		Sch.No.	Weight		Test Pressure			
								Grade A		Grade B	
	In	mm	In	mm		lbs/ft	kg/m	psi	kPa	psi	kPa
18	18.000	457	0.250	6.35	10	47.44	70.60	500	3400	580	4000
			0.281	7.14	-	53.23	79.24	560	3900	660	4500
			0.312	7.92	20	58.99	87.75	620	4300	730	5000
			0.344	8.74	-	64.93	96.66	690	4800	800	5500
			0.375	9.52	STD	70.65	105.10	750	5200	880	6100
			0.406	10.31	-	76.36	113.62	810	5600	950	6500
			0.438	11.13	30	82.23	122.43	880	6100	1020	7000
			0.469	11.91	-	87.89	130.78	940	6500	1090	7500
			0.500	12.70	XS	93.54	139.20	1000	6900	1170	8100
			0.562	14.27	40	104.76	155.87	1120	7700	1310	9000
			0.750	19.05	60	138.30	205.83	1500	10300	1750	12100
			0.938	23.83	80	171.08	254.67	1880	13000	2190	15100
			1.156	29.36	100	208.15	309.76	2310	15900	2700	18600
			1.375	34.92	120	244.37	363.64	2750	19000	2800	19300
			1.562	39.67	140	274.48	408.45	2800	19300	2800	19300
			1.781	45.24	160	308.79	459.59	2800	19300	2800	19300
20	20.000	508	0.250	6.35	10	52.78	78.55	450	3100	520	3600
			0.281	7.14	-	59.23	88.19	510	3500	590	4100
			0.312	7.92	-	65.66	97.67	560	3900	660	4500
			0.344	8.74	-	72.28	107.60	620	4300	720	5000
			0.375	9.52	20/STD	78.67	117.02	680	4700	790	5400
			0.406	10.31	-	84.04	126.53	730	5000	850	5900
			0.438	11.13	-	91.59	136.37	790	5400	920	6300
			0.469	11.91	-	97.92	145.70	850	5900	950	6500
			0.500	12.70	30/XS	104.23	155.12	900	6200	1050	7200
			0.594	15.09	40	123.23	183.42	1170	8100	1250	8600
			0.812	20.62	60	166.56	247.83	1460	10100	1710	11800
			1.031	26.19	80	209.06	311.17	1860	12800	2170	15000
			1.281	32.54	100	256.34	381.53	2310	15900	2690	18500
			1.500	38.10	120	296.65	441.49	2700	18600	2800	19300
			1.750	44.45	140	341.41	508.11	2800	19300	2800	19300
			1.969	50.01	160	379.53	564.81	2800	19300	2800	19300

Chemical Composition (%)

ASTM A53	Carbon	Manganase	Phosphorus	Sulfur	Copper	Nickel	Chronium	Molybdenum	Vanadium	Cu+Ni+Cr+Mo+V
Grade A	0.25	0.950	0.05	0.045	0.40	0.40	0.40	0.15	0.08	1.00
Grade B	0.30	1.200	0.05	0.045	0.40	0.40	0.40	0.15	0.08	1.00

Mekanikal Properties :

	Yield Strength (mm)	Tensile Strength (mm)
Grade A	30,000 ps (205 Mpa)	48,000 psi (330 Mpa)
Grade B	35,000 ps (240 Mpa)	60,000 psi (415 Mpa)

Galvanized :

Zinc Coating Eight : 550 µ/m² (77 µm) minimum

☐ : Able to process in KHI

Panjang pipa : 6 meter per batang

Toleransi panjang : ± 2%

Toleransi Tebal : Plus tidak terbatas

Minus (-) 12,5%

API 5L Standard Weights Plain End Line Pipe Dimensions (Pipa alir Minyak dan Gas)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Nominal Size Diameter	Outside Diameter	Specified Wall Thickness	Plain-end Weight per Unit Lenght	Calculated Inside Diameter	Minimum Test Pressure (kPa x 100)									
	D (mm)	t (mm)	wpe (kg/m)	d (mm)		Grade A	Grade B	Grade X42	Grade X46	Grade X52	Grade X56	Grade X60	Grade X65	Grade X70	Grade X80
4 1/2	114.3	4.8	12.96	104.7	STD.	104	121	146	160	181	195	207	207	207	207
					ALT.	130	152	183	200	226	243	261	282	304	348
		5.2	13.99	103.9	STD.	113	132	158	173	196	207	207	207	207	207
					ALT.	141	164	198	216	245	263	283	306	330	377
		5.6	15.01	103.1	STD.	122	142	170	186	207	207	207	207	207	207
					ALT.	152	177	213	233	264	284	304	329	355	406
		6.0	16.02	102.3	STD.	130	152	183	200	207	207	207	207	207	207
					ALT.	163	190	228	250	283	304	326	353	380	435
		6.4	17.03	101.5	STD.	139	162	195	207	207	207	207	207	207	207
					ALT.	174	193	244	266	302	324	348	376	406	464
6 5/8	168.3	4.8	19.35	158.7	STD.	71	82	124	136	154	165	177	192	207	207
					ALT.	89	103	124	136	154	165	177	192	207	236
		5.2	20.91	157.9	STD.	77	89	134	147	166	179	192	207	207	207
					ALT.	96	112	134	147	166	179	192	208	224	256
		5.6	22.47	157.1	STD.	83	96	145	158	179	193	207	207	207	207
					ALT.	103	120	145	158	179	193	207	224	241	276
		6.4	25.55	155.5	STD.	94	110	165	181	205	207	207	207	207	207
					ALT.	118	137	165	181	205	220	236	256	276	315
		7.1	28.22	154.1	STD.	105	122	184	201	207	207	207	207	207	207
					ALT.	131	158	184	201	227	244	262	283	306	349
		7.9	31.25	152.5	STD.	117	136	204	207	207	207	207	207	207	207
					ALT.	146	170	204	223	253	272	291	315	340	389
		8.7	34.24	150.9	STD.	128	149	207	207	207	207	207	207	207	207
					ALT.	161	187	225	246	278	299	321	347	375	428
		9.5	37.20	149.3	STD.	140	163	207	207	207	207	207	207	207	207
					ALT.	175	193	246	268	304	327	351	379	409	467
8 5/8	219.1	4.8	25.37	209.5	STD.	54	63	95	104	118	127	136	147	159	181
					ALT.	68	79	95	104	118	127	136	147	159	181
		5.2	27.43	208.7	STD.	59	69	103	113	128	137	147	159	172	197
					ALT.	74	86	103	113	128	137	147	159	172	197
		5.6	29.48	207.9	STD.	63	74	111	122	138	148	159	172	185	207
					ALT.	79	92	111	122	138	148	159	172	185	212
		6.4	33.57	206.3	STD.	73	84	127	139	157	169	181	19	207	207
					ALT.	91	106	127	139	157	169	181	196	212	242
		7.0	36.61	205.1	STD.	79	92	139	152	172	185	198	207	207	207
					ALT.	99	115	139	152	172	185	198	215	231	265
		7.9	41.14	203.3	STD.	90	104	157	171	194	207	207	207	207	207
					ALT.	112	130	157	171	194	209	224	242	261	299
		8.2	42.65	202.7	STD.	93	108	163	178	202	207	207	207	207	207
					ALT.	116	135	163	178	202	217	232	252	271	310
		8.7	45.14	201.7	STD.	99	115	173	189	207	207	207	207	207	207
					ALT.	123	144	173	189	214	230	247	267	288	329
		9.5	49.10	200.1	STD.	108	125	189	206	207	207	207	207	207	207
					ALT.	135	157	189	206	233	251	269	291	314	359
		11.1	56.94	196.9	STD.	126	147	207	207	207	207	207	207	207	207
					ALT.	157	183	220	241	273	293	315	340	367	419

☐ : Able to process in KHI

API 5 L Standard Weights Plain End Line Pipe Dimensions

1	2	3	4	5		6	7	8	9	10	11	12	13	14	15
Nominal Size Diameter	Outside Diameter	Specified Wall Thickness	Plain-end Weight per Unit Lenght	Calculated Inside Diameter		Minimum Test Pressure (kPa x 100)									
	D	t	wpe	d		Grade	Grade	Grade	Grade	Grade	Grade	Grade	Grade	Grade	Grade
	(mm)	(mm)	(kg/m)	(mm)		A	B	X42	X46	X52	X56	X60	X65	X70	X80
8 5/8	219.1	12.7	64.64	193.7	STD.	144	168	207	207	207	207	207	207	207	207
					ALT.	180	193	252	276	312	336	360	390	420	480
10 3/4	273.1	4.8	3176	263.5	STD.	44	51	87	95	107	115	124	134	144	165
					ALT.	55	64	87	95	107	115	124	134	144	165
		5.2	3435	262.7	STD.	47	55	94	103	116	125	134	145	156	179
					ALT.	59	69	94	103	116	125	134	145	156	179
		5.6	3694	261.9	STD.	51	59	101	111	125	135	144	156	168	192
					ALT.	64	74	101	111	125	135	144	156	168	192
		6.4	4209	260.3	STD.	58	68	116	126	143	154	165	178	192	207
					ALT.	73	85	116	126	143	154	165	178	192	220
		7.1	4657	258.9	STD.	65	75	128	140	159	171	183	198	207	207
					ALT.	81	94	128	140	159	171	183	198	213	244
		7.8	5103	257.5	STD.	71	83	141	154	174	187	201	207	207	207
					ALT.	89	103	141	154	174	187	201	218	235	268
		8.7	5672	255.7	STD.	79	92	157	172	194	207	207	207	207	207
					ALT.	99	115	157	172	194	209	224	243	262	299
		9.3	6050	254.5	STD.	85	98	168	184	207	207	207	207	207	207
					ALT.	106	123	168	184	208	223	240	259	280	320
		11.1	7172	250.9	STD.	101	118	200	207	207	207	207	207	207	207
					ALT.	126	147	200	219	248	267	286	310	334	381
		12.7	8155	247.7	STD.	116	134	207	207	207	207	207	207	207	207
					ALT.	144	168	229	251	284	305	327	354	382	436
12 3/4	323.9	4.8	37.77	314.3	STD.	37	43	73	80	90	97	104	113	122	139
					ALT.	46	54	73	80	90	97	104	113	122	139
		5.2	40.87	313.5	STD.	40	46	79	87	98	105	113	122	132	151
					ALT.	50	58	79	87	98	105	113	122	132	151
		5.6	43.96	312.7	STD.	43	50	85	93	106	113	122	132	142	162
					ALT.	54	63	85	93	106	113	122	132	142	162
		6.4	50.11	311.1	STD.	49	57	97	106	121	130	139	150	162	185
					ALT.	61	71	97	106	121	130	139	150	162	185
		7.1	55.47	309.7	STD.	54	63	108	118	134	144	154	167	180	206
					ALT.	68	79	108	118	134	144	154	167	180	206
		7.9	61.56	308.1	STD.	61	71	120	131	149	160	172	186	200	207
					ALT.	76	88	120	131	149	160	172	188	200	229
		8.4	65.35	307.1	STD.	64	75	128	140	158	170	183	198	207	207
					ALT.	81	94	128	140	158	170	183	198	213	243
		8.7	67.62	306.5	STD.	67	78	132	145	164	176	189	205	207	207
					ALT.	83	97	132	145	164	176	189	205	221	252
		9.5	73.65	304.9	STD.	73	85	145	158	179	192	206	207	207	207
					ALT.	91	106	145	158	179	192	206	223	241	368
		10.3	79.65	303.3	STD.	79	92	157	171	194	207	207	207	207	207
					ALT.	99	115	157	171	194	209	224	242	261	298
		11.1	85.62	301.7	STD.	85	99	169	185	207	207	207	207	207	207
					ALT.	106	124	169	185	209	225	241	261	281	322
		12.7	97.46	298.5	STD.	97	113	193	207	207	207	207	207	207	207
					ALT.	122	142	193	211	239	257	276	299	322	368
		14.3	109.18	295.3	STD.	110	128	207	207	207	207	207	207	207	207
					ALT.	137	160	218	238	269	290	311	336	363	414

: Able to process in KHI

API 5L Standard Weights Plain End Line Pipe Dimensions

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Nominal Size Diameter	Outside Diameter	Specified Wall Thickness	Plain-end Weight per Unit Lenght	Calculated Inside Diameter	Minimum Test Pressure (kPa x 100)									
	D (mm)	t (mm)	wpe (kg/m)	d (mm)		Grade A	Grade B	Grade X42	Grade X46	Grade X52	Grade X56	Grade X60	Grade X65	Grade X70	Grade X80
14	355,6	4,8	41,35	346,0	STD.	34	40	66	73	82	89	95	103	111	127
					ALT.	42	49	66	73	82	89	95	103	111	127
		5,2	44,59	345,3	STD.	37	43	72	79	89	96	102	111	120	137
					ALT.	46	53	72	79	89	96	102	111	120	137
		5,3	46,04	344,9	STD.	38	44	74	82	92	99	106	115	124	141
					ALT.	47	55	74	82	92	99	106	115	124	141
		5,6	47,99	344,5	STD.	39	46	77	85	96	104	110	120	129	148
					ALT.	49	57	77	85	96	104	110	120	129	148
		6,4	54,69	342,9	STD.	45	53	88	97	109	118	126	137	147	168
					ALT.	56	66	88	97	109	118	126	137	147	168
		7,1	61,35	341,3	STD.	51	59	99	109	123	133	142	154	166	189
					ALT.	63	74	99	109	123	133	142	154	166	189
		7,9	67,90	339,8	STD.	56	65	110	121	136	148	157	170	184	210
					ALT.	70	82	110	121	136	148	157	170	184	210
		8,7	74,76	338,1	STD.	62	72	121	134	150	163	173	188	203	232
					ALT.	77	90	121	134	150	163	173	188	203	232
		9,5	81,33	336,5	STD.	68	79	132	146	164	178	189	205	221	253
					ALT.	84	98	132	146	164	178	189	205	221	253
		10,3	87,79	335,0	STD.	73	85	143	158	177	192	205	222	239	274
					ALT.	91	107	143	158	177	192	205	222	239	274
		11,1	94,55	333,3	STD.	79	92	154	170	192	208	221	239	258	295
					ALT.	99	115	154	170	192	208	221	239	258	295
		11,9	100,94	331,8	STD.	84	98	165	182	205	222	236	256	276	316
					ALT.	106	123	165	182	205	222	236	256	276	316
		12,7	107,39	330,2	STD.	90	105	176	194	219	237	252	273	294	337
					ALT.	113	131	176	194	219	237	252	273	294	337
		14,3	120,11	327,1	STD.	101	118	198	218	246	266	283	307	331	379
					ALT.	126	147	198	218	246	266	283	307	331	379
		15,1	126,71	325,4	STD.	107	125	209	231	260	281	299	325	350	400
					ALT.	134	156	209	231	260	281	299	325	350	400
		15,9	133,03	323,8	STD.	113	131	220	243	273	296	315	342	368	421
					ALT.	141	164	220	243	273	296	315	342	368	421
16	406,4	4,8	47,34	396,8	STD.	30	35	58	64	72	78	83	90	97	111
					ALT.	37	43	58	64	72	78	83	90	97	111
		5,2	51,06	396,1	STD.	32	37	63	69	78	84	90	97	105	120
					ALT.	40	47	63	69	78	84	90	97	105	120
		5,3	52,72	395,7	STD.	33	39	65	71	80	87	93	100	108	124
					ALT.	41	48	65	71	80	87	93	100	108	124
		5,6	54,96	395,3	STD.	34	40	67	74	84	91	97	105	113	129
					ALT.	43	50	67	74	84	91	97	105	113	129
		6,4	62,64	393,7	STD.	39	46	77	85	96	104	110	120	129	147
					ALT.	49	57	77	85	96	104	110	120	129	147
		7,1	70,30	392,1	STD.	44	52	87	96	108	116	124	134	145	166
					ALT.	55	65	87	96	108	116	124	134	145	166
		7,9	77,83	390,6	STD.	49	57	96	106	119	129	137	149	161	184
					ALT.	61	72	96	106	119	129	137	149	161	184
		8,7	85,71	388,9	STD.	54	63	106	117	132	143	152	165	177	203
					ALT.	68	79	106	117	132	143	152	165	177	203
		9,5	93,27	387,3	STD.	59	69	116	128	144	155	165	179	193	221
					ALT.	74	86	116	128	144	155	165	179	193	221
		10,3	100,70	385,8	STD.	64	75	125	138	155	168	179	194	209	239
					ALT.	80	93	125	138	155	168	179	194	209	239
		11,1	108,49	384,1	STD.	69	81	135	149	168	182	193	210	226	258
					ALT.	86	101	135	149	168	182	193	210	226	258
		11,9	115,86	382,6	STD.	74	86	144	159	179	194	207	224	242	277
					ALT.	92	108	144	159	179	194	207	224	242	277
		12,7	123,30	381,0	STD.	79	92	154	170	191	207	220	239	258	295
					ALT.	98	115	154	170	191	207	220	239	258	295
		14,3	137,99	377,9	STD.	88	103	173	191	215	233	248	269	290	331
					ALT.	111	129	173	191	215	233	248	269	290	331
		15,1	145,61	376,2	STD.	94	109	183	202	227	246	262	284	306	350
					ALT.	117	136	183	202	227	246	262	284	306	350
		15,9	152,93	374,6	STD.	98	115	193	213	239	259	276	299	322	369
					ALT.	123	144	193	213	239	259	276	299	322	369

☐ : Able to process in KHI

API 5L Standard Weights Plain End Line Pipe Dimensions

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Nominal Size Diameter	Outside Diameter	Specified Wall Thickness	Plain-end Weight per Unit Lenght	Calculated Inside Diameter	Minimum Test Pressure (kPa x 100)									
	D (mm)	t (mm)	wpe (kg/m)	d (mm)		Grade A	Grade B	Grade X42	Grade X46	Grade X52	Grade X56	Grade X60	Grade X65	Grade X70	Grade X80
18	457	4,8	53,31	447,4	STD.	26	31	52	57	64	69	74	80	86	99
					ALT.	33	38	52	57	64	69	74	80	86	99
		5,2	57,49	446,7	STD.	28	33	56	61	69	75	80	86	93	107
					ALT.	36	41	56	61	69	75	80	86	93	107
		5,3	59,37	446,3	STD.	29	34	57	63	71	77	82	89	96	110
					ALT.	37	43	57	63	71	77	82	89	96	110
		5,6	61,90	445,9	STD.	31	36	60	66	74	81	86	93	100	115
					ALT.	38	45	60	66	74	81	86	93	100	115
		6,4	70,57	444,3	STD.	35	41	69	76	85	92	98	106	115	131
					ALT.	44	51	69	76	85	92	98	106	115	131
		7,1	79,21	442,7	STD.	39	46	77	85	96	104	110	120	129	147
					ALT.	49	57	77	85	96	104	110	120	129	147
		7,9	87,71	441,2	STD.	44	51	85	94	106	115	122	133	143	164
					ALT.	55	64	85	94	106	115	122	133	143	164
		8,7	96,61	439,5	STD.	48	56	94	104	117	127	135	146	158	180
					ALT.	60	70	94	104	117	127	135	146	158	180
		9,5	105,16	437,9	STD.	53	61	103	113	128	138	147	160	172	197
					ALT.	66	77	103	113	128	138	147	160	172	197
		10,3	113,57	436,4	STD.	57	66	111	123	138	150	159	173	186	213
					ALT.	71	83	111	123	138	150	159	173	186	213
		11,1	122,38	434,7	STD.	61	72	120	132	149	161	172	186	201	230
					ALT.	77	90	120	132	149	161	172	186	201	230
		11,9	130,72	433,2	STD.	66	77	128	142	159	173	184	199	215	246
					ALT.	82	96	128	142	159	173	184	199	215	246
		12,7	139,15	431,6	STD.	70	82	137	151	170	184	196	213	229	262
					ALT.	88	102	137	151	170	184	196	213	229	262
		14,3	155,80	428,5	STD.	79	92	154	170	191	207	220	239	257	295
					ALT.	98	115	154	170	191	207	220	239	257	295
		15,1	164,44	426,8	STD.	83	97	163	180	202	219	233	253	272	312
					ALT.	104	121	163	180	202	219	233	253	272	312
		15,9	172,74	425,2	STD.	88	102	171	189	213	230	245	266	287	328
					ALT.	109	128	171	189	213	230	245	266	287	328
20	508	4,8	59,32	498,4	STD.	24	28	49	54	61	66	70	76	82	94
					ALT.	30	35	49	54	61	66	70	76	82	94
		5,2	63,98	497,7	STD.	26	30	53	59	66	71	76	82	89	101
					ALT.	32	37	53	59	66	71	76	82	89	101
		5,3	66,07	497,3	STD.	26	31	55	60	68	74	78	85	92	105
					ALT.	33	39	55	60	68	74	78	85	92	105
		5,6	68,89	496,9	STD.	28	32	57	63	71	77	82	89	96	109
					ALT.	34	40	57	63	71	77	82	89	96	109
		6,4	78,55	495,3	STD.	32	37	65	72	81	88	93	101	109	125
					ALT.	39	46	65	72	81	88	93	101	109	125
		7,1	88,19	493,7	STD.	35	41	73	81	91	99	105	114	123	140
					ALT.	44	52	73	81	91	99	105	114	123	140
		7,9	97,67	492,2	STD.	39	46	81	90	101	109	116	126	136	156
					ALT.	49	57	81	90	101	109	116	126	136	156
		8,7	107,60	490,5	STD.	43	51	90	99	111	121	129	139	150	172
					ALT.	54	63	90	99	111	121	129	139	150	172
		9,5	117,15	488,9	STD.	47	55	98	108	122	132	140	152	164	187
					ALT.	59	69	98	108	122	132	140	152	164	187
		10,3	126,53	487,4	STD.	51	60	106	117	132	142	152	164	177	203
					ALT.	64	75	106	117	132	142	152	164	177	203
		11,1	136,37	485,7	STD.	55	64	114	126	142	154	164	177	191	219
					ALT.	69	81	114	126	142	154	164	177	191	219
		11,9	145,70	484,2	STD.	59	69	122	135	152	165	175	190	205	234
					ALT.	74	86	122	135	152	165	175	190	205	234
		12,7	155,12	482,6	STD.	63	74	131	144	162	176	187	203	218	250
					ALT.	79	92	131	144	162	176	187	203	218	250
		14,3	173,74	479,5	STD.	71	83	147	162	182	197	210	228	245	281
					ALT.	88	103	147	162	182	197	210	228	245	281
		15,1	183,42	477,8	STD.	75	87	155	171	192	209	222	241	259	297
					ALT.	94	109	155	171	192	209	222	241	259	297
		15,9	192,71	476,2	STD.	79	92	163	180	203	219	234	253	273	312
					ALT.	98	115	163	180	203	219	234	253	273	312

☐ : Able to process in KHI

ERW BS 1387 - 1985 Pipe for Ordinary Users (Medium Pipe)

Pipa Baja Medium Hitam (BSP)
Pipa Baja Medium Galvanis (GSP)

Grade	Nominal Size		Diameter Luar				Tebal	Berat
			Minimum		Maximum			
	In	mm	in	mm	in	mm	mm	Kg/m
Medium	1/2	15	0.831	21.1	0.856	21.7	2.60	1.21
	3/4	20	0.831	26.6	1.072	27.2	2.60	1.56
	1	25	1.047	33.4	1.346	34.2	3.20	2.41
	1 1/4	32	1.316	42.1	1.678	42.9	3.20	3.10
	1 1/2	40	1.657	48	1.919	48.8	3.20	3.57
	2	50	1.889	59.8	2.394	60.8	3.60	5.03
	2 1/2	65	2.354	75.4	3.014	76.6	3.60	6.43
	3	80	2.969	88.1	3.524	89.5	4.00	8.37
	4	100	3.459	113.3	4.524	114.9	4.50	12.20
	5	125	5.461	138.7	5.535	140.6	5.00	16.60
	6	150	6.46	164.1	6.539	166.1	5.00	19.70

Komposisi Kimia

Karbon	Manganase	Sulfur	Phasporus
0.20 % Max	1.20 % Max	0.045 % Max	0.045 % Max

Sifat Mekanik

Batas Mulur (N/mm2)	Kuat Tarik (N/mm2)	Regangan (Min)
195	320 - 460	20%

Panjang Pipa : 6 meter per batang
Toleransi panjang : ± 2%
Toleransi Tebal : Plus tidak terbatas
Minus (-) 12,5%

Catatan :
Pengujian Tekanan Air (Hydrostatic Test Pressure) : 50 kg/cm²
Pengujian Hydrostatic dapat diganti dengan Pegujian Ultrasonic atau Pengujian Eddy Current

SNI 0068:2013 (Certifed)
Kelas 2 PKB (STK) - 400
Pipa baja untuk konstruksi umum, dapat diaplikasikan untuk menara/ tiang, konstruksi, infrastruktur kecuali tiang pancang

SPESIFIKASI TEKNIS

Outside Diameter	Thickness	Unit Mass	Informative Reference			
mm	mm	kg/m	Cross-Sectional Area cm^2	Geometrical moment of inertia cm^4	Modus of section cm^3	Radius of Gyration of Area cm
21.7	2.0	0.972	1.238	0.607	0.560	0.700
27.2	2.0 2.3	1.24 1.41	1.583 1.799	1.26 1.41	0.930 1.03	0.890 0.880
34.0	2.3	1.80	2.291	2.89	1.70	1.12
42.7	2.3 2.5	2.29 2.48	2.919 3.157	5.97 6.40	2.80 3.00	1.43 1.42
48.6	2.3 2.5 2.8 3.2	2.63 2.84 3.16 3.58	3.345 3.621 4.029 4.564	8.99 9.65 10.6 11.8	3.70 3.97 4.36 4.86	1.64 1.63 1.62 1.61
60.5	2.3 3.2 4.0	3.30 4.52 5.57	4.205 5.760 7.100	17.8 23.7 28.5	5.90 7.84 9.41	2.06 2.03 2.00
76.3	2.8 3.2 4.0	5.08 5.77 7.13	6.465 7.349 9.085	43.7 49.2 59.5	11.5 12.9 15.6	2.60 2.59 2.58
89.1	2.8 3.2	5.96 6.78	7.591 8.636	70.7 79.8	15.9 17.9	3.05 3.04
101.6	3.2 4.0 5.0	7.76 9.63 11.9	9.892 12.26 15.17	120 146 177	23.6 28.8 34.9	3.48 3.45 3.42
114.3	3.2 3.5 4.5	8.77 9.58 12.2	11.17 12.18 15.52	172 187 234	30.2 32.7 41.0	3.93 3.92 3.89
139.8	3.6 4.0 4.5 6.0	12.1 13.4 15.0 19.8	15.40 17.07 19.13 25.22	357 394 438 566	51.1 56.3 62.7 80.9	4.82 4.80 4.79 4.74
165.2	4.5 5.0 6.0 7.1	17.8 19.8 23.6 27.7	22.72 25.16 30.01 35.26	734 808 952 110x10	88.9 97.8 115 134	5.68 5.67 5.63 5.60

SNI 0068:2013 (Certified)
Kelas 2 PKB (STK) - 400
Pipa baja untuk konstruksi umum, dapat diaplikasikan untuk menara/tiang, konstruksi, infrastruktur kecuali tiang pancang

SPESIFIKASI TEKNIS

Outside Diameter	Thickness	Unit Mass	Informative Reference			
mm	mm	kg/m	Cross-Sectional Area cm^2	Geometrical moment of inertia cm^4	Modus of section cm^3	Radius of Gyration of Area cm
190.7	4.5	20.7	26.32	114x10	120	6.59
	5.3	24.2	30.87	133x10	139	6.56
	6.0	27.3	34.82	149x10	156	6.53
	7.0	31.7	40.40	171x10	179	6.50
	8.2	36.9	47.01	196x10	206	6.46
216.3	4.5	23.5	29.94	168x10	155	7.49
	5.8	30.1	38.36	213x10	197	7.45
	6.0	31.1	39.64	219x10	203	7.44
	7.0	36.1	46.03	252x10	233	7.40
	8.0	41.1	52.35	284x10	263	7.37
	8.2	42.1	53.61	291x10	269	7.36
267.4	6.0	38.7	49.27	421x10	315	9.24
	6.6	42.4	54.08	460x10	344	9.22
	7.0	45.0	57.26	486x10	363	9.21
	8.0	51.2	65.19	549x10	411	9.18
	9.0	57.3	73.06	611x10	457	9.14
	9.3	59.2	75.41	629x10	470	9.13
318.5	6.0	46.2	58.91	719x10	452	11.1
	6.9	53.0	67.55	820x10	515	11.0
	8.0	61.3	78.04	941x10	591	11.0
	9.0	68.7	87.51	$105x10^2$	659	10.9
	10.3	78.3	99.73	$119x10^2$	744	10.9
355.6	6.4	55.1	70.21	$107x10^2$	602	12.3
	7.9	67.7	86.29	$130x10^2$	734	12.3
	9.0	76.9	98.00	$147x10^2$	828	12.3
	9.5	81.1	103.3	$155x10^2$	871	12.2
	12.0	102	129.5	$191x10^2$	108x10	12.2
	12.7	107	136.8	$201x10^2$	113x10	12.1
406.4	7.9	77.6	98.90	$196x10^2$	967	14.1
	9.0	88.2	112.4	$222x10^2$	109x10	14.1
	9.5	93.0	118.5	$233x10^2$	115x10	14.0
	12.0	117	148.7	$289x10^2$	142x10	14.0
	12.7	123	157.1	$30Sx10^2$	150x10	13.9
	16.0	154	196.2	$374x10^2$	184x10	13.8
457.2	9.0	99.5	126.7	$318x10^2$	140x10	15.8
	9.5	105	133.6	$335x10^2$	147x10	15.8
	12.0	132	167.8	$416x10^2$	182x10	15.7
	12.7	139	177.3	$438x10^2$	192x10	15.7
	16.0	174	221.8	$540x10^2$	236x10	15.6

SNI 0068:2013 (Certified)
Kelas 2 PKB (STK) - 400
Pipa baja untuk konstruksi umum, dapat diaplikasikan untuk menara/ tiang, konstruksi, infrastruktur kecuali tiang pancang

SPESIFIKASI TEKNIS

Outside Diameter	Thickness	Unit Mass	Informative Reference			
mm	mm	kg/m	Cross-Sectional Area cm^2	Geometrica l moment of Inertia cm^4	Modulus of Section cm^3	Radius of Gyration of Area cm
500	9.0	109	138.8	418x10	167x10	17.4
	12.0	144	184.0	548x10	219x10	17.3
	14.0	168	213.8	632x10	253x10	17.2
508.0	7.9	97.4	124.1	388x10	153x10	17.7
	9.0	111	141.1	439x10	173x10	17.6
	9.5	117	148.8	462x10	182x10	17.6
	12.0	147	187.0	575x10	227x10	17.5
	12.7	155	197.6	606x10	239x10	17.5
	14.0	171	217.3	663x10	261x10	17.5
	16.0	194	247.3	749x10	295x10	17.4

Toleransi Diameter Luar Pipa Bulat	
Diameter Luar Pipa Bulat	Toleransi
Dibawah 50 mm	± 0.5 mm
50 mm ke atas	± 1,0%
CATATAN:	
Toleransi diameter luar dari pipa dilas tahanan listrik dan pipa dilas busur redam, dengan diameter luar lebih dari 350 mm mengacu pada Tabel Toleransi Diameter Luar Pipa Bulat dan toleransi diameter dari ujung-ujung pipa harus ±0,5%	

Toleransi Tebal Pipa Bulat	
Tebal	Toleransi
Di bawah 4 mm	+0,6 mm
	-0,5 mm
4 mm s/d 12 mm	+ 15%
	-12,5%
12 mm ke atas	+ 15%
	- 1,5mm

Panjang Pipa: 6 atau 12 meter per batang	
Toleransi Panjang	+ 100 mm
	-0 mm

Komposisi Kimia : Carbon : 0,25% maks.
Fosfor : 0,04% maks.
Sulfur : 0,04% maks.

Sifat Mekanik : Kuat Luluh (Yield Strength) :235 N/mm2 min.
Kuat Tarik (Tensile Strength) :400 N/mm2 min.
Elongasi :23% min

SNI 0039:2013
(Certified) Ukuran Pipa Light, Pipa Medium dan Pipa Heavy
Pipa baja dengan atau tanpa lapis seng untuk aplikasi saluran air kecuali untuk saluran air minum

SPESIFIKASI TEKNIS

Diameter Dalam Nominal		Light					Medium					Heavy				
(mm)	(inchi)	Diameter Luar (mm)			Tebal	Berat Nominal Pipa Tanpa Lapis Seng Sebelum Diulir (Kg/m)	Diameter Luar (mm)			Tebal	Berat Nominal Pipa Tanpa Lapis Seng Sebelum Diulir (Kg/m)	Diameter Luar (mm)			Tebal	Berat Nominal Pipa Tanpa Lapis Seng Sebelum Diulir (Kg/m)
		Nominal	Max	Min	(mm)		Nominal	Max	Min	(mm)		Nominal	Max	Min	(mm)	
100	4	114.1	115,3	113.0	3.6	9,75	114,3	115,0	113,1	4,5	12,20	114,1	114,9	113,3	6,0	15,99
150	6	165,1	166,8	163,4	3,6	14,34	165,1	166,5	163,9	5,0	19,80	168,3	170,0	164,1	7,1	28,22
200	8	219,1	221,3	216,9	5,0	26,4	219,1	211,3	216,9	6,4	33,32	219,1	221,3	216,9	8,2	42,65
250	10	273,0	275,7	270,3	5,0	33,04	273,0	275,7	270,3	6,4	41,75	273,0	275,7	271,3	9,3	60,48
300	12	323,8	327,0	320,6	5,0	39,31	323,8	327,0	320,6	6,4	49,71	323,8	327,0	320,6	10,3	79,63
350	14	355,6	359,2	352,0	5,6	48,33	355,6	359,2	352,0	6,4	54,69	355,6	359,2	352,0	11,1	94,30
400	16	406,4	410,5	402,3	5,6	55,35	406,4	410,5	402,3	6,4	62,64	406,4	410,5	402,3	12,7	123,30
450	18	457,0	464,6	452,4	6,4	71,12	457,0	461,6	452,4	9,5	105,10	457,0	461,6	452,4	12,7	139,15
500	20	508,0	513,1	502,9	6,4	79,16	508,0	513,1	502,9	9,5	117,02	508,0	513,1	502,9	12,7	155,12
600	24	610,0	616,1	603,9	6,4	95,26	610,0	616,1	603,9	9,5	140,88	610,0	616,1	603,9	12,7	187,06
650	26						660,0	666,6	653,4	9,5	152,80	660,1	666,6	653,4	12,7	202,72
700	28						711,0	718,1	703,9	9,5	164,34	711,0	718,1	703,9	12,7	218,69
800	32						813,0	821,1	804,9	9,5	188,23	813,0	821,1	804,9	12,7	250,64
900	36						914,0	923,1	904,9	9,5	211,90	914,0	923,1	904,9	12,7	282,27
1000	40						1016,0	1026,2	1006,8	12,7	314,22	1016,0	1026,2	1005,8	14,3	353,24
1050	42						1067,0	1077,7	1056,3	12,7	330,19	1067,0	1077,7	1056,3	14,3	371,22
1150	46						1168,0	1179,7	1556,3	12,7	361,82	1168,0	1179,7	1156,3	14,3	406,84
1200	48						1219,0	1231,2	1206,8	12,7	377,79	1219,0	1231,2	1206,8	14,3	424,82

Komposisi Kimia : Karbon (C) 0,200% max
Mangan (Mn) 1,400% max
Fosfor (P) 0,035% max
Sulfur (S) 0,030% max

Sifat Mekanik : Kuat Mulur (Yield Strength) : 195 N/mm2
Kuat Tarik (Tensile Strength) : 320 - 460 N/m2
Elongasi : 20 %

Toleransi Ketebalan : +10 -8 % (Pipa Light) +15 -10 % (Pipa Medium) +15 -12,5 % (Pipa Heavy)

Panjang : 6 Meter atau 12 Meter

Lapisan Seng minimum

Toleransi Panjang : + 100 mm dan - 0 mm

Berat : 300 gr/m^2
Tebal : 42 µm

Ketahanan Bocor : Tidak bocor bila diuji hidrostatik pada tekanan 50 kgf/cm2 selama 5 detik

STEEL PIPE ASTM A252
Grade 1,2 & 3
(PIPA BAJA UNTUK PANCANG)

SPESIFIKASI TEKNIS

Nominal Size in	Outside Diameter		Wall Thikness		Sch No.	Weight	
	In	mm	In	mm		lbs/ft	kg/m
4	4.500	114.3	0.188	4.78	-	8.66	12.91
			0.219	5.56	-	10.01	14.91
			0.237	6.02	40/STD	10.79	16.07
			0.250	6.35	-	11.35	16.90
6	6.625	168.3	0.188	4.78	-	12.92	19.27
			0.219	5.56	-	14.98	22.31
			0.250	6.35	-	17.02	25.36
			0.280	7.11	40/STD	18.97	28.26
			0.312	7.92	-	21.04	31.32
			0.344	8.74	-	23.08	34.39
			0.375	9.52	-	25.03	37.28
8	8.625	219.1	0.188	4.78	-	16.9	25.26
			0.203	5.16	-	18.26	27.22
			0.219	5.56	-	19.66	29.28
			0.250	6.35	20	22.36	33.31
			0.277	7.04	30	24.70	36.31
			0.312	7.92	-	27.70	41.24
			0.322	8.18	40/STD	28.55	42.55
			0.344	8.74	-	30.42	45.34
			0.375	9.52	-	33.04	49.20
			0.438	11.13	-	38.80	57.08
10	10.750	273.0	0.188	4.78	-	21.23	31.62
			0.203	5.16	-	22.89	34.08
			0.219	5.56	-	24.65	36.67
			0.250	6.35	20	28.06	41.75
			0.279	7.09	-	31.23	46.49
			0.307	7.80	30	34.27	51.01
			0.344	8.74	-	28.27	56.95
			0,365	9.27	40/STD	40.52	69.29
			0.438	11.13	-	48.28	71.87
12	12.750	323.8	0.203	5.16	-	27.23	40.55
			0.219	5.56	-	29.34	43.63
			0.250	6.35	20	33.41	49.71
			0.281	7.14	-	37.46	55.75
			0.312	7.92	-	41.48	61.69
			0.330	8.38	30	43.81	65.18
			0.344	8.74	-	45.62	67.90
			0.375	9.52	STD	49.61	73.78
			0.406	10.31	40	53.57	79.70
			0.438	11.13	-	57.65	85.82
			0.500	12.70	XS	65.48	97.43

Nominal Size in	Outside Diameter		Wall Thikness		Sch No.	Weight	
	In	mm	In	mm		lbs/ft	kg/m
14	14.000	355.6	0.210	5.33	-	30.96	46.04
			0.219	5.56	-	32.26	47.99
			0.250	6.35	10	36.75	54.69
			0.281	7.14	-	41.21	61.35
			0.312	7.92	20	45.65	67.90
			0.344	8.74	-	50.22	74.76
			0.375	9.52	30/STD	54.62	81.25
			0.438	11.13	40	63.50	94.55
			0.469	11.91	-	67.84	100.94
			0.500	12.70	XS	72.16	107.39
16	16.000	406.4	0.219	5.56	-	36.95	54.96
			0.250	6.35	10	42.09	62.64
			0.281	7.14	-	47.22	70.30
			0.312	7.92	20	52.32	77.83
			0.344	8.74	-	57.57	85.71
			0.375	9.52	30/STD	62.64	93.17
			0.438	11.13	-	72.86	108.49
			0.469	11.91	-	82.85	115.86
			0.500	12.70	40/XS	107.60	123.30
18	18.00	457	0.250	6.35	10	47.44	70.60
			0.281	7.14	-	52.23	79.24
			0.312	7.92	20	58.99	87.75
			0.344	8.74	-	64.93	96.66
			0.375	9.52	STD	70.65	105.10
			0.406	10.31	-	76/36	113.62
			0.438	11.13	30	82.23	112.43
			0.469	11.91	-	87.89	130.78
			0.500	12.70	XS	73.54	139.20
			0.562	14.27	40	104.76	155.87
20	20.000	508	0.250	6.35	10	52.78	78.55
			0.281	7.14	-	92.23	88.19
			0.312	7.92	-	65.66	97.67
			0.344	8.74	-	72.28	107.60
			0.375	9.52	20/STD	78.67	117.02
			0.406	10.31	-	87.04	126.53
			0.438	11.13	-	91.59	136.37
			0.469	11.91	-	97.92	145.70
			0.500	12.70	30/XS	104.23	155.12
			0.594	15.09	40	123.23	183.42

Chemical Composition : Phosporous max 0,050%

Tensile Requirement	Grade 1	Grade 2	Grade 3
Tensile Strength, min, psi (MPa)	50 000 (345)	60 000 (415)	65 000 (455)
Yield point of yield strength, min, psi (Mpa)	30 000 (205)	35 000 (240)	45 000 (310)

A. SPESIFIKASI ELECTRICAL POLE
SPLN D3.019:2012

		Tiang SUTR				Tiang SUTM			
		9/100	9/200	9/350	11/200	12/200	12/350	12/350	14/350
ATAS	Diameter segmen (mm)	139,9	190,7	216,3	190,7	216,3	267,4	267,4	318,5
	Tebal pipa (mm)	6,0	6,0	7,0	6,0	6,0	6,0	8,0	6,0
	Panjang segmen (mm)	5	5	5	6	6,0	6,0	6,0	6,0
TENGAH	Diameter segmen (mm)	114,3	139,8	190,7	165,2	190,7	216,3	216,3	267,4
	Tebal pipa (mm)	3,6	6,0	5,0	4,5	5,0	6,0	7,0	6,0
	Panjang segmen (mm)	2	2	2	2,5	4,0	4,0	5,0	5,0
BAWAH	Diameter segmen (mm)	89,1	114,3	165,2	114,3	139,8	165,2	165,2	216,3
	Tebal pipa (mm)	3,2	4,5	4,5	4,5	4,0	4,5	4,5	4,5
	Panjang segmen (mm)	2	2	2	2,5	2,0	2,0	2,0	3,0
Lenturan maksimum pada beban kerja (mm)		180	131	123	233	202	189	207	197
Berat (kg)		152	233	304	270	342	440	581	600

Toleransi :

Diameter luar : ±0,5 %

Tebal : +10% ; -1,2%

Panjang segmen : ±40 mm

B. SPESIFIKASI TELECOMMUNICATION POLE
STEEL -003-2016 Versi 3.0

Dimensi		T7	T9
ATAS	OD Ruas (mm)	76,3	76,3
	Tebal Ruas (mm)	2,9	4,5
	Panjang Bahan (m)	1,57	2,2
TENGAH	OD Ruas (mm)	114,3	114,3
	Tebal Ruas (mm)	2,9	4,5
	Panjang Bahan (m)	1,57	2,2
BAWAH	OD Ruas (mm)	139,8	139,8
	Tebal Ruas (mm)	3,6	4,7
	Panjang Bahan (m)	4,26	5
LAKOP	Tebal (mm)	3	
	Panjang (m)	400	
	Panjang tanda anak panah (cm)	5	
	Jarak Titik tengah lakop dari dasar tiang (rasio)	1/5 Panjang ruas bawah tiang	
Jarak masing-masing pasak las		120	
Kemampuan menahan beban* (Kgf)		140	
Berat tiang (Termasuk Tutup) Kg		77	127,3

Toleransi

Diameter luar : ± 10 %

Tebal : +10%

Panjang segmen : ± 10%

Contoh Marking

$$\frac{\text{AA}}{\text{cc - yy- xxxx}}$$

Komposisi Kimia :

Karbon (C) : 0,25%

Fosfor (P) : 0,04%

Sulfur (S) : 0,04%

Kekuatan Mekanis :

Kekuatan Luluh (Yield Strength) : 235 Mpa

Kekuatan tarik (Tensile Strength) : 400 Mpa

Elongasi : 23%

Keterangan Contoh Marking

PP : Panjang tiang (m)

BK : Beban kerja (daN)

AA : Tipe Tiang

CC : Logo/nama pabrikan

yy : Tahun Produksi (2 digit terakhir)

xxxxx : Nomor Seri produksi

EXPERIENCES

1. Spiral Line Pipe In Oil & Gas Industry

No.	Customer	Customer	Volume (Ton)	Spec	Year
1.	PT Perusahaan Gas Negara	CP10 Project	10.000	API 5L X-65	2014
2.	PT Perusahaan Gas Negara	CP 7 & 9 Project	6.124	API 5L X-65	2013
3.	PT Tripatra	Senoro Development Project	5.783	API 5L PSL 2	2012
4.	PT Perusahaan Gas Negara	SSWJ	28.000	API 5L X-65	2006
5.	PT Pertamina	Pengembangan Gas Sumatera Selatan	32.254	API 5L X-52	2005

2. Spiral Saw Pile Pipe

No.	Customer	Customer	Volume (Ton)	Spec	Year
1.	China Communicaton Construction	CCCEI Cilacap	4.482	ASTM A252	2020 – 2021
2.	McConnell Dowell Constructors	Connawara	4.574	BS EN 10219	2020
3.	PT McConnell Dowell Indonesia	LNG Jetty BP Tangguh	6.766	BS EN 10219	2018 – 2019
4.	Hyundai Engineering & Construction	PLTU Cirebon	10.300	ASTM A252 Gr.3	2018
5.	PT Bangun Cipta Kontraktor	SPAM Lampung	4.900	AWWA C200	2018

3. ERW/HFRW Line Pipe

No.	Customer	Customer	Volume (Ton)	Spec	Year
1.	PT Bertie Sukses Makmur	Project Casing Pertamina EP	820	API 5CT K55	2021
2.	PT Hutama Karya	RDMP Lawe-lawe	3.236	API 5L X-52 & API 5L X-60	2020 – 2021
3.	PT Pertamina Gas	Rokan Project	12.712	API 5L PSL 2	2020
4.	PT Citra Panji Manunggal for MRPR	IPP Medco Project	3.860	API 5L X-52M	2019
5.	PT Jawa Satu Power	PLTGU Jawa 1	1.325	API 5L X-65MO	2019

4. Coating

No.	Customer	Customer	Volume (Ton)	Spec	Year
1.	PT Hutama Karya	RDMP Lawe-lawe	20	3LPE	2021
2.	PT Pertamina Gas	Rokan Project	55	3LPE	2020
3.	TImas Suplindo	BIGP Project	56,4	CWC	2019
4.	PT Bangun Cipta Kontraktor	SPAM Lampung	41,3	AEC	2018
5.	PT PHE ONWJ	STC1023	63,7	CWC	2017