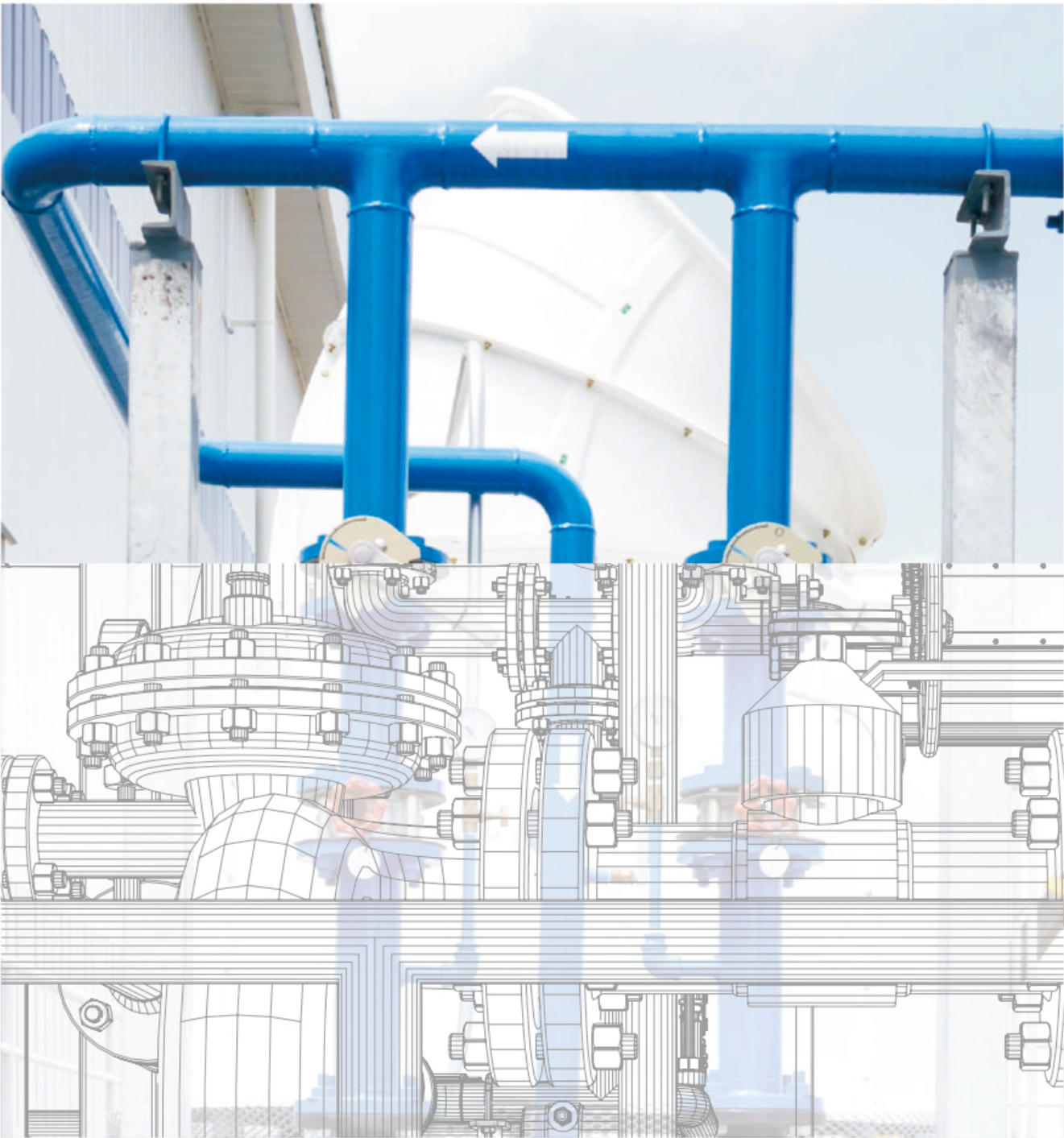




SSAW & HFW | ERW

Spiral Submerged Arc Welded
High Frequency Welded |
Electric Resistance Welded

Water Pipes



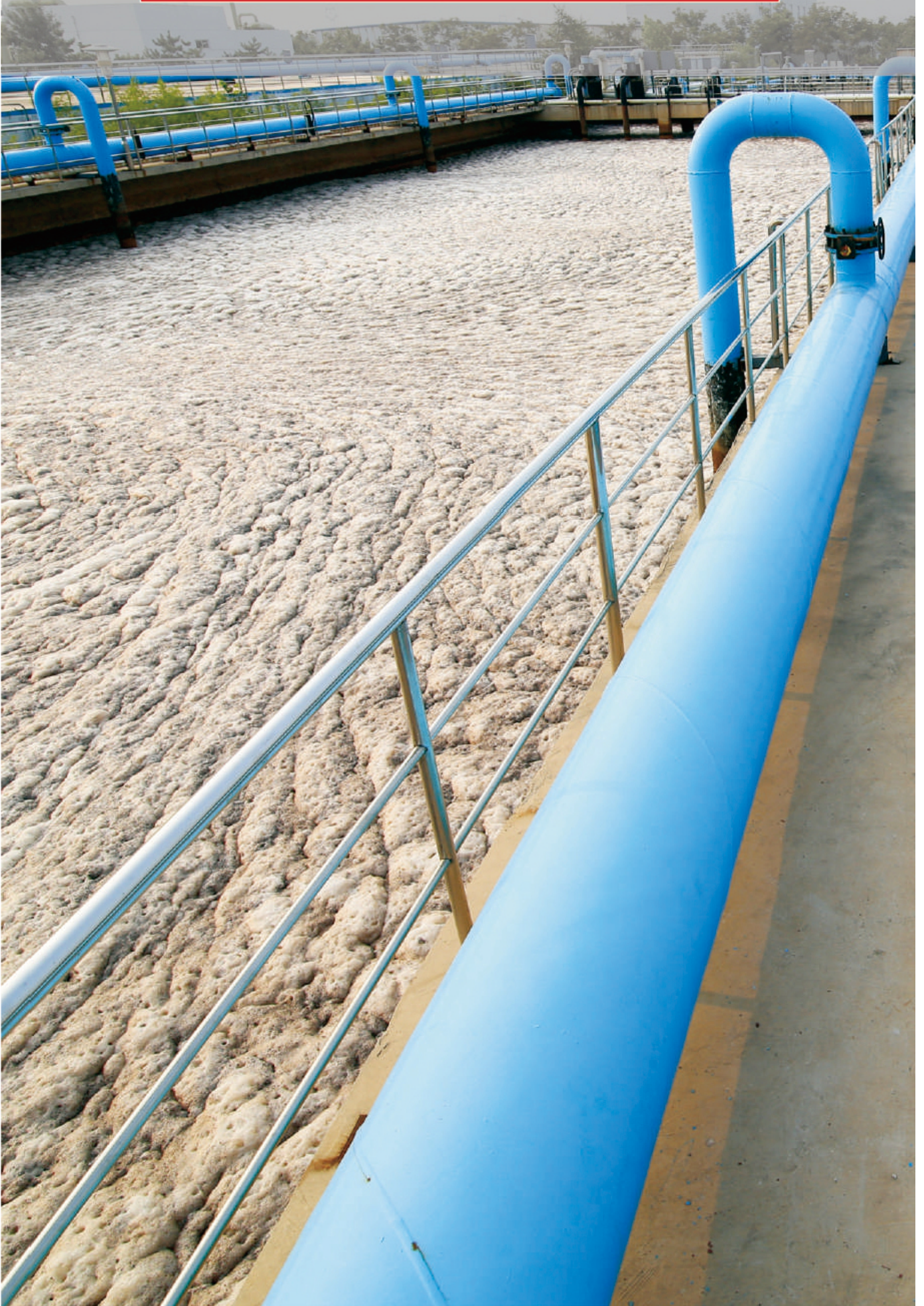
PT Steel Pipe Industry of Indonesia, Tbk.



SPINDO®'s high quality pipe is used in a wide variety of applications including water and sewage transmission. Greater strength in proportion to wall thickness of any competitive product means the pipe performs safely at higher pressures and its strength provides distinct handling and laying advantages in difficult locations.

Industrial Standards

SNI 0039 | ASTM A53 | AWWA C200 | AWWA C208 | AS 1579





Water Treatment
Plant



Water Transmission
Building



DIMENSION RANGE

WALL THICKNESS																			
NOMINAL DIAMETER	(inches)	(mm)	0.039	0.079	0.118	0.157	0.197	0.236	0.276	0.315	0.394	0.472	0.551	0.630	0.709	0.787	0.866	0.945	1.024
		(mm)	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	24.0	26.0
¼	8				2.3														
⅜	10				2.3														
½	15				2.77														
¾	20				2.87														
1	25					3.38													
1 ¼	32					3.56													
1 ½	40					3.68													
2	50					3.91													
2 ½	65	1.4						5.16											
3	80	1.4						5.49											
3 ½	90		2.7					5.74											
4	100	1.4						6.02											
5	125							6.5											
6	150							7.11			9.52								
7	175							6.5											
8	200				3.9				8.18				12.7						
12	300																		
16	300																		
20	500																		
24	600																		
28	700							6.5								20.52			
32	800																		25.4
36	900																		
40	1000																		
44	1100																		
48	1200																		
52	1300																		
56	1400																		
60	1500																		
80	2000																		
100	2500																		
120	3000																		

- ERW PIPES
- SPIRAL PIPES
- HFW PIPE & SPIRAL PIPES

Application **Water Pipelines**



HFW | ERW Water Pipes

Range of Diameter	1/2" - 12"
Range of Wall Thickness	2.00 mm - 10.30 mm
Classification	Light/Medium/Heavy - SNI 0039 Standard Grade A/Grade B - ASTM A53 Standard

HFW | ERW Water Pipes

Electric Resistance Welded (ERW) or High Frequency Welding (HFW) steel pipes is based on welding in flat sheet rolled into a tube. Through its proven coating process, SPINDO® steel water pipe fulfill various industrial standard.

These steel pipes are mainly used for water transmission pipelines, water treatment plants, wastewater treatment plants, cogeneration facilities & circulating water systems in the building.

Pengelasan elektrik (ERW) atau pengelasan elektrik frekwensi tinggi (HFW) untuk pipa baja mengacu pada pengelasan pada lembaran yang digulung menjadi bentuk tabung. Melalui proses pelapisan yang telah teruji, pipa baja SPINDO® memenuhi berbagai standar kelayakan penggunaannya sebagai pipa air.

Penggunaan pipa baja ini terutama untuk jaringan pipa air transmisi, pabrik pengolahan air, pabrik pengolahan air limbah, fasilitas penggunaan tenaga air dan sistem sirkulasi air pada bangunan.

SSAW Water Pipes

Range of Diameter	6" - 80"
Range of Wall Thickness	4.10 mm - 25.40 mm
Classification	Light/Medium/Heavy - SNI 0039 Standard
	AWWA C200, AWWA C208, AS 1579

SSAW Water Pipes

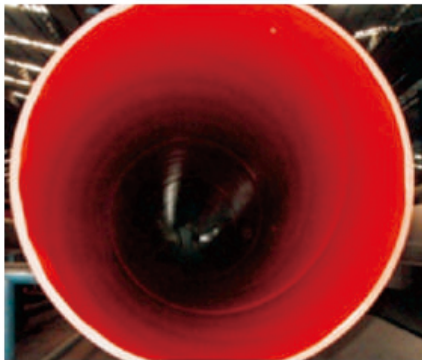
Spiral Submerged Arc Welding (SSAW) steel pipes is a forming tube process of rolled steel sheet with centerline hose reel molding angle (adjustable), side molding edge welding and weld them into a spiral.

These steel pipes are used for large diameter of water distribution, such as water tunnel, water treatment plants, wastewater treatment plants, etc

Pengelasan spiral pada pipa baja (SSAW) adalah pembentukan tabung dengan proses menggulung lembaran baja dengan sudut tertentu mengacu pada garis pusat, sisi tepi lembaran dilas mengikuti alur spiral yang telah ditentukan.

Pipa baja ini digunakan untuk distribusi air dengan diameter besar, seperti pada terowongan air, pabrik pengolahan air, pabrik pengolahan air limbah, dan sebagainya.

Internal Coating

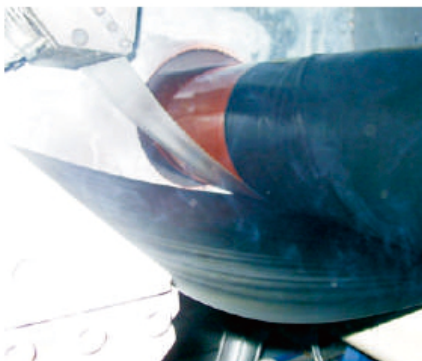


Internal Epoxy Coating



Cement Mortar Lining

External Coating



Three Layer Polyethylene (3LPE)



Three Layer Polypropelene (3LPP)



Fusion Bond Epoxy Coating (FBE)



External Epoxy Coating

Galvanized



Application **Underground Water Pipelines**





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OUTSIDE DIMENSIONS		WALL THICKNESS		WEIGHT		HYDROSTATIC TEST PRESSURE	
inch	mm	inch	mm	lb/ft	kg/m	kgf/cm ² *	lbf/inch ² *
8 ⁵ / ₈	219.1	0.250	6.40	22.48	33.57	73	1031
10 ³ / ₄	273.1	0.250	6.40	28.19	42.09	59	833
12 ³ / ₄	323.9	0.160	4.10	21.50	32.10	40	565
14	355.6	0.176	4.50	26.00	38.70	40	566
16	406.4	0.176	4.50	29.70	44.30	35	495
18	457.2	0.192	4.90	36.50	54.40	34	480
20	508.0	0.192	4.90	40.60	60.50	30	432
22	558.8	0.212	5.40	49.30	73.50	30	434
24	609.6	0.212	5.40	53.80	80.20	28	398
26	660.4	0.250	6.40	68.70	102.40	30	433
28	711.2	0.250	6.40	74.10	110.40	28	402
30	762.0	0.250	6.40	79.40	118.30	26	375
32	812.8	0.250	6.40	84.70	126.30	25	352
34	863.6	0.250	6.40	90.10	134.20	23	331
36	914.4	0.312	7.90	118.90	177.10	27	390
40	1016.0	0.312	7.90	132.20	197.00	25	351
42	1066.8	0.375	9.50	166.60	248.30	28	402
44	1117.6	0.375	9.50	174.60	260.30	27	375
48	1219.2	0.375	9.50	190.70	284.10	25	352
52	1320.8	0.500	12.70	274.90	409.70	30	433
56	1422.4	0.500	12.70	296.20	441.50	28	402
60	1524.0	0.500	12.70	317.60	473.30	26	384
64	1625.6	0.500	12.70	338.90	505.10	25	352
68	1727.2	0.625	15.90	449.50	669.90	29	414
72	1828.8	0.625	15.90	476.20	709.70	27	391
76	1930.4	0.625	15.90	502.90	749.50	26	370
80	2032.0	0.625	15.90	529.60	789.30	25	352

* SM.Y.S = 30,000 Psi

Other Diameter and Wall Thickness can be supplied on customer request / specification

- Minimum Wall Thickness
- : 4 mm
- Maximum Wall Thickness
- : 25.4 mm
- Minimum Diameter
- : 219.1 mm
- Maximum Diameter
- : 3000 mm (ASTM)
-
- : 2032 mm (API & Stand)

TECHNICAL SPECIFICATION OF
SPINDO® SSAW - WATER PIPES

GRADE		CHEMICAL COMPOSITIONS (%)				MECHANICAL PROPERTIES			ON LINE TEST
		C Max	Mn Max	P Max	S Max	OTHERS	YIELD STRENGTH Mpa	TENSILE STRENGTH Mpa	ELONGATION (%) Min
SNI 0039	LIGHT	0.20	1.40	0.035	0.030	-	-	320 - 460	50
	MEDIUM	0.20	1.40	0.035	0.030		-	320 - 460	50
	HEAVY	0.20	1.40	0.035	0.030		-	320 - 460	50
ASTM	A36	0.25	0.80 -1.20	0.040	0.050	Cu - 0.20 when specified	(36) 25.3	(58-80) 40.8-56.3	23
ASTM A283	C	-	-	0.040	0.050	Cu - 0.20 when specified	(30) 21.1	(55-65) 38.7-45.7	25
	D	-	-	0.040	0.050		(33) 23.2	(60-72) 42.2-50.6	23
ASTM A570	30	0.25	0.90	0.040	0.050	Cu - 0.20 when specified	(30) 21.1	(49) 34.5	25
	33	0.25	0.90	0.040	0.050		(33) 23.2	(52) 36.6	23
	36	0.25	0.90	0.040	0.050	Cu - 0.20 when specified	(30) 21.1	(53) 37.3	22
	40	0.25	0.90	0.040	0.050		(33) 23.2	(55) 38.7	21
	45	0.25	1.35	0.040	0.050	Cu - 0.20 when specified	(30) 21.1	(60) 42.2	19
	50	0.25	1.35	0.040	0.050		(33) 23.2	(65) 45.7	17
ASTM 572	42	0.21	1.35	0.040	0.050	Si 0.40	(42) 29.5	(60) 42.2	24
	45	0.23	1.35	0.040	0.040	Si 0.40	(50) 35.2	(65) 45.7	21
	60	0.26	1.35	0.040	0.050	Si 0.40	(60) 42.2	(75) 52.7	18

SPINDO® MAJOR EXPERIENCE PROJECTS

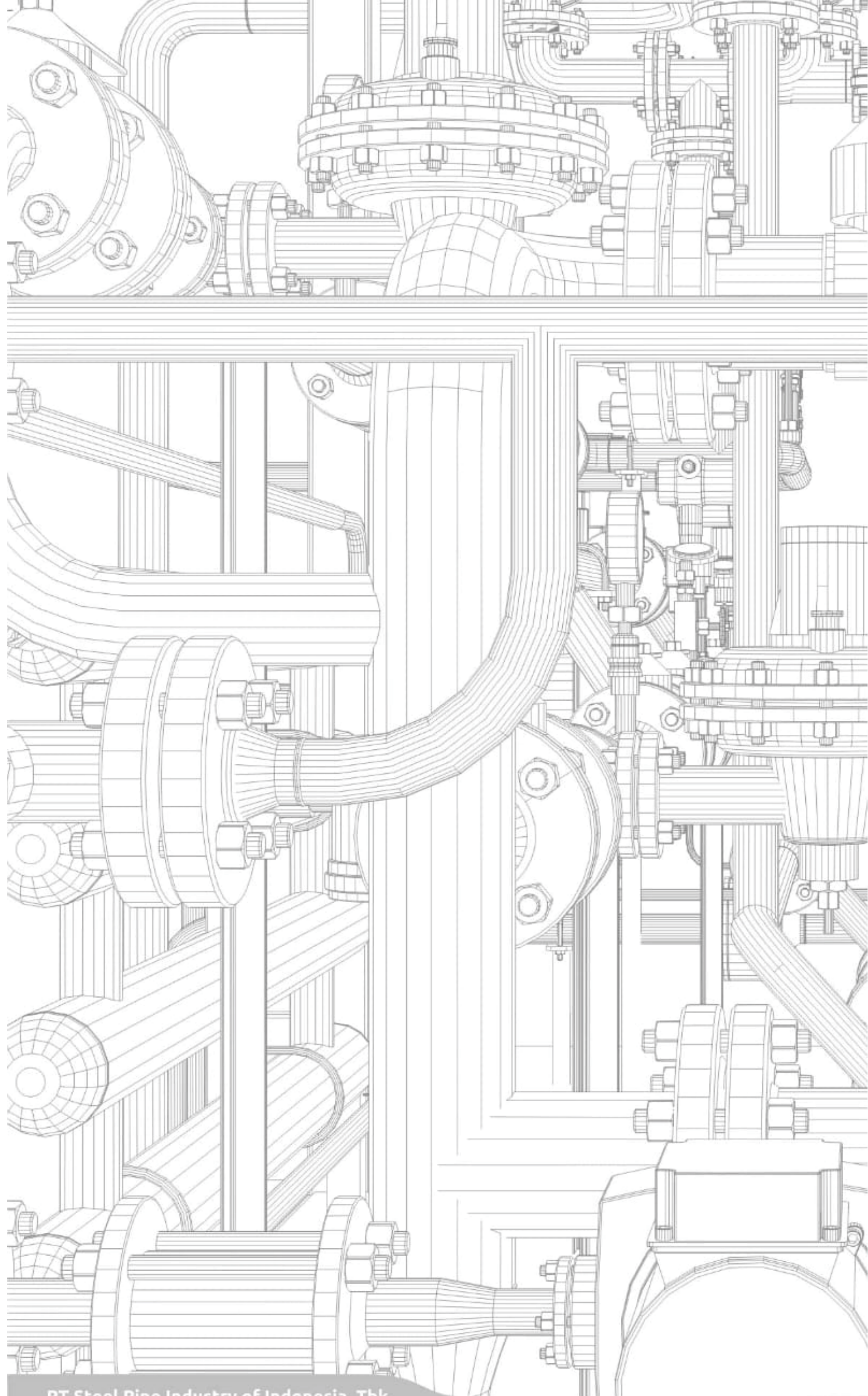
No.	CUSTOMER / PROJECT	OD (inch)	THICKNESS (mm)	VOLUME	SPEC.	YEAR
1	Fresh Water Supply - Fakfak, West of Papua	16	6.50	201 ton	AWWA C 200	2013
2	Fresh Water Supply - South and West of Sulawesi	10¾, 12¾, 16	5.00 - 6.00	381 ton	AWWA C 200	2013
3	Fresh Water Supply - Manokwari, West of Papua, 2 nd phase	11¾, 15¾	5.00 - 6.50	478 ton	AWWA C 200	2013
4	Fresh Water Supply - Bregas (Brebes, Tegal, Slawi) area at North Coast of Java	10¾ - 24	4.80 - 8.00	1008 ton	AWWA C 200	2011
5	Summarecon - Serpong	10¾ - 20	9.00 - 15.00	100 ton	ASTM A 53	2007
6	Mall Kelapa Gading	10¾ - 24	9.00 - 12.00	140 ton	ASTM A 53	2007
7	PDAM - Bali	14	6.35	554 ton	AWWA C 200	2005
8	PDAM - Medan	10¾, 15¾	5.20 - 6.40	300 ton	AWWA C 200	2003

NOMINAL DIAMETER		SPECIFIED OUTSIDE DIAMETER	SPECIFIED WALL THICKNESS	NOMINAL WEIGHT PLAIN END	SCHEDULE No
mm	inch	mm	mm	kg/m	
15	½	21.3	2.77	1.27	40
20	¾	26.7	2.87	1.69	40
25	1	33.4	3.38	2.50	40
32	1¼	42.2	3.56	3.39	40
40	1½	48.3	3.68	4.05	40
50	2	60.3	3.91	5.44	40
65	2½	73.0	5.16	8.63	40
80	3	88.9	5.49	11.29	40
90	3½	101.6	5.74	13.57	40
100	4	114.3	6.02	16.07	40
125	5	141.3	6.55	21.77	40
150	6	168.3	7.11	28.26	40
200	8	219.1	6.35	33.31	20
		219.1	7.04	36.31	30
		219.1	8.18	42.55	40
250	10	273.0	6.35	41.75	20
		273.0	9.27	60.29	40
300	12	323.8	6.35	49.71	20
		323.8	9.52	73.78	STD
		323.8	10.31	79.70	40

CARBON STEEL PIPES FOR PRESSURE SERVICES
JIS G 3454 : 1988 (STPG)

SYMBOL OF GRADE	TENSILE STRENGTH kgf/mm² (N/mm²)	YIELD STRENGTH kgf/mm² (N/mm²)
STPG 38	38 Min (373 Min)	22 Min (216 Min)
STPG 42	42 Min (412 Min)	25 Min (245 Min)

NOMINAL DIAMETER		SPECIFIED OUTSIDE DIAMETER	SCHEDULE 20		SCHEDULE 40	
			WALL THICKNESS	UNIT MASS	WALL THICKNESS	UNIT MASS
mm	inch	mm	mm	kg/m	mm	kg/m
15	½	21.7	-	-	2.8	1.31
20	¾	27.2	-	-	2.9	1.74
25	1	34.0	-	-	3.4	2.57
32	1¼	42.7	-	-	3.6	3.47
40	1½	48.6	-	-	3.7	4.10
50	2	60.5	3.2	4.52	3.9	5.44
65	2½	76.3	4.5	7.97	5.2	9.12
80	3	89.1	4.5	9.39	5.5	11.3
90	3½	101.6	4.5	10.8	5.7	13.5
100	4	114.3	4.9	13.2	6.0	16.0
125	5	139.8	5.1	16.9	6.6	21.7
150	6	165.2	5.5	21.7	7.1	27.7
200	8	216.3	6.4	33.1	8.2	42.1
250	10	267.4	6.4	41.2	9.3	59.2
300	12	318.5	6.4	49.3	10.3	78.3



SPINDO® SSAW - WATER PIPES

Hydrostatic Test : 50 kgf / cm²
Tolerance on Wall Thickness : +10% & -8% (LIGHT)
: +15% & -10% (MEDIUM)
: +15% & -12.5% (HEAVY)
Standard Length : 6 m / pc or 12 m / pc

CARBON STEEL PIPES FOR ORDINARY USES
SNI 0039 : 2013

CLASS	NOMINAL DIAMETER		OUTSIDE DIAMETER	WALL THICKNESS	WEIGHT
					PLAIN END
	mm	inch			kg/m
LIGHT	200	8	219.1	5.0	26.40
	250	10	273.0	5.0	33.04
	300	12	323.8	5.0	39.31
	350	14	355.6	5.6	48.33
	400	16	406.4	5.6	55.35
	450	18	457.0	6.4	71.12
	500	20	508.0	6.4	79.16
	600	24	610.0	6.4	95.26
MEDIUM	150	6	165.1	5.0	19.80
	200	8	219.1	6.4	33.32
	250	10	273.0	6.4	41.75
	300	12	323.8	6.4	49.71
	350	14	355.6	6.4	54.69
	400	16	406.4	6.4	62.64
	450	18	457.0	9.5	105.10
	500	20	508.0	9.5	117.02
	600	24	610.0	9.5	140.88
	650	26	660.0	9.5	152.80
	700	28	711.0	9.5	164.34
	800	32	813.0	9.5	188.23
	900	36	914.0	9.5	211.90
	1000	40	1016.0	12.7	314.22
	1050	42	1067.0	12.7	330.19
	1150	46	1168.0	12.7	361.82
	1200	48	1219.0	12.7	377.79
HEAVY	150	6	168.3	7.1	28.22
	200	8	219.1	8.2	42.65
	250	10	273.0	9.3	60.48
	300	12	323.8	10.3	79.63
	350	14	355.6	11.1	94.30
	400	16	406.4	12.7	123.30
	450	18	457.0	12.7	139.15
	500	20	508.0	12.7	155.12
	600	24	610.0	12.7	187.06
	650	26	660.0	12.7	202.72
	700	28	711.0	12.7	218.69
	800	32	813.0	12.7	250.64
	900	36	914.0	12.7	282.27
	1000	40	1016.0	14.3	353.24
	1050	42	1067.0	14.3	371.22
	1150	46	1168.0	14.3	406.84
	1200	48	1219.0	14.3	424.82

SPINDO® ERW | HFW - WATER PIPES

Hydrostatic Test : 50 kgf / cm²

Tolerance on Wall Thickness : +10% & -8% (LIGHT)

: +15% & -10% (MEDIUM)

: +15% & -12.5% (HEAVY)

Standard Length : 6 m / pc or 12 m / pc

CARBON STEEL PIPES FOR ORDINARY USES
SNI 0039 : 2013

CLASS	NOMINAL DIAMETER		OUTSIDE DIAMETER	WALL THICKNESS	WEIGHT
					PLAIN END
	mm	inch	mm	mm	kg/m
LIGHT	15	½	21.4	2.0	0.947
	20	¾	26.8	2.3	1.38
	25	1	33.6	2.6	1.98
	32	1¼	42.3	2.6	2.54
	40	1½	48.2	2.9	3.23
	50	2	60.2	2.9	4.08
	65	2½	76.0	3.2	5.71
	80	3	88.8	3.2	6.72
	100	4	114.1	3.6	9.75
MEDIUM	15	½	21.3	2.6	1.21
	20	¾	26.9	2.6	1.56
	25	1	33.7	3.2	2.41
	32	1¼	42.4	3.2	3.10
	40	1½	48.3	3.2	3.56
	50	2	60.3	3.6	5.03
	65	2½	76.1	3.6	6.42
	80	3	88.9	4.0	8.36
	100	4	114.3	4.5	12.2
	125	5	139.7	5.0	16.6
	150	6	165.1	5.0	19.8
	200	8	219.1	6.4	33.32
HEAVY	15	½	21.3	3.2	1.44
	20	¾	26.8	3.2	1.87
	25	1	33.8	4.0	2.94
	32	1¼	42.5	4.0	3.80
	40	1½	48.4	4.0	4.38
	50	2	60.3	4.5	6.19
	65	2½	76.0	4.5	7.93
	80	3	88.8	5.0	10.30
	100	4	114.1	6.0	15.99
	125	5	139.7	6.6	21.92
	150	6	168.3	7.1	28.22
	200	8	219.1	8.2	42.65