

มาตรฐาน ASTM A-53 ท่อสำหรับงานระบบที่รับแรงดันสูง



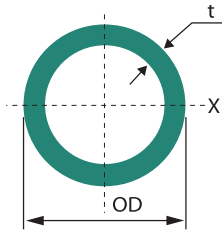
มี 2 ระบบ 1) Seam (มีตะเข็บ) 2) Seamless (ไม่มีตะเข็บ)

● Black Steel Pipe ● Galvanized Steel Pipe ● Red Primer Coating

Nominal Size		OD mm.	Weight Class	Schedule No.	Thickness mm.	Weight kg/m	Hydrostatic Test				Number/ pack
inch.	mm.						Gr.A		Gr.B		
						psi	Mpa	psi	Mpa		
1/2"	15	21.3	STD	40	2.77	1.270	700	4.83	700	4.83	169
3/4"	20	26.7	STD	40	2.87	1.690	700	4.83	700	4.83	127
1"	25	33.4	STD	40	3.38	2.500	700	4.83	700	4.83	91
1 1/4"	32	42.2	STD	40	3.56	3.390	1,200	8.27	1,300	8.96	61
1 1/2"	40	48.3	STD	40	3.68	4.050	1,200	8.27	1,300	8.96	44
2"	50	60.3	STD	40	3.91	5.440	2,300	15.86	2,500	17.24	37
2 1/2"	65	73.0	STD	40	5.16	8.630	2,500	17.24	2,500	17.24	24
3"	80	88.9	-	-	3.18	6.720	1,290	8.90	1,290	8.90	19
			-	-	3.96	8.290	1,600	11.03	1,600	11.03	19
			-	-	4.78	9.920	1,930	13.31	1,930	13.31	19
			STD	40	5.49	11.290	2,220	15.31	2,220	15.31	19
3 1/2"	90	101.6	-	-	3.18	7.720	1,120	7.72	1,310	9.03	19
			-	-	3.96	9.530	1,400	9.66	1,640	11.31	19
			-	-	4.78	11.410	1,690	11.66	1,970	13.59	19
			STD	40	5.74	13.570	2,030	14.00	2,370	16.34	19
4"	100	114.3	-	-	3.18	8.710	1,000	6.90	1,170	8.07	19
			-	-	3.96	10.780	1,250	8.62	1,460	10.07	19
			-	-	4.78	12.910	1,500	10.34	1,750	12.07	19
			-	-	5.56	14.910	1,750	12.07	2,040	14.07	19
			STD	40	6.02	16.070	1,900	13.10	2,210	15.24	19
5"	125	141.3	-	-	3.96	13.410	1,010	6.97	1,180	8.14	7
			-	-	4.78	16.090	1,220	8.41	1,420	9.79	7
			-	-	5.56	18.610	1,420	9.79	1,650	11.38	7
			STD	40	6.55	21.770	1,670	11.51	1,950	13.44	7
6"	150	168.3	-	-	4.78	19.270	1,020	7.03	1,190	8.20	7
			-	-	5.56	22.310	1,190	8.20	1,390	9.58	7
			-	-	6.35	25.360	1,360	9.38	1,580	10.89	7
			STD	40	7.11	28.260	1,520	10.48	1,780	12.27	7
			-	-	7.92	31.320	1,700	11.72	1,980	13.65	7
			-	-	8.74	34.390	1,860	12.82	2,180	15.03	7
			-	-	9.52	37.280	2,040	14.07	2,380	16.41	7
			XS	80	10.97	42.560	2,351	16.21	2,740	18.90	7
8"	200	219.1	-	-	4.78	25.260	780	5.38	920	6.34	7
			-	-	5.16	27.220	850	5.86	1,000	6.89	7
			-	-	5.56	29.280	910	6.27	1,070	7.38	7
			-	20	6.35	33.310	1,040	7.17	1,220	8.41	7
			-	30	7.04	36.310	1,160	8.00	1,350	9.31	7
			-	-	7.92	41.240	1,300	8.96	1,520	10.48	7
			STD	40	8.18	42.550	1,340	9.24	1,570	10.82	7
			-	-	8.74	45.340	1,440	9.93	1,680	11.58	7
			-	-	9.52	49.200	1,570	10.82	1,830	12.62	7
			-	60	10.31	53.080	1,700	11.72	1,985	13.69	7
			-	-	11.13	57.080	1,830	12.62	2,130	14.69	7
			XS	80	12.70	64.640	2,090	14.41	2,435	16.79	7

Nominal Size		OD	Weight Class	Schedule No.	Thickness	Weight	Hydrostatic Test				Number/ pack
inch.	mm.	mm.					Gr.A		Gr.B		
					mm.	kg/m	psi	Mpa	psi	Mpa	
10"	250	273.0	-	-	4.78	31.620	630	4.34	730	5.03	5
			-	-	5.16	34.080	680	4.69	800	5.52	5
			-	-	5.56	36.670	730	5.03	860	5.93	5
			-	20	6.35	41.750	840	5.79	980	6.76	5
			-	-	7.09	46.490	930	6.41	1,090	7.52	5
			-	30	7.80	51.010	1,030	7.10	1,200	8.27	5
			-	-	8.74	56.960	1,150	7.93	1,340	9.24	5
			STD	40	9.27	60.290	1,220	8.41	1,430	9.86	5
			-	-	11.13	71.870	1,470	10.14	1,710	11.79	5
			XS	60	12.70	81.520	1,670	11.52	1,950	13.45	5
-	80	15.09	95.970	1,990	13.72	2,320	16.00	5			
12"	300	323.8	-	-	5.16	40.550	570	3.93	670	4.62	5
			-	-	5.56	43.630	620	4.27	720	4.96	5
			-	20	6.35	49.710	710	4.90	820	5.65	5
			-	-	7.14	55.750	790	5.45	930	6.41	5
			-	-	7.92	61.690	880	6.07	1,030	7.10	5
			-	30	8.38	65.180	930	6.41	1,090	7.52	5
			-	-	8.74	67.900	970	6.69	1,130	7.79	5
			-	-	9.52	73.780	1,060	7.31	1,240	8.55	5
			STD	40	10.31	79.700	1,150	7.93	1,340	9.24	5
			-	-	11.13	85.820	1,240	8.55	1,440	9.93	5
			XS	-	12.70	97.430	1,410	9.70	1,650	11.38	5
			-	60	14.27	108.920	1,590	10.97	1,850	12.76	5
-	80	17.48	132.040	1,940	13.38	2,270	15.66	5			
14"	350	355.6	-	-	5.33	46.040	540	3.72	630	4.34	1
			-	-	5.56	47.990	560	3.86	660	4.55	1
			-	10	6.35	54.690	640	4.41	750	5.17	1
			-	-	7.14	61.350	720	4.96	840	5.79	1
			-	20	7.92	67.900	800	5.52	940	6.48	1
			-	-	8.74	74.760	880	6.07	1,030	7.10	1
			STD	30	9.52	81.250	960	6.62	1,120	7.72	1
			-	40	11.13	94.550	1,130	7.79	1,310	9.03	1
			-	-	11.91	100.940	1,210	8.34	1,410	9.72	1
			XS	-	12.70	107.390	1,290	8.90	1,500	10.34	1
-	60	15.09	126.710	1,530	10.55	1,790	12.34	1			
16"	400	406.4	-	10	6.35	62.640	560	3.86	660	4.55	1
			-	-	7.14	70.300	630	4.34	740	5.10	1
			-	20	7.92	77.830	700	4.83	820	5.65	1
			-	-	8.74	85.710	770	5.31	900	6.21	1
			STD	30	9.52	93.170	840	5.79	980	6.76	1
			-	-	11.13	108.490	990	6.83	1,150	7.93	1
			-	-	11.91	115.860	1,060	7.31	1,230	8.48	1
			XS	40	12.70	123.300	1,120	7.72	1,310	9.03	1
-	60	16.66	160.120	1,480	10.21	1,720	11.86	1			
18"	450	457.0	-	10	6.35	70.600	500	3.45	580	4.00	1
			-	-	7.14	79.240	560	3.86	660	4.55	1
			-	20	7.92	87.750	620	4.27	730	5.03	1
			-	-	8.74	96.660	690	4.76	800	5.52	1
			STD	-	9.52	105.100	750	5.17	880	6.07	1
			-	-	10.31	113.620	810	5.58	950	6.55	1
			-	30	11.13	122.430	880	6.07	1,020	7.03	1
			-	-	11.91	130.780	940	6.48	1,090	7.52	1
			XS	-	12.70	139.200	1,000	6.89	1,170	8.07	1
-	40	14.27	155.870	1,120	7.72	1,310	9.03	1			

Nominal Size		OD	Weight Class	Schedule No.	Thickness	Weight	Hydrostatic Test				Number/ pack
inch.	mm.	mm.					Gr.A		Gr.B		
					mm.	kg/m	psi	Mpa	psi	Mpa	
20"	500	508.0	-	10	6.35	78.550	450	3.10	520	3.59	1
			-	-	7.14	88.190	510	3.52	590	4.07	1
			-	-	7.92	97.670	560	3.86	660	4.55	1
			-	-	8.74	107.600	620	4.27	720	4.96	1
			STD	20	9.52	117.020	680	4.69	790	5.45	1
			-	-	10.31	126.530	730	5.03	850	5.86	1
			-	-	11.13	136.370	790	5.45	920	6.34	1
			-	-	11.91	145.700	850	5.86	950	6.55	1
			XS	30	12.70	155.120	900	6.21	1,050	7.24	1
			-	40	15.09	183.420	1,170	8.07	1,250	8.62	1
			-	60	20.62	247.830	1,460	10.06	1,710	11.78	1
			-	80	26.19	311.170	1,860	12.82	2,170	14.95	1
			-	100	32.54	381.530	2,310	15.92	2,690	18.53	1
			-	120	38.10	441.490	2,700	18.60	2,800	19.29	1
			-	140	44.45	508.110	2,800	19.29	2,800	19.29	1
			-	160	50.01	564.810	2,800	19.29	2,800	19.29	1
24"	600	610.0	-	10	6.35	94.460	380	2.62	440	3.03	1
			-	-	7.14	106.080	420	2.90	490	3.38	1
			-	-	7.92	117.510	470	3.24	550	3.79	1
			-	-	8.74	129.500	520	3.59	600	4.14	1
			STD	20	9.52	140.880	560	3.86	660	4.55	1
			-	-	10.31	152.370	610	4.21	710	4.90	1
			-	-	11.13	164.260	660	4.55	770	5.31	1
			-	-	11.91	175.540	700	4.83	820	5.65	1
			XS	-	12.70	186.940	750	5.17	880	6.07	1
			-	30	14.27	209.500	840	5.79	980	6.76	1
			-	40	17.48	255.240	1,030	7.10	1,200	8.27	1
			-	-	23.83	344.230	1,410	9.71	1,640	11.30	1
			-	60	24.61	355.020	1,450	9.99	1,700	11.71	1
			-	80	30.96	442.082	1,830	12.61	2,130	14.68	1
			-	100	38.89	547.330	2,300	15.85	2,680	18.47	1
			-	120	46.02	639.580	2,720	18.74	2,800	19.29	1
-	140	52.37	719.630	2,800	19.29	2,800	19.29	1			
-	160	59.54	807.630	2,800	19.29	2,800	19.29	1			
26"	650	660.0	-	-	6.35	102.420	350	2.41	400	2.76	1
			-	-	7.14	115.020	390	2.69	450	3.10	1
			-	10	7.92	127.430	430	2.96	500	3.45	1
			-	-	8.74	140.450	480	3.31	560	3.86	1
			STD	-	9.52	152.800	520	3.58	610	4.20	1
			-	-	10.31	165.280	560	3.86	660	4.55	1
			-	-	11.13	178.200	610	4.20	710	4.89	1
			-	-	11.91	190.460	650	4.48	760	5.24	1
			XS	20	12.70	202.850	690	4.75	810	5.58	1
			-	-	14.27	227.370	780	5.37	905	6.24	1



มาตรฐาน TIS 276 (ASTM A53)
ท่อดำและท่อชุบสังกะสีชนิดทนความดัน



Grade	% Chemical Composition (Max)										Mechanical Properties (Min)		
	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Yield Strength	Tensile Strength	Elongation
											MPa	MPa	%
Grade A	0.25	-	0.95	0.05	0.045	0.40	0.40	0.40	0.15	0.08	205	330	AS Per Standard
Grade B	0.30	-	1.20	0.05	0.045	0.40	0.40	0.40	0.15	0.08	240	415	AS Per Standard

Nominal Size	OD	Thickness	Weight	Schedule	Hydrostatic Test Pressure	
					A	B
mm.	mm.	mm.	kg/m		MPa	MPa
15	21.3	2.77	1.27	40	4.8	4.8
		3.73	1.62	80	5.9	5.9
		4.78	1.95	160	6.2	6.2
		7.47	2.55	-	6.9	6.9
20	26.7	2.87	1.69	40	4.8	4.8
		3.91	2.20	80	5.9	5.9
		5.56	2.90	160	6.5	6.5
		7.82	3.64	-	6.9	6.9
25	33.4	3.38	2.50	40	4.8	4.8
		4.55	3.24	80	5.9	5.9
		6.35	4.24	160	6.5	6.5
		9.09	5.45	-	6.9	6.9
32	42.2	3.56	3.39	40	8.3	9.0
		4.85	4.47	80	12.4	13.1
		6.35	5.61	160	13.1	13.8
		9.70	7.77	-	15.2	15.9
40	48.3	3.68	4.05	40	8.3	9.0
		5.08	5.41	80	12.4	13.1
		7.14	7.25	160	13.4	14.1
		10.16	9.56	-	15.2	15.9
50	60.3	3.91	5.44	40	15.9	17.2
		5.54	7.48	80	17.2	17.2
		8.74	11.11	160	17.2	17.2
		11.07	13.44	-	17.2	17.2
65	73.0	5.16	8.63	40	17.2	17.2
		7.01	11.41	80	17.2	17.2
		9.52	14.90	160	17.2	17.2
		14.02	20.39	-	17.2	17.2
80	88.9	3.18	6.72	-	8.9	10.0
		3.96	8.29	-	11.0	12.9
		4.78	9.92	-	13.3	15.6
		5.49	11.29	40	15.3	17.2
		6.35	12.93	-	17.2	17.2
		7.14	14.40	-	17.2	17.2
		7.62	15.27	80	17.2	17.2
		11.13	21.35	160	17.2	17.2
90	101.6	3.18	7.72	-	7.7	19.0
		3.96	9.53	-	6.7	11.3
		4.78	11.41	-	11.7	13.6
		5.74	13.57	40	14.0	16.3
		6.35	14.92	-	15.5	17.2
		7.14	16.63	-	17.2	17.2
		8.08	18.63	80	19.3	19.3
		11.13	25.32	160	19.3	19.3
100	114.3	3.18	8.71	-	6.9	8.1
		3.96	10.78	-	8.6	10.1
		4.78	12.91	-	10.3	12.1
		5.56	14.91	-	12.1	14.1
		6.02	16.07	40	13.1	15.2
		6.35	16.90	-	13.8	16.1
		7.14	18.87	-	15.1	18.1
		7.92	20.78	-	17.2	19.3
		8.56	22.32	80	18.6	19.3
		11.13	28.32	120	19.3	19.3
		13.49	33.54	160	19.3	19.3
		17.12	41.03	-	19.3	19.3

Nominal Size	OD	Thickness	Weight	Schedule	Hydrostatic Test Pressure	
					A	B
mm.	mm.	mm.	kg/m		MPa	MPa
125	141.3	3.96	13.41	-	7.0	8.1
		4.78	16.09	-	8.4	9.8
		5.56	18.61	-	9.8	11.4
		6.55	21.77	40	11.5	13.4
		7.14	23.62	-	12.5	14.6
		7.92	26.05	-	13.9	16.3
		8.74	28.57	-	15.4	17.9
		9.52	30.94	80	16.8	19.3
		12.70	40.28	120	19.3	19.3
		15.88	49.11	160	19.3	19.3
		19.05	57.43	-	19.3	19.3
		150	168.3	4.78	19.27	-
5.56	22.31			-	8.2	9.6
6.35	25.36			-	9.4	10.9
7.14	28.26			40	10.5	12.3
7.92	31.32			-	11.7	13.7
8.74	34.39			-	12.9	15.0
9.52	37.28			-	14.1	16.4
10.97	42.56			80	16.2	18.9
14.27	54.20			120	19.3	19.3
18.26	67.56			160	19.3	19.3
21.95	79.22			-	19.3	19.3
200	219.1			4.78	25.26	-
		5.16	27.22	-	5.9	6.9
		5.56	29.28	-	6.3	7.4
		6.35	33.31	20	7.2	8.4
		7.04	36.31	30	7.8	9.3
		7.92	41.24	-	9.0	10.5
		8.18	42.55	40	9.2	10.8
		8.74	45.34	-	9.9	11.6
		9.52	49.20	-	10.8	12.6
		10.31	53.08	60	11.7	13.8
		11.13	57.08	-	12.6	14.7
		12.70	64.64	80	14.4	16.8
15.09	75.92	100	17.2	19.3		
18.26	90.44	120	19.3	19.3		
20.62	100.92	140	19.3	19.3		
22.22	107.88	-	19.3	19.3		
23.01	111.27	160	19.3	19.3		
250	273.0	4.78	31.62	-	4.3	5.0
		5.16	34.08	-	4.7	5.5
		5.56	36.67	-	5.0	5.9
		6.35	41.75	20	5.8	6.8
		7.09	46.49	-	6.4	7.5
		7.80	51.01	30	7.1	8.3
		8.74	56.96	-	7.9	9.2
		9.27	60.29	40	8.4	9.9
		11.13	71.87	-	10.1	11.8
		12.70	81.52	60	11.5	13.4
		15.09	95.97	80	13.7	16.0
		18.26	114.70	100	16.6	19.3
21.44	133.00	120	19.3	19.3		
25.40	155.09	140	19.3	19.3		
28.57	172.21	160	19.3	19.3		