



Stainless Steel Pipe & Tube
DIMENSIONS

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Material Comparison Tables (ASTM °CKS, JIS, DIN, BS, NBN, NF, UNI) of A312

ASTM STANDARD	UNS NO.	KOREA/JAPANES			GERMAN				BRITISH			FRENCH			ITALIAN		
		KS/JIS Symbol	KS/JIS Numbe	Remarks	DIN Type	DIN Number	Materiral Number	Remarks	B.S Number	B.S Grade	Remarks	AFNOR Type	NF Number	Ramarks	UNI Type	UNI Number	Ramarks
A 312																	
Seamless and Welded Austenitic Stainless Steel Pipe																	
TP 304	S30400	STS 304TP / SUS 304 TP	D3576 / G3459	-16	X5CrNi 18 9	17440	1.4301	(3b)	3605	304S18		TU Z6 CN19-10	A 49-230		X5 CrNi 18 10	6904	(3b)
TP 304H	S30409	STS 304HTP / SUS 304HTP	D3576 / G3459	-16				-3	3605	304S59		TU Z6 CN19-10	A 49-214		X8 CrNi 19 10	6904	(3b)
TP 304L	S30403	STS 304LTP/SU	D3576 / G3459	-16	X2 CrNi 19 9	17440	1.4306	(3b)	3605	304S14		TU Z2 CN19-11	A 49-230		X2 CrNi 18 11	6904	(3b)
TP 310	S31000	304LTP	D3576 / G3459	-16				-3							X22 Cr Ni 25 20	6904	(3b)(11)
TP 316	S31600	STS 310STP/SU	D3576 / G3459	-16	X5 CrNiMo 18 10	17440	1.4401	(3b)	3605	316S18		Z 6 CND 17.11	A 35-573	(3b)	X5 CrNiMo 17 12	6904	(3b)
TP 316H	S34609	310STP	D3576 / G3459	-16				-3	3605	316S59		TUZ6CND17-12	A 49-230		X8 CrNiNb 17 12	6904	(3b)
TP 316L	S31603	STS 316TP / SUS 316TP	D3576 / G3459	-16	X2 CrNiMo 18 10	17440	1.4404	(3b)	3605	316S14		TUNZ2CND17-12	A 49-230		X2 CrNiMo 17 12	6904	Dalmine 941(3b)
TP 321	S32100	STS 316HTP /SU	D3576 / G3459	-16	x10 CrNiTi 18 9	17440	1.4541	(3b)	3605	321S18		Z6 CNT 18.11	A 49-230		X6 CrNiTi 18 11	6904	(3b)
TP 347	S34700	316HTP	D3576 / G3459	-16	X5 CrNiNb 18 9		1.4543	(3b)	3605	347S18		Z6 CNNb 18.11	A 35-573	(3b)	X6 CrNiNb 18 11	6904	(3b)
TP 347H	S34709	STS 316LTP /SU	D3576 / G3459	-16				-3							X6 CrNiNb 18 11	6904	(3b)
		321LTP															
		STS 321TP / SUS 321TP															
		STS 347TP / SUS 347TP															
		STS 347HTP / SUS 347HTP															

STAINLESS STEEL PIPE DIMENSION AS PER ASTM & WEIGHT-KG. PER MTR. (ANSI B36.19)

Nominal Bore		Outside Diameter	Sch-5S		Sch-10S		Sch-40S		Sch-80S		Sch-160S		Sch-XXS	
mm	INCH	mm	Wt mm	Weight (Kg/mt)	Wt mm	Weight (Kg/mt)	Wt mm	Weight (Kg/mt)	Wt mm	Weight (Kg/mt)	Wt mm	Weight (Kg/mt)	Wt mm	Weight (Kg/mt)
3	1/8	10.3	1.24	0.276	1.24	0.28	1.73	0.37	2.41	0.47	-	-	-	-
6	1/4	13.7	1.24	0.390	1.65	0.49	2.24	0.631	3.02	0.80	-	-	-	-
10	3/8	17.1	1.24	0.490	1.65	0.63	2.31	0.845	3.20	1.10	-	-	-	-
15	1/2	21.3	1.65	0.800	2.11	1.00	2.77	1.27	3.75	1.62	4.75	1.94	7.47	2.55
20	3/4	26.7	1.65	1.03	2.11	1.28	2.87	1.68	3.91	2.20	5.54	2.89	7.82	3.63
25	1	33.4	1.65	1.30	2.77	2.09	3.38	2.50	4.55	3.24	6.35	4.24	9.09	5.45
32	1 1/4	42.2	1.65	1.65	2.77	2.70	3.56	3.38	4.85	4.47	6.35	5.61	9.70	7.77
40	1 1/2	48.3	1.65	1.91	2.77	3.11	3.68	4.05	5.08	5.41	7.14	7.25	10.16	9.54
50	2	60.3	1.65	2.40	2.77	3.93	3.91	5.44	5.54	7.48	8.74	11.1	11.07	13.44
65	2 1/2	73.0	2.11	3.69	3.05	5.26	5.16	8.63	7.01	11.4	9.53	14.9	14.2	20.39
80	3	88.9	2.11	4.51	3.05	6.45	5.49	11.30	7.62	15.2	11.1	21.3	15.24	27.65
100	4	114.3	2.11	5.84	3.05	8.36	6.02	16.07	8.56	22.3	13.49	33.54	17.12	41.03
125	5	141.3	2.77	9.47	3.40	11.57	6.55	21.8	9.53	31.97	15.88	49.11	19.05	57.43
150	6	168.3	2.77	11.32	3.40	13.84	7.11	28.3	10.97	42.7	18.2	67.56	21.95	79.22
200	8	219.1	2.77	14.79	3.76	19.96	8.18	42.6	12.7	64.6	23.0	111.2	22.23	107.8
250	10	273.1	3.40	22.63	4.19	27.78	9.27	60.5	12.7	96.0	28.6	172.4	25.40	155.15
300	12	323.9	3.96	31.25	4.57	36.00	9.52	73.88	12.7	132.0	33.32	238.76	25.40	186.97
350	14	355.6	3.96	34.36	4.78	41.3	11.13	94.59	19.05	158.08	35.71	281.70	-	-
400	16	406.4	4.19	41.56	4.78	47.29	12.7	123.30	21.41	203.33	40.46	365.11	-	-
450	18	457.2	4.19	46.80	4.78	53.42	14.27	155.80	23.8	254.36	45.71	466.40	-	-
500	20	508.0	4.78	59.25	5.54	68.71	15.09	183.42	26.19	311.2	49.99	564.68	-	-
600	24	609.6	5.54	82.47	6.35	94.45	17.48	255.41	30.96	442.08	59.54	808.22	-	-

WEIGHT & THICKNESS OF S.S GAUGE PIPES

DIMENSION		10 SWG (3.2 MM)	12 SWG (2.6 MM)	14 SWG (2.1 MM)	16 SWG (1.65 MM)	18 SWG (1.2 MM)	19 SWG (1.0 MM)
Size	OD	Weight/MTR	Weight/MTR	Weight/MTR	Weight/MTR	Weight/MTR	Weight/MTR
1/2"	12.7	0.754	0.651	0.552	0.452	0.342	0.290
5/8"	15.875	1.006	0.856	0.718	0.582	0.437	0.369
3/4"	19.05	1.258	1.061	0.883	0.712	0.531	0.448
1"	25.4	1.762	1.470	1.214	0.972	0.720	0.605
1 1/4"	31.75	2.266	1.880	1.544	1.232	0.909	0.763
1 1/2"	38.1	2.770	2.289	1.875	1.492	1.098	0.920
2"	50.8	3.778	3.108	2.537	2.012	1.476	1.235
2 1/2"	63.5	4.786	3.928	3.198	2.531	1.854	1.550
3"	76.2	5.794	4.747	3.860	3.051	2.232	1.865
3 1/2"	88.9	6.802	5.566	4.521	3.571	2.610	2.180
4"	101.6	7.810	6.385	5.183	4.091	2.988	2.495

ASTM SPECIFICATION & TOLERANCE FOR TUBING & PIPING

Specification	Allowable Outside Diameter Variation in mm			Allowable Wall Thickness Variation		Exact Length Tolerance in mm		Testing
ASTM-A213 Seamless Boiler Superheater and Heat Exchanger Tubes	Nominal Diameter Under 25.4 25.4-38.1 incl 38.1-50.8 excl 50.8-63.5 excl 63.5-76.2 excl 76.2-101.6 incl	Over .1016 .1524 .2032 .254 .3048 .381	Under .1016 .1524 .2032 .254 .3048 .381	%Over +20 +22 +22 +22 +22 +22	%Under -0 -0 -0 -0 -0 -0	Over 3.175 3.175 3.176 4.46 4.76 4.76	Under 0 0 0 0 0 0	Flattening Test Tension Test Flare Test Hardness Test 100% Hydrostatic test Refer to ASTM A-450
ASTM-A249 Welded Boiler Superheater, Heat Exchanger And Condenser Tubes	Under 25.4 25.4-38.1 incl 38.1-50.8 Excl 50.0-63.5 excl 63.5-76.2 excl 76.2-101.6 incl	.1016 .1524 .2032 .254 .3848 .381	.1016 .1524 .2032 .254 .3048 .381	+10 +10 +10 +10 +10 +10	-10 -10 -10 -10 -10 -10	3.175 3.175 3.175 4.762 4.762 4.762	0 0 0 0 0 0	Tension Test Flattening Test Flange Test Reverse Bend Test Hardness Test 100% Hydrostatic Test Refer to ASTM A-450
ASTM-A269 Seamless & Welded Tubing for General Service	Untp 12.7 12.7-38.1 excl 38.1-88.9 excl 88.9-139.7 excl 139.7-203.2 excl	.13 .13 .25 .38 .76	.13 .13 .25 .38 .76	+15 +10 +10 +10 +10	-15 -10 -10 -10 -10	3.2 3.2 4.8 4.8 4.8	0 0 0 0 0	Flare Test (Seamless Only) Flange Test (Welded Only) Hardness Test Reverse Flattening Test (Welded only) 100% Hydrostatic Test Refer to ASTM-A269
ASTM-A270 Seamless & Welded Sanitary Tubing	25.4 38.1 50.8 60.5 76.2 101.6	.05 .05 .05 .05 .08 .08	.20 .20 .28 .28 .30 .38	+10.0 +10.0 +10.0 +10.0 +10.0 +10.0	-10.0 -10.0 -10.0 -10.0 -10.0 -10.0	3.2 3.2 3.2 3.2 3.2 4.8	0 0 0 0 0 0	Reverse flattening Test 100% Hydrostatic Test External' polish on all tubes Refer to ASTM A-270
ASTM-A312 Seemless & Welded pipe	3.175-38.1 incl 38.1-1016 incl 101.6-203.2 incl	.4 .79 1.59	.79 .79 .79	Minimum Wall 12.5% under nominal wall Specified		6.4 6.4 6.4	0 0 0	Tension Test Flattening Test 100% Hydrostatic Test Refer to ASTM A-530
ASTM A-358 Welded pipe	219.08-750mm	+0.5%		-0.3		6.0		Refer to ASTM A-530