

## SPECIFICATIONS — Stainless Steel Pipe , Fitting & Flange

### Linepipe

**Specification** ASTM A312 TP304/304L

ASTM A312 TP316/316L

**Product** Seamless and Welded Pipe for high temperature and general corrosive service

### ASTM A312 Stainless Steel Pipe Specification

Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes.

ASTM A312 pipe is common use stainless pipe for industries. It covers diameters from 1/8" to 30" and thickness from SCH 10S to SCH 80S. General use material grades are TP304/304L and TP316/316L.

- **ASTM A312 TP304 Stainless Steel Pipe – Common Grade Material of A312 Pipe**

ASTM A312 TP 304 / 304L stainless steel pipe is the most versatile and most commonly used stainless steel on the market. And these grades are austenitic chromium alloy, also known as "18/8" stainless steel, because the composition of the steel is 18% chromium and 8% nickel.

#### 304 Stainless Steel Pipe Applications

Type 304/ 304L stainless steel is very common throughout the industry, especially in food processing, because it is not susceptible to acid corrosion in common foods. Therefore, this steel is very suitable for use in sinks, work surface, preparation areas and refrigerators. It is also an ideal material for pharmaceutical industry, such as clean room.

- **ASTM A312 TP316 Stainless Steel Pipe – Common Premium Grade of A312 Pipe**

Type 316/ 316L are austenitic stainless steel with the molybdenum added. Compared with type 304/ 304L stainless steel, molybdenum has better overall corrosion resistance, especially for pitting and crevice corrosion in chloride environments. Type 316/ 316L stainless steel can provide excellent toughness and mechanical properties at sub-zero temperatures.

Type 316/ 316L stainless steel product is suitable for cold rolling, continuous mill plate and plate millplate form, thickness range up to 60 inch.

#### 316 Stainless Steel Pipe Applications

Type 316/316L seamless pipe is used for liquid or gas pressure transfer in water treatment, waste water treatment, petrochemical, chemical, pharmaceutical and other industries. And structural applications include handrails, poles and support pipe for salt water and corrosive environments. Compared with type 304 stainless steel, type 316 stainless steel pipe has lower weldability, therefore it is not used as often as welded pipe unless its superior corrosion resistance exceeds weldability.

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### Thickness and Weight

Nominal Pipe Size	Outside Dia (OD)	Wall Thickness (T)				Weight (Kg/Mtr)			
		Sch10s	Sch40s	Sch80s	Sch160	Sch10s	Sch40s	Sch80s	Sch160
1/2"	21.3	2.1	2.77	3.73	4.78	1	1.27	1.62	1.95
3/4"	26.7	2.1	2.87	3.91	5.56	1.28	1.68	2.19	2.9
1"	33.4	2.77	3.38	4.55	6.35	2.09	2.5	3.42	4.24
1-1/4"	42.2	2.77	3.56	4.85	6.35	2.69	3.39	4.46	5.61
1-1/2"	48.3	2.77	3.68	5.08	7.14	3.11	4.05	5.41	7.25
2"	60.3	2.77	3.91	5.54	8.74	3.93	5.44	7.49	11.11
2-1/2"	73.0	3.04	5.16	7.01	9.53	5.26	8.64	11.4	14.92
3"	88.9	3.04	5.49	7.62	11.13	6.46	11.3	15.3	21.35
4"	114.3	3.04	6.052	8.56	13.49	8.37	16.1	22.3	33.54
5"	141.3	3.4	6.55	9.53	15.88	11.6	21.8	30.9	49.11
6"	168.3	3.4	7.11	10.97	18.26	13.8	28.3	42.6	67.56
8"	219.1	3.76	8.18	12.7	23.01	20	42.5	64.6	111.27
10"	273.1	4.2	9.27	15.09	28.58	27.8	60.3	81.5	172.33
12"	323.9	4.57	10.31	17.48	33.32	36	73.8	97.4	238.76
14"	355.6	4.78	11.13	19.05	35.71	41.4	81.33	107.39	281.7
16"	406.4	4.78	12.7	21.44	40.49	7.3	93.27	123.3	365.35
18"	457.0	4.78	14.27	23.83	45.24	53.3	105.16	139.15	459.37
20"	508.0	5.54	15.09	26.19	50.01	68.6	117.15	155.12	564.81
22"	559.0	5.54		28.58	53.98	75.6	129.13	171.09	672.26
24"	610.0	6.35	17.48	30.96	59.54	94.5	141.12	187.06	808.22

