

Stainless Steel Pipe Weight Chart

A stainless steel pipe weight chart shows the weight per meter of SS pipes in different sizes and schedules, helping in material estimation, transportation planning and load calculations.

The weights are calculated as per ASME B36.19M standards using the formula $W = (OD - WT) \times WT \times 0.0248$. Sachiya Steel International supplies stainless steel seamless pipes in grades 304, 304L, 316, 316L, 310, 321, 347 and 904L as per ASTM standards.

Stainless Steel Pipe Weight Chart in Kg per Meter

The chart lists wall thickness and weight per meter for schedules 5S, 10S, 40S, 80S, 160S and XXS across NPS 1/8 to NPS 24, per ASME B36.19M and B36.10M.

NPS	DN	OD (mm)	5S	10S	40S	80S	160S	XXS
1/8	6	10.3	1.24 / 0.28	1.24 / 0.28	1.73 / 0.37	2.41 / 0.47	- / -	- / -
1/4	8	13.7	1.24 / 0.38	1.65 / 0.49	2.24 / 0.64	3.02 / 0.80	- / -	- / -
3/8	10	17.1	1.24 / 0.49	1.65 / 0.63	2.31 / 0.85	3.20 / 1.10	- / -	- / -
1/2	15	21.3	1.65 / 0.80	2.11 / 1.00	2.77 / 1.27	3.73 / 1.63	4.75 / 1.95	7.47 / 2.56
3/4	20	26.7	1.65 / 1.03	2.11 / 1.29	2.87 / 1.70	3.91 / 2.21	5.54 / 2.91	7.82 / 3.66
1	25	33.4	1.65 / 1.30	2.77 / 2.10	3.38 / 2.51	4.55 / 3.25	6.35 / 4.26	9.09 / 5.48
1-1/4	32	42.2	1.65 / 1.66	2.77 / 2.71	3.56 / 3.41	4.85 / 4.49	6.35 / 5.65	9.70 / 7.82
1-1/2	40	48.3	1.65 / 1.91	2.77 / 3.13	3.68 / 4.08	5.08 / 5.45	7.14 / 7.29	10.16 / 9.61
2	50	60.3	1.65 / 2.40	2.77 / 3.95	3.91 / 5.47	5.54 / 7.52	8.74 / 11.18	11.07 / 13.52
2-1/2	65	73.0	2.11 / 3.71	3.05 / 5.29	5.16 / 8.68	7.01 / 11.47	9.53 / 15.00	14.02 / 20.52
3	80	88.9	2.11 / 4.54	3.05 / 6.49	5.49 / 11.35	7.62 / 15.36	11.13 / 21.47	15.24 / 27.85
4	100	114.3	2.11 / 5.87	3.05 / 8.41	6.02 / 16.17	8.56 / 22.45	13.49 / 33.73	17.12 / 41.26
5	125	141.3	2.77 / 9.51	3.40 / 11.64	6.55 / 21.90	9.53 / 31.13	15.88 / 49.38	19.05 / 57.76
6	150	168.3	2.77 / 11.37	3.40 / 13.92	7.11 / 28.42	10.97 / 42.82	18.26 / 67.96	21.95 / 79.65

8	200	219.1	2.77 / 14.86	3.76 / 20.07	8.18 / 42.78	12.70 / 65.01	23.01 / 111.89	22.23 / 108.49
10	250	273.0	3.40 / 22.77	4.19 / 27.94	9.27 / 60.65	15.06 / 96.35	28.58 / 173.26	25.40 / 156.02
12	300	323.8	3.96 / 31.43	4.57 / 36.20	9.53 / 74.25	17.45 / 132.57	33.32 / 240.09	25.40 / 187.91
14	350	355.6	3.96 / 34.55	4.78 / 41.55	11.13 / 95.07	19.05 / 159.04	35.71 / 283.33	— / —
16	400	406.4	4.19 / 41.78	4.78 / 47.57	12.70 / 123.98	21.41 / 204.43	40.49 / 367.39	— / —
18	450	457.2	4.19 / 47.08	4.78 / 53.59	14.27 / 156.84	23.83 / 256.12	45.24 / 462.28	— / —
20	500	508.0	4.78 / 59.59	5.54 / 69.00	15.06 / 184.18	26.19 / 312.91	50.01 / 568.01	— / —
24	600	609.6	5.54 / 82.95	6.35 / 95.01	17.48 / 256.65	30.96 / 444.36	59.54 / 812.41	— / —

Stainless Steel Square Pipe Weight Chart

Stainless steel square pipes are hollow sections used in railings, frames and structural fabrication. The chart covers 20 × 20 mm to 400 × 400 mm in grade 304.

Size (mm × mm)	2.0 mm	3.0 mm	4.0 mm	5.0 mm	6.0 mm	8.0 mm	10.0 mm	12.0 mm
20 × 20	1.11	—	—	—	—	—	—	—
25 × 25	1.43	2.04	—	—	—	—	—	—
30 × 30	1.74	2.51	—	—	—	—	—	—
40 × 40	2.37	3.45	4.46	5.40	—	—	—	—
50 × 50	3.00	4.39	5.72	6.97	8.20	10.50	—	—
60 × 60	—	5.34	6.97	8.54	—	—	—	—
70 × 70	—	6.28	8.23	10.10	—	15.29	19.13	—
80 × 80	—	7.22	9.48	11.70	13.80	17.83	21.88	—
90 × 90	—	8.16	10.70	13.30	15.70	20.32	25.53	—
100 × 100	—	9.10	12.00	14.80	17.60	22.90	27.86	33.44

120 × 120	—	—	14.50	18.00	21.30	27.90	34.13	39.94
140 × 140	—	—	—	—	25.97	32.89	41.15	—
150 × 150	—	—	18.30	22.70	27.00	35.40	43.47	53.48
160 × 160	—	—	—	—	27.39	36.90	46.88	—
180 × 180	—	—	—	27.97	33.26	43.00	53.00	61.01
200 × 200	—	—	—	31.18	37.09	48.00	59.30	68.84
250 × 250	—	—	—	—	46.83	60.50	75.00	88.45
300 × 300	—	—	—	—	55.30	74.18	90.70	108.68
350 × 350	—	—	—	—	—	—	105.93	126.74
400 × 400	—	—	—	—	—	97.56	121.95	151.97

Stainless Steel Rectangular Pipe Weight Chart

Rectangular stainless pipes are sized as Side A Side B with wall thickness specified separately, used in handrails, partition frames, ducting and architectural fabrication.

Size (mm × mm)	1.5 mm	2.0 mm	2.5 mm	3.0 mm	4.0 mm
20 × 10	0.64	0.82	0.99	1.14	1.39
25 × 12	0.81	1.04	1.26	1.47	1.83
30 × 15	1.00	1.30	1.58	1.85	2.34
40 × 20	1.35	1.77	2.17	2.56	3.29
40 × 25	1.47	1.93	2.37	2.80	3.60
50 × 25	1.71	2.24	2.77	3.27	4.23
50 × 30	1.83	2.40	2.96	3.51	4.55
60 × 30	2.06	2.72	3.36	3.98	5.18
60 × 40	2.30	3.03	3.75	4.46	5.81
75 × 25	2.30	3.03	3.75	4.46	5.81

80 × 40	2.77	3.67	4.54	5.40	7.08
100 × 40	3.25	4.30	5.33	6.35	8.34
100 × 50	3.48	4.61	5.73	6.82	8.97
120 × 60	4.19	5.56	6.91	8.25	10.87
150 × 50	4.67	6.19	7.70	9.19	12.13
150 × 100	5.85	7.77	9.68	11.57	15.29
200 × 100	–	9.35	11.65	13.94	18.45

Stainless Steel ERW Pipe Weight Chart

Electric resistance welded stainless pipes are produced from cold-rolled strip and stocked in light to medium walls. The chart lists weight per meter and 6-meter bundle weight.

NPS	DN	OD (mm)	WT (mm)	Weight (Kg/m)	Weight per 6 m length (Kg)
1/2	15	21.3	1.65	0.80	4.83
3/4	20	26.7	1.65	1.03	6.18
1	25	33.4	2.11	1.63	9.76
1-1/4	32	42.2	2.11	2.10	12.59
1-1/2	40	48.3	2.11	2.41	14.49
2	50	60.3	2.77	3.95	23.68
2-1/2	65	73.0	3.05	5.29	31.74
3	80	88.9	3.05	6.49	38.94
4	100	114.3	3.05	8.41	50.46
5	125	141.3	3.40	11.64	69.86
6	150	168.3	3.40	13.92	83.52
8	200	219.1	3.76	20.07	120.42

10	250	273.0	4.19	27.94	167.63
12	300	323.8	4.57	36.20	217.20
14	350	355.6	4.78	41.55	249.30
16	400	406.4	4.78	47.57	285.42
18	450	457.2	4.78	53.59	321.54
20	500	508.0	5.54	69.00	414.00
24	600	609.6	6.35	95.01	570.06

Density of Common Stainless Steel Grades

The weight per meter varies slightly with grade because each stainless steel has a different density. The table lists the standard reference densities used in weight calculations.

Grade	UNS Number	Density (kg/m ³)	Density (g/cm ³)	Multiplier vs SS 304
SS 304 / 304L	S30400 / S30403	7900	7.90	1.000
SS 316 / 316L	S31600 / S31603	7980	7.98	1.010
SS 310 / 310S	S31000 / S31008	7900	7.90	1.000
SS 321 / 321H	S32100 / S32109	7900	7.90	1.000
SS 347 / 347H	S34700 / S34709	7980	7.98	1.010
SS 904L	N08904	7950	7.95	1.006
Duplex 2205	S31803 / S32205	7800	7.80	0.987
Super Duplex 2507	S32750	7790	7.79	0.986

How to Calculate Stainless Steel Pipe Weight

For non-standard sizes, the weight per meter is calculated directly from outside diameter, wall thickness and material density, using the formulas below for austenitic stainless grades.

Weight per Meter (Metric Formula)

$$W = (OD - WT) \times WT \times 0.0248$$

Where W is the weight in kilograms per meter, OD is the outside diameter in millimeters, WT is the wall thickness in millimeters, and 0.0248 is the constant for austenitic stainless steel with a density of approximately 7900 kg/m³.

Weight per Foot (Imperial Formula)

$$W = (OD - WT) \times WT \times 10.69$$

Where W is the weight in pounds per foot, OD and WT are expressed in inches, and 10.69 is the standard constant for stainless steel.

Worked Example

For a stainless steel pipe with OD 60.3 mm and wall thickness 3.91 mm (NPS 2, Schedule 40S):

$$W = (60.3 - 3.91) \times 3.91 \times 0.0248 = 56.39 \times 3.91 \times 0.0248 = 5.47 \text{ kg/m}$$

For a 6-meter length, the total weight = $5.47 \times 6 = 32.82$ kg per pipe.

Density-Based Calculation for Non-Standard Grades

When the grade has a density that differs from 7900 kg/m³ (for example, duplex 2205 at 7800 kg/m³ or alloy 904L at 7950 kg/m³), the calculation is done using the volumetric method:

- Inside Diameter (ID) = $OD - 2 \times WT$
- Cross-sectional area = $\pi \times (OD^2 - ID^2) \div 4$
- Volume per meter = Cross-sectional area $\times 1000$ mm
- Weight per meter = Volume $\times$ Density