

SEAMLESS METRIC TUBING



PAC Stainless is the largest supplier of stainless steel metric tubing in the U.S. These precision manufactured tubes are cold finished to tight dimensional tolerances to meet exacting engineering requirements. Our inventories consist of both domestic and imported metric tubes to satisfy customer project requirements. Stocked in twenty-foot long lengths, these can be shipped as-is or cut short to facilitate UPS shipment.

PRODUCT SPECIFICATIONS

ASTM A269, ASTM A213 / ASME SA213 (SEAMLESS)
ASTM A269, ASTM A249 / ASME SA249 (WELDED)

SIZE RANGE

Outside Diameter (OD)	Wall Thickness
3mm-42mm	0.5mm-4mm

CHEMICAL REQUIREMENTS

T316/L (UNS S31600/UNS S31603)
COMPOSITION %

ELEMENTS		UNS S31600	UNS S31603
C	Carbon	0.08 max	0.030 max
Mn	Manganese	2.00 max	2.00 max
P	Phosphorous	0.045 max	0.045 max
S	Sulfur	0.030 max	0.030 max
Si	Silicon	1.00 max	1.00 max
Cr	Chromium	16.0-18.0	16.0-18.0
Ni	Nickel	10.0-14.0	10.0-15.0
Mo	Molybdenum	2.00-3.00	2.00-3.00

DIMENSIONAL TOLERANCES

OD	OD Tolerance	Wall Tolerance
≤ 38mm (1.5") excl	± .005" (.13mm)	± 10%
> 38mm-89mm (1.5"-3.5") excl	± .010" (.25mm)	± 10%

MECHANICAL PROPERTIES

Yield Strength	30 ksi min
Tensile Strength	75 ksi min
Elongation (2" min)	35%
Hardness (Rockwell B Scale)	90 HRB max

FABRICATION

T316/316L stainless steel responds well to a variety of cold working operations. This fabrication will increase the mechanical properties of the steel. Upon request, PAC Stainless will provide additional information regarding the heating, hot or cold forming, machining and welding of this steel grade.

OD	Wall	ID	Lbs./Ft.	Bursting PSI	Working PSI
3mm	0.5mm	2.0mm	.0210	25,000	6,250
	1.0mm	2.0mm	.0500	37,500	8,375
4mm	0.5mm	3.0mm	.0290	18,752	4,688
	1.0mm	2.0mm	.0500	37,500	8,375
	1.5mm	3.0mm	.1130	37,500	9,375
6mm	0.5mm	5.0mm	.0460	12,500	3,125
	1.0mm	4.0mm	.0830	25,000	6,250
	1.5mm	3.0mm	.1130	37,500	9,375
8mm	1.0mm	6.0mm	.1170	18,752	4,688
	1.5mm	5.0mm	.1630	28,124	7,031
10mm	1.0mm	8.0mm	.1500	15,000	3,750
	1.5mm	7.0mm	.2130	22,500	5,625
	2.0mm	6.0mm	.2670	30,000	7,500
12mm	1.0mm	10.0mm	.1830	12,500	3,125
	1.5mm	9.0mm	.2630	18,752	4,688
	2.0mm	8.0mm	.3340	25,000	6,250
14mm	1.5mm	9.0mm	.3130	16,072	4,018
15mm	1.5mm	12.0mm	.3380	15,000	3,750
	2.0mm	11.0mm	.4340	20,000	5,000
16mm	1.0mm	14.0mm	.2500	9,376	2,344
	1.5mm	13.0mm	.3630	14,064	3,516
	2.0mm	12.0mm	.4670	18,752	4,688
18mm	1.5mm	15.0mm	.4130	12,500	3,125
	2.0mm	14.0mm	.5340	16,668	4,167
20mm	1.5mm	17.0mm	.4630	11,252	2,813
	2.0mm	16.0mm	.6000	15,000	3,750
	2.5mm	15.0mm	.7300	18,752	4,688
	3.0mm	14.0mm	.8510	22,500	5,625
22mm	1.5mm	19.0mm	.5130	10,228	2,557
	2.0mm	18.0mm	.6670	13,636	3,409
	2.5mm	17.0mm	.8130	17,044	4,261
25mm	1.5mm	22.0mm	.5880	9,000	2,250
	2.0mm	21.0mm	.7670	12,000	3,000
	2.5mm	20.0mm	.9380	15,000	3,750
	3.0mm	19.0mm	1.1010	18,000	4,500
28mm	2.0mm	24.0mm	.8670	10,716	2,679
	2.5mm	23.0mm	1.0630	13,392	3,348
30mm	2.5mm	25.0mm	1.1470	12,500	3,125
	3.0mm	24.0mm	1.3510	15,000	3,750
	4.0mm	22.0mm	1.7350	20,000	5,000
35mm	2.5mm	30.0mm	1.3550	10,716	2,679
38mm	2.0mm	34.0mm	1.2010	7,896	1,974
	4.0mm	30.0mm	2.2680	15,788	3,947
40mm	2.5mm	35.0mm	1.5640	9,376	2,344
42mm	3.0mm	36.0mm	1.9510	10,716	2,679

All pressure ratings are approximate and for illustration purposes only.
 Values are not guaranteed or warranted.

Domestic Tube is Bright Annealed

**Imported Tube is Solution Annealed
 OD Polished to a 320-Grit Finish**