

# SEAMLESS METRIC TUBING



TWRS provides the largest supply 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 meet demanding material specifications and satisfy customer project requirements. Stocked in twenty-foot long lengths, these can be shipped as-is or cut short to facilitate UPS shipment.

## PRODUCTION SPECIFICATIONS

ASTM A213, A269, NACE MRO175,  
A1016/ASME SA213(AVG. Wall)

## MECHANICAL PROPERTIES

Yield Strength 0.2% Offset	30 KSI min.
Tensile Strength	75 KSI min.
Elongation (min. 2in.)	35%
Hardness Rockwell Max.	80 HRB

## DIMENSIONAL TOLERANCES

Outside Diameter (OD)	OD Tolerance	Wall Tolerance
<= 12mm	+/- .005"	+/- 15%
> 12mm	+/- .005"	+/- 10%

## SIZE RANGE

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

## DUAL T316/T316L (UNS S31600/UNS S31603) CHEMICAL COMPOSITION % (MAX.)

Cr	Chromium	16.0 - 18.0
Ni	Nickel	10.0 - 14.0
C	Carbon	0.035
Mo	Molybdenum	2.0 - 3.0
Mn	Manganese	2.00
Si	Silicon	1.00
P	Phosphorus	0.045
S	Sulfur	0.05

## 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, TWR-Supply will provide additional information regarding the heating, hot or cold forming, machining and welding of this steel grade.

OD	Wall	ID	Wt/Ft	PSI
3mm	0.5mm	2.0mm	.0210	25,000
	0.7mm	1.6mm	.0250	37,500
4mm	0.5mm	3.0mm	.0290	18,752
	1.0mm	2.0mm	.0500	37,500
6mm	0.5mm	5.0mm	.0460	12,500
	1.0mm	4.0mm	.0830	25,000
	1.5mm	3.0mm	.1130	37,500
	2.0mm	2.0mm	.1330	50,000
8mm	1.0mm	6.0mm	.1170	18,752
	1.5mm	5.0mm	.1630	28,124
	2.0mm	4.0mm	.2000	37,500
10mm	1.0mm	8.0mm	.1500	15,000
	1.5mm	7.0mm	.2130	22,500
	2.0mm	6.0mm	.2670	30,000
12mm	1.0mm	10.0mm	.1830	12,500
	1.5mm	9.0mm	.2630	18,752
	2.0mm	8.0mm	.3340	25,000
14mm	1.5mm	9.0mm	.3130	16,072
15mm	1.5mm	12.0mm	.3380	15,000
	2.0mm	11.0mm	.4340	20,000
16mm	1.0mm	14.0mm	.2500	9,376
	1.5mm	13.0mm	.3630	14,064
	2.0mm	12.0mm	.4670	18,752
18mm	1.5mm	15.0mm	.4130	12,500
	2.0mm	14.0mm	.5340	16,668
20mm	1.5mm	17.0mm	.4630	11,252
	2.0mm	16.0mm	.6000	15,000
	2.5mm	15.0mm	.7300	18,752
	3.0mm	14.0mm	.8510	22,500
22mm	1.5mm	19.0mm	.5130	10,228
	2.0mm	18.0mm	.6670	13,636
25mm	2.5mm	17.0mm	.8130	17,044
	1.5mm	21.0mm	.5630	9,376
28mm	1.5mm	22.0mm	.5880	9,000
	2.0mm	21.0mm	.7670	12,000
	2.5mm	20.0mm	.9380	15,000
	3.0mm	19.0mm	1.101	18,000
30mm	2.0mm	24.0mm	.8670	10,716
	2.5mm	23.0mm	1.063	13,392
35mm	2.0mm	26.0mm	.9670	9,860
	2.5mm	25.0mm	1.147	12,500
	3.0mm	24.0mm	1.351	15,000
	4.0mm	22.0mm	1.735	20,000
38mm	2.5mm	30.0mm	1.355	10,716
	3.0mm	29.0mm	1.750	13,980
40mm	2.0mm	34.0mm	1.201	7,896
	2.5mm	33.0mm	1.468	9,280
	4.0mm	30.0mm	2.268	15,788
42mm	2.5mm	35.0mm	1.564	9,376
	2.0mm	38.0mm	1.325	8,120
42mm	2.5mm	37.0mm	1.620	9,376
	3.0mm	36.0mm	1.951	10,716

All Pressure Ratings are approximate and for illustration purposes only.  
Values are not Guaranteed or Warranted.

## KEY MARKETS

Marine Applications  
Chemical & Petrochemical Industries  
Power Generation  
Mechanical & Plant Construction  
Alternative Fuels  
Oil & Gas Applications

Domestic Tube is Bright Annealed

Imported Tube is Solution Annealed  
OD Polished to a 240 Grit Finish