

# ALLOY 904L TUBING



Alloy 904L is a low carbon, high alloy austenitic stainless steel which is widely used in applications where the corrosion properties of AISI 316L and AISI 317L are not adequate. The addition of copper to this grade gives it corrosion resistant properties superior to the conventional chrome nickel stainless steels, in particular to sulfuric, phosphoric and acetic acids.

## PRODUCTION SPECIFICATIONS

ASTM A213/A269, ASME SA213 AVG wall,  
NACE MR0175/MR0103

## MECHANICAL PROPERTIES

Yield Strength (0.2% offset)	31 KSI min.
Tensile Strength	71 KSI min.
Elongation (min. 2in.)	35%

## DIMENSIONAL TOLERANCES

OD	OD Tolerance	Wall Tolerance
Up to 1/2"	+/- .005"	+/- 15%
0.5" - 1.5", Excl	+/- .005"	+/- 10%

## SIZE RANGE

Outside Diameter (OD)	Wall Thickness
1/4" - 1"	.035" - .065"

Cold Finished and Bright Annealed Tube

## ALLOY 904L (UNS N08904) CHEMICAL COMPOSITION % (MAX.)

Element	Symbol	Composition % (MAX.)
Chromium	Cr	19.0 - 23.0
Nickel	Ni	23.0 - 28.0
Carbon	C	0.02
Molybdenum	Mo	4 - 5%
Manganese	Mn	2.0
Silicon	Si	1.0
Phosphorus	P	0.04
Sulfur	S	0.03
Nitrogen	N	0.1
Copper	Cu	1.0 - 2.0

## FABRICATION

Alloy 904L is non-magnetic in all conditions and has excellent formability and weldability. The austenitic structure also give this grade excellent toughness, even down to cryogenic temperatures.

OD	Wall	ID	PSI
0.250"	.035	.180	16,898
	.049	.152	23,657
	.065	.120	31,382
0.375"	.035	.305	11,265
	.049	.277	15,771
0.500"	.035	.430	8,946
	.049	.402	12,524
	.065	.370	16,614
0.750"	.065	.620	11,076
1.000"	.065	.870	8,307

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

## TYPICAL APPLICATIONS

Acid Production  
Fertilizer Processing  
Oil Refining  
Gas Scrubbers  
Pulp & Paper Processes  
Seawater Cooling Equipment  
Control & Instrumentation

