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 TP316/L and TP317/L 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.

PRODUCT SPECIFICATIONS

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

SIZE RANGE

Outside Diameter (OD)	Wall Thickness
.250″–1.000″	.035″–.065″

Cold Finished and Bright Annealed Tube

CHEMICAL REQUIREMENTS

ALLOY 904L (UNS N08904) COMPOSITION %

C	Carbon	0.020 max
Mn	Manganese	2.00 max
P	Phosphorous	0.040 max
S	Sulfur	0.030 max
Si	Silicon	1.00 max
Cr	Chromium	19.0–23.0
Ni	Nickel	23.0–28.0
Mo	Molybdenum	4.0–5.0
N	Nitrogen	0.10 max
Cu	Copper	1.00–2.00

DIMENSIONAL TOLERANCES

OD	OD Tolerance	Wall Tolerance
≤ .500″	± .005″	± 15%
0.500″–1.500″ excl	± .005″	± 10%

MECHANICAL PROPERTIES

Yield Strength	31 ksi min
Tensile Strength	71 ksi min
Elongation (min 2″)	35%
Hardness (Rockwell B Scale)	90 HRB max

FABRICATION

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

OD	Wall	ID	Lbs./Ft.	Bursting PSI	Working PSI
0.250″	.035	.180	.0825	16,898	4,225
	.049	.152	.1080	23,657	5,914
	.065	.120	.1319	31,382	7,846
0.375″	.035	.305	.1305	11,265	2,816
	.049	.277	.1752	15,771	3,943
	.065	.245	.2210	17,971	4,493
0.500″	.035	.430	.1785	8,946	2,237
	.049	.402	.2424	12,524	3,131
	.065	.370	.3102	16,614	4,154
0.750″	.049	.652	.3768	8,349	2,087
	.065	.620	.4884	11,076	2,769
1.000″	.065	.870	.6667	8,307	2,077

All pressure ratings are approximate and for illustration purposes only. values are not guaranteed or warrantied.

TYPICAL APPLICATIONS

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

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