ALLOY 20 TUBING

Alloy 20 is an austenitic, nickel-iron-chromium-molybdenum alloy with the addition of copper. This combination makes it preferable in applications involving sulfuric, phosphoric, and nitric acids. The chromium and molybdenum content provide good pitting and crevice corrosion resistance. This grade exhibits exceptional resistance to stress corrosion cracking (SCC) induced by chlorides. Alloy 20 can be utilized in a wide variety of chemical process environments and has good performance in most acids, alkalines, salts and seawater.

PRODUCTION SPECIFICATIONS

ASME SB729, SB464, SB468/ASTM B729, B464, B468/NACE MR0175

MECHANICAL PROPERTIES

Yield Strength 0.2% Offset	35 KSI min.
Tensile Strength	80 KSI min.
Elongation (min. 2in.)	30%

DIMENSIONAL TOLERANCES

Outside Diameter (OD)	OD Tolerance	Wall Tolerance
1/4" Tubes	+/- .005"	+/- 15%
3/8" Tubes	+/- .005"	+/- 15%
1/2" Tubes	+/- .005"	+/- 15%

SIZE RANGE

Outside Diameter (OD)	Wall Thickness
1/4" - 1/2"	.035" - .065"

Cold Finished and Bright Annealed Tube

ALLOY 20 (UNS N08020)
CHEMICAL COMPOSITION % (MAX.)

Cr	Chromium	19.0 - 21.0
Ni	Nickel	32.0 - 38.0
C	Carbon	0.07
Mo	Molybdenum	2 - 3%
Mn	Manganese	2.0
Si	Silicon	1.0
P	Phosphorus	0.045
S	Sulfur	0.035
Fe	Iron	31.0 - 44.0
Cu	Copper	3.0 - 4.0
Nb	Niobium	(8.0xC) 1 Max.

OD	Wall	ID	PSI
1/4" (.2500")	.035 .049	.180 .152	20,400 30,000
3/8" (.3750")	.035 .049	.305 .277	13,200 19,200
1/2" (.5000")	.049 .065	.402 .370	14,800 20,400

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

TYPICAL APPLICATIONS

Piping
Heat Exchangers
Steam Condensers
Flue-Gas Desulfurization
Food Processing
Chemical Processing

FABRICATION

The chemical composition of Alloy 20 allows excellent formability for bending and flaring, and the addition of Niobium provides minimal carbide precipitation during welding.