ALLOY 20 NICKEL 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.

PRODUCT SPECIFICATIONS

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

SIZE RANGE

Outside Diameter (OD)	Wall Thickness
.250″–.500″	.035″–.065″

Cold Finished and Bright Annealed Tube

CHEMICAL REQUIREMENTS

ALLOY 20 (UNS N08020)
COMPOSITION %

C	Carbon	0.07 max
Mn	Manganese	2.00 max
P	Phosphorous	0.045 max
S	Sulfur	0.035 max
Si	Silicon	1.0 max
Ni	Nickel	32.00–38.00
Cr	Chromium	19.00–21.00
Mo	Molybdenum	2.0–3.0
Cu	Copper	3.0–4.0
Nb + Ta	Niobium + Tantalum	8.0xC - 1.00
Fe	Iron	35.0 max

DIMENSIONAL TOLERANCES

OD	OD Tolerance	Wall Tolerance
.250″	± .005″	± 15%
.375″	± .005″	± 15%
.500″	± .005″	± 15%

MECHANICAL PROPERTIES

Yield Strength	35 ksi min
Tensile Strength	80 ksi min
Elongation (min 2″)	30%

OD	Wall	ID	Lbs./Ft.	Bursting PSI	Working PSI
1/4″	.035	.180	.0825	20,400	5,100
(.250″)	.049	.152	.1080	30,000	7,500
3/8″	.035	.305	.1305	13,200	3,300
(.375″)	.049	.277	.1752	19,200	4,800
1/2″	.049	.402	.2424	14,800	3,700
(.500″)	.065	.370	.3102	20,400	5,100

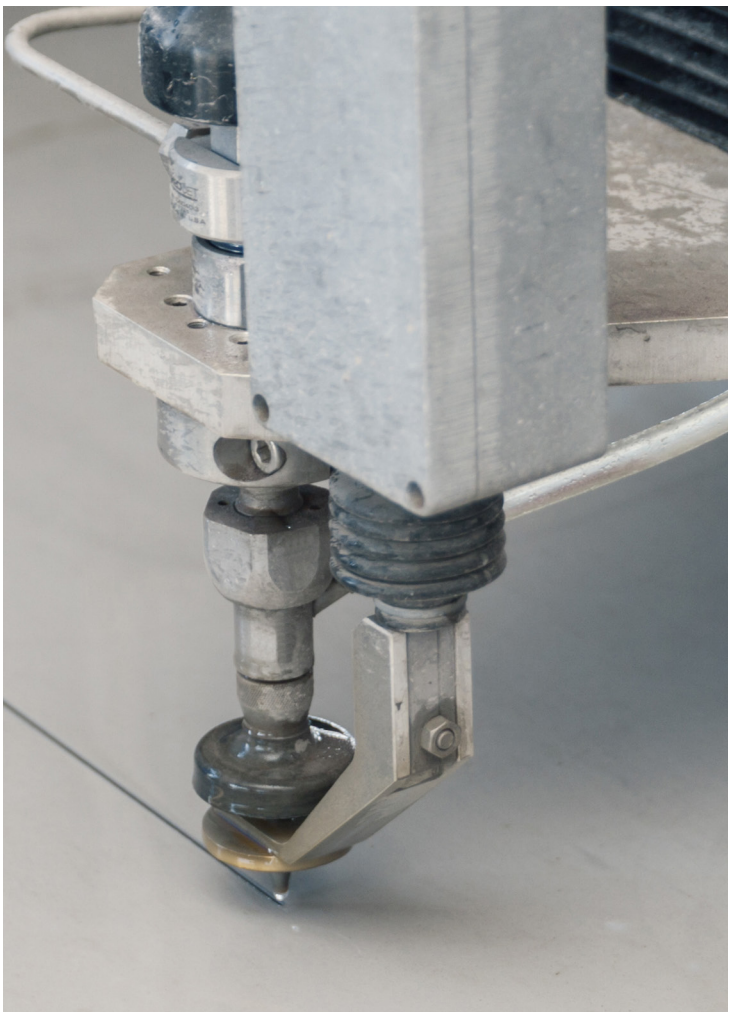
All pressure ratings are approximate and for illustration purposes only. Values are not guaranteed or warrantied.

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.



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