STAINLESS STEEL

ALLOY 22-13-5

SuperiorTube
www.superiortube.com

TUBING APPLICATIONS

Alloy 22-13-5 (UNS S20910)

S20910 stainless steel provides a combination of good corrosion resistance and strength not found in any other commercial material available in its price range. This austenitic stainless steel has corrosion resistance greater than that provided by types 316 and 316L, plus approximately twice the yield strength at room temperature in the annealed condition.

In addition S20910 stainless steel has very good mechanical properties at both elevated and sub-zero temperatures a well as outstanding cryogenic properties. And, unlike many austenitic stainless steels, 22-13-5 stainless steel can be heavily cold worked to enhance its yield strength and remain non-magnetic.

AVAILABLE TUBE PRODUCT FORMS

STRAIGHT

SEAMLESS

TYPICAL MANUFACTURING SPECIFICATIONS

ASTM F1314

Also individual customer specifications.

TYPICAL APPLICATIONS

MEDICAL IMPLANTS

PRESSURE TUBE

DOWNHOLE

INDUSTRIES PREDOMINANTLY USING THIS GRADE

MEDICAL

OIL AND GAS

Technical Data

MECHANICAL PROPERTIES				
Temper	Annealed		Cold-worked*	
Tensile Rm	105	ksi (min)	125	ksi (min)
Tensile Rm	725	MPa (min)	862	MPa (min)
R.p. 0.2% Yield	60	ksi (min)	100	ksi(min)
R.p. 0.2% Yield	415	MPa (min)	690	MPa (min)
Elongation (2" or 4D gl)	35	% (min)	20	% (min)

* or manufactured to customer specification

PHYSICAL PROPERTIES (Room Temperature)		
Specific Heat (0-100°C)	475	J.kg-1.°K-1
Thermal Conductivity	13.3	W.m -1.°K-1
Thermal Expansion	16.2	mm/m/°C
Modulus Elasticity	10.8	GPa
Electrical Resistivity	82	µohm/cm
Density	7.88	g/cm3

CHEMICAL COMPOSITION (% by weight)		
Element	Min	Max
C	-	0.03
Mn	4	6
Ni	11.5	13.5
Cr	20.5	23.5
Fe	Balance	
Mo	2	3
N	0.2	0.4
Si	-	0.75
P	-	0.025
S	-	0.01
Nb	0.1	0.3
V	0.1	0.3
Cu	-	0.05

AMETEK®
SPECIALTY METAL PRODUCTS