STANDARD STAINLESS STEEL TUBING

GENERAL CHARACTERISTICS

STAINLESS STEEL TYPES	CHEMICAL COMPOSITION PRINCIPAL ELEMENTS %				MECHANICAL PROPERTIES ANNEALED CONDITION - NOMINAL				TYPICAL CHARACTERISTICS
	CR	NI	C	OTHER ELEMENTS	TENSILE PSI	YIELD PSI	ELONG. % IN 2"	HARDNESS ROCKWELL	
304	18.00-20.00	8.00-11.00	0.08 max	-	85,000 105,000	35,000 75,000	55 / 20	B80 Ann B95 1/8Hd	General purpose"300" series grade for tubing applications.
304L	18.00-20.00	8.00-13.00	0.035 max	-	80,000	30,000	55	B75	Low carbon type 304 where greater resistance to carbide precipitation is desired.
304H	18.00-20.00	8.00-11.00	0.04-0.10	-	85,000	35,000	55	B80	Carbon modified for improved high temperature strength.
310	24.00-26.00	19.00-22.00	0.15 max	-	95,000	45,000	45	B85	High resistance to scaling and oxidation up to 2000ºF.
316	16.00-18.00	11.00-14.00	0.08 max	Mo 2.00-3.00	85,000	35,000	50	B80	Better corrosion resistance than type 304 in reducing media. Good hi-temp strength.
316L	16.00-18.00	10.00-15.00	0.035 max	Mo 2.00-3.00	75,000	30,000	50	B75	Low carbon type 316 where greater resistance to carbide precipitation is desired.
316H	16.00-18.00	11.00-14.00	0.04-0.10	Mo 2.00-3.00	85,000	35,000	50	B80	Carbon modified for improved temperature strength.
317	18.00-20.00	11.00-14.00	0.08 max	Mo 2.00-4.00	90,000	40,000	45	B85	Similar to type 316 but with better corrosion resistance and creep strength.
321	17.00-20.00	9.00-13.00	0.08 max	Ti 5XC-0.60	90,000	35,000	55	B880	Titanium stabilized against carbide precipitation. Similar properties to type 304.
347	17.00-20.00	9.00-13.00	0.08 max	Cb + Ta 10XC-1.00	95,000	40,000	50	B85	Columbian and tantalum stabilized against carbide precipitation.

PHYSICAL PROPERTIES

PHYSICAL PROPERTIES (Annealed)								
TYPE	DENSITY LBS/CU. INC.	SPECIFIC ELECT. RESIST OHMS CM/CM2	SPECIFIC HEAT BTU/LB. DEG. F	THERMAL CONDUCT BTU/HR.SQ.FT./ DEG. F (212º)	MEAN COEFFICIENT OF EXPANSIONS ºF		TENSION PSI MODULUS OF ELASTICITY	MAGNETIC PERMEABILITY
					32-312	32-1200		
304 304L	0.29	72	0.12	9.4	9.6 X 10 6	10.4 X 10 - 6	28.0 X 10 6	1.003
310	0.29	78	0.12	8.2	8.8 X 10 -6	9.7 X 10 - 6	29.0 X 10 6	1.003
316 316L	0.29	74	0.12	9.4	8.9 X 10 -6	10.3 X 10 - 6	28.0 X 10 6	1.003
317	0.29	74	0.12	9.4	8.9 X 10 -6	10.3 X 10 - 6	28.0 X 10 6	1.003
321	0.29	72	0.12	9.3	9.3 X 10 -6	10.7 X 10 - 6	28.0 X 10 6	1.003
347	0.29	73	0.12	9.3	9.3 X 10 -6	10.6 X 10 - 6	28.0 X 10 6	1.003
21-6-9	0.29	–	0.12	9.5	9.3 X 10 -6	–	28.5 X 10 6	1.002

"The information and data presented herein are typical or average values and are not a guarantee of maximum or minimum values. Applications specifically suggested for material described herein are made solely for the purpose of illustration to enable the reader to make his own evaluation and are not intended as warranties, either express or implied, of fitness for these or other purposes."