



Alloys 304 / 304L (UNS S30400 / S30403)

Alloys 304 (S30400) and 304L (S30403) stainless steels are variations of the 18 percent chromium – 8 percent nickel austenitic alloy, the most familiar and most frequently used alloy in the stainless steel family.

High strength, excellent corrosion resistance and minimized carbon content make Alloy 304 and 304L Stainless Steels useful for applications where welding is required. Uses include architectural mouldings and trim, welded components of chemical, textile, paper, pharmaceutical and chemical industry processing equipment.

Other advantages are its resistance to oxidation, excellent formability, ease of fabrication and cleaning, excellent strength to weight ratio and good toughness at cryogenic temperatures

For severely corrosive environments, the lower content of Type 304L is preferred because of its greater immunity to intergranular corrosion.

AVAILABLE TUBE PRODUCT FORMS

STRAIGHT

COILED

SEAMLESS

SEAM WELDED AND COLD REDRAWN

SEAM WELDED, COLD REDRAWN AND ANNEALED

TYPICAL MANUFACTURING SPECIFICATIONS

AMS 5566	ASTM A213	BS 10216 Pt 5
AMS 5569	ASTM A269	MILT-8504
AMS 5647	ASTM A312	MILT-8606
AMST-6845	ASTM A632	

Also individual customer specifications.

TYPICAL APPLICATIONS

MOISTURE SEPERATOR REHEATERS

HEAT EXCHANGERS

FEEDWATER TUBES

STATOR BARS

INDUSTRIES PREDOMINANTLY USING THIS GRADE

NUCLEAR AND POWER

GENERAL ENGINEERING



Technical Data

MECHANICAL PROPERTIES

Temper	304		304L	
Tensile Rm	76	ksi (min)	70	ksi (min)
Tensile Rm	517	MPa (min)	485	MPa (min)
R.p. 0.2% Yield	31	ksi (min)	25	ksi(min)
R.p. 0.2% Yield	207	MPa (min)	170	MPa (min)
Elongation (2" or 4D gl)	40	% (min)	40	% (min)

PHYSICAL PROPERTIES (Room Temperature)

Specific Heat (0-100°C)	500	J.kg-1.°K-1
Thermal Conductivity	16.2	W.m -1.°K-1
Thermal Expansion	17.2	mm/m/°C
Modulus Elasticity	193	GPa
Electrical Resistivity	7.23	Ohm-cm
Density	8.00	g/cm ³

CHEMICAL COMPOSITION

(% by weight)

Element	304		304L	
	Min	Max	Min	Max
C	-	0.08	-	0.035
Mn	-	2	-	2
Ni	8	11.0	8	12.00
Cr	18	20	18	20
S	-	0.03	-	0.03
N	-	0.1	-	0.1
Si	-	0.75	-	0.75
P	-	0.045	-	0.045