TYPE 316L (UNS-S31603)

Type 316L is a very low carbon austenitic chromium nickel stainless steel with general corrosion resistance similar to Type 316 but with superior resistance to intergranular corrosion following welding or stress relieving. It is recommended for use in parts which are fabricated by welding and which cannot be subsequently annealed. Parts made from this type are generally limited to service at temperatures up to 800 F (426 C).

Type 316L is essentially nonmagnetic when annealed, and becomes slightly magnetic when cold worked.

The physical properties and thermal treatments of Type 316L are similar but not necessarily identical to those of Type 316.

Chemical Composition, Per Cent

C	*Mn*	*P*	*S*	*Si*	*Cr*	*Ni*	*Mo*
0.030 Max.	2.00 Max.	0.045 Max.	0.030 Max.	1.00 Max.	16.00–18.00	10.00–14.00	2.00–3.00

Table 4-20

REPRESENTATIVE MECHANICAL PROPERTIES OF TYPE 316L (UNS-S31603)

Form and Treatment	*Tensile Strength, psi (MPa)*	*Yield Strength (Offset: 0.2 Per Cent), psi (MPa)*	*Elongation in 2 In. (50.80 mm) Per Cent*	*Hardness*		*Free Bend, Deg.*
				HB	*HR*	
Sheet:						
Annealed	81,000 (558)	42,000 (290)	50	–	B 79	180
Strip:						
Annealed	81,000 (558)	42,000 (290)	50	–	B 79	180
Plate:						
Annealed	81,000 (558)	34,000 (234)	55	146	–	180
Bars:						
Annealed	75,000 (517)	30,000 (207)	60	149	–	180
Annealed & Cold Drawn	85,000 (586)	55,000 (379)	45	190	–	–