VULCAN
Engineering Steels

316/316L STAINLESS STEEL

316 is a chromium-nickel-molybdenum austenitic stainless steel with good strength and excellent corrosion resistance. Supplied in the annealed condition and with the addition of molybdenum, 316 stainless steel is ideally suited for marine applications, as well as showing excellent resistance to a variety of chemicals. 316L has a reduced carbon content which increases weldability and reduces the need for post weld annealing. Both 316 and 316L cannot be hardened further by thermal heat treatment, but strength and hardness can be significantly improved by cold working, with subsequent reduction in ductility. 316/316L is non magnetic, but can become mildly magnetic after heavy cold working. Annealing is required to rectify this problem, as well as optimizing corrosion resistance.

Stocked Sizes	-	Rounds	4.76 mm – 450 mm Ø
	-	Hexagon	7.94mm – 63.5mm A/F
	-	Square	6.35mm – 50mm A/F
Bar Finishes	-	Peeled, Turned & Polished, Cold Drawn & Centreless Ground	

Related Specifications	**316 S/S**	**316L S/S**
Germany	W. Nr 1.4401 X5CrNiMo17 12 2	W. Nr 1.4404 X2CrNiMo17 12 2
Japan	JIS G4303 SUS 316	JIS G4303 SuS 316L
United Kingdom	BS 970 Pt 3 1991 316S31/316S33 BS 970 1955 EN58J	BS 970 Pt 3 1991 316S11/316S13
USA	ASTM A276-98b 316 SAE 30316 AISI 316 UNS31600	ASTM A276-98b 316L SAE 30316L AISI 316L UNS31603
Chemical Composition*		
	316 S/S	**316L S/S**
Carbon	0.07% Max	0.03% Max
Silicon	1.00% Max	1.00% Max
Manganese	2.00% Max	2.00% Max
Nickel	10.00 – 14.00%	10.00 – 14.00%
Chromium	16.00 – 18.00%	16.00 – 18.00%
Molybdenum	2.00 – 3.00%	2.00 – 3.00%
Phosphorous	0.045% Max	0.045% Max
Sulphur	0.030% Max	0.030% Max

Annealed Typical Mechanical Properties (For Ref Only)	**Cold Drawn**	**Other**
Tensile Strength Mpa	680	590
0.20% Proof Stress (Yield) Mpa	500	280
Elongation on %	42	55
Hardness Brinell HB	195	155

Annealing

Heat uniformly to 1020-1100 Deg C. Hold until temperature is uniform throughout section. Soak as required (as a guide 30 minutes per 25mm of section) Quench in water to optimize corrosion resistance. Please consult your heat treater for best results