

AISI 316L

STAINLESS STEEL

BOLTING MATERIAL FOR HIGH TEMPERATURE SERVICE

Grade 316L, the low carbon version of 316 and is immune from sensitisation (grain boundary carbide precipitation). Thus it is extensively used in heavy gauge welded components (over about 6mm). There is commonly no appreciable price difference between 316 and 316L stainless steel. The austenitic structure also gives these grades excellent toughness, even down to cryogenic temperatures. Compared to chromium-nickel austenitic stainless steels, 316L stainless steel offers higher creep, stress to rupture and tensile strength at elevated temperatures

Chemical Properties

C	Mn	P	S	Si	Cr	Mo	Ni	N
0.030 Max	2.00 Max	0.045 Max	0.030 Max	1.00 Max	16.0-18.0	2.00-3.00	10.0-15.0	0.10 Max

Mechanical Properties

Yield strength	Tensile strength	Elongation	Reduction
Min 0.2% Mpa	Min Mpa	Min %	Min %
170	485	30	50

Physical Properties

Density	Elastic Modulus	Mean Coefficient of Thermal			Thermal Conductivity		Specific Heat	Electrical Resistivity
(Kg/m ³)	(Gpa)	Expansion(µm/m/°C)			(W/m.K)		0-100°C	(nΩ.m)
8.0	193	15.9	16.2	17.5	16.3	21.5	500	740

Heat Treatment

Solution Annealed @ 1040°C & Liquid Quenched @ 260°C

Equivalent Designation

UNS S31603
 Din X2CrNiMo17132
 EN Name X2CrNiMo17-12-2
 Werkstoff.No. 1.4404
 SS 316L
 BS 316S31

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