

# AISI 317L

# STAINLESS STEEL

BOLTING MATERIAL FOR HIGH TEMPERATURE SERVICE

AISI Type 317L is an Austenitic Standard grade Stainless Steel. It ensures resistance to sensitization during welding or when thermal processes are applied due to the low carbon in its chemical composition. The combination of molybdenum and nitrogen in the chemical composition of this grade is particularly effective in increasing the resistance to pitting corrosion and crevice, especially in acid medium with chlorides and sulfur compounds at high temperatures. In addition, nitrogen also contributes to increasing the mechanical strength of the alloy. The main applications of AISI 317L are dedicated to the chemical industry, petroleum and petrochemical industries, industries producing paper and pulp, and as condensers in power stations using fossil and nuclear fuels. It is intended where it is required to have corrosion resistance to strong organic acids, such as the naphthenic acids found in the petroleum refining

## Chemical Properties

C	Mn	P	S	Si	Cr	Mo	Ni
0.030 Max	2.00 Max	0.045 Max	0.030 Max	1.00 Max	18.0-20.0	3.0-4.0	11.0-15.0

## 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 <sup>3</sup> )	(Gpa)	Expansion(μm/m/°C)			(W/m.K)	0-100°C	(nΩ.m)
8.0	200	16.5	17.6	18.1	14.4	500	790

## Heat Treatment

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

## Equivalent Designation

UNS S31703  
EN Name X2CrNiMo18-16  
Werkstoff.No. 1.4438  
Jis SUS 317L

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