

# AISI 347

# STAINLESS STEEL

BOLTING MATERIAL FOR HIGH TEMPERATURE SERVICE

AISI 347 are the basic austenitic 18/8 steel (Grade 304) stabilised by Titanium (321) or Niobium (347) additions. These grades are used because they are not sensitive to intergranular corrosion after heating within the carbide precipitation range of 425-850°C. AISI 347 is preferred - the niobium performs the same carbide stabilisation task but can be transferred across a welding arc. Grade 347 is therefore the standard consumable for welding 321. Grade 347 is only occasionally used as parent plate material. Like other austenitic AISI 347 have excellent forming and welding characteristics, are readily brake or roll formed and have outstanding welding characteristics. Post-weld annealing is not required. They also have excellent toughness, even down to cryogenic temperatures.

## Chemical Properties

C	Mn	P	S	Si	Cr	Ni	Cb
0.08 Max	2.00 Max	0.045 Max	0.030 Max	1.00 Max	17.0-20.0	9.0-13.0	1.10 Max

## Mechanical Properties

Yield strength	Tensile strength	Elongation	Reduction
Min 0.2% Mpa	Min Mpa	Min %	Min %
205	515	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)
7.93	193	16.6	18.9	20.5	16.3	21.4	500	126

## Heat Treatment

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

## Equivalent Designation

UNS S34700  
EN Name X6CrNiNb18-10  
Werkstoff.No. 1.4550  
SS 347

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