TorqBolt Inc.

MATERIAL GRADE DATA SHEET

AISI 347H STAINLESS STEEL

BOLTING MATERIAL FOR HIGH TEMPERATURE SERVICE

AISI 347H 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 347H is preferred - the niobium performs the same carbide stabilisation task but can be transferred across a welding arc. Grade 347H is therefore the standard consumable for welding 321. Grade 347H is only occasionally used as parent plate material. Like other austenitic AISI 347H 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

Yeild 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^3)	(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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