

**AISI 347 / UNS S34700 / DIN 1.4550**

Chrome Nickel Moly Alloyed Austenitic Stainless Steel

Alloy 347 Data Sheet

**Introduction**

Alloy 347 ( UNS S34700 ) is Niobium/Tantalum stabilized Stainless Steel with superior corrosion resistance to 304 & 321 in oxidizing atmosphere. It offers excellent Intergranular corrosion ( IC ) resistance to temperature in chromium carbide precipitation range from 800 upto 1500°F (427 to 816°C). Offers good mechanical strength & better stress & creep rupture properties than AISI 304

**Chemical Composition ( Typical )**

Element	Limits	
	min	max
Carbon	0.000	0.080
Manganese	0.000	2.000
Phosphorus	0.000	0.045
Sulphur	0.000	0.030
Silicon	0.000	0.750
Chromium	17.000	19.000
Nickel	9.000	13.000
Niobium	10 x C	1.000
Iron	Remainder	

**Mechanical Properties ( Annealed )**

Parameter	Value
Yield 0.2 % ( Mpa/Nmm <sup>2</sup> ), Min	205
Tensile ( Mpa/Nmm <sup>2</sup> ), Min	515
Elongation (% in 50MM ), Min	30
Reduction Area(%), Min	40
Hardness ( BHN ), Max	201

**Physical Properties**

Parameter	Value
Density ( Kg/m <sup>3</sup> )	8027
Elastic Modulus ( Gpa )	195
*Co-eff of Expansion ( $\mu\text{m}/\text{m}/^\circ\text{C}$ )	18.4
*Thermal Condc. (W/m.K)	21.5
Electric Resistivity (n $\Omega$ .m) 20°C	720

\*Note : @500°C

**Corrosion Data**

Columbium & tantalum Stabilized SS 347 offers excellent corrosion resistance, Intergranular Corrosion to temperatures in chromium-carbide precipitation range. AISI 347 offers better corrosive properties than AISI 304, 316 etc with high creep & stress resistance.

## Equivalent Grade Designation

AISI 347  
UNS S34700  
320 S 17, 320 S18, 320 S31  
DIN EN 1.4550  
XCrNiNb18-9  
Z 6 CNN6 18.10  
SAE 30347  
SUS 347  
SS 2338

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## Available Product Forms

Round, Square, Hexagon & Flat Bars  
Seamless / Welded Pipes  
Seamless / Welded Tubes  
Hot & Cold Rolled Plates & Sheets  
Forged Bars  
Buttweld Pipe Fittings  
Forged Fittings  
Ferrule Compression Fittings  
Forged Flanges  
Valves  
Guages

## Common Manufacturing Specifications

AMS 5512, 5556, 5558, 5571, 5575, 5646, 5654, 5674, ASTM/ASME A167, A182, A193 (347, B8CA), A194 (347, B8CA), A213, A240, A249, A269, A271, A276, A312, A314, A320 (347, B8CA), A336, A358, A376, A403, A409, A430, A473, A479, A511, A554, A580, A632, A774, A778, A813, A814, MIL A-23196, MIL S-23195, MIL S-23196, MIL T-6737QQ,

## Alternate to Alloy

Alloy 304L could be a possible alternative to AISi 347 with comprimise in intergranular corrosion.

## Applications & Industries

Food Processing Equipments  
Petroleum & Fuel Refinining  
Heat Exchangers  
Chemical, Pharmaceutical, brewery, dairy & petrochemical Equipments  
Fasteners - Bolts, Screws, Nuts & Springs  
Waste Heat recovery

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