

**AISI 347H / UNS S34709 / DIN 1.4961**

Chrome Nickel Moly Alloyed Austenitic Stainless Steel

Alloy 347H Data Sheet

**Introduction**

Alloy 347H ( UNS S34709 ) is Niobium/Tantalum stabilized Stainless Steel similar to AISI 347 with higher carbon content for performance at higher elevated temperature. S34709 offers higher mechanical properties including better creep & stress resistance. 347H is superior in intergranular corrosion at temperatures in chromium carbide precipitation range.

**Chemical Composition ( Typical )**

Element	Limits	
	min	max
Carbon	0.400	1.000
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	8 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 )	193
*Co-eff of Expansion ( $\mu\text{m}/\text{m}/^\circ\text{C}$ )	18.6
*Thermal Condc. ( W/m.K )	16.1
Electric Resistivity ( n $\Omega$ .m ) 20°C	730

\*Note : @500°C

**Corrosion Data**

347H offers similar corrosion resistance to as 347 with greater performance at elevated temperature. 347H has superior corrosion resistance to Alloy 321 to compare intergranular corrosion in chrome-carbide precipitation range combined with creep & stress resistance.

## Equivalent Grade Designation

AISI 347H  
UNS S34709  
En 1.4961  
DIN X 6 CrNiNb 18 10  
X8CrNiNb 16-13  
Z6CNNb 18.10  
SAE 30347H  
SUS 347H  
347S51

Alloy 347H Data Sheet

## 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 304H, 321H could be possible alternative to AISi 347H with comprimise in intergranular corrosion.

## Applications & Industries

Food Processing Equipments  
Oil, Gas & Fluid Transportation  
Heat Exchangers  
Chemical, Pharmaceutical, brewery, dairy & petrochemical Equipments  
Fasteners - Bolts, Screws, Nuts & Springs  
Construction for High Temperature equipment

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