

AISI 348H / UNS S34809 / DIN 1.4546

Tantalum/Niobium Stabilized Austenitic Stainless Steel

Alloy 348H Data Sheet

Introduction

Alloy 348H is high carbon version of AISI 348. AISI 348 exhibits similar properties to AISI 347/321 in terms of corrosion, stress & creep corrosion. Due to restriction of niobium & tantalum, 348 serves a vital role in nuclear industry.

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 |
| Tantalum | 0.000 | 0.100 |
| Cobalt | 0.000 | 0.200 |
| Iron | Remainder | |

Mechanical Properties (Annealed)

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

Physical Properties

| Parameter | Value |
|--|-------|
| Density (Kg/m ³) | 7096 |
| Elastic Modulus (Gpa) | 193 |
| *Co-eff of Expansion ($\mu\text{m}/\text{m}/^\circ\text{C}$) | 18.9 |
| *Thermal Condc. (W/m.K) | 21.4 |
| Electric Resistivity (n Ω .m) 20°C | 720 |

*Note : @500°C

Corrosion Data

AISI 348H exhibit equal stress corrosion cracking & pitting/crevice corrosion as AISI 347 & 321 sue to their similar Nickel & Chromium content respectively. AISI 348H works well in stress relieved condition. AISI 348H is not recommended for marine applications

Equivalent Grade Designation

AISI 348
UNS S34800
DIN 1.4546
SAE 30348

Alloy 348H 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, A213, A240, A249, A269, A271, A276, A312, A314, 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

AISI 316H could replace 348H for marine applications & environment with higher chloride, low ph.

Applications & Industries

Nuclear Applications
Aerospace Equipments
Heat Exchangers & Boilers
Chemical, Pharmaceutical, brewery, dairy & petrochemical Equipments
Fasteners - Bolts, Screws, Nuts & Springs
High Temperature Service Equipments

Excellence Inherent

With 3 decade long experience inherited, we aim at providing better solutions for Industrial Piping Sector. Skilled Team, passion drives our *will* to be better with resolute for continous customer & vendor concurrence. We also perceive our duty towards planet for its unconditional support & try to minimise any harm caused due to our activity. For Instance, *We Stay Paperless*

The Information contained in this data sheet is for reference purpose only and actual data may vary from product to product. Complete rely on these values for product design recommended. User will be solely responsible for any failure in intended construction. FERROBEND™ is trademark Property of FERROBEND.



FERROBEND | Industrial Piping Products

#1016 Prasad Chambers Opera House Mumbai 400004 INDIA

Tel : 91 - 22 - 6666 5432 Fax : 91 - 22 - 6636 3375

www.ferrobend.com