SS 347H, Type 347H, WNR 1.4961, UNS S34709, AISI 347H, Grade 347H

Introduction:

Stainless steel 347H is the higher carbon version of alloy. It was developed for higher strength at temperatures above 1000°F [537°C and for enhanced creep resistance. The machinability of grade 347H is slightly tougher than grade 304. However by the use of constant positive feeds and by slow speeds, the hardenability of this steel can be minimized. By using the method of resistance and fusion grade 347H stainless steel can also be welded. For welding 347H stainless steel oxyacetylene welding is not recommended. To obtain maximum hardness grade 347H steel has to be water quenched and annealed. At 1149 to 1232°C forging, upsetting and other hot work processes can be performed. Grade 347H stainless steel is quite tough and ductile, so it can be readily spun, stamped, blanked and drawn. At temperature ranging from 1010 to 1193°C it can be annealed and then quenched with water. Through cold working process the steel hardness and the strength steel can be increased and it is unresponsive to heat treatment.

Chemical Composition

| | SS 347H | TYPE 347H | WNR 1.4961 | UNS S34709 | AISI 347H | GRADE 347H |
|----------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Carbon | 0.04-0.10 | 0.04-0.10 | 0.04-0.10 | 0.04-0.10 | 0.04-0.10 | 0.04-0.10 |
| Manganese | 2.00 max |
| Phosphorus | 0.045 max |
| Sulfur | 0.030 max |
| Silicon | 0.75 max |
| Chromium | 17.0-19.0 | 17.0-19.0 | 17.0-19.0 | 17.0-19.0 | 17.0-19.0 | 17.0-19.0 |
| Nickel | 9.0-13.0 | 9.0-13.0 | 9.0-13.0 | 9.0-13.0 | 9.0-13.0 | 9.0-13.0 |
| Columbium & Tantalum | 8 x (C+N) min 1.00 max |
| Nickel | Bal | Bal | Bal | Bal | Bal | Bal |

Mechanical Properties

| | SS 347H | TYPE 347H | WNR 1.4961 | UNS S34709 | AISI 347H | GRADE 347H |
|----------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Ultimate Tensile Strength | 75,000psi | 75,000psi (min), 515(Mpa) | 75,000psi (min), 515(Mpa) | 75,000psi (min), 515(Mpa) | 75,000psi (min), 515(Mpa) | 75,000psi (min), 515(Mpa) |
| 0.2% Offset Yield Strength | 30000 psi (min), 205 (Mpa) |
| Elongation in 2 inches, % | 40 min |
| Reduction in Area, % | - | - | - | - | - | - |
| Hardness, Brinell | 201 max |

AESTEIRON

Standard Available in forms:

- · ASTM A182/ ASME SA182 Stainlees Steel Pipe Fittings
- · ASTM A213 / ASME SA213 Seamless Stainless Steel Pipes
- · ASTM A240/ ASME SA240 Stainless Steels Sheets / Plates
- · ASTM A249/ ASME SA249 Stainless Steel Welded Tubes
- · ASTM A269/ ASME SA269 Stainless Steel Tubes
- · ASTM A270/ ASME SA270 Stainless Steel Sanitary Tubes
- · ASTM A312/ ASME SA312 Stainless Steel Pipes
- · ASTM A403/ ASME SA403 Stainless Steel Pipe Fittings
- · ASTM A554/ ASME SA554 Stainless Steel Welded Tubes
- · ASTM A731/ ASME SA731 Stainless Steel Pipes
- · ASTM A789/ ASME SA789 Stainless Steel Tubes
- · ASTM A790/ ASME SA790 Stainless Steel Pipes
- · ASTM A791/ ASME SA791 Stainless Steel Tubes

Products Available in forms:

- · SS 347H, Type 347H, WNR 1.4961, UNS S34709 Plates
- · SS 347H, Type 347H, WNR 1.4961, UNS S34709 Pipes
- · SS 347H, Type 347H, WNR 1.4961, UNS S34709 Round Bar
- · SS 347H, Type 347H, WNR 1.4961, UNS S34709 Tube
- · SS 347H, Type 347H, WNR 1.4961, UNS S34709 Flanges
- · SS 347H, Type 347H, WNR 1.4961, UNS S34709 Wire
- · SS 347H, Type 347H, WNR 1.4961, UNS S34709 Fittings

Fabrication and Heat Treatment Machinability

• Machining grade 347H stainless steel is slightly tougher than that of grade 304 steel. However, the hardenability of this steel can be minimized by the use of constant positive feeds and slow speeds.

Welding

· Grade 347H stainless steel can be welded using most of the resistance and fusion methods. Oxyacetylene welding is not preferred for this steel.

Hot Working

· Forging, upsetting and other hot work processes can be performed at 1149 to 1232°C (2100 to 2250°F). The grade 347H steel has to be water quenched and annealed to obtain maximum hardness.

Cold Working

· Grade 347H stainless steel can be readily stamped, blanked, spun and drawn as it is quite tough and ductile.

Annealing

· Grade 347H stainless steel can be annealed at temperature ranging from 1010 to 1193°C (1850 to 2000°F) and then quenched with water.

Hardening

• Grade 347H stainless steel is unresponsive to heat treatment. The hardness and strength of the steel can be increased through cold working.



9/A, 9th Floor, Mehta Mehal, 15th Mathew Road, Opera House, Charni Road, Mumbai - 400 004, India.

web: www.aesteiron.com email: info@aesteiron.com Tel: +91-22-67776700 - 6799 - 6777

