

STAINLESS STEEL

ALLOY 347



347 Stainless Steel

UNS S34700 / WNR 1.4550

347 (UNS S34700/1.4550) is a fully austenitic niobium stabilised stainless steel. The addition of Niobium reduces the creation of carbide precipitation in service between 430 to 900 degrees C and during welding processes and increases the mechanical strength of the material.

This grade has good resistance to oxidation and corrosion along with good creep strength and can be used at temperatures where carbide precipitation may occur in non-stabilised grades e.g., 304.

It is used principally in aerospace exhaust manifolds and engine components, chemical processing equipment running at high temperatures and in nuclear processing piping.

AVAILABLE TUBE PRODUCT FORMS

STRAIGHT
SEAMLESS

TYPICAL MANUFACTURING SPECIFICATIONS

British Standards 2T66, 2T68 & T72

ASTM A269, A213, A312

SAE AMS 5571

Also individual customer specifications.

TYPICAL APPLICATIONS

NUCLEAR
AEROSPACE HYDRAULICS
PROCESSING & CHLORATE MANUFACTURING

INDUSTRIES PREDOMINANTLY USING THIS GRADE

CHEMICAL PROCESSES
AEROSPACE



Technical Data

MECHANICAL PROPERTIES (Room Temperature)

Property	Annealed Temper	Cold Worked Temper
0.2% Yield (Rp = 0.2)	30.5 ksi (210 MPa) minimum	101.5 ksi (700 MPa) minimum
Tensile (Rm)	80 ksi (550 MPa) minimum	116 ksi (800 MPa) minimum
Elongation (2"gl)	40% minimum	10% minimum
Hardness	205 HV maximum	230 HV minimum

PHYSICAL PROPERTIES (Room Temperature)

Specific Heat (0-100°C)	500	J/kg/°K
Thermal Conductivity @ 100C	16	W/m/°K
Thermal Expansion	16.6	µm/m/°C
Modulus Elasticity	195	GPa
Electrical Resistivity	28.7	Ohm-cm
Density	7.93	g/cm ³

CHEMICAL COMPOSITION

(% by weight)

Element	Min	Max
C	-	0.08
Mn	-	2.00
P	-	0.045
S	-	0.030
Si	-	1.00
Cr	17.00	19.00
Ni	9.00	13.00
Nb (+Ta)	10 x C (+N) min	1.00
Fe	Balance	