



Elgiloy Specialty Metals – Wire Products

Haynes® 282® alloy

UNS N07208

Applicable Specifications

Wire & Bar | AMS 5915, ASTM B637

Description: Haynes® Alloy 282 is an age-hardenable nickel-based superalloy that combines excellent creep strength with thermal stability, weldability, and fabricability. This new alloy has excellent creep strength in the temperature range of 1200 to 1700°F (649-927°C), surpassing that of Waspaloy alloy, and approaching that of R-41 alloy. Haynes® Alloy 282 can be further aged from the annealed condition or cold reduced condition for modest gains in physical properties. Other notable properties include resistance to strain-age cracking and high-temperature oxidation.

Applications include: Compressors, Combustors, Transition liners, Rings, Exhaust/nozzle components, Hot-gas-path components

Industries supplied include: Aerospace, Land Based Turbines, Automotive

Nominal Composition

	C	Mn	Si	P	S	Cr	Ni	Co	Mo	W	Nb	Ti	Ta	Al	B	Fe	Cu	Zr
min	0.04	-	-	-	-	18.5	Bal	9.0	8.0	-	-	1.90	-	1.38	0.003	-	-	-
max	0.08	0.30	0.15	0.015	0.015	21.5	-	11.0	9.0	0.5	0.2	2.30	0.10	1.65	0.010	1.5	0.1	0.020

Physical Properties

	At 70°F	At 20°C
Density	0.299 lb/in ³	8.27 g/cm ³
Modulus of Elasticity (E)	31.5 x 10 ³ ksi	217 GPa
Modulus of Rigidity (G)	11.9 x 10 ³ ksi	82 GPa
Coefficient of Expansion	9.3 μin/in-°F (70-1800°F)	16.9 μm/m-°C (25-1000°C)
Electrical Resistivity	49.7 μohm-in	126.1 μohm-cm
Thermal Conductivity	72 Btu-in/ft ² -hr-°F	10.3 W/m-°C

Typical Mechanical Properties

Condition	Heat Treatment	Tensile Strength	Suggested Operating Conditions
Annealed	2050-2150°F (1120-1177°C)	110-140 ksi (758-965 MPa)	Up to 1700°F (927°C)
Aged	1850°F for 2 hours, AC 1450°F for 8 hours, AC	150 ksi min (1034 MPa)	Up to 1700°F (927°C)

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