



Specialty Metals – Strip Products

Haynes® Alloy 282

UNS N07208

Haynes® Alloy 282 is an age-hardenable nickel based superalloy that combines excellent creep strength with thermal stability, weldability, and fabricability. The new alloy has excellent creep strength in the temperature range of 1200 to 1700°F (649to 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. Applications include: air and land based turbines, airplane exhaust nozzles as well as high temperature automotive gaskets and seals

Nominal Composition

	C	Mn	Si	P	S	Cr	Co	Mo	Ti	Al	B	Fe	Cu	Zr	Ni
min	0.04					18.5	9.0	8.0	1.90	1.38	0.003				remainder
max	0.08	0.30	0.15	0.015	0.015	20.5	11.0	9.0	2.30	1.65	0.010	1.5	0.1	0.020	

Physical Properties

	At 70°F	At 20°C
Density	0.296 lb/in ³	8.3 g/cm ³
Modulus of Elasticity (E)	31 x 10 ³ ksi	216 GPa
Modulus of Rigidity (G)	11.9 x 10 ³ ksi	82 GPa
Coefficient of Expansion	6.7 microinches/in.-°F (70-1000°F)	12.1 μm/m-°C (20-538°C)
Electrical Resistivity	49.7 μ ohm.in	126.1 μ ohm.cm
Thermal Conductivity	72 Btu-in./ft. ² hr.-°F	10.3 W/m-K

Applicable Specifications

Strip and Foil	AMS 5951, PS-6101-5
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Typical Mechanical Properties

Condition	Heat Treatment	Tensile Strength	Suggested Operating Conditions
Annealed	Per AMS specification	110-130 ksi (MPa)	-300°F to 1700°F (-184°C to 927°C)
Spring Temper	None	Up to 210 ksi (MPa)	-300°F to 1700°F (-184°C to 927°C)
Aged	Per AMS specification	160-210 ksi (MPa)	-300°F to 1700°F (-184°C to 927°C)

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For further information

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