



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