



# 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 <sup>3</sup>	8.3 g/cm <sup>3</sup>
Modulus of Elasticity (E)	31 x 10 <sup>3</sup> ksi	216 GPa
Modulus of Rigidity (G)	11.9 x 10 <sup>3</sup> 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. <sup>2</sup> hr.-°F	10.3 W/m-K

### Applicable Specifications

Strip and Foil	AMS 5951, PS-6101-5
----------------	---------------------

### 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)

Haynes® is a registered trademark of Haynes International, Inc.

Phone: 1.888.843.2350

Elgiloy Specialty Metals -  
Strip Products

1565 Fleetwood Dr.

Elgin, IL 60123 USA

[WWW.ELGILOY.COM](http://WWW.ELGILOY.COM)

#### **LIMITATION OF LIABILITY AND DISCLAIMER OF WARRANTY:**

The content in these data sheets is provided primarily by third-party melting mills and is provided for reference only. It is not intended for engineering or design.

Applications may be discussed, however, Elgiloy Specialty Metals does not recommend or endorse any material for any particular end use or application.

The data included in this data sheet are typical values and may vary.

Elgiloy Specialty Metals makes no representations or warranties, express or implied, as to the accuracy, completeness, condition, suitability, performance, fitness for a particular purpose, or merchantability of any information contained in any data sheet.

In no event will Elgiloy Specialty Metals be liable for any damages whatsoever arising from the use of the information included in the data sheets.