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)

Elgiloy Specialty Metals – Wire Products
356 North Cross Street
Sycamore, IL 60178 USA

Phone: 1-847-695-1900

www.elgiloy.com

REV 2024 04 02

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.