

Haynes® 263 Alloy

UNS N07263
W. Nr 2.4650

Haynes® 263 alloy is an age-hardenable Ni-Co-Cr-Mo alloy designed to combine very good aged strength properties with excellent fabrication characteristics in the annealed condition. While its strength at high temperature is not quite as high as Waspaloy or R-41, it is far easier to form or weld than these alloys. Alloy 263 exhibits excellent intermediate temperature tensile ductility, and is not normally subject to strain age cracking problems common for gamma prime strengthened alloys.

Applications include: aircraft and land based turbine components.

Nominal Composition

	C	Mn	Si	P	S	Cr	Co	Mo	Ti	Al	Fe	Cu	Ni
min	0.04	-	-	-	-	19.00	19.00	5.60	1.90	0.30	-	-	-
max	0.08	0.60	0.40	0.015	0.007	21.00	21.00	6.10	2.40	0.60	0.70	0.20	Bal

Physical Properties

	At 70°F	At 20°C
Density	0.302 lb/in ³	8.36 g/cm ³
Modulus of Elasticity (E)	32.1 x 10 ³ ksi	221 GPa
Coefficient of Expansion	7.6 microinches/in.-°F (70-1000°F)	13.6 µm/m-°C (20-538°C)
Electrical Resistivity	45.3 µ ohm.in	115 µ ohm.cm
Thermal Conductivity	81 Btu-in./ft. ² hr.-°F	11.7 W/m-K

Applicable Specifications

Strip	AMS 5872
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Typical Mechanical Properties – Spring Applications

Condition	Heat Treatment	Tensile Strength	Suggested Operating Conditions
Annealed	1900 - 2150°F (1038 - 1177°C)	128 ksi (882 MPa) typ	-300°F to 1650°F (-184°C to 900°C)
After Precipitation Heat Treat	1475°F (802°C), 8h, AC	164 ksi (1130 MPa) typ	-300°F to 1650°F (-184°C to 900°C)

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