

Haynes® 230® alloy

UNS N06230
W. Nr 2.4733

Applicable Specifications

Wire & Bar AMS 5878 & ASTM B435 (chemistry only)

Description: Haynes® 230® alloy is a nickel-chromium-tungsten-molybdenum alloy which combines excellent high temperature strength and oxidation resistance up to 2100°F with superior long-term stability and good fabricability. It has lower thermal expansion characteristics than most high temperature alloys and resists grain coarsening with prolonged heat exposure. Haynes® 230® also exhibits excellent low cycle fatigue properties at high temperatures and is one of the most nitriding resistant materials available.

Applications include: Heat treatment baskets, Catalyst grid supports, Gas turbine components, Heat exchangers, Bellows, Wire mesh belts, Heat treating fixtures, Basket liners, Muffles/retorts, Dampers, Thermocouple sheathing, Flame shrouds

Industries supplied include: Industrial Heat Treating, Power Generation, Aerospace, Chemical Processing

Nominal Composition

	C	Mn	Si	P	S	B	Ni	Cr	Co	Mo	La	W	Al	Fe
min	0.05	0.30	0.25	-	-	-	Bal	20.00	-	1.00	0.005	13.00	-	-
max	0.15	1.00	0.75	0.030	0.015	0.015	-	24.00	5.00	3.00	0.05	15.00	0.50	3.00

Physical Properties

	At 70°F	At 20°C
Density	0.324 lb/in ³	8.97 g/cm ³
Modulus of Elasticity (E)	30.3 x 10 ³ ksi	209 GPa
Modulus of Rigidity (G)	11.5 x 10 ³ ksi	79 GPa
Coefficient of Expansion	8.9 µin/in-°F (70-1800°F)	16.1 µm/m-°C (25-1000°C)
Electrical Resistivity	49.2 µohm-in	125.0 µohm-cm
Thermal Conductivity	62 Btu-in/ft ² -hr-°F	8.9 W/m-°C

Typical Mechanical Properties

Condition	Heat Treatment	Tensile Strength	Suggested Operating Conditions
Annealed	2048-2246°F (1120-1230°C)	110-140 ksi (758-965 MPa)	Up to 2100°F (1150°C)

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