

188 is a cobalt-base alloy that offers good resistance to oxidation to 2000°F and excellent high-temperature strength. The alloy also has good sulfidation resistance, excellent metallurgical stability, and good ductility after prolonged exposure to elevated temperatures.

Specifications AMS: 5608, 5772
 UNS: R30188

Chemical Composition, %

	C	Mn	Si	Cr	Ni	W	La	B	Fe	Co
MIN	0.05	—	0.20	20.0	20.0	13.0	0.02	—	—	—
MAX	0.15	1.25	0.50	24.0	24.0	16.0	0.12	0.015	3.0	Bal.

Features

- Good fabricability and weldability
- Retains excellent strength and ductility at elevated temperatures
- Good sulfidation resistance
- Excellent metallurgical stability at high temperatures

Applications

- Aircraft Engine Components
- Gas Turbines
- Transition ducts
- Combustor Cans
- Afterburner Liners
- Flame Holders

Mechanical Properties

Yield Strength		Tensile Strength		Elongation
ksi	MPa	Ksi	MPa	%
65	446	140	963	55

Physical Properties

- Density 0.330 lb/in³ 9.14 g/cm³
- Melting Range 2375-2425 °F 1300-1330 °C
- Specific Heat 0.097 at 70 °F, Bru/lb °F 405 at 21 °C, J/kg °C
- Permeability 1.0007 at 200 oersted
- Coefficient of Expansion 6.6 0-200 °F, 10⁻⁶ in/in•°F
- Thermal conductivity 84 Btu•in/ft²•h•°F W/wm•°C
- Electrical Resistivity 613 ohm•circ mil/ft 102.0 microhm-cm