UNITED PERFORMANCE METALS
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AN ONI COMPANY

ALLOY 188

UNS R30188 / AMS 5608 / AMS 5772

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

188 Chemical Composition

- **C** Carbon – 0.05 – 0.15%
- **Mn** Manganese - 1.25% max
- **Si** Silicon - 0.20 – 0.50%
- **Cr** Chromium - 20.0 - 24.0%
- **Ni** Nickel - 20.00 - 24.00%
- **W** Tungsten – 13.0 – 16.0%
- **La** Lanthanum – 0.02 – 0.12%
- **Fe** Iron – 3% max
- **Co** Cobalt - Balance

Maximum unless range is specified

Other Inventory Specifications

- PWA-LCS
- GE Aviation S-SPEC-35 AeDMS S-400
- GE Aircraft Engine (GT193)
- RR SABRe Edition 2
- DFARS Compliant

Standard Inventory Specifications

- UNS R30188
- AMS 5608
- AMS 5772
- B50TF74

Forms Stocked

- Bar - 0.375” – 3.000” thick
- Coil - 0.020” – 0.080” thick
- Sheet - 0.020” - 0.080” thick

Applications

- Gas turbine operations
- Combustors
- Flame holders
- Liners
- Transition ducts
- Exhaust frames

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Or click here to view our product page and request a quote on alloy 188

Features

- Performs well in continuous high temperature service
- Excellent oxidation, spalling, and corrosion resistance

Physical Properties

- Density: 0.330 lb/in^3 (9.14 g/cm^3)
- 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/ft^2●h●°F W/wm●°C
- Electrical Resistivity: 613 ohm●circ mil/ft 102.0 microhm-cm

Mechanical Properties and Yield Strength

Yield Strength		Tensile Strength		Elongation
Ksi	Mpa	Ksi	Mpa	%
65	446	140	963	55