

# Alloy 263

Smiths Advanced Metals

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## Nickel Cobalt Based Alloy Bars

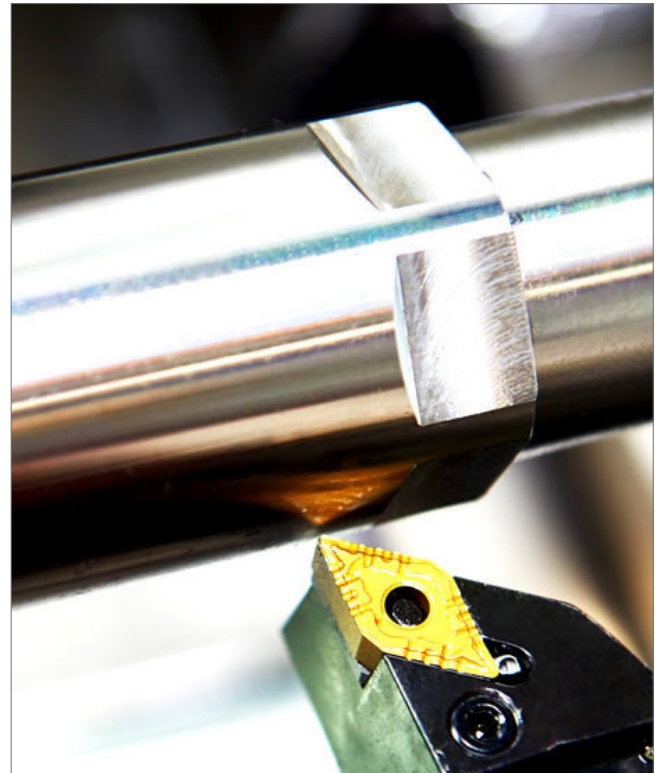
Alloy 263 is a nickel-cobalt-chromium-molybdenum alloy which offers good aged-hardened characteristics.

The material combines various performance characteristics resulting in a highly capable engineering material - the product benefits from high-temperature strength, high corrosion resistance, good weldability and forming capabilities.

Alloy 263 displays excellent oxidation resistance. While Alloy 263 does not offer the best high-temperature performance, it is much easier to form and weld. Material forming is straightforward by cold working.

### Commercial Applications

The alloy was originally developed for aerospace engines but has expanded its appeal to other market areas, such as advanced ultra-supercritical power plants (A-USC). The alloy finds regular use in producing aircraft engine cases, gas turbine rings and low-temperature combustors. Material strength is retained up to 816°C and oxidation resistance up to 982°C.



### Benefits

- High-temperature strength
- Excellent oxidation resistance
- Easily formed and welded

### Key Applications

- Gas turbine rings
- Aircraft engine casings
- Low-temperature combustors

### Chemical Composition (weight %)

	Ni	Cr	Mn	Si	C	Al	B	Fe	Cu	Mo	Co	Ti	Al+Ti	S	P
min.	Bal	19.00			0.04	0.30				5.60	19.00	1.90	2.40		
max.	Bal	21.00	0.60	0.40	0.08	0.60	0.005	0.70	0.20	6.10	21.00	2.40	2.80	0.007	0.015

\* As per AMS 5886

### Physical Properties

Density	8.359 g/cm <sup>3</sup>
Melting Range	1300-1355°C
Specific Heat Capacity	461 J/kg. °C
Electrical Resistivity	1.15 μΩ.m

### Stock Availability

We stock bars of Alloy 263, which are available in various sizes, and we process your bar products in-house to precise lengths.

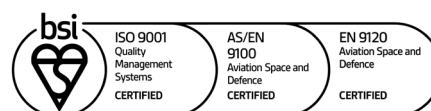
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