

Alloy 263

Smiths Advanced Metals

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Nickel Cobalt Based Alloy Sheets

Alloy 263 contains nickel-cobalt-chromium-molybdenum alloy, which has excellent mechanical properties after aged hardening.

Our nickel-cobalt sheets are highly versatile, providing many attractive performance characteristics. High temperature strength and corrosion resistance are synonymous with this alloy, and impressive welding and forming capabilities, particularly by cold working.

Oxidation resistance is outstanding. While Alloy 263 does not offer the best high-temperature performance, it is much easier to form and weld. We supply Alloy 263 in the annealed condition, which provides excellent ductility.

Commercial Applications

Although the alloy was developed specifically for the aerospace market, its chemical and mechanical properties lend themselves to various engineering markets and applications, some of which are highly specialised. For example, Alloy 263 finds use in advanced ultra-supercritical power plants (A-USC). Other applications include aircraft engine casings, gas turbine rings and combustors.

Benefits

- Simple to form and weld
- Excellent ductility in the annealed condition
- High-temperature strength



Key Applications

- Gas turbine rings
- Aircraft engine casings
- Sealing rings

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 5872

Physical Properties

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

Performance

The alloy's material strength is retained up to 816°C and oxidation resistance up to 982°C.

We supply Alloy 263 nickel cobalt sheets in the annealed delivery condition. We also provide in-house cutting services, to cut your nickel cobalt sheets to tight tolerances before shipping.

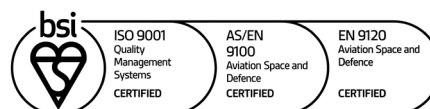
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