Alloy 188 Cobalt Alloy - AMS 5772

Typical Applications

Aerospace

Gas Turbine Engines

Alloy 188 is known for its superior resistance to corrosion and oxidation at elevated temperatures, this is due to Its composition, containing significant quantities of cobalt and chromium. This allows Alloy 188 to be well suited for high temperature environments. The alloy maintains structural integrity when exposed to extreme heat, oxidising agents, and corrosive media that would rapidly degrade many conventional materials.

Cobalt Alloy 188 falls under the category of superalloys - an elite family of metallic composites purpose-engineered to endure extraordinarily hostile operating environments and withstand severe mechanical stresses. Standard alloys would rapidly deteriorate under such punishing conditions, yet this superalloy exhibits remarkable resilience in the face of extraordinarily hostile environments that would compromise ordinary materials. Cobalt Alloy 188 exhibits exceptional resilience where standard materials would simply fail.

The presence of chromium, a key component at roughly 22%, allows a tenacious oxide layer to form on the alloy's surface, this acts as a barrier, which prevents corrosion. Cobalt itself is highly resistant to chloride-induced corrosion, a type of degradation that plagues many other alloys.

Industries that rely on Cobalt Alloy 188 include aviation, where it sees use in aircraft engines and hot section components and in the gas industry where it used in turbine engines.

Technical specification

Related Specifications

AMS 5608

AMS 5772

Specific Gravity

9.14g/cm³

Chemical Composition (WT %)

	Min	Max
C	0.05	0.15
Mn	-	1.25

Si	0.20	0.50
P	-	0.02
S	-	0.015
Cr	20	24
Ni	20	24
W	13	16
La	0.02	0.12
B	-	0.015
Fe	-	3
Co	-	Bal

Typical Mechanical Properties

		Bars
0.2% Proof Stress	MPA	379

Tensile Strength	MPA	862
Elongation	4D	45%
Hardness	HB	302

Need more information? ***Get in touch***

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