AMS 4928, BS TA11, TITANIUM 6AL4V Bar

Typical Applications

Medical Implants

Turbine Blades

Fasteners

Motor Racing applications

Aircraft Structural Components

6AL4V, also known as titanium alloy 6-4, is a high-performance material which is known for its exceptional strength to weight ratio, corrosion resistance, and biocompatibility. The typical applications of Titanium 6AL4V are aerospace for structural components, motorsport and medical implants.

At its core, 6AL4V is a titanium alloy, composed of titanium alloyed with 6% aluminium and 4% vanadium, the addition of aluminium enhances the alloy's strength and resistance to creep deformation, while vanadium further bolsters its strength and improves its resistance to corrosion and oxidation.

A notable characteristic of the 6AL4V alloy is its exceptional strength-to-weight ratio. This means that it is particularly well suited for applications where minimizing weight is critical, as is often the case in the aerospace sector. Though relatively lightweight, 6AL4V demonstrates impressive mechanical properties that allow it to endure substantial forces and stresses without any detriment to its structural integrity.

Furthermore, 6AL4V has exceptional corrosion resistance, this characteristic makes it a preferred choice for marine applications, chemical processing equipment, and medical implants, where resistance to bodily fluids and biological environments is essential.

A key attribute of the 6AL4V (AMS 4928) alloy is its notable biocompatibility. When combined with its impressive strength properties and robust corrosion resistance, this biocompatibility makes 6AL4V highly suitable for biomedical applications. As a result, Ti-6Al-4V is used widely in the production of orthopaedic implants, dental implants, and a diverse range of surgical instrumentation.

Technical specification

Related Specifications

AMS 4928

AMS 4965

AMS 4967

AMS 6931

AMS T 9047

ASTM B348

BS TA11

TA28

ISO 5832-3

W.Nr 3.7164/5

ASTM F136

UNS R56400

MSRR 8652

MSRR 8614

Specific Gravity

4.484 g/cm3

Chemical Composition (WT %)

	Min	Max
C	-	0.08
Al	5.5	6.5
N	-	0.05
O	-	0.2
Ti	-	Bal
V	3.50	4.50
Fe	-	0.25

H	-	0.01
Y	-	0.005

Typical Mechanical Properties in the Annealed condition

0.2% Proof Stress	MPA	Min	862
Tensile Strength	MPA	Min	900
Elongation	%	Min	10
Reduction of Area	%	Min	25
Hardness	HRC	-	36

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