

Ti-3Al-2.5V Titanium Bar

Diameter Range: φ6-400mm

Surface Treatments: Polishing, Milling, Pickling, Sandblasting

Shape Options: Square, Round, Hexagonal, Hollow, Octagonal, Rectangular

Lead Time: 15-30 days

Ti-3Al-2.5V Titanium Bar (UNS R56320), also known as "half 6-4," contains 3% aluminum and 2.5% vanadium. It offers 20%-50% higher mechanical strength than commercial pure titanium (CP), while outperforming Ti-6Al-4V (Grade 5 Titanium Alloy) in formability and weldability. These properties make it ideal for industries where a balance of strength, weight, and formability is required, including aerospace, sports equipment, and marine engineering.

Technical Parameters

- Magnetic Permeability: Non-magnetic
- Melting Point: 1725°C
- Density: 4.51 g/cm³
- Heat Treatment: Annealed and Age-hardened
- Thermal Conductivity: Approx. 7.6 W/m·K
- Elastic Modulus: Approx. 110 GPa
- Service Temperature Range: Up to 400°C
- Processing Methods: Suitable for turning, milling, drawing, stamping, etc.
- Surface Roughness (Ra): Available in various grades, typically 0.8–1.6 μm based on customer requirements

Chemical Composition (wt%, Typical Values)

Element	Content (%)	Element	Content (%)
Al	2.5–3.5	C	≤ 0.08
V	2.0–3.0	O	≤ 0.15
Fe	≤ 0.25	N	≤ 0.03
H	≤ 0.015	Others (Each)	≤ 0.10
Ti	balance	Total (Others)	≤ 0.40

Mechanical Properties (Annealed State, Typical Values)

Property	Value
Ultimate Tensile Strength (min)	620 MPa (90 ksi)
Yield Strength (0.2% offset, min)	483 MPa (70 ksi)
Elongation (4D, min)	15%

Property	Value
Reduction of Area (min)	25%

Ti-3Al-2.5V Bar Application areas

Aerospace: Aircraft engine components, fuselage frames, brackets, and other critical parts.

Chemical Industry: Reactors, storage tanks, valves, and other components.

Sports Equipment: Golf clubs, bicycle frames, tennis rackets, and more.

Mechanical Parts & Fasteners: Automotive engine components, precision instruments, and complex mechanical parts.

Comparison Table: Ti-3Al-2.5V vs. Other Titanium Grades

Feature	Grade 9 Titanium	Grade 5 Titanium
Al & V Content	Al: 2.5-3.5%, V: 2.0-3.0%	Al: 5.5-6.75%, V: 3.5-4.5%
Ultimate Tensile Strength (min)	620 MPa (90 ksi)	895 MPa (130 ksi)
Yield Strength (min)	483 MPa (70 ksi)	828 MPa (120 ksi)
Formability	High, suitable for complex shapes	Moderate, high strength but harder to process
Weldability	Good	Average
Common Applications	Aerospace, chemical equipment, sports equipment	Aerospace, medical, marine, chemical industries
High-Temperature Performance	Moderate	Excellent, suitable for high-temperature environments

FAQ

1. What customization options are available for Ti-3Al-2.5V Bar?

We offer full customization, including specific sizes, lengths, non-standard shapes (square, hexagonal bars, etc.), surface treatments, and custom machining based on your provided drawings.

2. What shipping methods do you offer?

- Air Freight: Suitable for small orders, sample orders, and urgent shipments, ensuring quick delivery.
- Sea Freight: Economical choice for large orders.
- Land Freight: For domestic customers or neighboring countries/regions.

We work with multiple international logistics companies to ensure safe and timely delivery.

3. How are customs duties and import fees handled?

All export goods will undergo customs clearance according to the destination country's requirements. The specific duties and import fees are the responsibility of the customer. If you have any questions, we can assist you to ensure smooth clearance.

Why Choose Baoji Zecheng Metal Materials Co., Ltd.?

As a professional Ti-3Al-2.5V Bar factory, Zecheng Metal is committed to providing high-quality titanium bars to meet your needs across industries such as aerospace, marine, chemical, sports, and automotive. Our Ti-3Al-2.5V Titanium Bars come in various specifications and surface treatment options, ensuring tailored solutions for your requirements.

For inquiries or custom orders, please feel free to contact us!

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