

Gr12 Titanium Rods

Grade: Grade 12

Brand: Zecheng Metal

Size: Diameter or cross-sectional thickness (mm): Φ 3mm - Φ 600mm

Length (mm): Up to 6 meters, with custom sizes available upon request.

Grade 12 Titanium Alloy Bars for High-Temperature Applications

Grade 12 titanium alloy is known for its outstanding durability and exceptional strength, even in high-temperature environments. It is suitable for a variety of forming processes, including stamping, hydroforming, drawing, and drop forging. Whether in hot-forming or cold-forming applications, this alloy proves to be highly versatile across multiple industries.

Our company maintains a substantial inventory of Ti-0.3Mo-0.8Ni titanium bars, ingots, and semi-finished billets to meet immediate customer demands. In addition, we offer custom services tailored to your specifications, enabling the production of titanium rods in custom sizes and shapes based on your designs.

Grade 12 Titanium Bars Technical Specifications

Origin	Baoji, Shaanxi, China	Standard	ASTM B348、ASME SB348
Technology	Forging, Rolling	Shape	Round rods, rectangular rods, hexagonal rods, etc.
Lead time	Standard sizes: ready to ship in 7 to 15 business days Special customization: takes approximately one month to ship.		
Application	Chemical industry, marine engineering, shipbuilding engineering, petroleum industry, pump and valve industry		
Delivery status	hot working, cold working, forging, annealed		
Surface treatment	Machine polishing, grinding and polishing, sandblasting		
Quality Certifications	Each batch is accompanied by a MTC, and third-party inspection reports can be provided upon request.		

Chemical Composition of Gr12 Titanium Rods

C(Max)	O(Max)	N(Max)	H(Max)	Fe(Max)	Mo	Ni	Ti
0.08	0.25	0.03	0.015	0.30	0.2-0.4	0.6-0.9	balance

Mechanical Properties of Grade 12 Titanium

Tensile Strength, min		Yield Strength(0.2% Offset) min or range		Elongation in 4D, min, %	Reduction of Area, min %
ksi	MPa	ksi	MPa		
70	483	50	345	18	25

Equivalent Standards for Grade 12 Titanium Rods

ASTM	Composition	China(GB/T)	DIN	UNS
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Standard		Standard	Standard	Standard
Grade12	Ti-0.3Mo-0.8Ni	TA10	DIN 3.7105	UNS R53400

Why Choose Grade12 Titanium Rods?

We strictly adhere to international standards and customer specifications to ensure that our Grade 12 titanium bars meet the highest quality requirements. Each product batch is provided with a quality certificate and testing report confirming compliance with ASTM B348 and ASME SB348 standards.

- **Packaging:** Moisture-proof, shock-proof export packaging ensures no contamination or damage during transport.
- **After-Sales Support:**
 1. **Initial Assistance:** Offering material selection and technical consultation.
 2. **Order Tracking:** Once your order is received, production starts immediately, and progress updates are regularly provided.
 3. **Logistics Coordination:** We handle shipping and proactively communicate delivery schedules.
 4. **Third-Party Inspection & Delivery Updates:** After production, we send the product for third-party inspection. You will receive detailed inspection reports, packaging photos, and shipping details once the products are ready for delivery.

We are committed to providing timely, high-quality service and rapid responses to ensure your complete satisfaction throughout the process.

Industry-Specific Uses for Grade 12 Titanium Bars

- **Marine Engineering:** Its excellent corrosion resistance to seawater makes it ideal for marine equipment, including hulls and propeller shafts.
- **Chemical Industry:** Widely used in heat exchangers, reactors, and other components exposed to corrosive chemicals.
- **High-Temperature Chemical Manufacturing:** Maintains superior mechanical performance at high temperatures, making it perfect for high-temperature chemical production systems.

Comparing Grade 12 with Grade 2 and Grade 5 Titanium Rods

Feature	Grade 2 Titanium Rod	Grade 5 Titanium Rod	Grade 12 Titanium Rod
Composition	Pure Titanium ($\geq 99.5\%$ Ti)	Titanium Alloy (6% Al, 4% V)	Titanium Alloy (0.3% Mo, 0.8% Ni)
Strength	Moderate strength (~345 MPa)	High strength (~900 MPa)	Moderate strength (~500 MPa)
Corrosion Resistance	Excellent (especially in chloride environments)	Good, suitable for aerospace	Excellent (especially in high-temperature chloride and reducing media)
Weldability	Excellent, suitable for multiple welding methods	Good, suitable for conventional welding	Good, maintains strength after welding
Applications	Medical, Chemical, Marine, Electronics	Aerospace, Automotive, High-Strength Structures	Chemical heat exchangers, Marine Engineering, High-Temperature Chloride Environments
Cost	Low, ideal for mass production	Higher, ideal for high-performance applications	Moderate, suitable for specific corrosive environments
Machinability	Very easy to machine	Harder to machine	Easy to machine, but attention needed

Feature	Grade 2 Titanium Rod	Grade 5 Titanium Rod	Grade 12 Titanium Rod to avoid material hardening
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Selection Guide

High Strength & Lightweight → Prioritize Grade 5 (e.g., Aircraft parts, racing car components).

Corrosion Resistance with Low Load → Grade 2 offers the best value (e.g., Chemical vessel linings).

Harsh Corrosive Environments (e.g., Hot acids, seawater heat exchangers) → Grade 12 is a more reliable choice.

How to Order Gr12 Titanium Rods

Contact us to receive free material samples, detailed technical data sheets, and consultation on material selection tailored to your specific requirements.

Baoji Zecheng Metal Materials