

# Grade 23 Titanium Forgings (Ti-6Al-4V ELI, UNS R56401)

**Chemical Composition:** Ti-6Al-4V ELI (UNS R56401)

**Delivery Time:** Typically 2–4 weeks, depending on forging complexity

**Minimum Order Quantity:** 10 kg

**Payment:** 30% T/T in advance, full payment before shipment

**Trade Method:** FOB / CIF / DDP

If you are looking for high-performance titanium forgings for medical implants or aerospace applications, Grade 23 (Ti-6Al-4V ELI) is the alloy you can rely on. At Baoji Zecheng Metal Materials Co., Ltd., we supply Grade 23 titanium alloy forgings that meet ASTM F136, ASTM B381, and AMS 4930 standards, ensuring superior toughness, biocompatibility, and reliability for your critical projects.

## Available Forms and Specifications

**Condition:** Annealed

**Forms:** Bars, discs/blanks, rings, and custom forgings

**Bar Diameter:**  $\phi$ 20mm -  $\phi$ 500mm

**Disc Thickness:** 5mm - 750mm

**Custom Sizes:** Produced according to your drawings

**Surface Finish:** Turned, ground, or pickled

**Tolerances:** According to ASTM B381 or per your specifications

## Why Choose Grade 23 (Ti-6Al-4V ELI) Forgings?

Unlike standard Grade 5 titanium, Grade 23 is the Extra Low Interstitial (ELI) version, with reduced levels of oxygen, nitrogen, carbon, and hydrogen. This refinement gives you: Higher fracture toughness Improved ductility at low temperatures Excellent biocompatibility for medical implants More reliable performance in aerospace critical parts

## Grade 23 vs. Grade 5 Titanium Forgings

When you compare Grade 5 titanium forgings with Grade 23 titanium alloy forgings, you'll notice key differences:

Property	F-5	F-23
Tensile Strength (MPa)	$\geq 895$	$\geq 828$
Yield Strength (MPa)	$\geq 828$	$\geq 759$
Elongation (%)	$\geq 10$	$\geq 10-14$
Fracture Toughness ( $K_{IC}$ , MPa·m <sup>1/2</sup> )	~55	~75

## Chemical Composition (Typical, wt%, ASTM B381)

Element	F-5 (Ti-6Al-4V)	F-23 (Ti-6Al-4V ELI)
Al	5.5–6.75	5.5–6.5
V	3.5–4.5	3.5–4.5

O	≤0.20	≤0.13
N	≤0.05	≤0.03
C	≤0.08	≤0.08
H	≤0.015	≤0.0125
Fe	≤0.40	≤0.25
Ti	Balance	Balance

## Quality and Certification You Can Trust

When you order from us, you benefit from: 100% Ultrasonic Testing (NDT) – meeting AMS 2631/AMS 2154 standards or your specific requirements Full Traceability – laser-marked heat numbers with mill certificates, traceable to the original melt batch Certified Quality – ISO 9001 and AS9100D aerospace certifications ensure consistent product reliability Complete Material Test Report – including chemical, mechanical, production batch, and QC details with every shipment

## Partner with Us

At Zecheng Metal, we are committed to providing customers with high-performance, reliable, and customizable titanium alloy solutions, supporting the entire process from design and production to delivery. Please feel free to contact us for a detailed quote or technical support. Zecheng Metal will be your trusted long-term partner.

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