

Titanium Fastener

Material: pure titanium, titanium alloy

Grade: Grade 2, Grade 5, Grade 7, Grade 9, Grade 11, Grade 12, Grade 16, Grade 23, etc.

Dimensions: M3-M50

Length: 3mm-200mm

Why Choose Titanium Fasteners Over Steel or Stainless Steel

When you select titanium alloy fasteners, you choose superior strength and lightweight performance compared to traditional steel or stainless steel. Titanium significantly enhances the overall efficiency of your equipment while maintaining exceptional stability even in harsh environments. Its outstanding corrosion resistance ensures long service life, reducing maintenance costs and downtime.

- **Lightweight & Strong:** High strength-to-weight ratio for demanding connections.
- **Corrosion-Resistant:** Durable in seawater, chemicals, and harsh environments.
- **Non-Magnetic:** Safe for precision machinery and electronics.
- **Heat-Resistant:** Maintains performance in high-temperature conditions.

Titanium alloy fastener Technical Specifications

- Density: $\sim 4.43 \text{ g/cm}^3$
- Melting Point: $\sim 1540^\circ \text{C}$
- Elastic Modulus: $\sim 113 \text{ GPa}$
- Thermal Conductivity: $7.5 \text{ W/(m} \cdot \text{K)}$
- Thermal Expansion Coefficient: $8.6 \times 10^{-6} / ^\circ \text{C}$
- Standard: ASTM F468 DIN 933, DIN912, DIN931, DIN913, DIN7991, etc.
- Finish: polishing, anodizing, electroplating, spraying
- Condition: aging treatment, solution treatment, annealing

Mechanical Properties (ASTM B381):

Grade	UNS Designation Number	Tensile Strength, min, ksi	Yield Strength min, ksi	Elongation in 4D, min, %
Grade 5	R56400	130	120	10
Grade 7	R52400	50	40	20
Grade 9	R56320	120	110	10
Grade 11	R52250	35	20	24
Grade 23	R56401	120	110	10

Titanium Fastener Grades & Alloy Composition

Grade	Alloy Type	Main Alloy Elements (% wt)	Key Interstitial Limits (%)
F-2	Grade 2	Commercial Pure Titanium	$C \leq 0.08$, $H \leq 0.015$, $O \leq 0.25$, $N \leq 0.03$, $Fe \leq 0.30$

Grade	Alloy Type	Main Alloy Elements (% wt)	Key Interstitial Limits (%)
F-5	Grade 5	Al: 5.5–6.75%, V: 3.5–4.5%	C≤0.08, H≤0.015, O≤0.20, N≤0.05, Fe≤0.40
F-7	Grade 7	Pure Titanium + Pd 0.12–0.25%	C≤0.08, H≤0.015, O≤0.25, N≤0.03, Fe≤0.30
F-9	Grade 9	Al: 2.5–3.5%, V: 2.0–3.0%	C≤0.08, H≤0.015, O≤0.15, N≤0.03, Fe≤0.25
F-11	Grade 11	Pure Titanium + Pd 0.12–0.25% (Low Oxygen)	C≤0.08, H≤0.015, O≤0.18, N≤0.03, Fe≤0.20
F-12	Grade 12	Mo 0.2–0.4%, Ni 0.6–0.8%	C≤0.08, H≤0.015, O≤0.25, N≤0.03, Fe≤0.30
F-23	Grade 23	Al: 5.5–6.5%, V: 3.5–4.5% (ELI, ultra-low interstitials)	C≤0.08, H≤0.0125, O≤0.13, N≤0.03, Fe≤0.25

Ordering & Delivery Information

Minimum Order Quantity (MOQ): Supports small trial orders and large-scale production.

Standard fasteners: MOQ 100 pcs. Custom dimensions and special specifications negotiable.

Lead Time:

Standard Products: 7 – 10 working days

Customized Products: 15 – 20 working days

Shipping Options: Sea freight, air freight, or express delivery (DHL, FedEx, UPS). Urgent orders can be shipped by air.

Quality Assurance

We strictly implement ISO 9001 and AS9100 quality management systems to ensure full traceability from raw material to finished fastener. Material certificates are provided, and third-party testing is supported to verify compliance.

Frequently Asked Questions (FAQ)

1. Can you provide free titanium fastener samples?

Yes! We can provide samples to verify product quality and performance. Contact us with your requirements, and we will arrange suitable samples.

2. Who is responsible for import duties and VAT?

Import duties and VAT at the destination port are generally the buyer's responsibility. These charges are collected according to local regulations upon arrival.

3. Will you provide import licenses or other necessary documents?

If your country requires import licenses or specific compliance documents, we can provide invoices, packing lists, and certificates of origin to facilitate your import process. Please contact us in advance to ensure all documentation is prepared.