

Metal Bars

Features

- Exceptional Strength-to-Weight Ratio is 45% lighter than steel but maintains comparable or superior strength. This makes it ideal for applications where weight reduction is critical without sacrificing structural integrity.
- Excellent Corrosion Resistance, it spontaneously forms a dense, self-healing oxide layer on its surface, providing outstanding resistance to rust, seawater, chlorides, and many industrial chemicals.
- Grade 5 titanium is non-toxic and highly compatible with human body tissues and bone, making it extensively used for biomedical implants like bone plates, screws, and dental devices.
- Heat Treatable, the alloy is fully heat treatable in sections up to 25mm, allowing its mechanical properties (strength and hardness) to be further enhanced through solution treatment and aging processes.
- The alloy exhibits very good fatigue strength and resistance to crack propagation, ensuring long-term durability under cyclic loading conditions.

RS PRO Titanium Grade 5 Round Bar,

L: 1000mm X D: 25.4mm

RS Stock No: 0734251



RS Professionally Approved Products bring to you professional quality parts across all product categories. Our product range has been tested by engineers and provides a comparable quality to the leading brands without paying a premium price.

Product Description

RS PRO Titanium Grade 5 Round Bar

RS PRO Titanium Grade 5 (Ti-6Al-4V) is the most widely used titanium alloy in the world, known for its exceptional combination of high strength-to-weight ratio, low density, and outstanding corrosion resistance. This 12.7mm diameter by 1000mm length round bar provides a durable and lightweight material suitable for a wide range of high-performance applications across industries

Features and Benefits

- ***High strength and low weight:*** The alpha-beta alloy structure delivers superior strength compared to commercially pure titanium, while being approximately 45% lighter than steel.
- ***Excellent corrosion resistance:*** A self-healing oxide film provides outstanding resistance to corrosion in seawater, marine environments, and many industrial chemical processes.
- ***Biocompatibility:*** The non-toxic nature of Grade 5 titanium makes it a preferred choice for medical implants and surgical instruments.
- ***Good weldability and formability:*** The alloy can be welded using appropriate techniques and has good hot-formability, allowing for production of complex shapes and components.
- ***Heat treatable:*** The material can be heat treated to further increase strength and hardness, if required for specific applications.
- ***Quality assurance:*** Meets industry standards such as ASTM B348 and AMS 4928, ensuring reliability and material integrity.

Applications

- *Aerospace components*
- *High Performance Automotive Parts*
- *Marine applications (rigging, piping)*
- *Motor Sports – High Performance Components*
- *General industrial and fabrication projects*

General Specifications

Material	Titanium
Form	Sheet
Applications	<ul style="list-style-type: none"> • Aerospace components • Marine applications (rigging, piping) • Medical implants and devices • Motor Sports • General industrial and fabrication projects
Grade	Grade 5
Density	4.43 g/cm ³

Mechanical Properties

Length	1000MM
Diameter	25.4MM
Ultimate Tensile Strength	895 - 950 MPa
Yield Strength (Annealed)	820 min
Elongation at Break	14%
Thermal Conductivity	6.7 W/m-K
Melting Point	1604-1660°C (2920-3020°F)

Similar Products

RS Code	Form	Dimensions
0734247	Bar	Titanium Grade 5 Bar 1000MMx12.7MM
0734248	Bar	Titanium Grade 5 Bar 1000MMx16MM
0734105	Bar	Titanium Grade 5 Bar 1000MMx17MM
0734249	Bar	Titanium Grade 5 Bar 1000MMx18MM
0734250	Bar	Titanium Grade 5 Bar 1000MMx20MM
0734106	Bar	Titanium Grade 5 Bar 1000MMx22.22MM
0734252	Bar	Titanium Grade 5 Bar 1000MMx30MM
0734108	Bar	Titanium Grade 5 Bar 1000MMx31.75MM
0734109	Bar	Titanium Grade 5 Bar 1000MMx35MM
0734110	Bar	Titanium Grade 5 Bar 1000MMx40MM
0734111	Bar	Titanium Grade 5 Bar 1000MMx45MM
0734112	Bar	Titanium Grade 5 Bar 1000MMx50MM
0734114	Bar	Titanium Grade 5 Bar 1000MMx50.8MM
0734115	Bar	Titanium Grade 5 Bar 1000MMx55MM
0734116	Bar	Titanium Grade 5 Bar 1000MMx60MM
0734117	Bar	Titanium Grade 5 Bar 1000MMx65MM
0734118	Bar	Titanium Grade 5 Bar 1000MMx70MM
0734119	Bar	Titanium Grade 5 Bar 1000MMx75MM
0734095	Bar	Titanium Grade 5 Bar 1000MMx76.2MM