

# 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: 16mm**

RS Stock No: 0734248



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

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

## Mechanical Properties

<b>Length</b>	1000MM
<b>Diameter</b>	16MM
<b>Ultimate Tensile Strength</b>	895 - 950 MPa
<b>Yield Strength (Annealed)</b>	820 min
<b>Elongation at Break</b>	14%
<b>Thermal Conductivity</b>	6.7 W/m-K
<b>Melting Point</b>	1604-1660°C (2920-3020°F)

## Similar Products

RS Code	Form	Dimensions
0734247	Bar	Titanium Grade 5 Bar 1000MMx12.7MM
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
0734251	Bar	Titanium Grade 5 Bar 1000MMx25.4MM
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