

6242 Titanium

Smiths High Performance



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For High Temperature Applications

For high technology components such as racing engines & exhaust components.

6242 Titanium Alloy is a weldable, near-alpha titanium alloy offering excellent mechanical strength, stability and creep resistance to temperatures as high as 550°C.

6-2-4-2 (Ti-6Al-2Sn-4Zr-2Mo-Si) offers good corrosion resistance with fair weldability. The product has a density of 4.54 g/cc, and Smiths High Performance supplies the material in round bar sheets and plates. The nominal hardness of 6242 titanium alloy is 34 HRC.

The material finds use in high-technology markets in motorsport and commercial aerospace sectors. Applications include precision racing engine parts and hot-section gas turbines with components including discs, impellers and turbines.

The alloy is also ideal for producing various sheet metal components such as afterburner cans and hot airframe components.

Typical Applications:

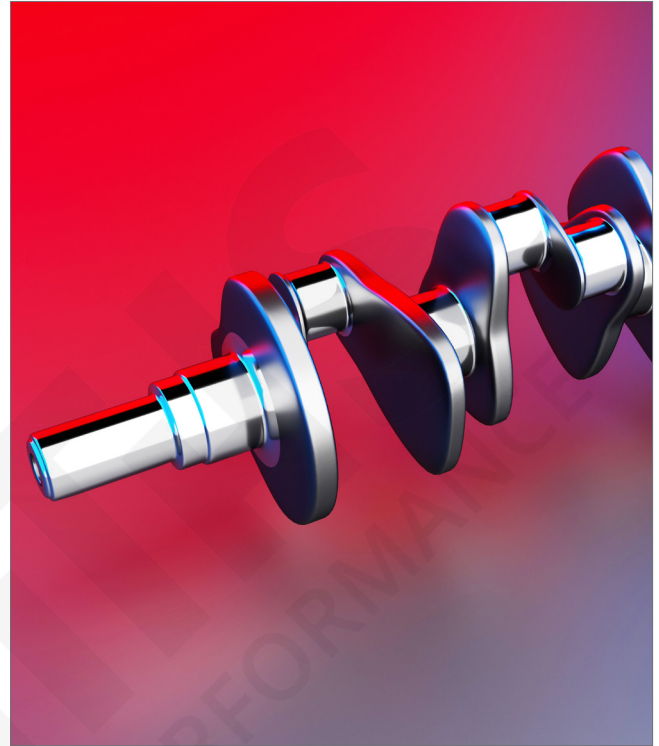
- High-performance racing engine parts
- Exhaust components
- Fasteners
- Valves

Stock Availability:

- Forgings
- Plates
- Round Bars
- Sheets

About Smiths High Performance

Smiths High Performance is a leading stockholder and supplier of high-performance engineering materials. We are material supply chain partners supporting high-technology market sectors.



Elevated Temperature Performance:

6242 differs from most titanium alloys due to the retention of excellent mechanical properties at elevated operating temperatures.

High-temperature stability is superior, with creep resistance up to 550°C. In comparison, Grade 5 titanium (Ti-6Al-4V) offers a creep resistance rating of up to 550°C.

Our titanium grade offers design engineers a raw material solution that allows weight reduction possibilities due to the products combined with excellent performance in high-temperature environments.



Further technical data available on the reverse of this Datasheet

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Material Specifications

■ ASTM UNS R54620

■ AMS 4975, 4976 & 4919

■ MIL T - 9046 & -9047G

*Chemical Composition (weight,%)

	C	N	O	Fe	Al	Sn	Zr	Mo	Si	H	Y	
Min.					5.50	1.80	3.60	1.80	0.06			
Max.	0.05	0.05	0.15	0.15	6.50	2.20	4.40	2.20	0.10	0.0125	0.10	

* Properties as per AMS 4975

Mechanical Properties

Property	Minima at RT for Duplex Annealed Bar
UTS, MPa (ksi)	896 (130)
0.2% PS, MPa (ksi)	827 (120)
Elongation, % in 51mm GL	10
Reduction in Area (%)	25
Hardness	34 HRC

Product Summary:

- Excellent Mechanical Strength
- Superior creep resistance
- Good corrosion resistance
- Nominal hardness is 34 HRC
- Available in round bars, sheets & plates
- Processing options available
- Excellent material stability
- Weldable, near-alpha titanium
- Fair weldability
- Density is 4.54 g/cc
- Offered to customers ex-stock
- Testing is available via our in-house UKAS laboratory

...where performance matters...

When you purchase high-performance materials from **Smiths High Performance**, you will join some of the biggest and best global engineering companies. We are a Tier 1 supply chain partner to the world's leading motorsport companies. Our unique business structure and ethos allow us to offer services otherwise unavailable in this market sector.

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