

6242 Titanium

Product Data Sheet

Weldable Titanium Alloy

For high technology components such as racing engines & jet engine compressors

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 can supply the material to you in round bar sheets and plates. The nominal hardness of 6242 titanium alloy is 34 HRC.

The material is used high technology markets in such sectors as motorsport and commercial aerospace. Applications include precision racing engine parts, hot section gas turbine components such as discs, impellers and turbines.

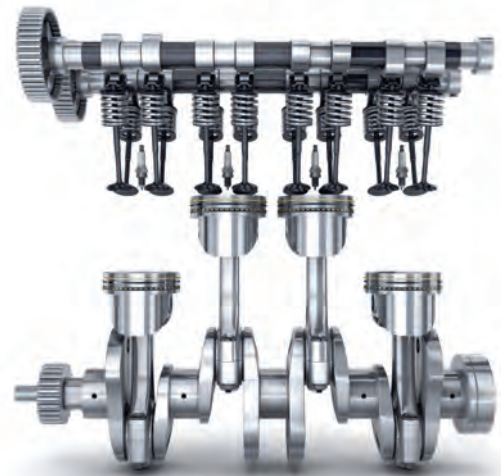
The alloy is also utilised in a variety of sheet metal components such as afterburner cans and hot airframe components.

Typical Applications:

- High-performance racing engine parts
- Airframe structures
- Impellers & turbines
- Jet engine compressors

About Smiths High Performance

Smiths High Performance is a leading stockholder and supplier of high-performance engineering materials to the global motorsport sector. We are supply partners in a range of specialist motorsport markets including Formula 1, Formula E, NASCAR, MOTO GP, WEC & WRC.



We stock 6242 Titanium Alloy in round bar

Stock Availability:

- Round bar
- Sheets
- Plates

Further technical data available on the reverse of this Datasheet

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 |
|------------|------|------|------|------|-----|------|-----|------|------|--------|
| Min. | | | | | 5.5 | 1.75 | 3.5 | 1.75 | | |
| Max. | 0.08 | 0.05 | 0.12 | 0.25 | 6.5 | 2.25 | 4.5 | 2.25 | 0.10 | 0.0125 |

Mechanical Properties

| | 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 bar, sheets & plate
- Processing options available
- Excellent material stability
- Weldable, near-alpha Titanium
- Fair weldability
- Density is 4.54 g/cc
- Offered to customers ex-stock
- Testing available via our in-house UKAS laboratory

...where performance matters...

When you purchase high-performance materials from **Smiths High Performance**, you will be joining 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 allows us to offer services which are otherwise unavailable in this market sector.