6554 Titanium (Ti-6554)

Smiths High Performance

Beta Titanium Alloy

High strength metastable β titanium alloy

With a nominal composition of Ti-4Al-5Mo-5V-6Cr, 6544 titanium alloy provides excellent all-around performance with higher fracture toughness.

The alloy offers significant weight-saving opportunities without compromising strength. Besides being incredibly strong, 6544 titanium provides higher fracture toughness, damage tolerance and elasticity than other titanium alloy products. The alloy displays greater structural efficiency, making the material highly suitable for producing structural parts and components in motorsport.

Product Origins

Alloy development initially targeted the aerospace market to reduce weight while maintaining strength in airframes and structural components. However, since weight reduction and strength are primary drivers, the alloy's impressive mechanical properties make it a natural crossover into the motorsport engineering sector.

Ti-6544 titanium benefits from good cold and hot working performance, while solution treatment and ageing will enhance strength. With reasonable ductility, we stock Ti-6544 in solid round bars, which should be ultrasonically tested to AMS 2631.

Applications:

- Critical load bearing structures
- Chassis components
- Suspension systems
- Fasteners

Benefits:

- High fracture toughness
- High strength
- High damage tolerance
- Superior structural efficiency

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**.

SCAN ME

Further technical data available on the reverse of this Datasheet

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Chemical Composition (weight, %)

	Ti	Al	Mo	V	Cr	Fe	C	N	H	O	Other (each)	Other (total)
Min	Bal	3.50	4.50	4.50	5.00							
Max	Bal	4.50	5.50	5.50	6.50	0.30	0.10	0.05	0.014	0.15	0.10	0.30

Physical Properties (at room temperature)

Property	Value
Density	4.72 g/cm^3
Tm	780 - 800° C
Elasticity Modulus E	100 - 117 GPa
HRC	41 - 42

Mechanical Properties (round bar, 100 - 400mm diameter)

Tensile Strength (Rm MPa)	Yield Strength (RP02 MPa)	Elongation (A5, %)
≥ 1,400	≥1,300	≥ 4
≥ 1,350	≥1,250	≥ 4
≥ 1,250	≥1,150	≥ 5

Ultrasonic Inspection

Bars should be ultrasonically tested to AMS 2631.

Acceptance levels:

≥ 200mm diameter	=	A1
> 200 ~ 400mm diameter	=	A

...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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