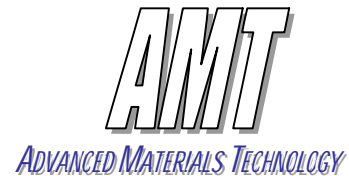


Titanium alloys

Category:

High stiffness, strength, temperature, wear resistance



Titanium-Boron alloy Ti-SB62

Titanium Ti-SB62 is a newly developed Titanium-Boron alloy. Ti-SB62 is made via conventional wrought processing route. During an In-Situ process TiB (Titanium-Boride) is formed. The TiB phase is responsible for the unique properties of this Titanium-Boron alloy. Because of this process no voids or defects are found like in powder based Titanium alloys.

General properties

- High stiffness at room and elevated temperatures
- High strength at room and elevated temperatures
- Comparable ductility to Ti-6Al-4V
- Good machining behaviour compared to other Titanium-Boron alloys

Comparison with Standard alloy Ti-6Al-4V:

- | | |
|-----------------------|-----------------------------|
| Advantages: | - 20% higher stiffness |
| | - 12-20 higher strength |
| | - Excellent wear resistance |
| Disadvantages: | - Fair to machine |

Chemical Composition: Ti/TiB

Mechanical properties

Alloy	UTS	YS	El	E-Modulus	UTS	YS	El	E-Modulus	Fatigue	Residual
	Rt				600°C				Rt	Strain*
	Mpa	Mpa	%	Gpa	Mpa	Mpa	%	Gpa	Mpa, 10 ⁷	%
Ti-SB62	1320	1240	7	136	810	650	9	81	680	0.11

*After creep exposure at 650°, 160 Mpa, 100h.

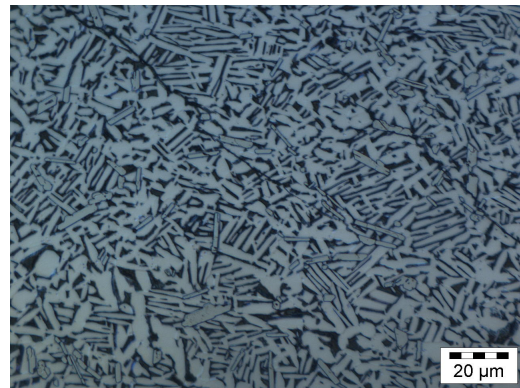
Physical data

Hardness: 36-42 HRC

Density: 4.55 g/cm³

CTE: 8.1x10⁻⁶

Thermal conductivity: 7 W/mK



Titanium-Boron alloy Ti-SB62

Applications

- Inlet and outlet valves
- Automotive Connecting Rods
- Compressor discs and blades
- Transmission shifts
- Landing gear application

Delivery form

- Bars, Plates, Sheets, Castings, Forgings

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