

TITANIUM - PROPERTIES AND PRACTICAL APPLICATIONS

WHAT IS TITANIUM?

Titanium (Ti), is a lightweight metal, that has a variety of practical applications. It is normally alloyed with other metals such as, aluminium, iron, vanadium or molybdenum, depending on its potential use. Titanium ore is very common and distributed around the world, being mined in Australia, South Africa, China, India, USA and Canada.

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MACHINED TITANIUM



TITANIUM ORE



HELPFUL LINK: https://technologystudent.com/despro_fish/revcard_titanium1.html

PROPERTIES OF TITANIUM

Half the density of steel, making it a lightweight replacement.

Titanium has a similar tensile strength to steel.

It has a very high melting point, 1670°C.

Titanium resists corrosion and when exposed to air, it forms an oxide layer, that prevents further corrosion. It is extremely resistant to acids and salt water.

It is non-magnetic.

Titanium is a poor conductor of heat.

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PRACTICAL APPLICATIONS OF TITANIUM

TITANIUM HIP JOINT

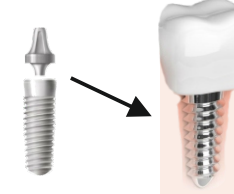


TITANIUM JET TURBINE BLADES



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TITANIUM DENTAL IMPLANT



TITANIUM GOLF CLUB



1. What is titanium and where is it mined from the ground? 4 marks

2. Describe two properties of titanium and two practical applications. 4 marks
