

December 2021

Analysis of Titanium alloy Ti-6Al-4V

Hunter C. Smith

Mississippi State University, hs1087@msstate.edu

Gordin Smith

Mississippi State University, gas157@msstate.edu

Follow this and additional works at: <https://scholarsjunction.msstate.edu/metallurgy>



Part of the [Mechanical Engineering Commons](#), and the [Metallurgy Commons](#)

Recommended Citation

Smith, Hunter C. and Smith, Gordin, "Analysis of Titanium alloy Ti-6Al-4V" (2021). *ME 4133/6133 Mechanical Metallurgy*. 13.

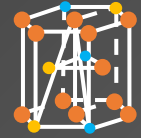
<https://scholarsjunction.msstate.edu/metallurgy/13>

This Infographic is brought to you for free and open access by the College of Engineering, James Worth Bagley at Scholars Junction. It has been accepted for inclusion in ME 4133/6133 Mechanical Metallurgy by an authorized administrator of Scholars Junction. For more information, please contact scholcomm@msstate.libanswers.com.

OVERVIEW OF Titanium Alloy



Ti-6Al-4V

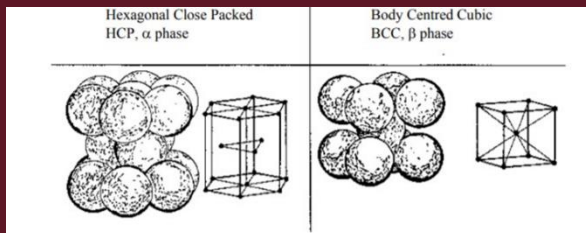
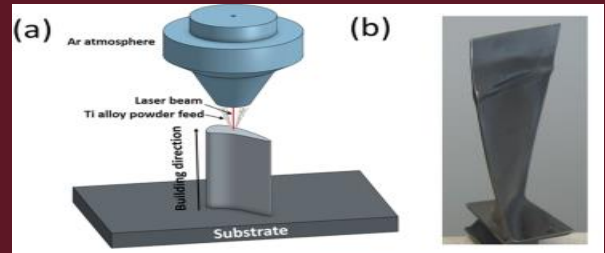


What is Ti-6Al-4V?

Ti-6Al-4V is a Titanium alloy used in many industries in which a material that is strong, lightweight, and corrosion resistant is the ideal solution.

Material Processing

- ➊ Additive Layer Manufacturing
- ➋ Metal Injection Molding
- ➌ Solution Treatment
- ➍ Annealing

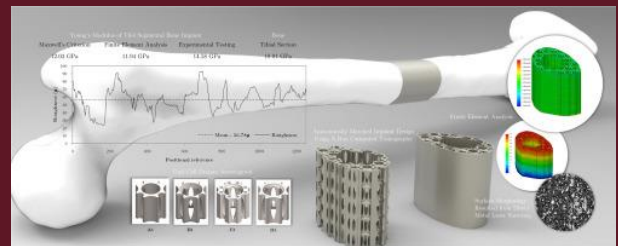


Structure

- ➊ Alpha Phase HCP
- ➋ Beta Phase BCC
- ➌ Alpha + Beta Phase

Properties

- ➊ High Corrosion Resistance
- ➋ Low Density
- ➌ High Strength
- ➍ Bio-compatible



Performance

- ➊ Cutting Edge Medical Implants
- ➋ Long Lasting Turbine Components
- ➌ High Performance Marine Parts
- ➍ Lightweight Aircraft Components