



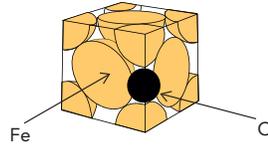
Why Traufix implants do not fail?

Titanium Alloy Ti6Al4V ELI ASTM F136

Chemical properties of Titanium

Elemento %	Ti6Al4V (Grade 5)	Ti6Al4V ELI (Grado 23) ELI: Extra - low Interstitial
Carbon	0.08 máx	0.08 máx
Nitrogen	0.05 máx	0.05 máx
Titanium	resto	Resto
Aluminum	5.50-6.75	5.50-6.50
Vanadium	3.50-4.50	3.50-4.50
Iron	0.30 max	0.25 max
Oxygen	0.20 max	0.13 max
Hydrogen	0.015 max	0.012 max
Ti	Balance	Balance

Grade 23 is the highest purity version of grade 5 by reducing the amount of interstitial elements (O, N, H) and therefore corrosion cracking. It has properties of good strength, light weight, good corrosion resistance and high hardness.



Mecanical properties of Titanium

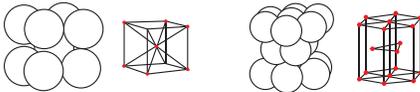
Grade ASTM	5 Aeronautical, aerospace and chemical industry	23 Use for implants
Tensile Strength (Mpa)	895,00min	860,00min
Elastic Resistance (Mpa)	825,00min	795,00min
Elongation (in 4D, min, %)	10,00min	10,00min
Area reduction (min %)	25,00min	25,00min

Titanium metallography

In titanium, an alpha + beta microscopy is sought since it causes a **stability between hardness** (the alpha part) and **ductility** (the beta part). The beta part is the one that allows it to be anodized.

- Beta phase: Cube

-Alpha phase: Hexagonal Compact



Color range



Example

Identificación / Sample ID												
PLACA DE TITANIO 6Al-4V ELI 2mm No. Control: C-00001-20												
Resistencia a la Tracción/Tensile Strength		Esfuerzo de Cedencia Aproximado/ Approximate yield stress		Elongación 50 mm / 50 mm Elongation	Ancho / Width		Espesor / Thickness		Área inicial/ Initial área		Carga Máxima/ Max Load	
Mpa	psi	Mpa	psi	%	mm	in	mm	in	mm ²	in ²	kgF	lbF
985	142920	915	132710	15	12.89	0.507	2.04	0.080	26.30	0.041	2642	5826

