



Grade	Code	UNS	Titanium
Ti-6Al-4V ELI/ TiGr5 Eli	Grade 23	R56407	

Titanium Properties

Grade 23 is also known as Ti-6Al-4V ELI or simply Ti 6-4 ELI. ELI stands for Extra Low Interstitials. Titanium Grade 23 is very similar to Grade 5 except that Grade 23 has less oxygen, nitrogen and iron. This makes the alloy more ductility and better fracture resistance (but slightly less strength) than Grade 5.

Chemical Composition (TiGr5 Eli)

N %	C %	H %	O %	Fe %	Al %	V %	Ti %	Other Elements %
0,05 max.	0,08 max.	0,013 max.	0,13 max.	0,25 max.	5,50 – 6,75	3,50 – 4,50	Balance	0,30 Total 0,1 Each

Mechanical Properties

Product Form	Rp0.2, Mpa	Rm, Mpa	Elongation [%]	Hardness[HRC]
Rod & Bar	≥ 861	≥ 930	≥ 10	30-34

Suitable For

TiGr5 Eli is used in biomedical applications such as surgical instruments, orthopedic implants, and is the preferred grade for marine and cryogenic applications, and some important aerospace components.

Remarks

Biocompatibility: Excellent, especially when direct contact with tissue or bone is required. Surface treatments such as nitriding and oxidizing can improve the surface wear properties.

Specification

Ti-6Al-4V-ELI, Grade 23, TiGr 5 Eli, UNS R56407

Norm

ASTM F 136 - Surgical Implants,
AMS 4930 - Bar, Wire, Billet, and Rings (annealed),
AMS 4931 - Bar, Billet, and Rings,