

SPECIALTY METALS

Common Name: Ti-6Al-4V ELI Ti 6-4ELI
Grade 23 Titanium

UNS Number: R56407

General Information: Ti-6Al-4V alloy is the most widely used titanium alloy of the alpha-plus-beta class, and is also the most common of all titanium alloys. This modification incorporates extra low interstitials (ELI). The wrought material is used in applications where moderate strength, good strength to weight, and favorable corrosion properties are required. This alloy is commonly used in medical implants where strength is important. The alloy is available as castings, wire, bar, plate, sheet, forgings, rings, and billet.

Common Specifications:	Specification:	Product Form:
	AMS 4907	Sheet, Strip, and Plate
	AMS 4956	Wire
	ASTM B265 (Grade 23)	Strip, Sheet, and Plate
	ASTM B348 (Grade 23)	Bars and Billets; annealed
	ASTM B363 (Grade 23)	Seamless and welded fittings
	ASTM B381	Forgings
	ASTM B861	Seamless Pipe
	ASTM B862	Welded Pipe
	ASTM B863 (Grade 23)	Wire
	ASTM F136	Wrought Alloy for Surgical Implants
	AWS A5.16 (ERTi-23)	Weld Wire

Chemistry Requirements: % Maximum unless given as a range.

N	C	H	Fe	O	V	Al	Ti
0.03	0.08	0.02	0.25	0.13	3.5-4.5	5.5-6.75	Balance

Minimum Tensile Properties:

Condition	UTS ksi (Mpa)	0.2%YS ksi (MPA)	% El.	% RA*
Beta-Annealed	120 (828)	110 (759)	10	25

Typical Tensile Properties:

Condition	UTS ksi (Mpa)	0.2%YS ksi (MPA)	% El.	% RA
Annealed	132 (910)	120 (828)	10	40

Note: Typical properties are not to be utilized as a requirement, but are only listed for guidance. These properties may or may not be attainable in all circumstances.

* %Ra not required by all specification