

Technical datasheet

Ti Grade 23 / Ti-6Al-4V ELI

A high purity grade of Ti-6Al-4V with lower content of the interstitial elements – ELI (Extra Low Interstitials) for improved ductility and toughness

Available products

Product form

Sheet/plate
Bar

Size range from

0.4 mm thickness
1.0 mm diameter

Size range to

38.1 mm thickness
100.0 mm diameter

Chemical composition (%)

Ti	Al	V	Fe	O	C
Balance	5.50-6.75	3.5-4.5	0.25 max	0.13 max	0.08 max

Major specifications

ASTM F136
ISO 5832-3

UNS R56401

Physical properties

Density	4.47 g/cm ³	Beta transus temperature	977 ± 4 °C
Melting point	1649°C		

Mechanical properties – minimum room temperature properties per ASTM F136

	Dia 4.75 - 44.45mm	Dia 44.45 - 63.50 mm
Yield strength	795 MPa	760 MPa
Tensile strength	860 MPa	825 MPa
Elongation	10 %	8 %

Key attributes

Ti-6Al-4V ELI (Extra Low Interstitial) is a high purity grade of Ti-6Al-4V with lower content of the interstitial elements oxygen, carbon and iron which results in a product with improved ductility and fracture toughness. This alloy has outstanding biocompatibility and is readily accepted in the human body due to its non-toxic and non-allergic elements. It is used widely in biomedical applications and as its low temperature ductility is improved (compared with Ti Grade 5/Ti-6Al-4V) it finds use in cryogenic applications.

Ti-6Al-4V ELI is highly fabricable and readily formed. It is machinable and can be welded by conventional processes and procedures. Please contact us for further details on forming, fabrication and welding consumables

Applications

Orthopedic implants
Surgical instruments
Medical devices
Cryogenic applications
Some aerospace components

Do you require further information or a quotation?

Please contact us...

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