

## Ti-6Al-4V / Titanium Grade 5 / Ti-6-4 / R56400

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. The alloy is castable and is utilized "as cast" in sporting goods.

The wrought material is used in aerospace, medical, and other applications where moderate strength, good strength to weight, and favourable corrosion properties are required. The alloy is available as castings, wire, bar, plate, sheet, forgings, rings, and billet.

### Product Form:

Strip, Sheet, and Plate, Annealed  
 Forgings, Alpha-Beta or Beta Processed, Annealed  
 Bar, Wire, Forgings, Ring, Annealed  
 Bar, Wire, Forgings, Ring, Solution  
 Treated & Aged  
 Bar and Billet, Annealed  
 Castings  
 Wrought Alloy for Surgical Implants  
 Weld Wire

### Specification

ASTM B348	AMS 4963
ASTM F136	AMS 4967
AMS 4928	AMS-T-9047
AMS 4911	ASTM B348 (Grade 5)
AMS 4920	ASTM B367 (Grade 5)
AMS 4928	ASTM F1472
AMS 4965	AWS A5.16 (ERTi-5)

### Chemistry Requirements: % Maximum unless given as a range.

N	C	H	Fe	O	Al	V	Y	Ti
0.05	0.08	0.125	0.40	0.2	5.5-6.75	3.5-4.5	0.005	Balance

### Minimum Tensile Properties:

Condition	UTS ksi (Mpa)	0.2%YS ksi (MPA)	% EL.	% RA*
As specified (shape)	130 (895)	120 (828)	10	25

Solution Treated and Aged	160 (1103)	150 (1034)	10	20
Castings	130 (895)	120 (828)	6	10

#### Typical Tensile Properties:

Condition	UTS ksi (Mpa)	0.2%YS ksi (MPA)	% EL.	% RA*
Annealed	145 (1000)	132 (910)	18	40
Solution Treated and Aged	161 (1110)	141 (970)	15	45
Castings	145 (1000)	130 (895)	5	15

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 specifications