ATI Titanium ATI Ti-6Al-4V, Grade 5

Wrought Titanium Alloy

Allegheny Technologies Incorporated

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Technical Data

Product Description

ATI Ti-6Al-4V, Grade 5 alloy (UNS R56400) is the most widely used titanium grade. It is a two phase a+ß titanium alloy, with aluminum as the alpha stabilizer and vanadium as the beta stabilizer. This high-strength alloy can be used at cryogenic temperatures to about 800°F (427°C). ATI Ti-6Al-4V, Grade 5 alloy is used in the annealed condition and in the solution treated and aged condition. Some applications include: compressor blades, discs, and rings for jet engines; airframe and space capsule components; pressure vessels; rocket engine cases; helicopter rotor hubs; fasteners; critical forgings requiring high strength-to-weight ratios.

This alloy is produced by primary melting using vacuum arc (VAR), electron beam (EB), or plasma arc hearth melting (PAM). Remelting is achieved by one or two vacuum arc steps.

General

Material Status	• Commercial: Active		
Literature [1]	• Technical Datasheet (English)		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Applicable Specifications	• AMS 4906 • AMS 4920 • AMS 4928 • AMS 4965	• AMS 4967 • ASTM B348 • ASTM B381 • ASTM F1472	• MIL-T-81556 • MIL-T-9047
Forms Available	• Bar • Billet • Castings	• Forgings • Piping • Plate	• Wire
Metal Type	• Titanium - Wrought - Alpha-Beta Alloy		
Alloy Identification	• UNS R56400		

Metals Type Analysis	Nominal Value (English)	Nominal Value (SI)
Type Analysis		
Aluminum	5.50 to 6.75 %	5.50 to 6.75 %
Carbon	< 0.100 %	< 0.100 %
Hydrogen	< 0.0125 %	< 0.0125 %
Iron	< 0.300 %	< 0.300 %
Nitrogen	< 0.0500 %	< 0.0500 %
Other Elements	0.400 %	0.400 %
Oxygen	< 0.200 %	< 0.200 %
Titanium	87.7 to 89.9 %	87.7 to 89.9 %
Vanadium	3.50 to 4.50 %	3.50 to 4.50 %

Metals Physical	Nominal Value (English)	Nominal Value (SI)
Density	0.161 lb/in³	4.47 g/cm³

Metals Mechanical	Nominal Value (English)	Nominal Value (SI)
Hardness		
HRC-Scale [3]	30 to 34	30 to 34
HRC-Scale [4]	35 to 39	35 to 39

Notes

[1] These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

[2] Typical properties: these are not to be construed as specifications.

[3] Annealed

[4] Solution and aged condition

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Where to Buy

Supplier

Allegheny Technologies Incorporated
Pittsburgh, PA USA
Telephone: 412-394-2800
Web: http://www.atimetals.com/Pages/default.aspx

Distributor

Please contact the supplier to find a distributor for ATI Titanium ATI Ti-6Al-4V, Grade 5

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