AMAERO
Advanced Materials and Manufacturing, Inc.

AM Ti64

Powder Complies With:

ASTM B348, ASTM F67, ASTM B652, ASTM F3001, ASTM F2924, AMS 7017, AMS 4930, AMS 4931, AMS 4998

TECHNICAL DATA SHEET

General Description

Ti64 is an alpha-beta titanium alloy with high specific strength and stiffness. It is an ideal material for high-performance applications, with a melting temperature range of 2,800 – 3,000 °F (1,500 – 1660 °C).

Ti64 Grade 5 and Grade 23 share a base composition, with Grade 23 having a reduced oxygen content to improve ductility and fracture toughness. Grade 23 is commonly used in LPBF and medical applications, while Grade 5 is typically used in electron beam melting.

AMAERO titanium powder is manufactured in the US using EIGA Premium technology. It is available in standard particle size distributions, with custom orders available upon request. Particle size distributions vary for electron beam, laser powder bed fusion, direct energy deposition, and cold spray technologies.

Chemical Composition

Element	Ti-6Al-4V, Grade 5 Composition (wt%)	Ti-6Al-4V-ELI, Grade 23 Composition (wt%)
Titanium (Ti)	Balance	Balance
Aluminum (Al)	5.50 – 6.75	5.50 – 6.50
Carbon (C)	0.08 max	0.08 max
Hydrogen (H)	0.015 max	0.012 max
Iron (Fe)	0.30 max	0.25 max
Nitrogen (N)	0.05 max	0.05 max
Oxygen (O)	0.20 max	0.13 max
Vanadium (V)	3.50 – 4.50	3.50 – 4.50
Yttrium (Y)	0.005 max	0.005 max
Others (each)	0.10 max	0.10 max
Others (total)	0.40 max	0.40 max

Physical Properties

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Nominal PSD (µm)	15-45, 15-53, 20-53, 20-63, 45-106 PSD variations are available upon request. Min 15 µm, Max 160 µm.
Particle Size	D10, D50, D90 measured according to ASTM B822 and reported.
Hall Flow (sec/50g)	Measured according to ASTM B213 and reported.
Apparent Density (g/cm^3)	Measured according to ASTM B212 and reported.

Packaging and Handling

Powder is packaged in 2.5L or 5.5L recyclable metal containers depending on order size. Each container holds a maximum of 5kg or 10kg net weight of powder respectively. Other containers are available upon request. For information regarding handling of hazardous powder please see Amaero's SDS. For more information visit www.amaeroinc.com.