ADDITIVE MANUFACTURING POWDER

TI64 GD.5 AMPO / TI-BASED ALLOYS

Application Segments

Additive Manufacturing Application

Available Product Variants

20 - 63 µm

Product Description

Titan64 is a multifunctional and well-established material on the market, which has a balanced property profile due to its alpha, beta alloy. The material is a high demanded and researched alloy in additive manufacturing due to its low weight combined with high specific strength. An additional advantage of the alloy is its corrosion resistance and biocompatibility. Therefore it is also used in medical applications in addition to aerospace and motor sports.

Properties

- High strength
- High corrosion resistance
- Lightweight

Comparison to a Gd.23

- Higher hardness compared to a Gd. 23

Process Melting

EIGA

Applications

- 3D Printing - selective laser melting
- Motorsport industry
- Other Components
- Powder for additive manufacturing
- Medical
- 3D Printing - direct metal deposition
- Aerospace
- Mechanical Engineering

BÖHLER TI64GD.5 AMPO

Technical data

Material designation	
Ti6Al4V Gd.5	Market grade
3.7164	SEL
Ti6Al4V	EN
R56400	UNS

Chemical composition (wt. %)

C	V	Ti	Al	Fe	N	O	H
≤ 0.08	4	> 87.00	6.13	≤ 0.30	≤ 0.05	≤ 0.20	≤ 0.02

Powder Properties

Particle Size Distribution *

Typical Values	D10	D50	D90
[µm]	18-24	31-41	53-67

* Measurement of particle size distribution is based on ISO 13322-2 (Dynamic image analysis methods);

Apparent density**	min. 2 g/cm^3

** Flowability and apparent density are based on DIN EN ISO 4490 resp. DIN EN ISO 3923-1

Mechanical Properties

As Printed

Tensile strength (Rm) (MPa)	1,200 to 1,300
Yield strength ($RP_{0,2}$) (MPa)	1,100 to 1,200
Elongation (%)	8 to 12
Impact Toughness (ISO-V) (J)	12 to 16

Nous attirons expressément l'attention sur le fait que les valeurs indiquées ne sont que des valeurs indicatives. Les propriétés mécaniques dépendent fortement des paramètres d'impression ou du traitement thermique.

With according Heat Treatment

Tensile strength (Rm) (MPa)	1,050 to 1,150
Yield strength ($RP_{0,2}$) (MPa)	1,000 to 1,100
Elongation (%)	12 to 16
Impact Toughness (ISO-V) (J)	18 to 22

Heat treatment

Temperature	800 °C	for 2-6h under Argon

If other available product variants are listed in addition to long products, please note that these may differ in terms of melting process, technical data, delivery and surface condition as well as available product dimensions. For mandatory technical specifications, other requirements and dimensions, please contact our regional voestalpine BÖHLER sales companies. The data contained in this brochure is merely for general information and therefore shall not be binding on the company. We may be bound only through a contract explicitly stipulating such data as binding. Measurement data are laboratory values and can deviate from practical analyses. The manufacture of our products does not involve the use of substances detrimental to health or to the ozone layer.

voestalpine BÖHLER Edelstahl GmbH & Co KG
Mariazeller Straße 25
8605 Kapfenberg, AT
T. +43/50304/20-0
E. info@bohler-edelstahl.at
https://www.voestalpine.com/bohler-edelstahl/de/

voestalpine
ONE STEP AHEAD.