forAM® Ti6Al4V G23p 15-53 EG

Titanium based powder for Additive Manufacturing

forAM Ti6Al4V G23p EG is highly spherical powder for additive manufacturing. Ti6Al4V alloy offers high specific strength combined with high corrosion resistance and good biocompatibility. This makes it a good choice for many applications in aerospace, motorsports as well as medical industries.

Höganäs Ti based powders are produced via tungsten-free and crucible free manufacturing process, which excludes risk of heavy metal contamination in the material. High cleanliness level and good processability enables multiple recycling and therefore reducing total cost in production of Ti based components.

Applicable standards:

» ASTM F 3001

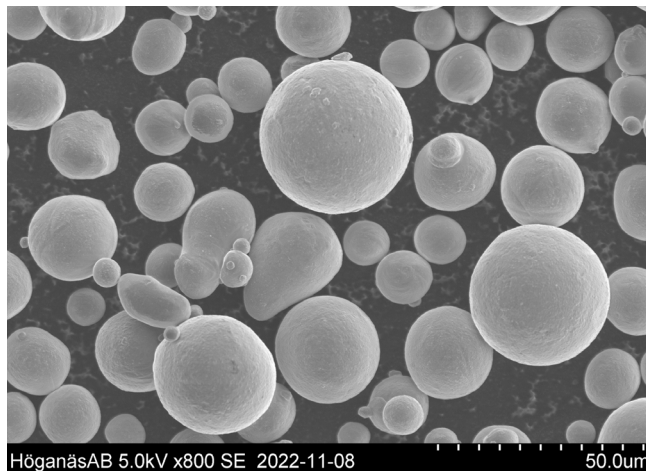### Powder chemical composition complies with:

» ASTM B348
» ASTM 1472
» ISO 5832-2

For more information on forAM product line and other of Höganäs products, please contact your local sales representative.

Höganäs

Powder properties

Chemical composition

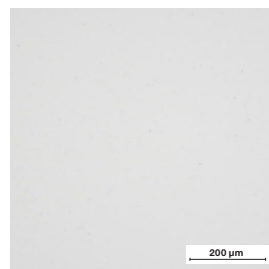| Element	Content, %
Al	5.50-6.50
V	3.50-4.50
Fe	≤0.25
O	≤0.10
C	≤0.08
N	≤0.03
H	≤0.012
Y	≤0.005
Ti	Balance

Other elements: ≤0,40% total; ≤0,10% each.

HöganäsAB 5.0kV x800 SE 2022-11-08   50.0um

Typical powder properties

Nominal particle range	15-53 µm	MPIF05, ASTM B214, ISO4497
Hall flow	35 s/50 g	MPIF03, ASTM B213, ISO4490
Apparent density	2.35 g/cm^3	MPIF04, ASTM B212, ISO3923/1

Mechanical properties – 60µm layer thickness

Surface condition is machined

Heat treatment	HT800 [1]
Printed in Z-direction – Build direction	
UTS (MPa)	1040
YS (MPa)	960
Elongation (%)	16
IE Notch in Y direction (J)	37
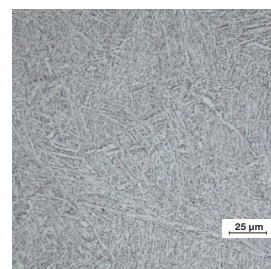
Heat treatment	HT800 [1]
Printed in X/Y-direction – Perpendicular	
UTS (MPa)	1,040
YS (MPa)	950
Elongation (%)	14
Hardness (HRC)	35

(1) HT800 – Stress relieved at 800 °C in vacuum for 2h, cooled in Ar atmosphere

As polished

HT800 – Build direction

Standard packaging:

Powders are packed in 25 kg steel drums with polymer liner filled with Ar

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www.hoganas.com

At Höganäs, we have designed our high-quality 3D printing metal powders for the special requirements of additive manufacturing. Manufacturers all over the globe achieve optimal results with our products and value them for the following characteristics: excellent flowability, good spherical shape, controlled oxygen and nitrogen content, full and high packing density and perfect reproducibility.