



EOS Titanium Ti64
for EOS M 300-4

EOS Titanium Ti64

EOS M 300-4 | 60 μm

EOS Titanium Ti64 is a Ti6Al4V alloy, which is well-known for having excellent mechanical properties: low density with high strength and excellent corrosion resistance. The alloy has low weight compared to superalloys and steels and higher fatigue resistance compared to other light-weight alloys. EOS Titanium Ti64 is a titanium alloy powder intended for manufacturing parts on EOS metal systems with EOS DMLS processes.



Main Characteristics

- Low weight combined with high strength
- Excellent corrosion resistance
- Parts can be machined, shot-peened and polished in as-built and heat treated states
- Chemical and part properties corresponding to Ti6Al4V, ISO5832-3, ASTM F1472, ASTM F2924 and ASTM F3302

Typical Applications

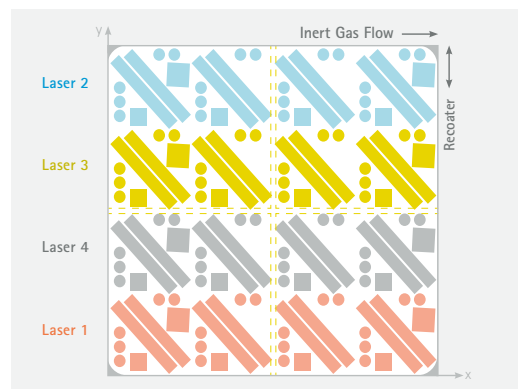
- Aerospace components
- Automotive components
- Other industrial applications where low weight in combination with high strength are required

Product Information

DMLS System	EOS M 300-4
Material	EOS Titanium Ti64
Process	60 μm layer thickness
Build Platform Temperature	35 °C
Inert Gas	Argon
Recoater blade	HSS, two-sided recoating
Volume rate	up to 4 x 9.0 mm ³ /s

Layout of test job

Part properties based on two test jobs each for the as manufactured and heat treated data.



Typical part properties ¹	Yield strength $R_{p0.2}$ [MPa]	Tensile strength R_m [MPa]	Elongation at break A [%]	Number of samples
As manufactured vertical	1 169	1 287	10	159
As manufactured horizontal	1 147	1 311	6.6	64
Heat treated vertical	1 032	1 120	14.6	160
Heat treated horizontal	1 017	1 125	12.7	63
Max. pore size	< 110 μm			64
Porosity	0.007 %			64

Mechanical properties tested according to EN ISO 6892-1 A1.

The values in the table are average values and dependent on the build platform temperature, on the thermal load of the job layout as well as the position on the build plate.

Heat treatment procedure: 120 min (+/-30 min) at 800 °C (+/-10 °C) measured from the part in vacuum (1.3×10^{-3} - 1.3×10^{-5} mbar) followed by cooling under vacuum.

Headquarters

EOS GmbH
Electro Optical Systems
Robert-Stirling-Ring 1
D-82152 Krailling/Munich
Germany
Phone +49 89 893 36-0
info@eos.info

www.eos.info

 EOS

 EOSGmbH

 EOSGmbH

#responsiblemanufacturing

#futureisadditive

Further Offices

EOS France
Phone +33 437 497 676

EOS Greater China
Phone +86 21 602 307 00

EOS India
Phone +91 443 964 8000

EOS Italy
Phone +39 023 340 1659

EOS Japan
Phone +81 45 670 0250

EOS Korea
Phone +82 2 6330 5800

EOS Nordic & Baltic
Phone +46 31 760 4640

EOS North America
Phone +1 877 388 7916

EOS Singapore
Phone +65 6430 0463

EOS UK
Phone +44 1926 675 110

¹ Part properties are provided for information purposes only and EOS makes no representation or warranty, and disclaims any liability, with respect to actual part properties achieved. Part properties are dependent on a variety of influencing factors and therefore, actual part properties achieved by the user may deviate from the information stated herein.

This document does not on its own represent a sufficient basis for any part design, neither does it provide any agreement or guarantee about the specific properties of a material or part or the suitability of a material or a part for a specific application.

This powder has not been developed, tested or certified as a medical device according to Directive 93/42/EEC (MDD) or Regulation (EU) 2017/745 (MDR) and is not intended to be used as a medical device, in particular for the purposes specified in Art. 2 No. 1 MDR. Insofar as you intend to use the powder as raw material for the manufacture of pharmaceutical products or medical devices (e.g. as raw material which as a material must meet the requirements of Annex 1, Chapter II MDR), the responsibility and liability for all analyses, tests, evaluations, procedures, risk assessments, conformity assessments, approval and certification procedures as well as for all other official and regulatory measures required for this purpose shall lie solely with you both with regard to the pharmaceutical product and/or medical device manufactured by you and with regard to the properties, suitability, testing, evaluation, risk assessment, other requirements for use of the powder as raw material. This also applies to applications with food contact. In this respect, the limitations of liability pursuant to our General Terms and Conditions and the system sales or material contracts shall apply.

Status 07/2022

EOS is certified according to ISO 9001. EOS®, DMLS®, EOSPRINT® and EOSTATE® are registered trademarks of EOS GmbH Electro Optical Systems in some countries. For more information visit www.eos.info/trademarks.

Cover: This image shows a possible application.

