

EOS Aluminium AlSi10Mg  
for EOS M 300-4

# EOS Aluminium AlSi10Mg

## EOS M 300-4 | 60 µm

Parts made of EOS Aluminium AlSi10Mg are characterized by having good strength and hardness as well as having high dynamic load bearing capacity.



### Main Characteristics

- High productivity process produces very good results
- Parts can be machined, wire eroded, electrical discharge machined, welded, micro blasted, polished and coated
- Chemical composition corresponding to DIN EN 1706 (EN AC 43000)

### Typical Applications

- Casted parts
- Those needing the combination of good thermal properties and low weight

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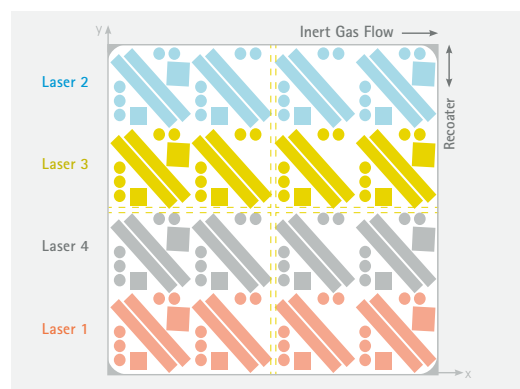
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### Product Information

DMLS System	EOS M 300-4
Material	EOS Aluminium AlSi10Mg
Process	60 µm layer thickness
Build Platform Temperature	165 °C
Inert Gas	Argon
Recoater blade	HSS, two-sided recoating
Volume rate	up to 4 x 10.5 mm <sup>3</sup> /s

### Layout of test job

Part properties based on one test job each for the as manufactured and heat treated data.



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Typical part properties	Yield strength Rp <sub>0.2</sub> [MPa]	Tensile strength Rm [MPa]	Elongation at break A [%]	Number of samples
As manufactured vertical	213	398	4	160
As manufactured horizontal	228	377	7	160
Heat treated vertical	250	320	11	63
Heat treated horizontal	258	331	11	64
Max. pore size	150 µm			32
Porosity	0.08 %			32

Mechanical properties tested according to EN ISO 6892-1 B10. The values in the table are average values and dependent on the build platform temperature, the thermal load of the job layout as well as the position on the build plate.  
EOS Short T6 Heat Treatment: Solution annealing of 30 minutes in 530 °C followed by immediate quenching to water. Artificial aging of 6 hours in 165 °C followed by cooling in air. The porosity could increase due to the heat treatment.

Status 11/2020

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The quoted values refer to the use of this material with above specified type of EOS DMLS system, EOSYSTEM and EOSPRINT software version, parameter set and operation in compliance with parameter sheet and operating instructions. Part properties are measured with specified measurement methods using defined test geometries and procedures. Further details of the test procedures used by EOS are available on request. Any deviation from these standard settings may affect the measured properties. The data correspond to EOS knowledge and experience at the time of publication and they are subject to change without notice as part of EOS' continuous development and improvement processes. EOS does not warrant any properties or fitness for a specific purpose, unless explicitly agreed upon. This also applies regarding any rights of protection as well as laws and regulations.

