

# Aluminium Alloy AlSi10Mg



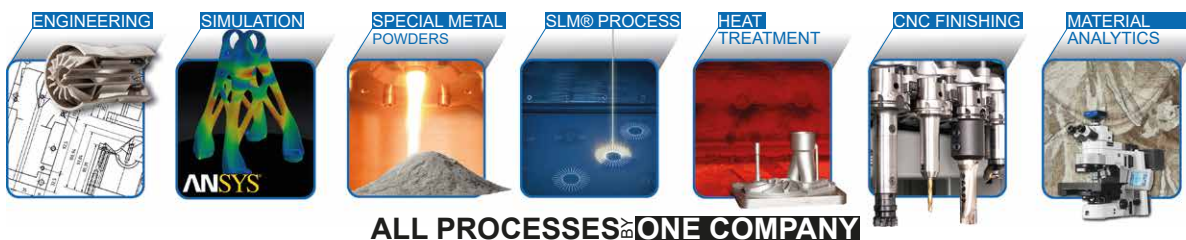
## Metal Alloys for Additive Manufacturing

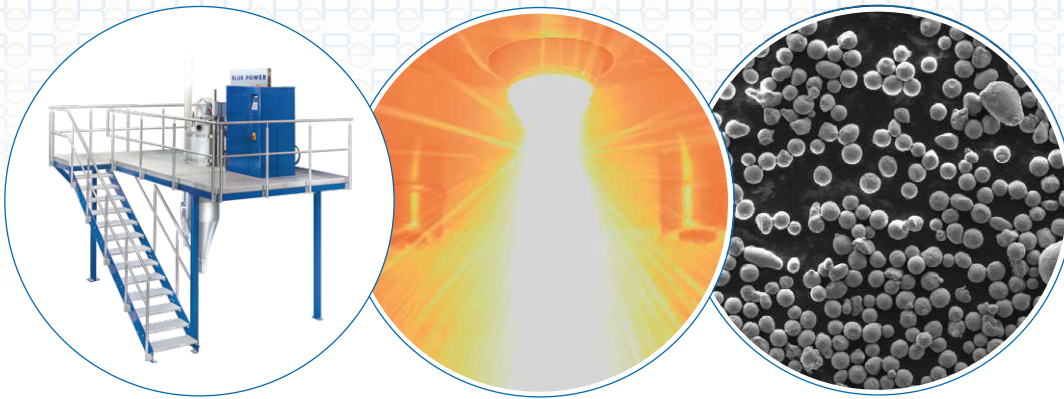
### ALTERNATIVE NAMES:

3.2382  
EN AC- 43000  
DIN EN 1706

Properties	Unit	As built <sup>1)</sup>	Heat-treated <sup>2)</sup>
Tensile Strength $R_m$	MPa	475 ±15	260 ±15
Yield Strength $R_{p0,2}$	MPa	295 ±15	150 ±10
Elongation at Break $A_5$	%	7 ±2	12 ±2
Young's Modulus E	GPa	75 ±5	60 ±5
Hardness	HV	130 ±5	85 ±5

Rosswag Engineering offers a holistic and fully integrated process chain for Additive Manufacturing services. Our portfolio ranges from manufacturing of your prototypes, tools and small serial products to an individual consulting and engineering process for the choice of material, parameters and process chain.





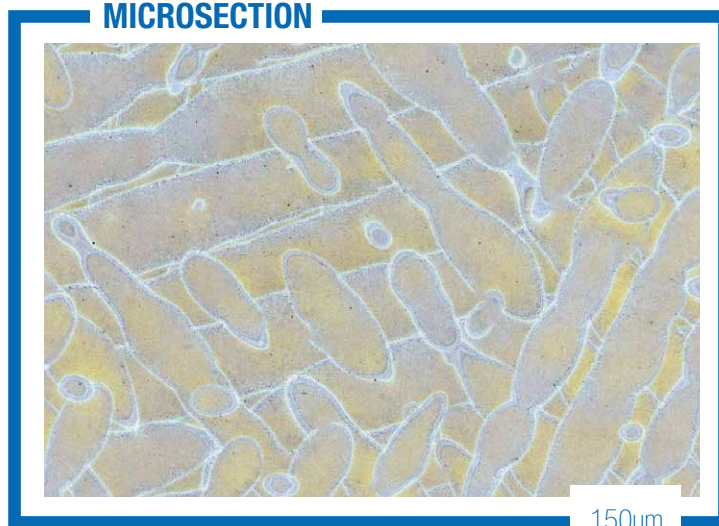
## Material characteristics

The aluminium alloy AlSi10Mg is characterized by a good thermal conductivity with a low material density. In combination with its good mechanical processability, the material is ideally suited for additive prototyping. Furthermore, this material is frequently used for lightweight construction in the aerospace and automotive industry.

### CHEMICAL COMPOSITION

Element	Mass Fraction [%]
Si	9.0 - 11.0
Fe	≤ 0.55
Cu	≤ 0.05
Mn	≤ 0.45
Mg	0.20 - 0.45
Ni	≤ 0.05
Zn	≤ 0.10
Pb	≤ 0.05
Sn	≤ 0.05
Ti	≤ 0.15
Al	Balance

### MICROSECTION



- 1) The specified material properties were determined at room temperature. They are multi-dimensionally dependent on many different machine and process parameters. Without further investigation, the material properties do not constitute a sufficient basis for component dimensioning.
- 2) Specific heat treatment processes lead to optimized mechanical-technological properties to meet the component requirements.