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# m4p AlSi10Mg

### Metal powder for laser-based powder bed fusion

#### **Description and properties**

**m4p<sup>™</sup> AlSi10Mg** is an aluminum-based alloy with good weldability due to the Si and Mg content. In the regular casting process the alloy is characterized by its excellent casting properties and enables the production of thin-walled components with good strength properties.

Components made of **m4p™ AlSi10Mg** have good mechanical strength and can be subsequently machined. T6 heat treatment cycle is applicable.

#### **Powder characteristics**



Chemical analysis [wt%]			
Element	Min	Max	
Si	9,00	11,00	
Mg	0,20	0,45	
Al		Base	

Particle sizeLaser PBFBulk density~1,4 g/cm³

#### Additive manufacturing and strength properties



Typical characteristics of the tensile test				
(component density: 2.67 g/cm³ as-built)				
Tensile strength	R <sub>m</sub> =	400 ± 5 N/mm <sup>2</sup>		
Yield strength	R <sub>e</sub> =	239 ± 4 N/mm <sup>2</sup>		
Elongation at break	A =	7 ± 3%		

Test cube: 10x10x10mm, metallographically determined density: **99,76%** 

#### INTERNATIONAL

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