

# RS-300 (AlSi10Mg) powder

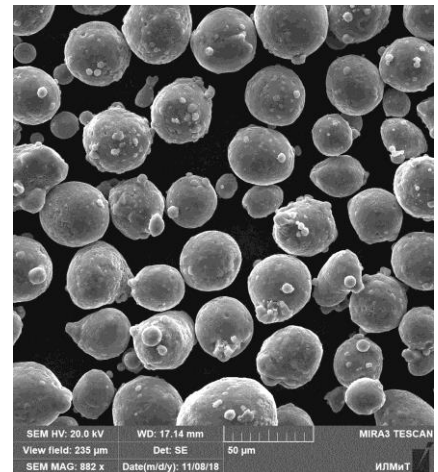
**RS-300** – is the basic aluminium alloy with good casting properties and performance during powder bed fusion. Alloy offers good strength and ductility after annealing. Properties are equal or superior to traditional casting Al-Si alloys. Printed parts can be treated in a similar manner as for casted parts.

Chemical composition, wt.%	
Aluminium (Al)	Balance
Silicon (Si)	9,0 – 11,0
Magnesium (Mg)	0,2 – 0,45
Iron (Fe)	≤ 0,35
Titanium (Ti)	≤ 0,15
Copper (Cu)	≤ 0,05
Manganese (Mn)	≤ 0,45
Oxygen (O)	≤ 0,08
Moisture (H <sub>2</sub> O)	≤ 0,03

Powder characteristics	
Particle size, μm	20 – 63
D <sub>50</sub> , μm	45±2
SPAN	≤ 1,2
Flowability (∅2,5 mm), s	87±4
Flowability (∅4,0 mm), s	25±3
Fraction composition can be changed by customer request. Flowability of powder may vary depending on fraction composition	

Mechanical properties (printed samples)			
		As-sintered	Annealed
Elastic modulus E, GPa	XY	68 ± 2	68 ± 2
	Z		
UTS (σ <sub>B</sub> ), MPa	XY	450 ± 10	370 ± 10
	Z	470 ± 10	400 ± 10
TYS (σ <sub>0,2</sub> ), MPa	XY	260 ± 10	235 ± 10
	Z	230 ± 10	220 ± 10
Elongation δ <sub>5</sub> , %	XY	6,5 ± 1,0	9,5 ± 1,0
	Z	5,5 ± 1,0	7,0 ± 1,0

Physical properties (sintered material)	
Density, g/cm <sup>3</sup>	2,658
Porosity, vol. %	≤ 0,20



Powder morphology



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Note: this data sheet contains approximate values which can't be used for the design or quality control purposes. Results are obtained after printing with EOS M290 printer and CNC machining and can vary depending on part design or geometry and used 3D printing system. Each user is responsible for determining that the material is safe, lawful and technical suitable for the intended use, laws and regulations.