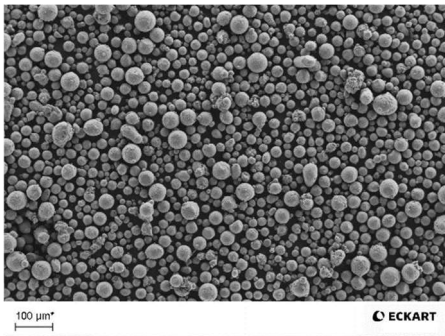


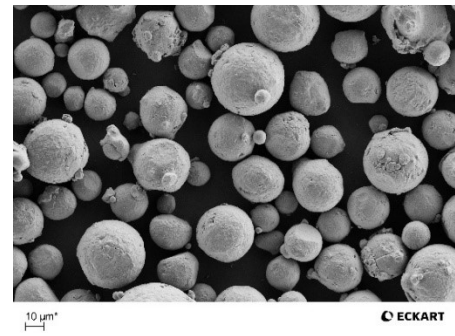
ECKART TLS Aluminium Powder

12.06.2021 Version 2

Traditionally AlSi10Mg is used as a casting alloy. In Additive Manufacturing, powder made from AlSi10Mg is commonly used, due to the high corrosion resistance, low density and good mechanical strength of the final components. Typical applications are found in prototyping or small series productions within aerospace and automotive industry. ECKART TLS aluminium powder has a very good batch to batch consistency and is available from small to big size batches.



All grades of aluminium powder are produced by inert gas atomization, resulting in high quality, spherical, and contamination free powder.



Chemical Composition

ECKART TLS standard aluminium powder from stock

	Composition (wt%)										
	Al	Si	Mg	Fe	Ti	Zn	Mn	Cu	Cr	OE	OT
AlSi10Mg	Bal.	9-11	0.20-0.45	≤0.55	≤0.15	≤0.10	≤0.45	≤0.05	-	≤0,05	≤0,15
AlSi7Mg0.6	Bal.	6.5-7.5	0.45-0.70	≤0.19	≤0.25	≤0.07	≤0.10	≤0.05	-	≤0,03	≤0,10
AA6061	Bal.	0.4-0.8	0.8-1.2	≤0.7	≤0.15	≤0.25	≤0.15	0.15-0.4	0.04-0.35	≤0,05	≤0,15

AlSi10Mg according to EN AC-43000. AlSi7Mg0.6 according to EN AC-42200. AA6061 according to EN AW-6061.

Particle Size Distribution and Powder Properties

Particle size distribution and physical powder properties of aluminium powder sizes are listed below. Aluminium powder sizes according to customer specifications are also available on request.

	Particle Size Distribution (µm)			Powder Properties		
	D(10)	D(50)	D(90)	Flow Rate	Apparent Density	Circularity
15-53µm	12-19	25-39	43-56	-	-	≥0.94
15-63µm	12-19	30-40	53-63	-	-	≥0.94
20-63µm	23-30	36-46	57-65	≤25s/50g	≥1.3g/cm ³	≥0.94

Particle size distribution according to ASTM B822. Flow rate and apparent density according to ASTM B964 and ASTM B417.

Circularity according to ISO 9276-6, mean values measured via dynamic image analysis (ISO 13322-2).

Powder properties stated for AlSi10Mg.

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