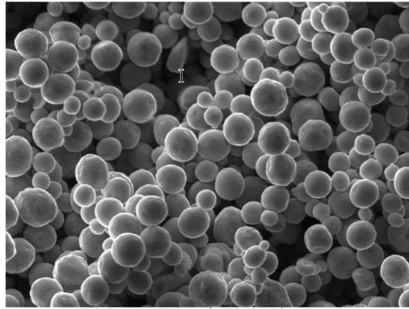


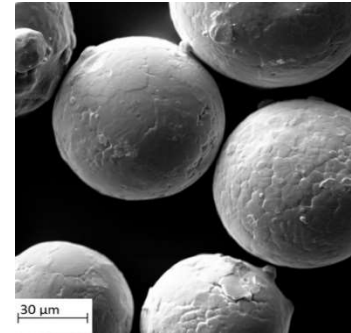
ECKART TLS Titanium Powder

12.08.2021 Version 2

ECKART TLS has been producing high quality metal powders for over 25 years, developing its processes for a constant improvement in quality. ECKART TLS titanium powder can be used in a wide range of applications, including in additive manufacturing with powder bed fusion using, laser (LPBF), electron beam (EB-PBF), and including Metal Injection Molding (MIM).



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



Chemical Composition

ECKART TLS titanium powder from stock is available as Grade 1, Grade 2, Grade 5 and Grade 23.

	Composition (wt%)								
	Ti	Al	V	Fe	C	N	H	O _{limit}	O _{typical} *
Grade 1	Bal.	-	-	≤0.20	≤0.08	≤0.03	≤0.015	≤0.18	0,12
Grade 2	Bal.	-	-	≤0.30	≤0.08	≤0.03	≤0.015	≤0.25	0,15
Grade 5	Bal.	5.5-6.75	3.5-4.5	≤0.40	≤0.08	≤0.05	≤0.015	≤0.20	0,11
Grade 23	Bal.	5.5-6.5	3.5-4.5	≤0.25	≤0.08	≤0.03	≤0.0125	≤0.13	0,08

Powder chemical composition of Grade 1 and 2 according to ASTM B348, may also comply with ASTM F67 and F1580.

Powder chemical composition of Grade 5 according to ASTM B348, may also comply with ASTM F136, F1580 and F2924.

Powder chemical composition of Grade 23 according to ASTM B348, may also comply with ASTM F136, F1580, F2924 and F3001.

*Oxygen content strongly depends on the grain size.

Particle Size Distribution and Powder Properties

Particle size distribution and physical powder properties of titanium powder sizes are listed below. Titanium 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
-32µm	7-13	17-23	29-35	-	-
10-45µm	8-16	23-33	40-50	-	-
20-53µm	20-30	35-45	55-65	≤40s/50g	≥2.2g/cm ³
20-63µm	25-35	40-50	60-70	≤35s/50g	≥2.2g/cm ³
45-100µm	45-55	65-75	95-105	≤28s/50g	≥2.4g/cm ³

Particle size distribution according to ASTM B822. Flow rate and apparent density according to ASTM B213 and ASTM B212.

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