- robemetall GmbH -

Your reliable metal powder supplier for metallic 3D printing

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Target markets of robemetall

Aerospace

As an aerospace approved company according to EN 9120: 2018, the core business of robemetall GmbH is supplying the aerospace industry and its suppliers. Through our expertise and decades of experience as an aviation-approved trading company, we belong to a minority of traders who can supply this industry with aerospace semi-finished products and now with metal powder alloys quickly and reliably.

Automotive

Another market niche is the racing industry and its suppliers. This is about delivering fast and factually correct. Through our warehouse, the partnerships with other dealers and factories as well as the optimal logistics that is for us daily business and thus presents us with no unsolvable problems. From now on we can additionally serve your metal powder needs for your metallic 3D printing.

Commercially

The roots of robemetall lie in the commercial steel and metal industry and classical mechanical engineering. Thus, we also know this business and supply you as required with steel and non-ferrous metal powder alloys.

Medical

The medical industry is showing steady growth and requires more and more high-performance materials - especially the smallest diameters and highly complex components. Metallic 3D printing is already playing a major role here and will have even greater influence in the future. We are also able to serve this market and provide you with your desired material specifications for your 3D printing production.

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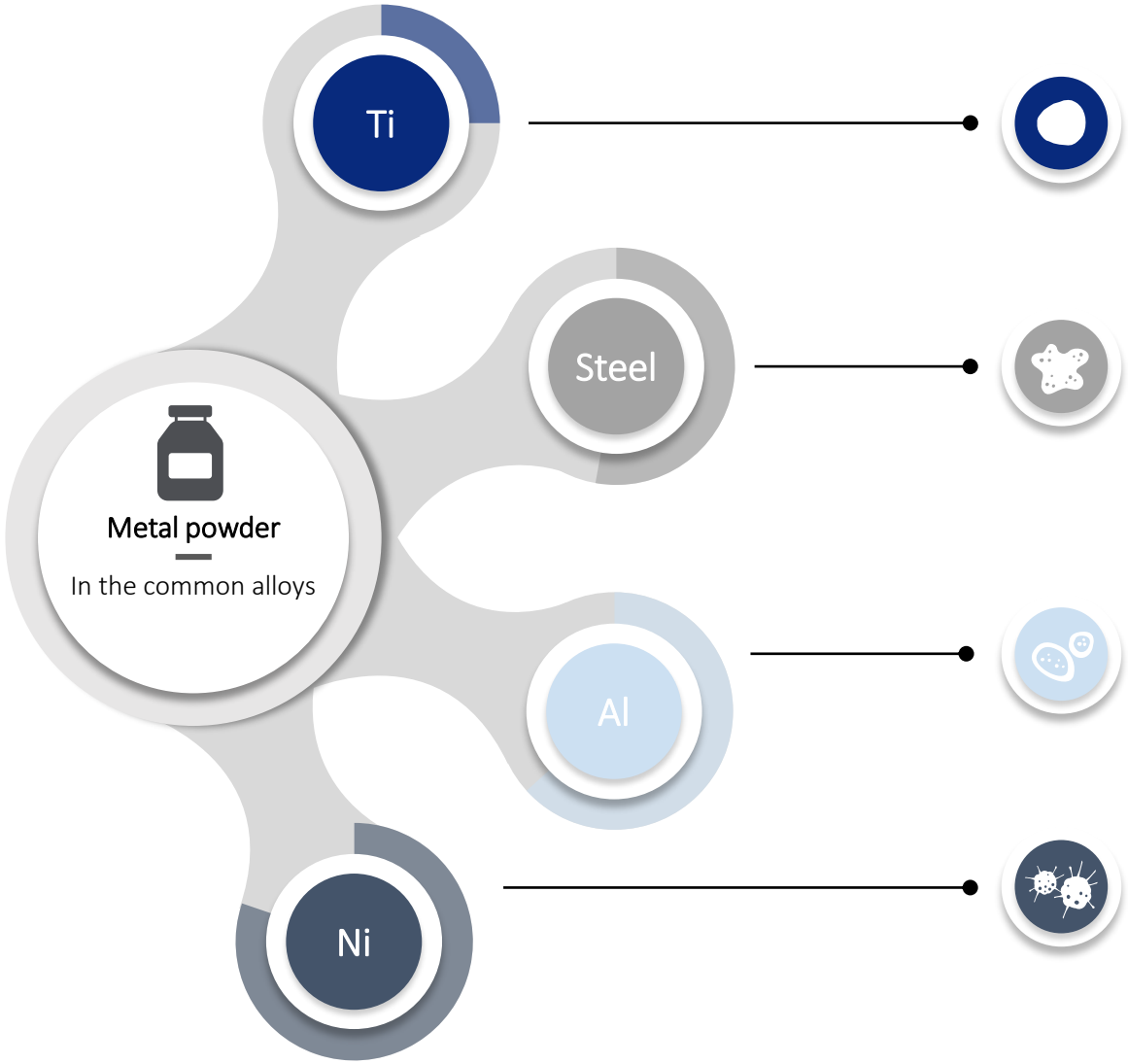
Metal powder for additive manufacturing (3D printing)



Titanium alloys
We supply the following titanium alloys in the form of powder: Titanium Grade 1-4, Titanium Grade 5 (Ti6Al4V), Titanium Grade 23 (Ti64ELI), Ti6424 and metal powder according to your material specifications, including metallurgical test report

Steel alloys
In the steel alloys we supply powders in common aviation steels: 17-4 PH, 15-5 PH and 13-8 MO as well as 316 / 304L stainless steel or MS1 tool steel as well as metal powder according to your specifications, incl. metallurgical test report

Aluminum alloys
In the aluminum alloys, we supply powders in common aerospace grades: 6061, 2024, and 7075, both commercial alloys such as aluminum alloy AlSi10Mg as well as metal powder according to your specifications, incl. metallurgical test report

Nickel-base alloys
In the nickel base alloys we supply the following powder: Inconel 718 (In718), Inconel 625 (In625) and Hastelloy X as well as metal powder according to your material specifications, incl. metallurgical test report

Manufacturing process: SS-PREP (We supply high quality spherical metal powder in different particle sizes for the different metal 3D printing processes).

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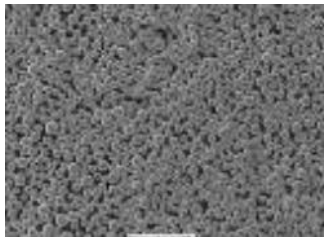
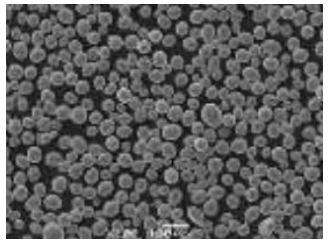
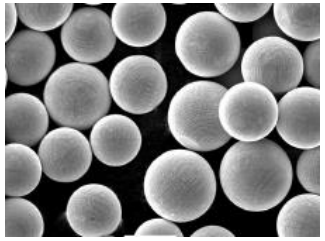
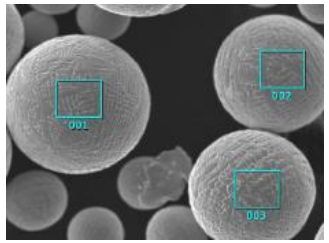
High quality spherical (spherical) metal powder

	Material	Particle size
Titanium	Titan Grade 1 – Titan Grade 4 Titan Grade 5 (Ti6Al4V) Titan Grade 23 (Ti64ELI)	15-45/53µm 53-75µm 45-90/106µm 50-150µm 100-250µm
Steel	15-5 PH 17-4 PH 13-8 MO 304L 316 L 18Ni300/MS1	15-45/53µm 53-75µm 45-90/106µm 50-150µm 100-250µm
Nickel	Inconel 718 Inconel 625 Inconel 939 Inconel 713 Hastelloy X	15-45/53µm 53-75µm 45-90/106µm 50-150µm 100-250µm
Aluminum	2024 6061 7075 AlSi10Mg	15-45/53µm 53-75µm 45-90/106µm 50-150µm 100-250µm
Refractory	Tantal Wolfram Molybdän Niob	15-45/53µm 53-75µm 45-90/106µm 50-150µm 100-250µm









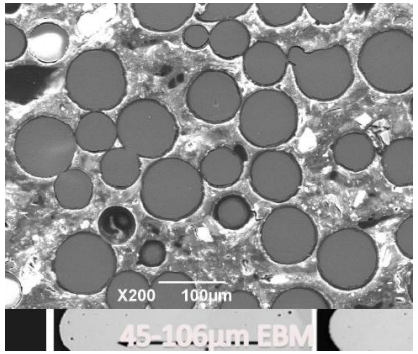
Metal powder varieties from robemetall

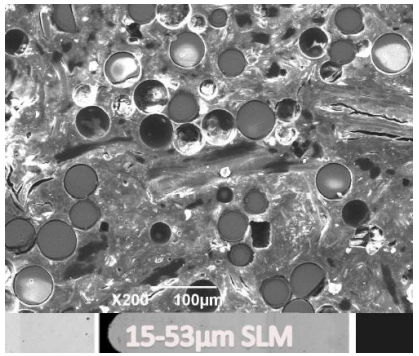
Powder alloys

- We supply you with all common alloys in steel, aluminum, titanium, nickel and refractory material range. If you can not find your desired material in our product list, we can have it produced anyway. We are able to make any material that is available as semi-finished metal in a round form as a metal powder for 3D metal printing.

Grain sizes

- We offer different particle sizes to cover the following 3D printing processes: SLM (Selective Laser Melting), Electron Beam Melting (EBM), Electron Beam Melting and Directed Energy Deposition (DED). The particle sizes 15-45 / 53µm are suitable for the SLM. For EBM the particle sizes 45-106µm and for DED the particle size 45-150µm would be the suitable one.





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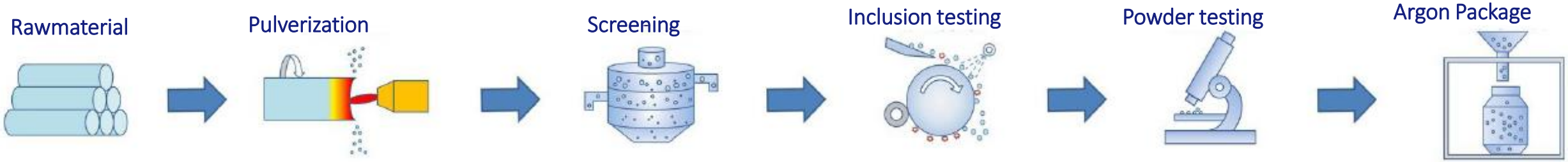
Our manufacturing process SS-PREP

PREP (Plasma Rotating Electrode Process, acc. AMS 4999A) is a recognized method of producing metal powder by melting the end of a metal bar while rotating it about its longitudinal axis. Molten metal is centrifugally ejected and forms droplets that solidify into a ball (powder particles). The electrode is remelted by plasma. Our powder is made from one Extension of the PREP process, the so-called SS-PREP process. Thereby we are able to give you even higher quality and deliver spherical powder (according to ISO 13320: 2009).
Please see below the manufacturing process with the individual steps.

1. Large diameter electrode (80 mm)
2. Rotational speed (33000 RPM)



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Certificates and test reports for your metal powder

Metallurgical test report

For each delivery you will receive a metallurgical test report of the powder with the documented reference to the melt of the rawmaterial with chemical analysis, the documented grain size and the corresponding Powder characteristics and additional tests.

Hall Anemometer

Laser Particle Sizer

ROBEMETALL
TITAN & METALLHANDELSGESELLSCHAFT

Metallurgical test report

Order number: 307100
Material-Spec.: Ti6Al4V Pulver
Particlesize: 15-53µm
Net weight: 700kg

Lot.-Nr.: 34563_6Gt
Cert number.: 18101665
Heat-Nr.: 544-180464

Chemical composition			
Element	Required	Measured	Status
Al	5.50-6.75	6.21	Bestätigt
V	3.50-4.50	4.26	Bestätigt
O	0.13-0.18	0.15	Bestätigt
Fe	≤0.30	0.232	Bestätigt
C	≤0.10	0.005	Bestätigt
Sn	≤0.10	<0.010	Bestätigt
Mo	≤0.10	<0.010	Bestätigt
Cu	≤0.10	<0.010	Bestätigt
Mn	≤0.10	<0.010	Bestätigt
Zr	≤0.10	<0.010	Bestätigt
N	≤0.04	0.006	Bestätigt
H	≤0.012	0.003	Bestätigt
Ti	Rest	Rest	Bestätigt

Powder characterization			
Description	Required	Measured	Status
D10	---	29.59µm	Bestätigt
D50	---	45.05µm	Bestätigt
D90	---	63.26µm	Bestätigt

Other inspections			
Inspection	Required	Measured	Status
Hall flow rate	---	29.1 s/50g	Bestätigt
Apparent density	---	2.59 g/cm³	Bestätigt

We hereby confirm that the material described above has been tested and meets the specifications / requirements of your order. Inspection and dimensional control was carried out without complaint.

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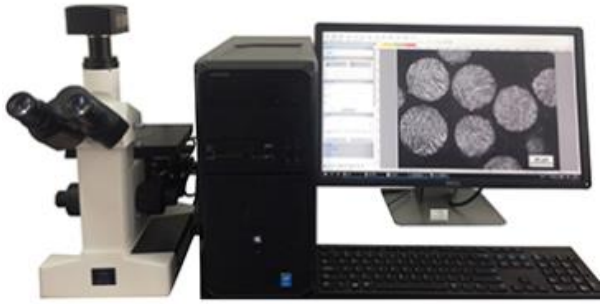
Registergericht : Friedberg/Hessen
HRB-Nr.: 6480
UST-IdNr.: DE 255 407 681
St.Nr.: 020 242 70927



Trinocular Continuous Stereoscopic Microscope

Powder Comprehensive Characteristic Tester

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