

# SPHERICAL METAL POWDER

High quality powder for additive manufacturing and more ...

Material class	Name	Alt. Name	Material characteristics
Copper alloys	<b>MET Cu-OF</b>	C10200/CW008A/2.0040	high purity oxygen-free copper with highest thermal and electrical conductivity (>99,9% Cu)
	<b>MET CuNi2SiCr</b>	C18000/CW111C/2.0855	thermally curable low-alloyed copper alloy; higher strength and hardness but slightly decreased thermal and electrical conductivity compared to CuCr1Zr
	<b>MET CuCr1Zr</b>	C18150/CW106C/2.1293	hardenable copper alloy, combining high strength and hardness with good thermal and electrical conductivity
	<b>MET CuNi10</b>	C70700/2.0811	high resistance copper alloy with increased sea water resistance through elevated Nickel content
	<b>MET GRCop-42</b>	GRCop-42/Cu3Cr3Nb	dispersion strengthened copper alloy with high strength, good conductivity and resistivity against low cycle fatigue
Stainless Steels	<b>MET 1.4306</b>	304L	austenitic chromium-nickel steel with a low carbon content (<0,030%); higher content of chromium and nickel results in increased corrosion resistance than 1.4301 or 1.4307
	<b>MET 1.4404</b>	316L	austenitic chromium-nickel-molybdenum steel with a low carbon content (<0,030%); good resistance to chloric media and non-oxidizing acids
	<b>MET 1.4435</b>	316L Med	austenitic chromium-nickel-molybdenum steel with a low carbon content; good resistance to chloric media and non-oxidizing acids in terms of medical applications
Nickel Alloys	<b>MET Alloy K500</b>	2.4375/N05500/NiCu30Al	high strength and hardness nickel-copper alloy with excellent corrosion resistance, suitable for marine technology and chemistry.
	<b>MET IN718</b>	2.4668/Inconel 718	nickel-chromium-iron alloy with niobium, molybdenum, aluminium, and titanium, leading to outstanding mechanical properties and corrosion resistance.
	<b>MET IN625</b>	2.4856/Inconel 625	low carbon nickel-chromium-molybdenum-niobium alloy enabling service temperatures from cryogenic to 982°C and outstanding corrosion resistance
Titanium Alloys	<b>MET Ti Grade 5</b>	Ti6Al4V/Ti64	age hardenable titanium-aluminium-vanadium alloy offering excellent combination of strength, toughness, and ductility with good biocompatibility
	<b>MET Ti Grade 23</b>	Ti6Al4V ELI/Ti64 ELI	"extra low interstitials" by reduced oxygen and nitrogen content, used for medical and aerospace applications
Molybdenum	<b>MET Mo</b>	Mo99%	high melting temperature and low thermal expansion coefficient enable operational temperatures up to 1900°C

## Other materials on request

Any metal or alloy can be atomized with our proprietary process, according to your needs. All products can be produced in narrow particle size distributions (PSD), as shown below, other PSDs are available on request.

PSD [ $\mu\text{m}$ ]	$d_{10_{\text{min}}}$ [ $\mu\text{m}$ ]	$d_{90_{\text{max}}}$ [ $\mu\text{m}$ ]
<b>5 - 20</b>	4	22
<b>15 - 45</b>	10	48
<b>20 - 63</b>	18	66
<b>45 - 106</b>	40	106

## COMMISSION PROCESSING

**Metalpine GmbH is your service partner for high quality production of spherical metal powders and related preparation processes.**

### Powder production

We developed a unique powder production process to provide perfect spherical powders (patent pending). Any metal or alloy can be atomized according to your needs. Our processes are run with Argon 5.0 as atomization gas in a dust-free production environment to guarantee maximum product quality. All subsequent processes (production, classifying, screening, packaging) can be done under Argon atmosphere, to ensure an oxygen-free production line.

### Back-up powder production and R&D plant

Supplementary to our production site in Graz, we have a secondary production line in Niklasdorf, Austria. The secondary plant is mainly dedicated to R&D but is available as a back-up production line to increase flexibility for our customers.

### Powder screening

With various screening technologies we can screen your powder at grain sizes ranging from 10 to 1000 microns.

### Powder classifying

With our state-of-the-art classifiers we can provide narrow particle size distributions, produce ultrafine powders, or remove dust from your powders.

### Packaging

With our 17 Sustainable Development Goals in mind, we try to reduce the amount of waste by offering different packaging than commonly used white bottles, which are thrown away after usage. Of course, we pack the powders according to our customers' needs and help to manage transport organization.

### Laboratory Services

In our in-house laboratory, we measure particle size distributions with laser light scattering (Horiba LA-960 according to ISO 13320) and digital image processing (Camsizer X2 according to ISO 13322-2). Additionally, we offer tap density measurements (3P Instruments BeTensi T3 according to ISO3953, ASTM B527) as well as flowability measurements by Hall Flow Meter (ISO 4490, ASTM B213). For more sophisticated flowability problems, Schulze Ring Shear tests can be conducted by our university partners and additionally, we offer analysis of our products in collaboration with certified laboratories.

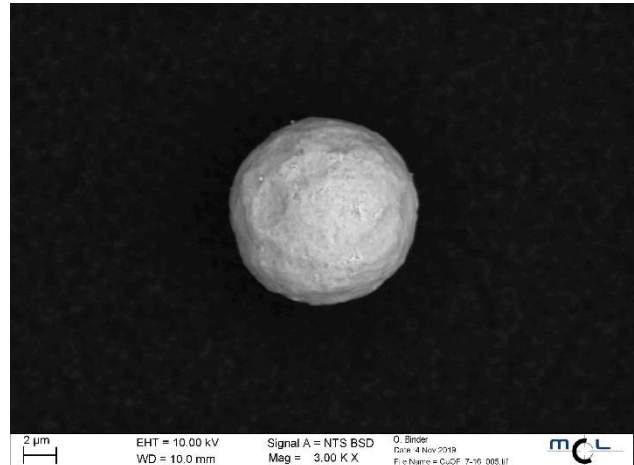
### Send us your request

# Cooper Alloy: MET Cu-OF 99,9%

## Alternative designation: C10200 / CW008A / 2.0040

### Description and general material properties

MET Cu-OF is pure, oxygen free Copper with minimum 99,9% Cu. It combines the advantages of Cu-ETP (= CW004A / 2.0065) and phosphor deoxidized Copper materials. The high pureness of the material combined with missing oxygen inclusions allows excellent electrical conductivity and is not affected from hydrogen embrittlement. Therefore, MET Cu-OF has a good deformability, combined with superior solder- and weldability than offered by Cu-ETP. Typical applications are electrical and electronic components for example in the communication industry.



### Powder characteristics

Chemical composition		
Element	Min [wt%]	Max [wt%]
Pb		0,005
O		0,05
Bi		0,005
Cu	99,9	Balance

Physical properties		
Properties*	Min	Max
Flow rate [s/50g]		20
Bulk density [g/cm <sup>3</sup> ]	4,5	

\*exemplary values for PSD 15-45 µm

