

C18150

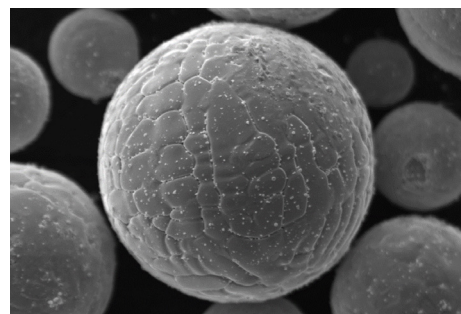
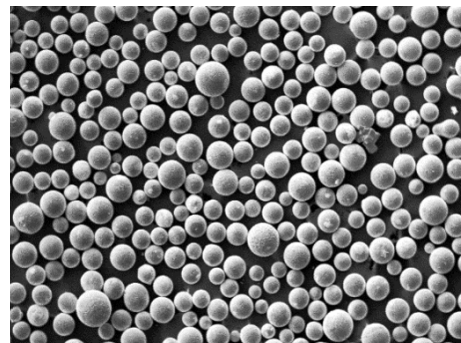
Copper Alloy Powder



HIGH PERFORMANCE PARTS START WITH HIGH PERFORMANCE POWDER

From 6K's UniMelt® process, the world's only microwave plasma production system, comes the highest performing and most versatile set of powders. C18150 copper alloy is an alloy with a high-performance balance of high electrical and thermal conductivity paired with higher strength and wear resistance relative to pure copper. Example applications of C18150 include electrical and power transmission and space propulsion. 6K Additive's C18150 copper spherical powders deliver excellent material properties that enable designers to take advantage of the design freedom of additive manufacturing.

This alloy is used in aerospace and general industry and tooling applications that require excellent thermal or electrical conductivity, including conformal induction coils. C18150 is available in a variety of sizes, the representative properties are shown below for a fine cut.



NOMINAL CHEMISTRY

| | |
|-----------|--------------|
| Copper | Balance |
| Chromium | 0.5 - 1.5% |
| Zirconium | 0.02 - 0.3% |
| Nitrogen | 0.002% (Max) |
| Oxygen | 0.1% (Max) |
| Iron | 0.08% (Max) |

PHYSICAL PROPERTIES (Typical) 15-45 µm

| | |
|------------------|-----------------------|
| Apparent Density | 4.6 g/cm ³ |
| Tap Density | 5.3 g/cm ³ |
| Hall Flow | 20 s/50g |
| Sphericity | 0.98 |

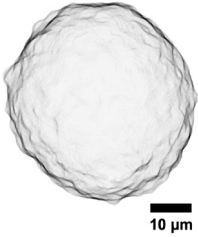
6K Premium Copper Powders

- Ultra Clean
- No Satellites
- High Sphericity
- Free Flowing
- High Apparent Density
- Low Porosity
- Exceptional Lot to Lot Consistency

C18150

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6K
ADDITIVE



HIGH DENSITY POWDER

Unlike competitive technologies, 6K's process delivers highly dense, highly spherical powders without satellites, as shown in microCT of the particle.



DERIVED FROM SUSTAINABLE SOURCES

At 6K, our powders are produced from sustainable sources, including used powders and machine turnings. We leverage these input streams as feedstock for the UniMelt process, essentially turning scrap into high value AM powder. This process enables your organization to get value back from your past powder investment by participating in 6K Additive's powder buy-back program. We will buy your used powder, provide you a credit towards new premium powder for a wide variety of applications.



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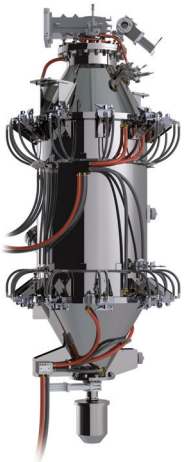
Produced with 6K Additive UniMelt microwave plasma technology.

Key Properties

- Electrical conductivity
- Thermal conductivity

Industries

- Aerospace
- Electrical
- Tooling
- Industrial



HIGH UNIMELT YIELD AND TUNABLE PSD

6K's UniMelt process can deliver the highest yield in the industry for your target PSD. With our unique microwave plasma technology our production run can be tailored for any additive manufacturing (AM) platform, including powder bed fusion, EBM, Binder Jet, direct energy deposition and cold spray plus PM processes like MIM and HIP.

With 6K's UniMelt breakthrough technology, we have the capability of producing almost limitless material combinations, allowing you to design with infinite possibilities for your application.

6K Additive's production team has extensive experience in powder production, alloys and metal reclamation. Our 80,000 sq. ft. facility is ISO9001 certified and AS9100 certification is in process.