TECHNICAL SPECIFICATIONS
OF GENERAL PURPOSE COPPER POWDER GRADES

Light

Grid size per ISO 565, μm	Particle size, μm	Particle size distribution, %		
		CPL-1	CPL-2	CPL-3
63	≥63	5.0 max	5.0 max	10.0 max
	<63	95.0 min	95.0 min	90.0 min
Note: in the particle size value, “<” represents undersize material, “≥” represents oversize material				
Bulk density, g/cm^3		0.65-0.85	0.90-1.10	1.25-1.45
Copper mass fraction, %, min		99.5	99.6	
Oxygen mass fraction, %, max		0.40	0.30	0.25

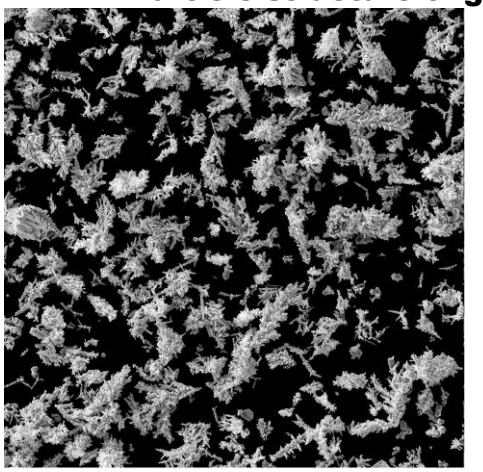
For use in metallurgical and chemical industries as alloying additives, catalysts, production of reagents.

Fine

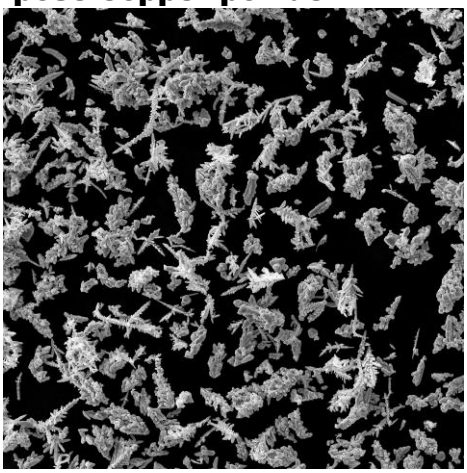
Grid size per ISO 565, μm	Particle size, μm	Particle size distribution, %			
		CPF-1	CPF-2	CPF-3	CPF-4
45	<45	95.0 min		–	
25	<25	–		90.0 min	
Note: in the particle size value, “<” represents undersize material, “≥” represents oversize material					
Bulk density, g/cm^3		1.60-2.00	1.25-1.60	1.10-1.60	1.60-2.00
Copper mass fraction, %, min		99.5			
Oxygen mass fraction, %, max		0.20		0.30	

For use in the electronics industry (thick and thin filming, mixing with silver to make pastes), metal injection molding, production of conductive fillers, diamond tools, catalysts, and vacuum switches.

Particle structure of general purpose copper powder



Light



Fine

Medium

Grid size per ISO 565, μm	Particle size, μm	Particle size distribution, %				
		CPS-1	CPS-12	CPS-14	CPS-A	CPS-11
100	≥100	0.5 max			0.5 max	0.1 max
71	<71	90.0 min			90.0 min	–
63	≥63	–			–	–
	<63	–			–	95.0 min
45	<45	65.0-80.0			73.0-80.0	–
Note: in the particle size value, "<" represents undersize material, "≥" represents oversize material						
Bulk density, g/cm^3		1.25-2.00	1.20-1.60	1.50-2.00	1.30-1.50	1.25-1.90
Copper mass fraction, %, min		99.5				
Oxygen mass fraction, %, max		0.20			0.30	0.20

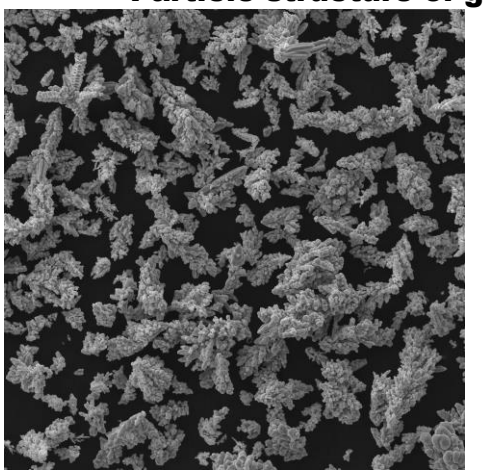
For the production of sintered products in metallurgical, electrical, aeronautical, automotive, machine-building industries (brushes for electric machines, rings, bushings, bearings, electrical contacts, welding electrodes, brake pads, clutch linings, diamond tools, consumer goods for household and economic purposes).

Ultrafine

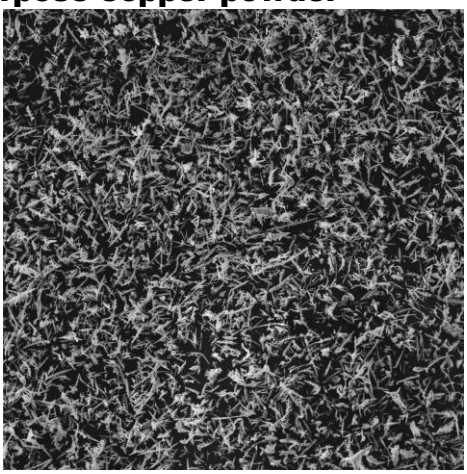
Parameters	Values	
	CPU-5	CPU-10
D50, μm	5.0±0.75	10.0±1.0
D99, μm	<30	<100
Note: D50 (D99) - the share of particles of the specified size is 50% (99%)		
Bulk density, g/cm^3	0.6-1.6	
Specific surface area, cm^2/g, min	2500	
Copper mass fraction, %, min	99.3	
Oxygen mass fraction, %, max	0.45	

For the production of electronic circuits, thick film pastes, electrically and thermally conductive pastes, electrodes, pyrotechnics, printing (screen-printing), conductive inks for RFID tags and portable electronics, anticorrosive, electromagnetic shielding and decorative coatings.

Particle structure of general purpose copper powder



Medium



Ultrafine

TECHNICAL SPECIFICATIONS OF REDUCED COPPER POWDER GRADES

Grid size per ISO 565, μm	Particle size, μm	Particle size distribution, %							
		CPR-H	CPR-G	CPR-A	CPR-B	CPR-C	CPR-D	CPR-E	CPR-F
600	≥600	3 max	–	–	–	–	–	–	–
300	≥300	10-40	3 max	–	–	–	–	–	–
250	≥250	–	15 max	–	–	–	–	–	–
212	≥212	50-80	–	0.5 max	0.5 max	–	–	–	–
200	≥200	–	–	–	–	–	–	–	–
180	≥180	–	–	5 max	2 max	0.5 max	–	–	–
160	≥160	–	–	–	–	–	–	–	–
150	≥150	–	60-90	–	–	1 max	0.5 max	0.5 max	–
106	≥106	–	–	25-45	10-30	6 max	3 max	2 max	0.5 max
75	≥75	97 min	97 min	–	–	–	10-20	10 max	–
–	<75	3 max	3 max	–	–	–	–	–	–
63	≥63	–	–	60-80	45-65	30-40	–	–	10 max
45	≥45	–	–	75-95	65-85	50-60	50-60	35-45	15-35
–	<45	–	–	5-25	15-35	40-50	40-50	55-65	65-85
Note: in the particle size value, “<” represents undersize material, “≥” represents oversize material									
Bulk density, g/cm^3		2.4-3.2		2.25-2.55				2.1-2.5	1.8-2.2
Copper mass fraction, %, min		99.6		99.7					
Oxygen mass fraction, %, max		0.25		0.2					

For the production of sintered products in metallurgical, electrical, aeronautical, automotive, machine-building industries (brushes for electric machines, parts made of copper powder-based dispersion-hardened composite materials, conductive tips and electrodes for welding, soldering iron stingers, heavily loaded dry sliding bearings).

Particle structure of reduced copper powder