

Copper Powders

ACuPowder's copper powder is produced using only the highest quality raw materials assuring consistent lot to lot uniformity. The grades listed below are used to produce bronze bearings, structural parts, copper-carbon brushes, electrical contacts, friction materials, brazing paste, and as an additive to iron powder. ACuPowder can also custom design special grades to customer specifications. ACuPowder uses stringent quality assurance procedures to ensure conformance to specifications.

Basic Steps in Producing Water Atomized Copper Powder:

ACuPowder's copper powder is produced by an automated process involving high pressure water atomization, followed by dewatering, reduction-annealing, grinding, screening, blending and packing.

WATER ATOMIZED COPPER POWDER							
Grade	Purity, %	H2 Loss, % max	A.D., g/cm3	TYPICAL ANALYSIS			TYPICAL APPLICATIONS
				CONTROL SCREEN	MESH	%	
264	99.5	0.30	2.6	100	-325	50	P/M, Plastics, Ceramics
266	99.5	0.30	2.6	150	-325	60	P/M
267	99.5	0.30	2.6	150	-325	65	P/M
268	99.5	0.30	2.8	150	-325	80	P/M, Brazing Paste, Friction
271	99.5	0.30	2.7	100	-325	10	P/M
276	99.5	0.30	2.7	150	-325	60	P/m, Brazing Paste
278	99.5	0.30	2.8	150	-325	75	P/M
283	99.5	0.30	2.9	100	-325	40	P/M
420	99.5	0.30	3.0	50	-325	10	Chemicals, Electronics

Basic Steps in Producing Oxide Reduced Copper Powder:

ACuPowder's copper powder is produced by an automated process involving high pressure atomization followed by grinding, oxidizing, reducing, screening and blending.

OXIDE REDUCED COPPER POWDER							
Grade	Purity, %	H2 Loss, % max	A.D., g/cm3	TYPICAL ANALYSIS			TYPICAL APPLICATIONS
				CONTROL SCREEN	MESH	%	
HGD	99.3	0.50	4.0	100	-325	60	P/M, High Density, Growth Control
260ST	99.3	0.50	2.7	100	-325	60	P/M, Low Growth
260HD45	99.3	0.50	2.7	100	-325	50	P/M, Carbon Brushes
250MD50	99.3	0.50	2.5	100	-325	50	P/M, Friction
240MD90	99.3	0.50	2.4	100	-325	90 min	P/M, High G.S., Friction
220LD85	99.3	0.50	2.2	100	-325	85 min	P/M, High G.S., Carbon Brushes
220LD95	99.3	0.50	2.2	100	-325	95 min	P/M, High G.S., Friction

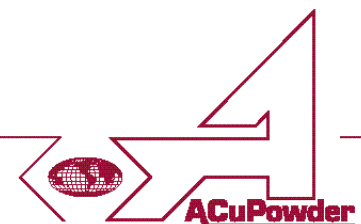
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we are innovation in motion*

ACuPowder TN, LLC

6621 Highway 411 South, Greenback, TN 37742
Telephone: (865) 856-3021 • Fax: (865) 856-3083
Web: www.acupowder.com • Email: acupowder@acupowder.com



We have been part of your lives for over 80 years

Major Applications

POWDERS FOR BRONZE MIXES

For those who mix their own bronze for bearings, ACuPowder provides an extensive selection of

Copper, Tin, Graphite and Lubricant.

IRON COPPER & COPPER STEEL

Copper Powder is admixed with Iron Powder, with or without graphite, to increase strength, hardness and wear resistance. MPIF Standard 35 describes grades containing from 1.5% to 10.5% Copper.

ACuPowder provides a selection of Copper Powder grades varying in apparent density and particle size.

SINTERED FRICTION PRODUCTS

Applications of these materials include brakes and clutches. They can consist of a mixture of metal powders including copper, tin, bronze, brass, nickel, iron, zinc and lead, along with a range of friction modifiers such as abrasives and solid lubricant. When sintered, the resultant metal

matrix material achieves the desired balance of mechanical/frictional properties, heat conductivity, wear and corrosion resistance, low noise level and high temperature performance.

ORGANIC BASE FRICTION PRODUCTS

Metal powders are usually added to organic based (non-sintered) friction products to increase heat conductivity, alter wear properties, provide smoother braking action and reduce brake squeal.

ACuPowder provides many grades of copper, tin, bronze, brass and nickel to meet the needs of both segments of the Friction Products Industry.

METAL-GRAPHITE CARBON BRUSHES

These can contain between 20% and 80% Copper Powder. They are used in automotive and appliance motors. ACuPowder provides water-atomized and oxide reduced grades with high purity to ensure excellent electrical

conductivity. ACuPowder also offers a tamping copper—Grade 41. For applications requiring lower A.D. and higher green strength, ACuPowder provides several oxide reduced and Electrolytic Copper Powders.

BRAZING POWDERS

Metal powders are used extensively as filler metals for brazing. When heated to the proper temperature with a suitable flux or under a protective atmosphere, the powder melts and flows between closely fitted surfaces of the joint

by capillary action.

ACuPowder provides grades of pure copper and Cu/Phos alloy powder suitable for brazing applications.

CUTTING AND GRINDING TOOLS

Diamonds and other other refractory ceramics are held in a matrix of metal produced by either hot pressing or cold pressing and sintering the ingredients. The size of the abrasive particles, the method of molding, and the characteristics of the material to be cut, ground or polished are just some of the factors influencing the selection of metal powders.

ACuPowder provides many grades of copper, tin, bronze and nickel to achieve just the right balance of melting point, toughness, brittleness and glazing properties required for each specific application.

FILLERS FOR POLYMER COMPOUNDS

Metal powder fillers are added to various types of plastics to increase density, thermal and electrical conductivity, strength, wear resistance, frictional characteristics, and magnetic properties.

ACuPowder provides many grades of copper, bronze and nickel of various particle shapes and sizes to meet the needs of plastic compounders.

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