

500 series cast and drawn alloys

Wieland Concast is the only domestic producer of phosphor bronze



There is power in the right choice

Wieland Concast today means value for the future. By selecting us as your supplier of extruded or cast and drawn alloys, you are creating immediate value for your business—value that you can pass on to your customers.

Wieland Concast is the ideal partner to deliver 500 series phosphor bronze alloys, offering the quality, service, and value essential for your business's success.

500 series phosphor bronze

Copper alloy UNS No.	ASTM	Temper(s)
C51000*	B139	H04 hard, H08 spring
C52100	B139	H04 hard
C53400	B139	H04 hard
C54400*	B139	H04 hard

*Standard-stocked alloy, C51000 only as H04 hard temper.

Wieland Concast 500 series alloys provide:

- A domestic option for phosphor bronze
- Wear resistance and stiffness due to the addition of phosphor
- Corrosion resistance and strength due to the incorporation of tin

500 series overview

Typical uses

Category	Applications
Architecture	bridge bearing plates
Building	thermostat bellows
Consumer	coinage, cymbals, power conductor for electro-surgical pencil
Electrical	cold headed parts, electrical connectors, electrical flexing contact blades, electromechanical spring components, electronic and precision instrument parts, electronic connectors, fuse clips, resistance wire, switch parts, wire brushes
Fasteners	cotter pins, fasteners, heavy duty fasteners, lock washers
Industrial	beater bar, bellows, bourdon tubing, chemical hardware, heavy duty clips, clutch disks, cold headed parts, diaphragms, doctor blades for the paper industry, gears, perforated sheets, pinions, pneumatic hammers, pressure responsive elements, sleeve bushings, springs, heavy duty springs, helical extension springs, helical torsion springs, textile machinery, thrust bearings, truss wire, welding rods, welding wire, well drill equipment
Marine	marine parts

Chemical composition

Copper alloy UNS no.	Cu (%)	Pb (%)	Sn (%)	Zn (%)	Fe (%)	P (%)
C51000	Rem.	0.05	4.20-5.80	0.30	0.10	0.03-0.35
C52100	Rem.	0.05	7.00-9.00	0.20	0.10	0.03-0.35
C54400	Rem.	3.00-4.00	3.50-4.50	1.50-4.50	0.10	0.01-0.50
C54400	Rem.	3.00-4.00	3.50-4.50	1.50-4.50	0.10	0.01-0.50

Note: single values represent maximums.

Stocked size schedules*

Size O.D.	Weight per inch	Weight per foot	Size O.D.	Weight per inch	Weight per foot	Size O.D.	Weight per inch	Weight per foot
3/8	0.035	0.417	7/8	0.188	2.250	1 3/4	0.771	9.250
7/16	0.049	0.583	15/16	0.222	2.267	1 7/8	0.882	10.583
1/2	0.063	0.750	1	0.250	3.000	2	1.007	12.083
9/16	0.083	1.000	1 1/8	0.319	3.833	2 1/4	1.271	15.250
5/8	0.097	1.167	1 1/4	0.396	4.750	2 1/2	1.569	18.833
11/16	0.118	1.417	1 3/8	0.472	5.667	2 3/4**	1.917	23.000
3/4	0.139	1.667	1 1/2	0.569	6.833			
13/16	0.167	2.000	1 5/8	0.660	7.917			

*Consult mill for other shapes / sizes. **Only applicable to C54400.

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