

Alloy for connectors



C99[®] (CuPb1P ; C18700) is a free machining low-alloyed copper alloy offering high electrical conductivity and good mechanical properties.

Thanks to its very particular physical properties, C99[®] is an ideal material for high power transmission applications. More particularly, C99[®] is perfectly suited for all e-mobility high power applications such as charging devices and electrical motor's power transmission.

Physical and Mechanical Properties

Chemical composition of C99 [®]	
Pb	0.7 % to 1.5 %
P	0.003% to 0.012%
Cu	Remainder

C99 [®] Physical Properties	
Density (kg/dm ³)	8.3
Electrical Conductivity (% IACS)	85
Thermal Conductivity (W/mK)	380
Thermal capacity (K/kgK)	385
Dilatation from 0 to 300°C (/K)	17.10 ⁻⁶

Mechanical properties of rods following standards					
Standard	Temper	Dimensions [mm]	Tensile strength [N/mm ²]	Yield Strength [N/mm ²]	Elongation [%]
ASTM B 301M	H02 - ½ hard	1.6 ≤ Ø ≤ 6.5	≥ 260	≥ 205	≥ 8
		6.5 < Ø ≤ 12	≥ 260	≥ 205	≥ 12
	H04 - hard	1.6 ≤ Ø ≤ 6.5	≥ 310	≥ 275	≥ 4
		6.5 < Ø ≤ 12	≥ 310	≥ 260	≥ 8

Contact us for more details and specific needs. Non contractual data.

C99[®]: an alloy for the connector industry

ISO	CuPb1P
UNS	C18700
Min. electrical conductivity (% IACS)	85
Minimal Yield Strength (MPa)	275-205
Minimal UTS (MPa)	360-240
Minimal elongation (%)	8
Typical Hardness (HV)	115-80
Machinability	60
Cold workability	Good



LBA typical product ranges, sizes and packaging for C99®

Depending on the product size, rods (2m to 4m length) are supplied in wooden cases. C99 wire supplied in round or profiles, in:

- Coils from 5 to 50 kg
- Drums from 100 to 300 kg
- Spools from 10 to 180 kg

Round or profiles diameter [mm]	Tolerance h9 (standard)	Tolerance h8
1.1-3.0	+0/-0.025	+0/-0.014
3.1-6.0	+0/-0.030	+0/-0.018
6.1-10.0	+0/-0.036	+0/-0.022
10.1-18.0	+0/-0.043	+0/-0.027 ⁽¹⁾

(1) Only in wires

Lebronze alloys' worldwide distribution network



● LBA production sites and sales offices ● Partner distributors

Lebronze alloys was born from the integration of companies specialized in the production of copper alloys, copper, nickel alloys, aluminum, special steel, stainless steel, titanium and super alloys.

Thanks to its multidisciplinary know-how, the Group provides innovative solutions to all major industries such as Aerospace, Oil & Gas, Energy, Off-highway Mining and Railways, but is also present in sectors that manufacture personal equipment.

Our 14 production sites and 1,200 employees master a unique range of metal processing technologies: continuous and semi-continuous casting, sand casting, chill casting (manual, mechanized, robotic), centrifugal casting, extrusion, ring rolling, hot and cold rolling, drawing, free forging, forging, die stamping, stamping, heat treatment, cold stamping, machining, non-destructive tests, etc.

Offering a solution that is suited and optimized to the needs of each industry is our Group's commitment.