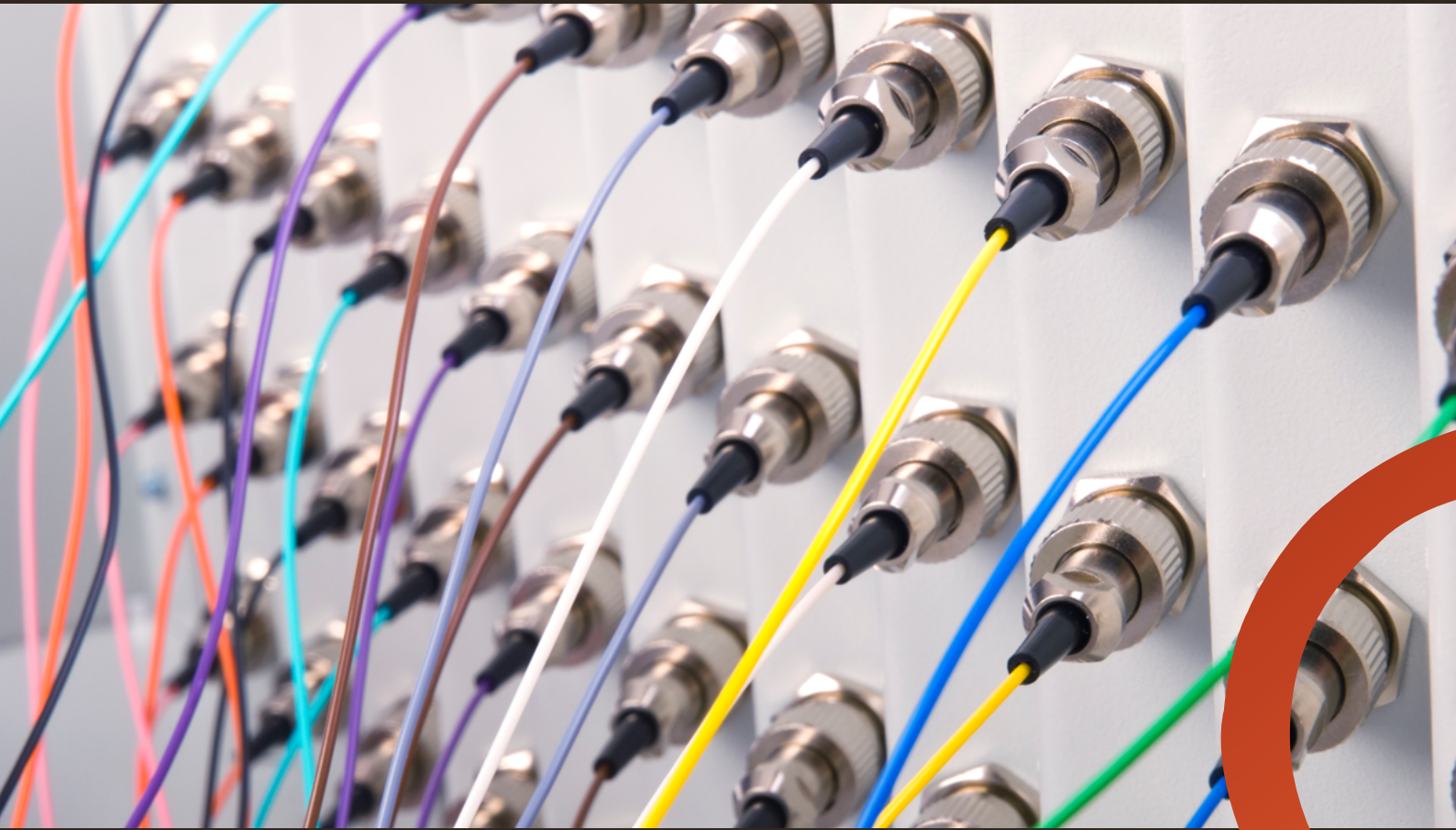


Uba
lebronze alloys



Discover our wide range of products

- ▶ Alloys for specialty connectors

For more than 50 years, Lebronze alloys has been the international reference for specialty copper alloys dedicated to connectors

Our wide range of high-end connector alloys allow our group to offer solutions to specific requirements of numerous sectors, such as durability and resistance to corrosion, to climatic variations, to frequent connections or to high mechanical stress; this multiplicity of solutions allows our Group to provide the best possible reliability in electrical contact for connectors.

Nowadays, our Group has become a leading solution developer worldwide in multiple sectors, such as Aerospace, Healthcare and Automotive among others, and holds the largest number of approvals for copper alloys, aluminium alloys, titanium alloys, superalloy parts and special steels.



Fully integrated manufacturing supply chain:

Being fully integrated ensures reactivity and complete traceability



Environmentally friendly processes & products:

Fully optimized recycling and material savings within our manufacturing activities

Market leading development of Lead-free, Cadmium-free and Beryllium-free products



Processes

- Continuous and semi-continuous casting
- Extrusion
- Cold rolling
- Drawing
- Heat treatment
- Non-Destructive Testing

Certifications and approvals

The Lebronze alloys sites have first-class certifications - consult us according to your needs:

- **ISO 9001** (Quality)
- **EN 9100** (Aeronautics) for forging and machining
- Employee qualification: FrANDTB niv II on site (US-penetrant testing)



ISO 9001



EN 9100

A large choice of machinable high performance alloys

Lebronze alloys proposes a range of high performance alloys designed for the connector industry. In this range we have exclusive alloys like the C9X series including:

- **C97®**, a high performance machinable low-alloyed copper with nickel. The **C97®** alloy is well known for its exceptional performance in thermal stress relaxation and fatigue strength. With up to 750 MPa and over 50% electrical conductivity, **C97®** alloy is the perfect choice when both mechanical and electrical performance at high temperature are required.
- **C98®/C98®T** are versions of **C97®** more suitable to cold forming operations.

The special alloy **ARCAP® AP1D** is a proprietary alloy made of copper, nickel and zinc. It shows outstanding corrosion resistance to salt spray (>1000h) and perfect amagnetism (magnetic permeability <1.002 and a magnetic field of 10-6 OERSTED). **ARCAP® AP1D** can be machined with extreme precision (close to 1 micron), and accepts stringent polishing and finishing operations. **ARCAP® AP1D** is mainly used in in high-end fiber optical connector for various parts such as ferrule or body contact. It is also used in marine applications or watch industry.

Niclafor® 1000, Declafor® 1015 and **Hardiall® (in development)** are a range of spinodal Copper-Nickel-Tin alloys with high mechanical properties; being Beryllium-free and Lead-free, they offer eco-friendlier alternatives to Copper-Beryllium. They are mainly used in connectors and coaxial connectors for Automotive, Defense, Aerospace and Telecommunications.

Cuprofor® is a Beryllium-free and Lead-free low alloyed copper displaying high electrical and thermal conductivity as well as excellent temperature stability. It has mainly applications electrical contacts, connections and terminals, among others.

Siclanic® S is a Copper-Nickel-Silicon alloy offering excellent electrical conductivity, mechanical strength and fatigue resistance; this matreil is perfect for relay springs, connectors or any high conductivity complex-shade parts, such as in the Railway industry.

Key properties for selected alloys

Tensile Strength (MPa)

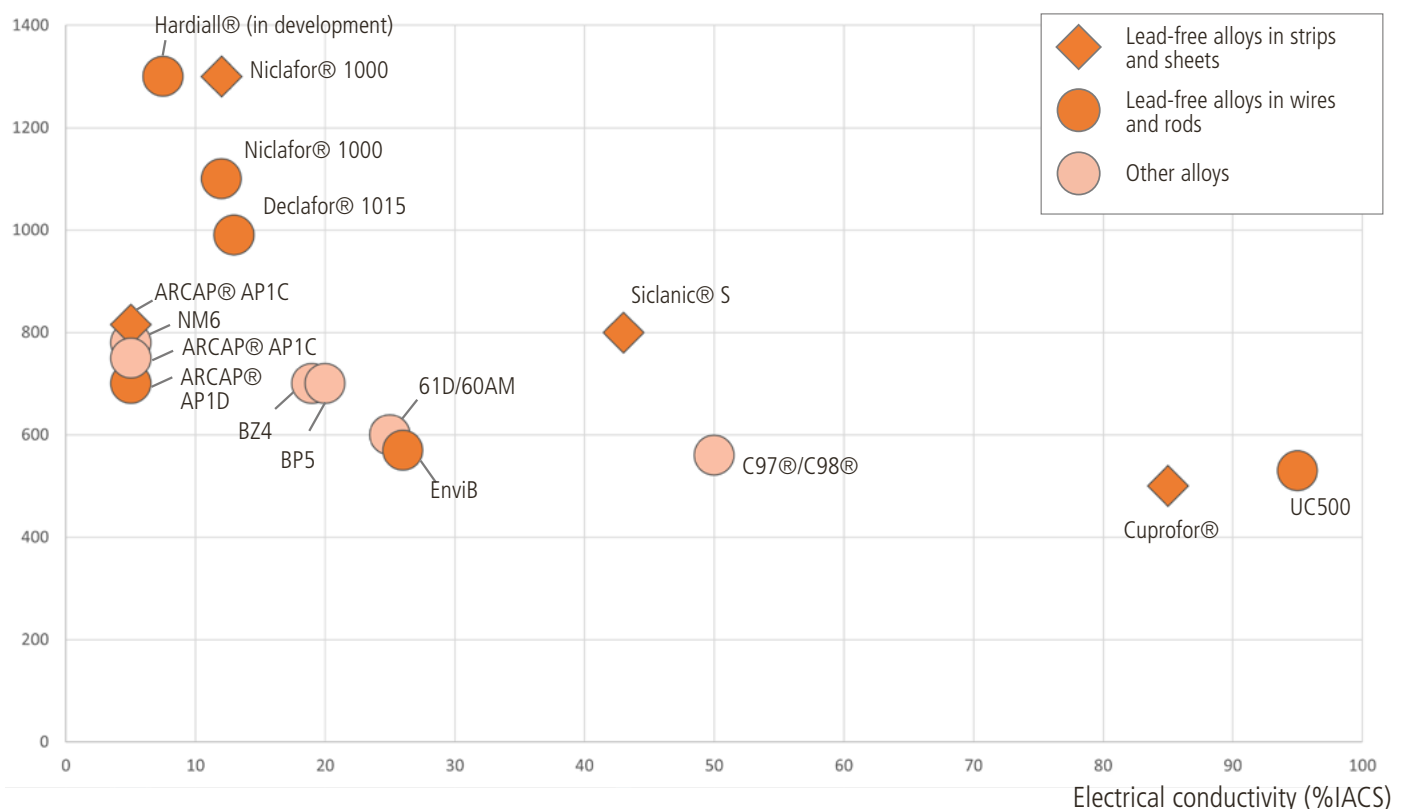


Illustration of measurements made in laboratory conditions. For information only.

Contact us for more details and to request technical brochures for more mechanical, physical and surface properties data.

All products can be ultrasonic tested by Lebronze alloys upon customer request.

Alloy	ISO designation	Format	Standards / Nearest international standards	Properties
Age hardenable, low-alloyed copper				
C97®	CuNiPb1P	Rods & wires	C19160	Machinable copper alloy with high strength and high electrical conductivity
C98®	CuNiPb0,5P	Rods & wires	C19140	Equivalent to C97® with improved cold forming ability
UC500	CuCrZr	Rods & wires	ASTM B624	Age hardening low alloyed copper alloy, with high mechanical properties and electrical conductivity
Cuprofor®	CuCoP	Strips & sheets	C15600	High electrical and thermal conductivity, good mechanical properties, excellent temperature stability, Be-free, Pb-free
Siclanic S®	CuNi2Si	Strips & sheets		Excellent electrical conductivity, mechanical strength and fatigue resistance, hardenable by heat treatment, Be-free, Pb-free
Spinodal alloys				
Declafor® 1015	CuNi7.5Sn5Te	Rods & wires	Proprietary C72670	Machinable and ageable alloy with high strength and thermal stress relaxation properties, Be-free, Pb-free
Niclafor® 1000	CuNi9Sn6	Rods, wires, strips & sheets	Proprietary C72700	Ageable alloy with very high strength and thermal stress relaxation properties, Be-free, Pb-free
Hardiall®	CuNi15Sn8	Rods & wires	Proprietary C72900	Ageable alloy with outstanding strength and thermal stress relaxation properties, Be-free, Pb-free
Special brass				
EnviB10	CuZn40	Rods & wires	C28000 CW509L	Unleaded brass with Pb content <1000ppm cold and hot forming capability, good machinability
EnviB58	CuZn42	Rods & wires	CW510L	Unleaded brass with Pb content <1000ppm, hot forming capability, good machinability
EnviB58AM	CuZn42	Rods & wires	CW510L	Unleaded brass with Pb content <1000ppm, hot forming capability, good machinability, stringent amagnetism
60AM	CuZn38Pb2	Rods & wires	C35300 CW608N	Brass with optimal combination of machinability, cold formability and mechanical properties, plus good hot working properties, stringent amagnetism.
61D	CuZn36Pb3	Rods & wires	C35300 CW600N	Free machining brass with satisfactory cold formability, and good hot working properties, stringent amagnetism.
Special phosphore bronze				
BZ4	CuSn4Pb4Zn4	Rods & wires	C54400 CW456K AMS4520	Bronze with optimal machinability, good cold formability and high strength.
BP5	CuSn5Pb1	Rods & wires	C53400 CW458K	Bronze with great machinability, good cold formability, excellent corrosion resistance and high strength.
Machinable nickel-silver				
NM6	CuNi12Zn37Mn6Pb2	Rods & wires	C79860 CW407J	Dual phased nickel silver with great corrosion resistance and machinability
ARCAP®				
ARCAP® AP1C	CuNi25Zn17	Rods, wires, strips & sheets	Proprietary C79360	Outstanding corrosion resistance, strictly amagnetic, can be machined with close to micron precision, resists to high and low temperatures, Lead-free
ARCAP® AP1D	CuNi25Zn12Pb1	Rods, wires, strips & sheets	Proprietary C79350	Outstanding corrosion resistance, strictly amagnetic, can be machined with close to micron precision, resists to high and low temperatures.

Other diameters possible upon request



Healthcare



Defense



Aerospace



Renewable
energies



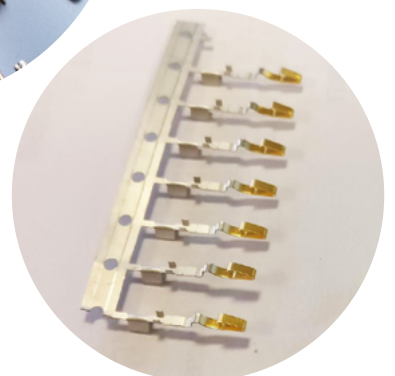
Automotive

Product range

Rods and wires mainly from 1 to 20 mm OD

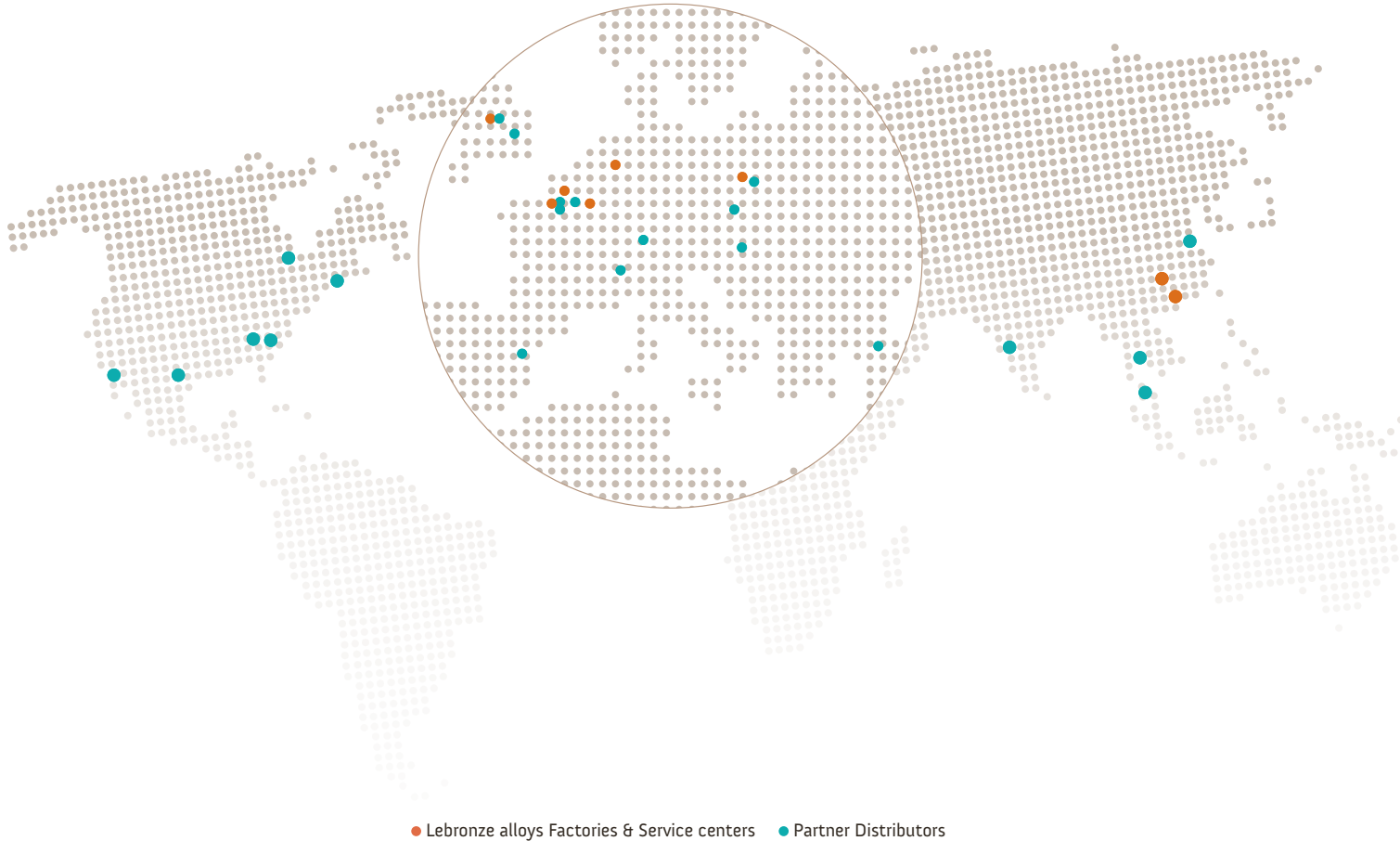
For ARCAP® AP1D: 1 to 35mm OD

Strips and sheets mainly from 0.05 to 3.5 mm
in thickness



Uba lebronze alloys

World leader in high-performance specialty copper and nickel alloys



● Lebronze alloys Factories & Service centers ● Partner Distributors

Lebronze alloys Group is a world leader in the development and fully integrated production of high-performance specialty copper and nickel alloys.

Thanks to a multidisciplinary know-how, the Group provides innovative solutions to all major industries such as Aeronautics, Electronics, Space, Automotive, Energy, among others.

Our 6 production facilities and 750 employees manage a unique range of metal processing technologies: continuous and semi-continuous casting, extrusion, hot and cold rolling, drawing, open-die forging, hot stamping, closed-die forging, cold forming, machining, non-destructive testing, etc.

We are a major decarbonation player for many industries. We continually strive to reduce our carbon footprint and our products are key for decarbonation applications in our customer' industries.

The Group's commitment is to find appropriate and optimized solutions for every sector's requirements.



Member of the «Coq Vert» community

contact@lebronze-alloys.com

www.lebronze-alloys.com

