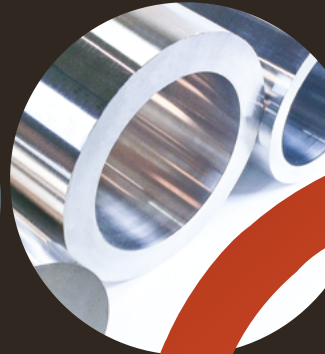




lebronze alloys



Oil & Gas

Range of high-performance alloys
for subsea applications



Lebronze alloys has been supplying copper alloys semi-finished and finished products for Oil & Gas applications, including seawater corrosion resistance for more than 50 years.

We have been developing and improving our expertise in Oil & Gas and Fluids applications, particularly with copper nickel alloys (resistance to all types of seawater corrosion, heating elements for crude Oil fluidization), but also with copper silicon alloys for oil deep-sea measurement applications (seawater corrosion and friction resistance) and beryllium-copper alternatives for seismic acquisition equipment (seawater corrosion and high strength/elongation resistance), whilst also focusing on machined components in Nickel Aluminium Bronze for use in BOP (Blow Out Preventers).

From casting to machining

Multiple technical solutions to manufacture your components.

- Continuous or semi-continuous casting
- Drawing
- Rolling
- Forging
- Stamping
- Machining
- Annealing

This multi-process competence gives us the possibility to search for the most pertinent and innovative solution. Thanks to the Group's design departments, we can optimize our offer in terms of both cost and quality.

We support our customers in the design and fabrication of various types of engineered components, thanks in part to our specialist engineering department and qualified TOP SOLID technicians.



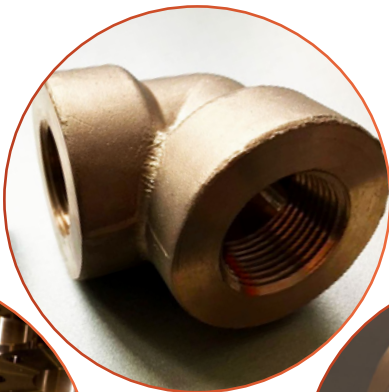
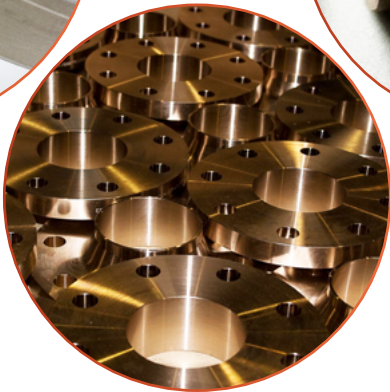
Our products

We provide seamless and welded pipes, seamless and machined fittings, forged flanges from 1/4" up to 48" (0.635 to 122 cm) in order to cover the complete package required for whatever kind of project. We also provide strips, in thickness from .00393" to .138" (0.01 to 0.35 cm) , and wires/rods in diameter form .00393" to .63" (0.01 to 1.6 cm).

Alloy	ISO Designation	Standards / Nearest international standards	Properties
Bars and hollow bars			
Hardiall® TX	CuNi15Sn8	AMS 4596B, AMS 4598A, ASTM B929, C72900	Very high mechanical properties, good machinability, corrosion resistant, wear resistant, non-magnetic, ecological: Be-free and Pb-free
Hardiall® TS	CuNi15Sn8	AMS 4597A C72900	
Hardiall ECO® TX	CuNi9Sn6	C72700	High mechanical properties, fair machinability, corrosion resistant, wear resistant, non-magnetic, ecological: Be-free and Pb-free
Hardibron®	CuNi14Al3Fe1	WL 2.1504	High mechanical properties, great machinability, corrosion resistant, wear resistant, non-magnetic, ecological: Be-free and Pb-free
Navinic 10	CuNi10Fe1Mn	C70600, C70610, C70620, CW352H, ASTM B151, ASTM B171, ASTM B466/467, EEMUA 234, UNS C7060X, BS 2871, CN102, JIS H3300 C7060, DIN WL21972	High mechanical properties, weldable, sea-water corrosion resistant, saline mist resistant
Navinic 30	CuNi30Fe1Mn	C71500, C71520, CW354H, ASTM B151, ASTM B171, ASTM B466/ B467, BS2871, CN107, JIS H3300, DIN WL20882	High mechanical properties, weldable, sea-water corrosion resistant, saline mist resistant
CA104/NC4	CuAl10Ni5Fe4	CW307G, C63000, ASTM B150, AMS4640, NFL14705, BS2874	Good mechanical properties, sea-water corrosion resistant, saline mist resistant, oxidation resistant
NC2	CuAl9Ni5Fe4	CW307G	Good mechanical properties, sea-water corrosion resistant, saline mist resistant, oxidation resistant

Bars, Pipes and Fittings

- Seamless and welded Pipes
- Bars
- Butt welding fittings
- All types of solid flanges, threaded, butt welding or socket welding ends
- Machined and forged fittings threaded, socket welding and capillary ends

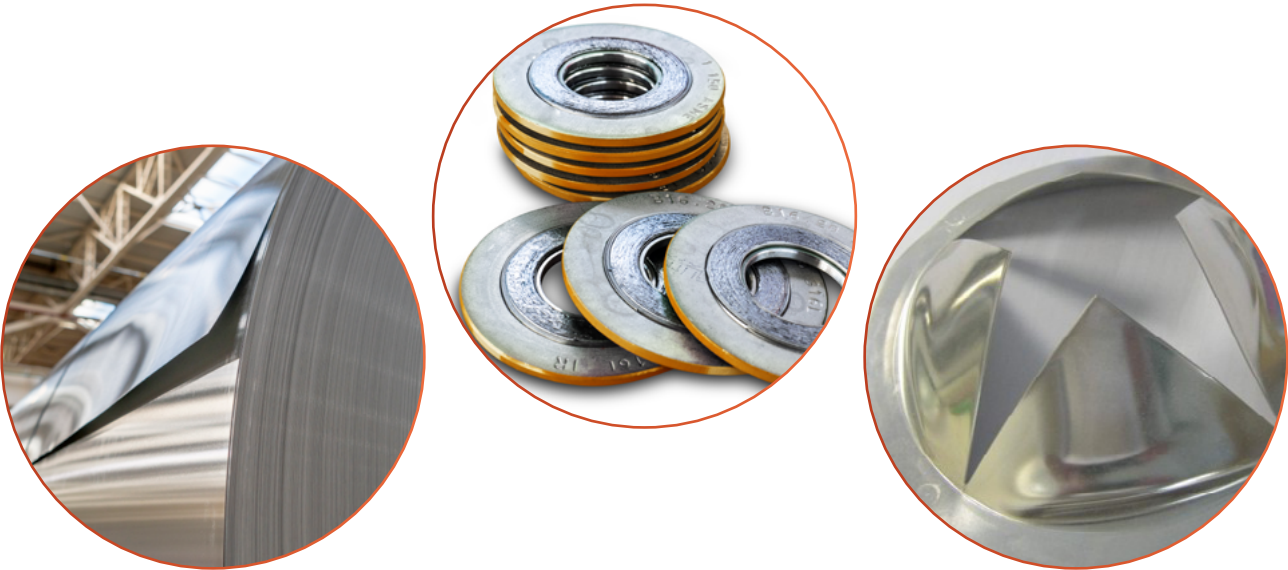


Alloy	ISO Designation	Standards / Nearest international standards	Properties
Strips, rods and wires			
Monel 400	Ni65Cu32MnFe1.5	ASTM B164	Excellent resistance to chemical corrosion
Niclal 10 Fe	CuNi10FeMn	C70600, C70620, C7060X, ASTM B151, ASTM B171, ASTM B466/467, CW352H	Sea-water corrosion resistant
Niclal 23	CuNi23		Good resistance to chemical corrosion Controlled resistivity for heating elements
Niclal 25	CuNi25		Good resistance to chemical corrosion
Niclal 30 Fe	CuNi30FeMn	ASTM B122, C71500, DIN 17664/2, Wr n°2.0882, DIN EN 1652, CW354H	Sea-water corrosion resistant
Nickel 200	Ni	ASTM B162, NO 2200, DIN 17740, W n°2.4066	Excellent resistance to chemical corrosion, excellent formability, good deep-drawing ability
Nickel 201	Ni	ASTM B162, NO 2201, DIN 17740, W n°2.4068	
Nickel 206	Ni	DIN 17740, W n°2.4060	
Nickel 206C	Ni	DIN 17740, W n°2.4061	
Nickel 206A	Ni		

Strips, rods and wire products

- Bursting discs
- Spiral wound gasket
- Armoured cables in Electrical Submersible Pumps
- Resistance heating elements
- Cable waterproofing
- Fasteners, valves and mountings

Performance and competitiveness are our aim but quality remains our priority, thus we constantly assess and measure the performance of our alloys and products internally before they leave our facilities. Lebronze alloys offers both small and large quantities according to our customer’s needs. All this is underscored by maintaining a high level of quality control enabling us to support and work to the new demands required in these critical industries where the environment, safety and reliability are paramount.



Our references and approvals

Lebronze alloys delivers to some of the most famous companies not only in Europe but also in the Americas, Middle East and Asia. Our components are supplied to top performing companies within piping and machining subcontractors, shipyards, EPC/EPCEC contractors to Oil & Gas companies.

AGIP, Aker solutions, Aramco, Baker Huyghes, British Petroleum, Cameron, Chevron, CNOOC, DSME, Dubai Drydocks, EXXON, Halliburton, HHI, INPEX, Jurong Group, Keppel Group, KBR, K.C.O, K.O.C, Larsen & Toubro, MC Dermott, MODEC, N.O.V, ONGC, Petrobras, Petronas, P.T.T, Qatar Petroleum, SAIPEM, SBM, Schlumberger, SHELL, SHI, Technip, Total, Woodside.

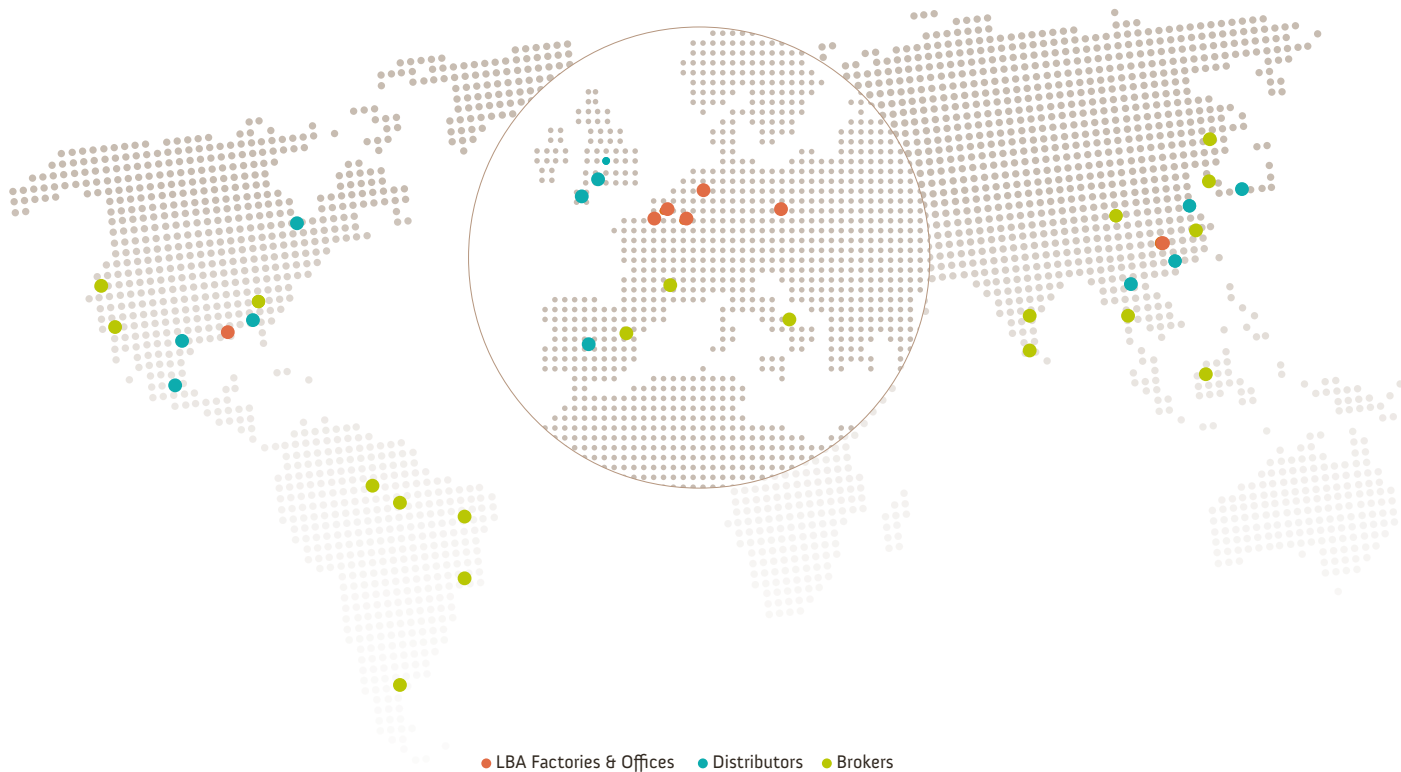
Our quality assurance system guarantees full traceability and our expertise is recognized and certified by major quality assurance companies such as Germanischer Lloyds, DNV, AFAQ or additionally by Engineering or Oil & Gas Companies themselves (Aramco ; Agip 15551 ; Texas oil tools AC00-7002 revF ; Kvaerner INK09072 rec C ; Total B90, B92, GS EP PVV 143/144/145/148, Zadco ZO-TS-P-02010)



LBA

lebronze alloys

An international distribution network: stocks available near final markets



Lebronze alloys Group was born from the integration of different companies specializing in development and production of technical high-performance alloys components : copper alloys, nickel alloys, but also aluminium alloys, specialty steels, stainless steels, titanium and nickel superalloys.

Thanks to a multidisciplinary know-how, the Group provides innovative solutions to all major industries such as Aerospace, Power, E-mobility, Oil & Gas, Railway but also in sectors manufacturing smaller equipment and products.

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

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

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